

Report
CITYNET Training Programme
(02nd – 04th September, 2019)

On

Making Cities Disaster Resilient: Challenges and Approaches

(By CITYNET India National Chapter - HUDCO)
Sponsored by HUDCO's Human Settlement Management Institute



Coordinated by:
Centre for Urban Poverty, Slums & Livelihood
HUMAN SETTLEMENT MANAGEMENT INSTITUTE, NEW DELHI
(Research and Training Wing of HUDCO)
HUDCO's HSMI, HUDCO HOUSE, LODHI ROAD, NEW DELHI – 110003



Preface

About 34 % of India's population now lives in urban areas and cities/towns contribute 60% to the country's GDP. However, the urban expansion is characterized by uncontrolled and unregulated growth leading to overpopulation, development of slums in untenable, unsafe locations, overstressed infrastructure services and amenities, environmental degradation and a host of other problems. To add to this, India is also vulnerable to a wide range of natural hazards, particularly floods, cyclones, drought, heat waves, landslides, wildfire, and earthquakes. In such a growth scenario where people, economic activities, public/private assets and networks are concentrated in the urban centres, risk of disaster increases manifold.

To ensure that the public expenditure being incurred by the government on housing and urban infrastructure services in the urban areas is not wasted, it is imperative to build sustainable cities that are resilient to natural and human induced disasters. This entails capacity building of urban managers to deal with risks in a holistic manner. In line with this felt need, HUDCO's Human Settlement Management Institute (HSMI) organised a CITYNET training programme on "Making Cities Disaster Resilient: Challenges and Approaches" for Urban Local Bodies (ULBs), parastatal agencies and research institutions from 2nd to 4th September, 2019 at New Delhi. The objective of the programme was to sensitize the participants to the increasing vulnerability of Indian cities to natural and man-made disasters and initiate discussions on approaches to tackle the same.

CITYNET is the regional network of local authorities for the management of human settlements. It is the largest association of urban stakeholders committed to sustainable development in the Asia Pacific region. Established in 1987 with the support of UNESCAP, UNDP and UN-Habitat, the Network of cities has grown to include over 135 municipalities, NGOs, private companies and research centres. CITYNET connects actors to exchange knowledge and build commitment to establish more sustainable and resilient cities across Asia – Pacific region. Through capacity building, city-to-city cooperation and tangible projects, it helps its members to respond to climate change, disaster, the sustainable development goals and rising Infrastructure demands. (Citynet-ap.org). Housing & Urban Development Corporation Limited (HUDCO) has been an associated member of CITYNET since 1993 and is the lead institution for the India National Chapter.

HUDCO's HSMI on the other hand is a recognized leading research and training institution in the housing and urban development sector and is involved in capacity building at the regional and national level for more than 30 years. HUDCO's HSMI has been designated as a national resource centre of the Ministry of Housing & Urban Affairs for providing technical inputs in the policies and programmes pertaining to housing and urban development in the country.

Acknowledgements

The three-day training programme on “Making Cities Disaster Resilient: Challenges and Approaches” organised from 02nd – 04th September, 2019 for Urban Local Bodies (ULBs) parastatal agencies and research institutions has given us a great opportunity to play an active role in making Indian cities more disaster resilient. We would like to express our gratitude to Dr. Medithi Ravi Kanth, Chairman & Managing Director, HUDCO as the Chairperson of the CITYNET India National Chapter, and Executive Director (Training), Dr S.K. Gupta as Secretary General, CITYNET for entrusting this task to us.

We are happy that the training programme was completed successfully on 04th September, 2019. We would like to acknowledge the contribution of many individuals, institutions and agencies in making this programme a success. We would like to especially thank the HUDCO Regional Offices for disseminating information about the programme and obtaining nominations from agencies across the country and the external faculty for their cooperation in giving informative presentations and interesting sessions. This project would not have been possible but for the keen insights and guidance of Shri M. Nagaraj, Director (Corporate Planning) and Dr. S K Gupta, Executive Director (Training). This training would also not have been complete without the contribution of Training i/c, Shri Surendra Singhai and HUDCO/ HSML administration and hostel i/c Ms. Poonam Maheshwari.

We are confident that the information presented in this Report shall be of use to CITYNET and HSML.

Varsha Punhani
Fellow/JGM (P)

Contents

Course Director's Report	1
Proceedings	2
Programme Schedule And Resource Persons	14
List of Participants	18
Programme Evaluation Report	20

Course Director's Report

The aim of the course is to sensitize the participants to the increasing vulnerability of Indian cities to natural and human induced disasters and initiate discussions on approaches to tackle the challenges.

OBJECTIVES OF THE PROGRAMME

- To understand the need for disaster resilience in cities.
- To understand the disaster profile of Indian cities, the regulatory policy framework and the institutional structure for disaster risk reduction.
- To acquaint the participants with the best national and international practices in the context of disaster resilience.
- To formulate strategies/ action plan for pre-disaster mitigation of risks and post disaster rescue, relief & recovery work.

COURSE CONTENT

The course content consists of:

- Expanding cities and increased disaster risk
- International and National Policy Framework.
- Urban Flooding, Seismic Resilience and Man-made Disasters
- Community Awareness for DRR and Urban Resilience Programmes
- Planning and Green building for disaster risk reduction
- Rescue and relief measures during disaster.

TARGET GROUP

The programme was primarily designed for municipal body officials, town planners, and community development professionals. Participation of CITYNET member organisations was encouraged. There were 12 participants from Urban Local Bodies (ULBs), Municipal Corporations (MCs), Development Authorities and Indian Institute of Technology, Roorkee.

Proceedings

1st Day (02-09-2019, Monday)

Inaugural Session

In the inaugural session, Dr.S. K. Gupta, Executive Director (Training), HSMI extended a warm welcome to the dignitaries and the participants. He gave an introduction about



Figure 1: Dr SK Gupta (EDT, HSMI), Shri M. Nagaraj (DCP, HUDCO) and Lt. Col. Rahul Devrani (Joint Advisor, NDMA)

CITYNET, its history, the general profile of its members, and its capacity building workshops. He introduced the theme of the training programme and briefly spoke about the importance of cities in today's urbanising context, and the urban issues like poverty, slums and urban disasters. Shri M. Nagaraj, Director, Corporate Planning, HUDCO, then gave the keynote address, discussing the increasing vulnerability of India to disasters.

He gave specific examples of Indian cities like Mumbai, Chennai and Bangalore that were increasingly becoming prone to disasters.

Lt. Col. Rahul Devrani, Joint Advisor (Mitigation Projects and Procurement), National Disaster Management Authority (NDMA) was the technical expert for the session and gave a presentation on "Disaster Resilience" in the urban context. He briefed the participants on the three tiered role played by NDMA, SDMAs and DDMA's at the national, state and district level for disaster risk reduction as per the contours of the National Disaster Management Plan, 2016. He defined the terms - resilience and recovery in the Indian context and the vulnerability that Indian cities have towards earthquakes, cyclones and urban flooding. He cited global best practices from Rotterdam, Seoul, Singapore in the areas of urban flooding/ rain water harvesting. There was also a small round of introduction by the participants. Shri Surendra Singhai, General Manager and Training i/c, HSMI concluded the inaugural session with the thank you address.



Figure 3: Dignitaries and Participants



Figure 2: Participants



Figure 4: Dr SK Gupta and Ms. Varsha Punhani, Course Director

1st Day (02-09-2019, Monday)

Session 1 –Expanding Cities and Increased Disaster Risk

- Prof. Santosh Kumar, National Institute of Disaster Management

Prof. Santosh Kumar covered issues pertaining to unplanned expansion of Indian cities and the increasing vulnerabilities of these cities to natural and man-made disasters.

He discussed the challenges of over population and density as well as the choking of city infrastructure in normal conditions versus post disaster. He introduced the components of the Social Progress Index, and how to measure it for a city. He stressed the importance of knowing our cities and its fault lines, and knowing how and where we are creating risks in our own cities.



Figure 6: Participants

He discussed the impact of disasters on low income neighbourhoods and how disaster not only affects the point of origin, but impacts the state, the country and its economy. He presented graphs on increasing disaster related events and their impact on global economies through direct and indirect losses.

To stress his point on the need for disaster resilience, he gave the expenditure figures of the Indian state on construction and urban development and how the public exchequer money is lost during disasters. He went on to discuss the importance of conducting a risk analysis study and also cited best practices in the Indian sub-continent, and how prevention has helped save countless lives.

1st Day (02-09-2019, Monday)

Session 2 – Evolution of International and National Policy Framework from Disaster Management to Disaster Resilience.

- Ms. Ranjini Mukherjee, Senior Disaster Risk Reduction Specialist, UNDP/UNRC

Ms. Ranjini Mukherjee started with the hazard risk profile of India and then spoke about the various global frameworks in the area of Disaster Risk Reduction. She introduced the participants to the Yokohama Strategy and Action Plan 1994 (ensuring established disaster reduction strategy as the most critical gap), the Hyogo Framework for Action 2005-2015, and the SENDAI Framework for Disaster Risk Reduction. She also outlined the provisions of the Paris Climate Agreement, the Sustainable Development Goals and how tackling disaster is embedded in 8 goals, the most important being Goals one and eleven. She also introduced the participants to the New Urban Agenda that was adopted at the United Nations Conference on Housing and Sustainable Urban development in October 2016 in Quito, Ecuador.

She then spoke about adoption of international policy framework in the National Disaster Management Plan 2016 (NDMP), and in programmes like the Atal Mission for Rejuvenation & Urban Transformation (AMRUT) and the SMART cities mission.

The 2016 ten point agenda under the NDMP was discussed with the institutional and financial frameworks to tackle disaster related events, disaster preparedness for effective response, enabling disaster risk reduction and resilience; and reducing underlying risk factors. She concluded her presentation by stressing on the need for capacity and resilience building, and commitment to address the challenges of climate change,

1st Day (02-09-2019, Monday)

Session 3–Urban Flooding: Contributing Factors, lessons learnt and mitigation measures.

- Ms. Raina Singh, Senior Fellow- Urban Resilience Unit, National Institute of Urban Affairs

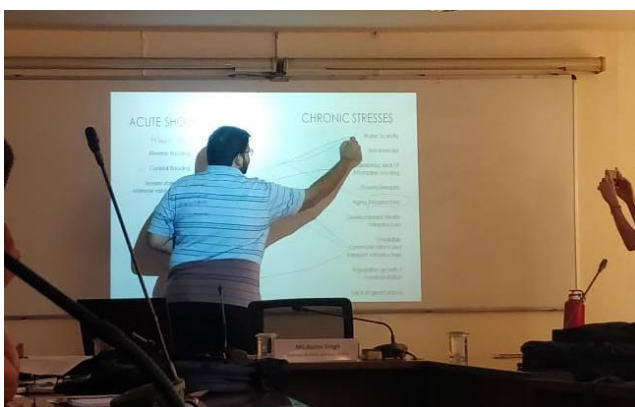


Figure 7: Interactive Session by Ms. Raina

Ms. Raina Singh started her presentation by highlighting the vulnerability of Indian cities to urban flooding. She spoke on different types of flooding like riverine flooding (case example Delhi) and coastal flooding (case example Surat). She introduced the concept of shocks and stresses because of disasters and the interrelationship & the inherent differences between the two. To make the session more interesting she invited the participants to indicate the

relationship between shocks and stresses and whether shocks precedes stresses or otherwise in the context of their cities of origin.

Then she spoke on the City Resilience Framework, focusing on four main elements- health and well-being; infrastructure and environment; economy and society; and leadership and strategy. She spoke in detail about the Chennai and Surat floods and the repercussions of the floods on the city's economy.

She also emphasised on the need for having an early warning system at the centre, state and local level and how planning can lead to or avert such events. She cited the international case study of Rotterdam where local; city and regional level water authorities have been constituted to address the challenges of water scarcity and flooding. She also spoke on the need to have innovative solutions for tackling flooding and gave examples of Water Square Benthemplein at Rotterdam and Marina Barrage in Singapore where the challenges of water storage and a community public space have been handled simultaneously. The Water Square Benthemplein is a water storage facility that doubles up as a public space. Likewise the Marina Barrage in Singapore, besides supplying water to Singaporeans doubles up as a community recreation space for families.

1st Day (02-09-2019, Monday)

Session 4– Seismic Resilience

- Prof. Vinod Sharma, Disaster Management, Indian Institute of Public Administration



Figure 8: Session by Prof. Vinod Sharma

The session was taken by Prof. Vinod Sharma, who spoke about seismic vulnerability of Indian cities. Prof. Sharma began with the earthquake vulnerability profile of India and risk statistics for various parts of the country, citing the incidents of quakes in the Andaman, Kutch, Kashmir, Bihar and the North-eastern States. He spoke about the 2011 earthquake in the India-Nepal border city of Gangtok and the earthquake induced landslides in the state. He discussed in detail the measures taken by the Sikkim

Government in the aftermath of the quake to make the state disaster resilient like the constitution of the Sikkim State Disaster Management Authority, preparation of the State Disaster Management Act, the State Plan for Disaster Management, District Disaster Management Plans, Panchayat Level Plans, and mainstreaming Disaster Risk Reduction (DRR) in all departments. He also spoke about the emergency operation centres constituted at state, district and locally to respond to events.

He specifically mentioned the School Safety Programme supported by NDMA and launched by the State for increasing awareness about disaster risk reduction in schools. He applauded the efforts made by the state to integrate climate change adaptation, sustainable development goals (SDGs) and DRR with the support of the Department of Science and Technology and Disaster Management. He also spoke at length on the concept of a build back better approach of the Sendai Framework and how the Rural Management and Development Department of the Sikkim Government has assisted beneficiaries to make earthquake resistant houses with funding from the Prime Minister's Special Relief Package after the 2011 earthquake.

2nd Day (03-09-2019, Monday)

Session 1– Man-made disasters

- Shri Anil Sinha, Former Vice Chairman, Bihar State Disaster Management Authority

Shri Anil Sinha began the session with a discourse on the Disaster Management Act 2005 and the definition of 'Disaster' given in the Act which encompasses all kinds of disasters natural and human induced. He also spoke about the concentration of resources and people in cities and the need for disaster resilience. He spoke in detail about human induced disasters like fire, accidents, building and bridge collapse etc.



Figure 9: Shri Anil Sinha

He emphasised the need to improve the enforcement of building bye laws in cities and alternatively to conduct structural audits of public buildings so as to have fewer incidents of human induced disasters. He spoke in detail about the safety drills being conducted in government schools in Bihar to equip the students with the knowledge to protect themselves in case of a fire or an earthquake and to protect the local communities. The scheme is also being implemented in private schools.

He concluded the session by elaborating on the need to have resilient infrastructure systems and structures to reduce risks due to disasters.

2nd Day (03-09-2019, Monday)

Session 2– Disaster Risk Reduction Initiatives

- Ms. Surabhi, School Safety Specialist, SEEDS



Figure 10: Session by Ms. Surabhi

Ms. Surabhi's session was an interactive session where she began by asking the participants to list out 5 risks which children face during their commute to and from school and the time spent at the school. The listed risks which included poor transportation facilities, unhygienic water, bullying, accidents, poor sanitation etc. triggered a lively discussion amongst the presenter and the participants.

She presented 15 identified essentials/ must do measures to ensure safety and security in schools - safe structures, environment friendly design, surveillance, disaster preparedness, mental health considerations and many more. She then spoke on the various initiatives taken by SEEDS in various schools across the country to equip the school machinery and the students with the wherewithal for facing various kinds of disasters including natural and human induced disasters. Awareness and sensitization workshops/seminars for parents and school management, community engagement and campaigns are some of the initiatives undertaken by them. She also elaborated on the learning and team building exercises undertaken by the students themselves as part of the school safety drill undertaken in schools of Uttarakhand and Delhi. She also presented some of the design elements introduced by them to make the students feel safe. In Uttarakhand the unused RCC pipes was incorporated as play elements

in the design of playgrounds. Similarly at a school in Delhi dark alleys/ back of the school that was a potential space for ragging/ bullying by older students was converted in to a play area by installing lights and painting snakes and ladders on the floor. Involving the children/students in the design of public spaces in schools instilled a sense of ownership as well as making them feel safe. She concluded her presentation by listing out positive outcomes of these initiatives: reduction in losses due to avoidable disasters; reduction in drop-outs; and greater engagement of all stakeholders.

2nd Day (03-09-2019, Monday)

Site Visit– National Disaster Response Forces, Ghaziabad

- Mr. Aditya Pratap Singh, Deputy Commandant



Figure 11: Visit to NRDF Ghaziabad

The site visit started with a brief presentation by the Deputy Commandant of the 8th Battalion of the National Disaster Response Force (NDRF) located in Ghaziabad. He began by discussing the vulnerability of various geographies of India, and how the NDRF is trained and deployed to provide quick response. He then spoke on the worst disasters that have befallen

India and in detail on the 1991-2001 decade also termed as the 'Disaster Decade'. He spoke about the transition of policies from rescue and relief to mitigation and preparedness especially after following the enactment of the Disaster Management Act 2005.

He also shared first-hand account of operations conducted by the 8th battalion. He explained in detail the series of events that occurs when a disaster strikes - the first responders are the local community and the neighbours, the local police then comes in to play and the relevant agency like the NDRF, SDRF or the army/air force are brought in when the local police is not sufficiently equipped to carry out the rescue and evacuation. The rescue is followed by relief measures like distribution of food, woollens personal hygiene products etc. and provision of health care facilities. This is in turn followed by recovery measures like restoring electric and telecommunication network and construction/ retrofitting of damaged houses.

He also spoke in detail on the deployment of the 12 battalions of NDRF across different regions/geographies of India for mitigation, rescue and relief and the vigorous training that the force undergoes to combat natural, human induced and CBRN disasters. The participants were then taken on a tour of the display area where they had a chance to look at the various equipments/ gadgets used by the force in times of disasters.



Figures 12: Visit to NDRF Ghaziabad

3rd Day (04-09-2019, Monday)

Session 1– How Planning can help make Cities more Disaster Resilient?

- Dr. Chandrani Bandyopadhyay, Faculty, National Institute of Disaster Management

Dr. Chandrani spoke on the topic of Risk Sensitive Planning for Urban Resilience., starting with urbanisation and disaster risks, the development and risk conundrum, urban planning tools for risk mitigation and the urban risk reduction framework.



Figure 13: Participants

She started her presentation by speaking on the global and Indian trends of urbanisation, and the urban risk-scape. She spoke about the peculiarity of urbanisation in India – how the growth trajectory of number of census towns based on population and occupation structure, but, without the administrative setup, was a potential landmine for disaster. She also explained how the population in

metropolitan cities was burgeoning but was stagnating in smaller

towns/cities and how the concentration of networks and people in a few urban megalopolises were making these cities and the peri-urban areas more vulnerable.

She then spoke about the urban vulnerabilities and risks in India -earthquakes, floods and cyclones. She concluded her presentation by speaking on ways of reducing disaster risks through eco-sensitive planning and deployment of tools like development control regulations. She cited examples of Mumbai and Chennai where destruction of mangroves, reclamation of low lying land around the Mithi river, wetlands, have exacerbated cases of urban flooding.

3rd Day (04-09-2019, Monday)

Session 2– Green Buildings for Disaster Risk Reduction

- Ms. Mohini Singh, Consultant, Green Building Program, International Finance Corporation



Figure 14: Session by Ms. Mohini

Ms. Mohini introduced the topic by speaking about the urbanisation trend in India and how this would translates into the need for creating an increased building footprint, especially in the affordable and middle-income housing category.

She spoke on the operational and embodied energy needs of a building

and how this contributed to increased

GHG emissions. To illustrate her point, she then cited statistics on the electricity consumption by the building sector and projections for the year 2047 in residential and commercial building sector.

She then spoke in detail on the benefits of green buildings including energy efficiency, occupant's comfort and more. She spoke in detail on the passive and active strategies/ ways of constructing a green building. Some of the passive strategies included orienting the building and locating the opening in such a way that the energy needs of the occupants could be reduced. While elaborating on the active strategies including use of environmentally friendly building materials/ technologies, she spoke about EDGE, a metric-driven, scalable voluntary tool introduced by IFC to identify cost effective ways to reduce energy use, water use and embodied energy in materials. She gave examples of projects undertaken where EDGE has been used and concluded the session with a practical demonstration of the tool.

3rd Day (04-09-2019, Monday)

Session 3– Urban Resilience Programme in Cities

- Mr. Manish Mohandas, Programme Officer (Resilience), United Nations Development Programme (UNDP)

Mr. Manish Mohandas began the presentation by introducing the concept of Disaster Resilience as per UNISDR definition. He spoke in brief about the Sendai Framework, the SDGs. He discussed how resilience is built into the Sustainable Development Goals as well, discussing targets across 8 goals that supplement the debate on resilience.



Figure 15: Participant posing a Question

He spoke on fostering climate resilience and explained its importance in the Paris Climate Agreement 2015 and the New Urban Agenda. He discussed the multi-dimensional concept of Resilient Cities and its elements. He then introduced the participants to the contribution of UNDP in Urban Risk Resilience, with a GOI-UNDP Project on Enhancing Institutional and Community Resilience to Disasters

and Climate Change with key interventions being Technical and

Scientific Analysis; Capacity Building and DRR institutionalization; Training of Trainers on Psycho-social Care and Promoting Private Sector Engagement in DRR.

He concluded the presentation by introducing ICT solutions and mainstreaming it in Disaster Risk Management policy-making and strategies, and also shared some impressions from the City Resilience Programmes being undertaken by UNDP.

3rd Day (04-09-2019, Monday)

Session 4– Experience Sharing

- Shri Randeep Kumar Rana, Deputy Inspector General (Ops), National Disaster Response Force and Shri Goutam Ghosh, Ex Director Ministry of Home Affairs, Govt. of India

The Experience Sharing session involved invited dignitaries sharing their own experiences in the aftermath of disasters. Shri Randeep Kumar Rana, DIG spoke about the Kashmir and Chennai floods and how timely intervention by NDRF helped them in saving human lives. Shri Goutam Ghosh reminisced on the role of various ministries and the importance of response communication and infrastructure in the event of a disaster. The participants also narrated their experiences of the Chennai floods and the Simhastha Mela at Ujjain.



Figures 16: Session on experience sharing



3rd Day (04-09-2019, Monday)

Valedictory Session



Figure 17: Sri Surendra Singhai (SF, HUDCO), Shri M. Nagaraj (DCP, HUDCO) and Dr SK Gupta (EDT, HUDCO)

In the valedictory session, Shri M. Nagaraj, Director, Corporate Planning, HUDCO, invited the participants to share their feedback about the training programme.

This was followed by the distribution of certificates and filling up of the evaluation forms by the participants. The session ended with a vote of thanks by Shri S. K Gupta, Executive Director Training and a group photograph of the participants with the dignitaries.



Figure 18: Group Photograph

Programme Schedule and Resource Persons

HUDCO's Human Settlement Management Institute
Training Programme for CITYNET India national chapter members on
Making Cities Disaster Resilient: Challenges and
Approaches

2nd September, 2019 – 4th September, 2019

PROGRAMME SCHEDULE

Day 1			
Date/ Day	Session Timings	Session Details	Faculty
02.09.2019/ Monday	9.30 –10.00 hrs.	Registration	
	10.00 –11.45 hrs.	Inauguration	Shri M. Nagaraj, Director, Corporate Planning, Housing & Urban Development Corpn. Ltd, Lt.Col. Rahul Devrani Joint Advisor (Mitigation Projects and Procurement), National Disaster Management Authority and Shri S K Gupta , Executive Director (Training), Human Settlement Management Institute
	11.45 –12.00 hrs.	Tea Break	
	12.00 –12.45 hrs.	Expanding cities and increased disaster risks	Prof. Santosh Kumar, National Institute of Disaster Management
	12.45 –13.30 hrs.	Evolution of International and National Policy Framework from Disaster Management to Disaster Resilience	Ms. Ranjini Mukherjee, Senior Disaster Risk Reduction Specialist, UNDP/UNRC Office
	13.30 – 14.30 hrs.	Lunch Break	
	14.30 –15.45 hrs.	Urban Flooding : contributing factors, lessons learnt and mitigation measures	Ms. Raina Singh Senior Fellow – Urban Resilience Unit (100RC) National Institute of Urban Affairs
	15.45 –16.00 hrs.	Tea Break	
	16.00 - 17.00 hrs.	Seismic Resilience	Prof. Vinod Sharma Professor of Disaster management Indian Institute of Public Administration

Day 2			
Date/Day	Session Timings	Session Details	Faculty
03.09.2019/ Tuesday	10.00 –11.30 hrs.	Man-made Disasters	Shri Anil Sinha, Former Vice Chairman, Bihar State Disaster Management Authority
	11.30 –11.45 hrs.	Tea Break	
	11.45–13.30 hrs.	Disaster Risk Reduction Initiatives	Ms. Surabhi Gajbhiye, School Safety Specialist, SEEDS
	13.30 – 14.30 hrs.	Lunch Break	

	14.30 –16.30 hrs.	Visit to National Disaster Response Force, Ghaziabad	Shri Aditya Pratap Singh, National Disaster Response Force
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Day 3			
Date/Day	Session Timings	Session Details	Faculty
04.09.2019/ Wednesday	10.00–11.15 hrs.	How planning can help in making cities more disaster resilient?	Dr. Chandrani Bandyopadhyay Faculty- National Institute of Disaster Management
	11.15–11.30 hrs.	Tea Break	
	11.30–12.30 hrs.	Green buildings for Disaster Risk Reduction	Ms. Mohini Singh, Consultant, Green Building Program, International Finance Corporation
	12.30–13.30 hrs.	Urban Resilience Programme in Cities	Manish Mohandas, Programme Officer (Resilience), United Nations Development Programme
	13.30–14.30 hrs.	Lunch Break	
	14.30–15.45 hrs.	Experience Sharing	Shri Randeep Kumar Rana, Deputy Inspector General (Ops), National Disaster Response Force and Shri Goutam Ghosh, Ex Director Ministry of Home Affairs, Govt. of India
	15.45–16.00 hrs.	Tea Break	
	16.00- 17.00 hrs.	Evaluation & Valedictory	Shri M. Nagaraj, Director, Corporate Planning and Shri S K Gupta , Executive Director (Training), Human Settlement Management Institute

LIST OF RESOURCE PERSONS

S. No.	Name & Designation	Organisation	Contact
HUDCO's HSMI			
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3.	Ms. Varsha Punhani JGM (P)/F, Course Director/Coordinator	HUDCO's HSMI, HUDCO House, Lodhi Road, New Delhi- 110 003	Tel: 011-24308676 Mob: 9818961888 Email: varsha.punhani@gmail.com
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6.	Ms. Ranjini Mukherjee	Senior Disaster Risk Reduction Specialist, UNDP/UNRC Office	Mob: 9717422183 Email: ranjini.mukherjee@one.un.org
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9.	Mr. Anil Kumar Sinha	Founder Vice Chairman, Bihar State Disaster Management Authority (BSDMA), Patna	Mob: 9871616360 Email: anilsinha.k@gmail.com
10.	Ms. Surabhi Gajbhiya	School Safety Specialist, SEEDS	Mob: 9971157910 Email: surabhi@seedsindia.org
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12..	Ms. Chandrani Bandyopadhyay	Faculty- National Institute of Disaster Management	Mob: 9811767403 Email: chandrani.nidm@nic.in
13.	Ms. Mohini Singh	Consultant - Green Building Program, IFC	Mob: 8447854101 Email: msingh13@ifc.org
14.	Mr. Manish Mohandas	Programme Officer (Resilience), United Nations Development Programme	Mob: 9015511654 Email: manish.mohandas@undp.org
15.	Mr. Randeep Kumar Rana	Deputy Inspector General (Ops), National Disaster Response Force	Mob: 9999513134 Email: dig.ns.ndrf@nic.in
16.	Mr. Goutam Ghosh	Ex Director Ministry of Home Affairs, Govt. of India	Mob: 9654973859 Email: goutam.ghosh11@nic.in

List of Participants

S.No	Name	Designation	Department/ Institute	Address	Mobile No./ E Mail
1.	Mr. Aditya Rahul	JRF	IIT Roorkee		8558069778 aditrahul@gmail.com
2.	Mr. Ajay Singh Rajput	Fire Officer	Ujjain Municipal Corporation	18, new fire brigade building, Agar road, Ujjain, M.P.	9406801011 arajputfo@gmail.com
3.	Mr. Arjun Satheesh	JRF	IIT Roorkee		8439716041 arjun0satheesh@gmail.com
4.	Debashish Dam	Superintendi ng Engineer	Urban Development & Municipal Affairs Dept. UD Branch	Nagaray, DF-8, Sector- 1, Salt Lake, Kolkata-700064	9674177694 debasishdam2003@yahoo.co.in medsecentral@yahoo.in
5.	Narendra Bohra	Dy. Housing Commission er	Housing Board, Jodhpur,	C/o Sector 11, Chopasni, Housing Board Jodhpur, Rajasthan-342001	9983652800 dhcjodhpur2.rhb@rajasthan.gov.in
6.	Raghunath Khatri	Work Agent/ Supervisor	Municipal Council Gauchar	Municipal Council District Chamoli, Uttarakhand	9927856514 eonppgauchar16@gmail.com
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8.	Ramji Thakur	JE (E&M) NDMC	North Delhi Municipal Corporation	Office of the EE (E&M) North NDMC, Lucknow road	8527598650 eeenmndmc@gmail.com thakur.ramji@gmail.com
9.	Sanjeev Kumar	Executive Engineer	Urban Development & Municipal Affairs Dept. UD Branch	Nagarayn, DF-8, Sector- 1, Salt Lake, Kolkata-700064	8335053554/ 9143163554 sanjeevkr@gmail.com
10.	Vineet Kumar Pangtey, IFS	Additional Chief Executive Officer	Bhagirathi River Valley Development Authority	Narayan Vihar, Kargi Road, Dehra Khas, Dehradun, Uttarakhand - 248001	7900888826 aceo.brveda@gmail.com
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Programme Evaluation Report

HUDCO's Human Settlement Management Institute

**Training Programme for CITYNET India National Chapter Members on
Making Cities Disaster Resilient: Challenges and Approaches**

(2nd– 4thSeptember 2019)

PROGRAMME EVALUATION

GENERAL

1. Did you receive the information regarding the course before joining the Programme?

Yes **(100%)**

No

SPECIFIC TO CONDUCTION OF TRAINING PROGRAMME

1. Regarding the duration of the training programme

- i. In relation with the subject matter dealt in the training programme, was it.

* Too Long

* Just Right **(92%)**

* Too Short **(8%)**

- ii. In relation with absence from your office, was it

* Too Long

* Just Right **(100%)**

* Too Short

2. The training programme schedule

a: Prefer three lectures per day **(25%)** b: Prefer Four Lectures **(75%)** c: Prefer Five Lectures

3. Do you agree with the following statements?

- i) The training programme exposed the participants to the various issues and options of the topic:

a: Agree **(100%)**

b: Do Not Agree

- ii) **THE TRAINING PROGRAMME IS STRUCTURED TO GIVE EXPOSURE FOR ALL ELEMENTS RELATED TO THE TOPIC:**

a: Agree **(92%)**

b: Do Not Agree **(8%)**

- iii) The training programme provided a platform for interaction among professionals with varied backgrounds.

a: Agree **(92%)**

b: Do Not Agree **(8%)**

4. On the whole, this training programme has contributed to my professional functioning on the following counts:

a: Agree **(92%)**

b: Do Not Agree **(8%)**

- ii. Helped me gain new knowledge and approaches

a: Agree **(92%)**

b: Do Not Agree **(8%)**

- iii. Provided me with an opportunity to rethink my professional work and Experience

a: Agree **(84%)**

b: Do Not Agree **(16%)**

LOGISTICS**Physical Facilities**

1. How would you rate the following physical facilities provided during training:

Facilities	Very Good	Good	Satisfactory	Not Satisfactory
a. Classroom	(100%)			
d. Food & Boarding	(84%)	(16%)		
c. Transport facilitation	(100%)			

TECHNICAL SESSIONS

1. How would you rate the course contents?
 a. Excellent **(34%)** b. Very Good **(66%)** c. Good d. Average
2. Did you find the course material supplied to you relevant and adequate?
 Fully **(92%)** Considerably **(8%)** Not at all
3. Was the time allowed for individual session adequate?
 Yes **(92%)** No **(8%)**
4. Were the programme topics sequenced logically?
 Yes **(100%)** No
5. Evaluate the effectiveness of training methods used:

Method Used	Very Effective	Effective	Not Effective
A. Illustrated Lecture Presentations	(50%)	(50%)	
B. Audio Visuals	(50%)	(50%)	
C. Case Studies	(42%)	(50%)	(8%)
D. Group Exercise	(34%)	(66%)	

6. Evaluate and give feedback on the following session inputs:

Sl. No.	Title	Faculty	Assessment			
			A Excellent	B Very Good	C Good	D Poor
DAY-1						
1.	Expanding cities and increased disaster risks	Prof. Santosh Kumar, National Institute of Disaster Management	(70%)	(20%)	(10%)	
2.	Evolution of International and National Policy Framework from Disaster Management to making cities Disaster Resilient	Ms. Ranjni Mukherjee, Senior Disaster Risk Reduction Specialist, UNDP/UNRC Office	(40%)	(40%)	(20%)	
3.	Urban Flooding : contributing factors, lessons learnt and	Ms. Raina Singh Senior Fellow – Urban Resilience Unit (100RC)	(50%)	(20%)	(20%)	(10%)

	mitigation measures	National Institute of Urban Affairs				
4.	Seismic Resilience	Prof. Vinod Sharma Professor of Disaster management Indian Institute of Public Administration	(100%)			
DAY 2						
5.	Man-made Disasters	Shri Anil Sinha, Former Vice Chairman, Bihar State Disaster Management Authority	(100%)			
6.	Disaster Risk Reduction Initiatives	Ms. Surabhi Gajbhiye, Seeds NGO	(60%)	(50%)	(10%)	
7.	Visit to National Disaster Response Force, Ghaziabad	Shri Aditya Pratap Singh, National Disaster Response Force	(100%)			
DAY 3						
8.	How planning can help in making cities more disaster resilient?	Dr. Chandrani Bandyopadhyay Faculty- National Institute of Disaster Management	(70%)		(30%)	
9.	Green buildings for Disaster Risk Reduction	Ms. Mohini Singh, Consultant, Green Building Program, International Finance Corporation	(20%)	(40%)	(10%)	(30%)
10.	Urban Resilience Programme in Cities	Manish Mohandas, Programme Officer (Resilience), United Nations Development Programme	(60%)	(20%)		(20%)
11	Experience Sharing	Shri Randeep Kumar Rana, Deputy Inspector General (Ops), National Disaster Response Force and Shri Goutam Ghosh, Ex Director Ministry of Home Affairs, Govt. of India	(80%)	(20%)		

Your overall impression of the course:

Excellent (66%)

Very Good (34%)

Good

Fair

Any other recommendations/suggestions.

1. Four sessions each for four days for longer dedicated sessions.
2. Inclusion of more technical sessions/ practical solutions/ practical illustrations from engineering planning viewpoints.
3. Structural engineering/ resilience session for technical specifications of buildings.
4. Government should take more initiatives for citizen awareness on what to do in case of disaster.
5. Some lectures should have more defined goals and objectives.
6. Added city visits.