



# ANNUAL REPORT 2019-20



**NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)**  
Government of India  
NDMA Bhawan, A-1, Safdarjung Enclave,  
New Delhi-110 029



# NATIONAL DISASTER MANAGEMENT AUTHORITY



## ANNUAL REPORT 2019-2020



**NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)**

**Government of India**

**NDMA Bhawan, A1, Safdarjung Enclave**

**New Delhi – 110 029.**



# Abbreviations

AERB	Atomic Energy Regulatory Board
CBRN	Chemical, Biological, Radiological and Nuclear
CSSR	Collapsed Structure Search and Rescue
DM	Disaster Management
DPR	Detailed Project Report
EFC	Expenditure Finance Committee
EW	Early Warning
FICCI	Federation of Indian Chambers of Commerce and Industry
GIS	Geographic Information System
Gol	Government of India
HPC	High Powered Committee
IMD	India Meteorological Department
INSARAG	International Search and Rescue Advisory Group
LBSNAA	Lal Bahadur Shastri National Academy for Administration
MFR	Medical First Responder
MHA	Ministry of Home Affairs
NCMC	National Crisis Management Committee
NCRMP	National Cyclone Risk Mitigation Project
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
NEC	National Executive Committee
NERMP	National Earthquake Risk Mitigation Project
NGOs	Non-Governmental Organizations
NIDM	National Institute of Disaster Management
OFC	Optical Fiber Cable
R&D	Research and Development
SAR	Search & Rescue
SDRF	State Disaster Response Force
UTs	Union Territories



# Contents

		Page No.
	Abbreviations	iii
Chapter 1	Introduction	1
Chapter 2	Functions and Objectives	5
Chapter 3	Policy, Plans and Guidelines	7
Chapter 4	Disaster Risk Mitigation Projects	19
Chapter 5	Capacity Development	35
Chapter 6	Mock Exercises & Awareness Generation	41
Chapter 7	Administration and Finance	89
	Annexure - I	93
	Annexure - II	95



# CHAPTER 1

## INTRODUCTION

### Vulnerability Profile

- 1.1 India, due to its unique geo-climatic and socio-economic conditions, is vulnerable, in varying degrees, to floods, droughts, cyclones, tsunamis, earthquakes, urban flooding, landslides, avalanches and forest fire. Out of 36 States and Union Territories (UTs) in the country, 27 are disaster prone. 58.6% landmass is prone to earthquakes of moderate to very high intensity; 12% land is prone to flood and river erosion; out of 7,516 km coastline, 5,700 km is prone to cyclones and tsunamis; 68% of the cultivable land is vulnerable to drought, hilly areas are at risk from landslides and avalanches, and 15% of landmass is prone to landslides. A total of 5,161 Urban Local Bodies (ULBs) are prone to urban flooding. Fire incidents, industrial accidents and other manmade disasters involving chemical, biological and radioactive materials are additional hazards, which have underscored the need for strengthening mitigation, preparedness and response measures.
- 1.2 Disaster risks in India are further compounded by increasing vulnerabilities related to changing demographic and socio-economic conditions, unplanned urbanization, development within high-risk zones, environmental degradation, climate change, geological hazards, epidemics and pandemics. Clearly, all

these contribute to a situation where disasters seriously threaten India's economy, its population and sustainable development.

### Genesis of NDMA

- 1.3 The basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of a disaster rests with the State Government. The Central Government supplements the efforts of the State Governments by providing logistic and financial support in case of severe natural calamities. The logistic support includes deployment of aircraft, boats, special teams of Armed Forces, Central Armed Police Forces (CAPFs) and National Disaster Response Force (NDRF), arrangements for relief materials and essential commodities including medical supply, restoration of critical infrastructure facilities including communication network and such other assistance as may be required by the affected States and UTs to meet the situation effectively.
- 1.4 The Government has brought about a change in the approach to disaster management from a relief-centric to a holistic and integrated approach covering the entire gamut of disaster management (prevention, mitigation, preparedness, response, relief, reconstruction and

rehabilitation). The approach is based on the conviction that development cannot be sustainable unless disaster mitigation is built in the development process.

- 1.5 The Government of India (GoI), recognising the importance of Disaster Management (DM) as a national priority, had set up a High Powered Committee (HPC) in August 1999 and a National Committee on Disaster Management in 2001 after the Gujarat Earthquake to make recommendations on the preparation of DM Plans and to suggest effective mitigation mechanisms. However, after the Indian Ocean Tsunami of 2004, the GoI took a defining step in the legislative history of the country, through an Act of Parliament, by creating the National Disaster Management Authority

mitigation of the effects of disasters and prompt response to any disaster situation.

### Constitution of NDMA

- 1.7 NDMA was constituted on 30th May, 2005 by an Executive Order of the GoI. Subsequently, the Disaster Management Act, 2005 was enacted on 23 December, 2005. NDMA was notified on 27 September, 2006 under the provisions of the Disaster Management Act, 2005.

### Composition of NDMA

- 1.8 The Prime Minister of India is the ex-officio Chairperson of the NDMA. The detailed composition of NDMA is placed at Annexure I. The current Members and their dates of joining the Authority are given below:

1.	Shri G. V. V. Sarma	Member Secretary (Since 29.07.2019)
2.	Shri Kamal Kishore	Member (Since 16.02.2015)
3.	Lt Gen Syed Ata Hasnain, PVSM, UYSM, AVSM, SM, VSM & BAR (Retd)	Member (Since 21.02.2020)
4.	Shri Rajendra Singh	Member (Since 20.02.2020)

(NDMA) to spearhead and implement a holistic and integrated approach to DM in India.

- 1.6 The Government of India has enacted the Disaster Management Act, 2005 to provide for the effective management of disasters and for matters connected therewith or incidental thereto. It lays down the institutional mechanism for drawing up and monitoring the implementation of the disaster management plans, ensuring measures by various wings of the Government for prevention and

- 1.9 At the national level, NDMA has the responsibility, inter alia, of laying down policies on disaster management and issuing guidelines to be followed by different Ministries/Departments of the Government of India for the purpose of integrating Disaster Risk Reduction (DRR) measures in their development plans and projects. It also lays down guidelines to be followed by the States in drawing up their respective State DM Plans and taking measures for preventing disasters or mitigating its impact as well as building

capacity for dealing with any disaster as it may consider necessary.

### **NDMA Secretariat**

1.10 The organizational structure of NDMA was approved by the Union Cabinet in May 2008. The Secretariat is headed by a Secretary with five Joint Secretaries/Advisors including one Financial Advisor. There are ten Joint Advisors (Director level) and fourteen Assistant Advisors (Under

Secretary level) along with supporting staff. The organization is also supported by a number of Senior Research Officers. Disaster being a specialized subject, it has also been ensured that the expertise of Specialists is available on contractual basis. The detailed organization of the NDMA Secretariat has been discussed in a separate Chapter on 'Administration and Finance'. List of Officers is placed at Annexure II.



# CHAPTER 2

## FUNCTIONS AND OBJECTIVES

### Functions of NDMA

- 2.1 NDMA, as the apex body for DM in India, has the responsibility of laying down the policies, plans and guidelines for DM for ensuring timely and effective response to disasters. Its statutory functions include the responsibility to:
- (a) lay down policies on DM;
  - (b) approve the national plan and the plans prepared by the ministries/ departments of the Gol in accordance with the national plan;
  - (c) lay down guidelines to be followed by the State authorities in drawing up the State plan;
  - (d) lay down guidelines to be followed by the different ministries/ departments of the Gol for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects;
  - (e) coordinate the enforcement and implementation of the policy and plan for DM;
  - (f) recommend provision of funds for the purpose of mitigation;
  - (g) provide such support to other countries affected by major disasters as may be determined by the central government;
  - (h) take such other measures for the prevention of disaster, or the mitigation, or preparedness and capacity building for dealing with threatening disaster situation or disaster as it may consider necessary;
  - (i) lay down broad policies and guidelines for the functioning of the National Institute of Disaster Management (NIDM);
  - (j) exercise general superintendence, direction and control of the National Disaster Response Force (NDRF), constituted under the Act, for the purpose of specialist response to a threatening disaster situation or disaster;
  - (k) authorize the concerned department or authority to make emergency procurement of provisions or materials for rescue and relief in threatening disaster situation or disaster;
  - (l) recommend guidelines for the minimum standards of relief to be provided to the persons affected by disasters.
- 2.2 NDMA is mandated to deal with all types of disasters, natural or man-made.

Whereas, such other emergencies including those requiring close involvement of the security forces and/or intelligence agencies such as terrorism (counter-insurgency), law and order situation, serial bomb blasts, hijacking, air accidents, Chemical, Biological, Radiological and Nuclear (CBRN) weapon systems, mine disasters, ports and harbour emergencies, forest fires, oil field fires and oil spills will continue to be handled by the extant mechanism, i.e., National Crisis Management Committee (NCMC).

- 2.3 NDMA shall, however, formulate guidelines, facilitate training and preparedness activities in respect of CBRN emergencies. Cross-cutting themes like medical preparedness, psychosocial care and trauma, community-based disaster preparedness, information & communication technology, training, awareness generation, etc. for natural and man-made disasters will also engage the attention of NDMA in partnership with the stakeholders concerned. Resources available with the disaster management authorities at all levels, which are capable of discharging emergency support functions, will be made available to the nodal Ministries/ Agencies dealing with the emergencies at times of impending disaster/ disasters.

### Vision of NDMA

- 2.4 Flowing from the mandate of NDMA and the National Policy on Disaster Management, the vision is:

**“To build a safe and disaster resilient India by developing a holistic, proactive, multi-disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness and response”.**

### Objectives of NDMA

- 2.5 The objectives of NDMA are:
- (a) Promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education.
  - (b) Encouraging mitigation measures based on technology, traditional wisdom and environmental sustainability.
  - (c) Mainstreaming disaster management into the developmental planning process.
  - (d) Establishing institutional and techno-legal frameworks to create an enabling regulatory environment and a compliance regime.
  - (e) Ensuring efficient mechanism for identification, assessment and monitoring of disaster risks.
  - (f) Developing contemporary forecasting and early warning systems backed by responsive and failsafe communication with information technology support.
  - (g) Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
  - (h) Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring safer living.
  - (i) Promoting a productive and proactive partnership with the media for disaster management.

# CHAPTER 3

## POLICY, PLANS AND GUIDELINES

### National Policy on Disaster Management (NPDM) 2009

3.1 National Policy on Disaster Management was approved by the Union Cabinet on 22nd October, 2009 and released on 18th January 2010. It portrays a paradigm shift from erstwhile 'Response-Centric' approach to the holistic management of disasters with emphasis on Prevention, Preparedness and Mitigation.

### National Disaster Management Plan (NDMP)

3.2 NDMA had prepared the first National Disaster Management Plan in 2016. The same has been revised after extensive consultations in November, 2019. The revised plan includes new hazards (Thunderstorm, Lightning, Squall, Dust Storm, and Strong Wind/Cloudburst and Hailstorms/Glacial Lake Outburst Flood (GLOF)/Heat wave/Biological and Public Health Emergencies (BPHE)/Forest Fire), new chapters (Coherence and Mutual Reinforcement for DRR of the Post-2015 Global Frameworks/Social Inclusion/Mainstreaming DRR) and also includes Climate Change Risk Management as new thematic area for climate risk informed DRR. This NDMP has delineated time bound actions for all concerned Ministries/Departments/Agencies and other stakeholders in order to match it with timelines of Sendai Framework for DRR. Plan has been shared with Central Ministries/Departments, all

States/UTs and other stakeholders so that they develop their plans and strategies accordingly to match the timelines of NDMP 2019 to achieve the Sendai targets.

### National Disaster Management Guidelines

3.3 In order to translate the objectives into plans, the NDMA adopted a mission-mode approach involving a number of initiatives with the help of various institutions (administrative, academic, scientific and technical) operating at the national, state and local levels. As a policy, the central ministries, departments and states, have been involved in evolving the guidelines, besides all other stakeholders. These guidelines; based on specific disasters and themes (such as capacity development and public awareness) will provide the basis of preparation of plans. Preparation of these Guidelines takes minimum 12 to 18 months, depending upon the complexity of the subject. The approach to formulation of guidelines comprised a 'nine-step' participatory and consultative process with stakeholders as shown in figure 3.1.

3.4 The process of preparation of guidelines comprises:

- A quick review of the studies conducted, disaster-wise, of the actions/steps taken so far by various agencies, including the Central Ministries/Departments, States,

Scientific and Technical Institutions etc.

- Identification of the residual agenda in terms of operational, administrative, financial and legal issues.
- The drawing up of a roadmap to the destination duly indicating milestones to facilitate easy monitoring.
- In terms of goals and objectives, screening down the destination is to

be attained, in the short, as well as long term, duly prioritized as vital, essential and desirable.

- Four important questions were to be answered: i.e. What is to be done?, how it is to be done?, who will do it?, and by when?
- Putting in place an institutional mechanism that oversees the operationalization of this roadmap.

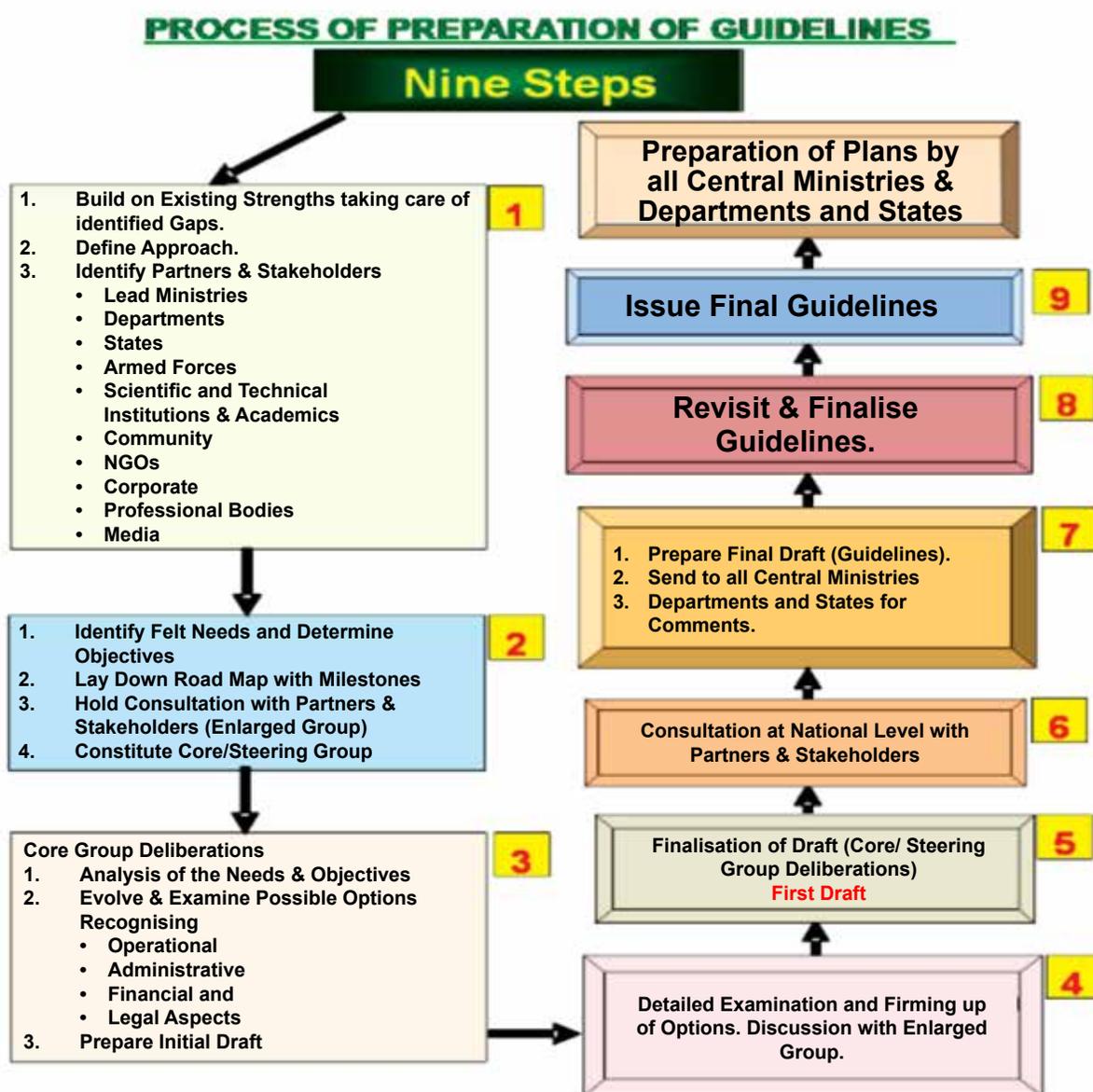


Figure 3.1

### 3.5 Guidelines and Reports & Other documents released during previous years :

#### (i) Guidelines issued :

List of Guidelines issued by NDMA		
S. No.	National Disaster Management Guidelines on	Month and year of preparation/ release
1.	Management of Earthquakes	April 2007
2.	Management of Chemical (Industrial) Disasters	April 2007
3.	Preparation of State Disaster Management Plans	July 2007
4.	Management of Medical Preparedness and Mass Casualty Management	October 2007
5.	Management of Floods	January 2008
6.	Management of Cyclones	April 2008
7.	Management of Biological Disasters	July 2008
8.	Management of Nuclear and Radiological Emergencies	February 2009
9.	Management of Landslides and Snow Avalanches	June 2009
10.	Management of Chemical (Terrorism) Disaster	June 2009
11.	Psycho-social support and mental health services in disasters	December 2009
12.	Incident Response System	July 2010
13.	Management of Tsunamis	August 2010
14.	Management of the Dead in the aftermath of Disasters	August 2010
15.	Management of Urban Flooding	September 2010
16.	Management of Drought	September 2010
17.	National Disaster Management Information and Communication System	February 2012
18.	Scaling, Type of Equipment and Training of Fire Services	April 2012
19.	Seismic Retrofitting of Deficient Buildings and Structures	June 2014
20.	School Safety Policy	Feb 2016
21.	Hospital Safety	Feb 2016
22.	Minimum Standards of Relief	Feb 2016
23.	Museums	May 2017

24.	Cultural Heritage Sites and Precincts	September 2017
25.	Boat Safety	September 2017
26.	Preparation of Action Plan - Prevention and Management of Thunderstorm & Lightening / Squall/ Dust/ Hailstorm and Strong Wind	March 2019
27.	Temporary Shelters for Disaster - Affected Families	September 2019
28.	Disability Inclusive Disaster Risk Reduction	September 2019
29.	Landslide Risk Management Strategy	September 2019
30.	Preparation of Action Plan - Prevention and Management of Heat Wave (Revised Guidelines).	October 2019

(ii) Reports and other documents issued :

S. No.	Description
1.	Revamping of Civil Defence
2.	NIDM's Functioning
3.	Strengthening of safety and security for transportation of POL tankers
4.	Threats to Municipal Water Supply and Water Reservoir's
5.	Training Regime for Disaster Response
6.	Hand Book for Training and Capacity Building of Civil Defence and Sister Organizations: Part I & II
7.	Managing Crowds at Events and Places of Mass Gathering
8.	Concise Framework for Preparation of Management Plan for Events/ Venues of Mass Gathering
9.	Compendium of relevant Acts/Laws/Rules/Regulations/ Notifications on Disaster Management
10.	Model Framework of District Disaster Management Plan (DDMP) and Explanatory Notes for preparation of DDMP.
11.	Cyclone Hudhud - Strategies and Lessons for Preparing Better & Strengthening Risk Resilience in Coastal Regions of India
12.	Training Manual : How to conduct emergency management exercise
13.	Guidelines on ensuring Disaster Resilient construction of Buildings and Infrastructure
14.	Pilot Project on Capacity Building for advanced Trauma Life Support in India
15.	Capacity Building in DM for Govt. Officials & Representative of Panchayat Raj Institution & Urban Local Bodies at District Level
16.	Roadmap for mitigation of Urban Flood

17.	Gujarat Flood 2017- A case study
18.	Training of Masons on Hazard Resistant Construction
19.	Tamil Nadu Floods: Lessons learnt and Best Practices - A report
20.	Study Report on Gaja Cyclone - 2018
21.	Home Owner's Guide for Cyclone and Earthquake Safety
22.	Earthquake Disaster Risk Index Report
23.	Fire Safety in India (Proceedings of 15th Formation Day of NDMA)
24.	A Preliminary Study to Estimate Temperature Threshold for Heat Wave Warning in India
25.	Pocket Book of Do's and Don'ts on various disasters
26.	A digital book on Do's and Don'ts and FAQ on COVID-19
27.	National Workshop Report for Preparation and Management of Heatwave 2020

### 3.6 Guidelines/ Reports released during 2019-20 :

#### (i) National Guidelines on Temporary Shelters for Disaster - Affected Families

The Guidelines on Temporary Shelters will facilitate all Government /Non-Government agencies in constructing temporary shelters for the victims of disasters as per their needs. The guidelines will help agencies in deciding the construction material/technology to be used for construction of the temporary shelters and provide information about availability of resources in various geographical location and methodology to be adopted for construction of the shelters. The guidelines provides information about all aspects of temporary shelters. The Guidelines were released on the occasion of 15th Formation Day of NDMA on 27th September, 2019.

#### (ii) National Disaster Management Guidelines on Disability Inclusive Disaster Risk Reduction

The Guidelines on Disability Inclusive DRR cover all the aspects of Disaster Management - pre, during and post. During pre-disaster phase, special preparedness measures for disabled people have been taken care of. Special requirement for persons with disability have been addressed during the disaster situation. Post-disaster activities focus on reconstruction, rehabilitation and recovery aspects with special focus on requirements of the person with disabilities. The Guidelines have been prepared in consultation with United Nations Resident Coordinator's (UNRC) Office, New Delhi and were released on the occasion of 15th Formation Day of NDMA on 27th September, 2019.

#### (iii) National Guidelines for Preparation of Action Plan - Prevention and Management of Heat Wave.

NDMA has released the revised National Guideline for preparation of Action plan - prevention and

management of Heat Wave 2019 after intensive deliberations by the Expert Committee constituted for the purpose. These Guidelines provide a framework for implementation, coordination and evaluation of activities undertaken by local authorities in their respective areas to reduce the negative impact of extreme heat-wave. The revised Guidelines have been released in October, 2019.

(iv) **Study Report on Gaja Cyclone – 2018**

An important aspect of disaster preparedness is to study each event to learn lessons, identify gaps and document best practices so that future events are handled in an even more efficient manner. As such, this study report can be referred to improve preparedness as well as response mechanisms of the overall administrative machinery. The report was released on the occasion of 15th Formation Day of NDMA on 27th September, 2019.

(v) **Home Owner's Guide for Cyclone and Earthquake Safety**

As major parts of the country are prone to earthquakes and floods, people need to be made aware of simple, easy-to-understand tips for making their houses resilient to earthquakes and floods. This Guide aims to reduce potential losses and can be used across various geographies and types of construction. This will facilitate a person to build/ buy earthquake and cyclone resistant houses/ flats/ buildings. The guide has been developed for both aspects

i.e. structural and non – structural safety. The guide has been prepared in consultation with Indian Institute of Technology (IIT) Jodhpur and Madras and was released on the occasion of 15th Formation Day of NDMA on 27th September, 2019.

(vi) **A Preliminary Study to Estimate Temperature Threshold for Heat Wave Warning in India**

Heat Waves are projected to increase in number, intensity and duration in the 21st century. NDMA has prepared a preliminary report of thresholds of maximum temperature for impact-based warnings for 100 Indian cities with an overall objective to provide meteorological and heat-health warnings to be used by the alert decision makers and the general public from the impending danger of heat wave. City specific temperature thresholds can help to provide specific heat wave warnings for taking various preparedness and mitigation measures. Copy of the Study has been sent to all States/ concerned Ministries and other stakeholders

(vii) **Fire Safety in India (Proceedings of 15th Formation Day of NDMA)**

Across the globe, fire remains a major cause of loss of life and property. In the past, India has witnessed many tragic fire incidents for e.g. Uphar cinema, New Delhi (2007), school in Kumbakonam (1997) and Kamala Mills, Mumbai (2017). More recently, the Surat coaching-class fire highlights the urgent need to improve the fire safety preparedness. In order to discuss and deliberate

the issues associated with fire risk and fire safety, National Disaster Management Authority (NDMA) selected the theme 'Fire Safety' on occasion of 15th Formation Day celebrations on 27th September 2019 at Hotel Ashok, New Delhi. The detailed proceedings of the formation day have been compiled and uploaded on website.

(viii) **National Workshop Report for Preparation and Management of Heat Wave, 2020.**

The report contains the proceedings of the two-day national workshop organised by NDMA in collaboration with the Government of Karnataka, on Preparedness, Mitigation and Management of Heat Wave in Bengaluru on 5th-6th December, 2019 for the heat wave in 2020.

3.7 **Guidelines and other documents under preparation :**

- (i) Formulation of Standard Operating Procedure (SOP) on accepting international assistance for Disaster Relief and Recovery.
- (ii) Formulation of Standard Operating Procedure (SOP) on channelizing domestic support/ assistance for disaster relief and recovery.

3.8 **Workshop/ Training Programmes conducted by NDMA :**

- (i) Formation Day workshop on Fire Safety:

NDMA celebrated its 15th Formation Day on September 27, 2019. The theme of this year's Formation Day was Fire Safety. Hon'ble Union Minister of State for Home Affairs,

Shri G. Kishan Reddy, inaugurated the event.

2. The following technical sessions were held during the function:

- i) Fire Risk in India
- ii) Fire Prevention and Mitigation
- iii) Institutional Challenges and Issues

Stakeholders discussed the fire risk in the country, its prevention and mitigation, key issues and institutional challenges with regards to fire risk reduction, and the way forward.

3. Dr. P. K. Mishra, Principal Secretary to the Prime Minister, delivered the valedictory address on the occasion.

(ii) **National workshop on Preparedness, Mitigation and Management of Heat Wave:**

NDMA in collaboration with the Government of Karnataka, organised a two-day national workshop on Preparedness, Mitigation and Management of Heat Wave in Bengaluru on 5th-6th December, 2019 for the heat wave in 2020.

2. Important deliberations on a range of topics were carried out in five technical sessions during the workshop. These are as follows:

- Discussions were held on Impact of Climate Change on heat wave. Measures on how to reduce the risk related to heat waves were explored. Panellists discussed the impact of extreme heat on health in India and mainstreaming of Heat Action Plans based on the latest National Guidelines.

- Senior officials from India Meteorological Department (IMD) also discussed Early Warning and forecasting, and communications strategy for dissemination of heat wave related messages.
- Some vulnerable States shared their experiences and best practices to help other stakeholders prepare and implement their Heat Action Plans. The success stories from these States emphasised the importance of advanced planning, better preparedness and timely intervention.
- Presentations were made on capacity building and issues pertaining to effective response; and panel discussions were held on inter-agency coordination.

3. Members and senior officials from NDMA, experts on heat wave, early warning and forecasting agencies, State governments, research institutions and members of the civil society participated in the workshop. With this workshop, the National Disaster Management Authority has initiated efforts well in advance for managing the Heat wave season 2020.

### 3.9 Formulation of State Disaster Management Plans :

36 States/ UTs have prepared their State Disaster Management Plans (SDMPs) and shared with NDMA.

### 3.10 Disaster Management Plan of Ministries/ Departments of Government of India:

- (a) For assistance of the Ministries/ Departments of the Govt. of India in preparation of their Disaster Management Plan (DMP), NDMA formulated a 'Suggested Structure for Disaster Management Plan- Departments/ Ministries in the GoI' and circulated the same to all concerned. This is available on NDMA's web site [www.ndma.gov.in](http://www.ndma.gov.in) under the link Policy and Plan - DM Plan Templates. A simplified template for DM Plan has also been prepared for Ministries / Departments who are not directly involved in Disaster Management.
- (b) A list of Frequently Asked Questions (FAQs) from Ministries on DMP and their answers have been circulated to all Ministries / Departments and also uploaded on NDMA's website under the link Policy and Plan - DM Plan Templates
- (c) The matter regarding preparation of DMP by the Ministries/Departments of the Government of India as per section 37 of the DM Act is being consistently pursued with them through meetings and D.O. letters.
- (d) (As on 31.03.2020) NDMA approved the Disaster Management Plan (DMP) of following Ministries / Departments of Govt. of India:
  1. Department of Agriculture, Cooperation & Farmers Welfare
  2. Department of Animal Husbandry, Dairying & Fisheries (now Ministry of Fisheries, Animal Husbandry and Dairying)
  3. Department of Atomic Energy
  4. Ministry of Corporate Affairs

5. Department of Justice
  6. Ministry of Petroleum & Natural gas
- (e) (As on 31.03.2020) NDMA examined the Disaster Management Plan (DMP) of following Ministries/ Departments of Govt. of India and furnished comments for their revision:
1. Ministry of Railways
  2. Department of Space
  3. Ministry of Power
  4. Ministry of Women and Child Development
  5. Ministry of Steel
  6. Ministry of Information and Broadcasting
  7. Department of School Education & Literacy
  8. Department of Heavy Industry
  9. Ministry of Food Processing Industries
  10. Department of Agricultural Research and Education
  11. Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH)
  12. Department of Fertilizers
  13. Ministry of Civil Aviation
  14. Department of Telecommunications
  15. Department of Water Resources, River Development and Ganga Rejuvenation
  16. Ministry of Mines
  17. Ministry of Road Transport and Highways
  18. Department of Youth Affairs
  19. Department of Drinking Water & Sanitation

20. Ministry of Culture
21. Ministry of Housing & Urban Poverty Alleviation (now Ministry of Housing & Urban Affairs)
22. Ministry of Home Affairs (for all Departments under it)
23. Ministry of Minority Affairs
24. Department of Commerce
25. Ministry of Coal
26. Department for Promotion of Industry and Internal Trade

### 3.11. Schemes under implementation :

- (i) **Implementation of the Sendai Framework for Disaster Risk Reduction:**  
The Scheme - Implementation of the Sendai Framework for Disaster Risk Reduction - has been approved by NDMA at a cost of Rs. 2010.6 Lakh for implementation in all the States and UTs for three years from 2018-19. The Scheme, inter - alia, provides for financial support for hiring of one Disaster Management (DM) professional at SDMA in all States/ UTs. The DM professional will facilitate/ support the State Administration in taking measures for implementation of Sendai Framework for Disaster Risk Reduction. The details of financial support for the components of the Scheme are as under :
- (i) Hiring of one Sr. Consultant at the rate of Rs. One Lakh per month.
  - (ii) Hiring of one Data Entry Operator at the rate of Rs.22,000/- per month.
  - (iii) Hiring of vehicle with ceiling of Rs.25,000/- per month for first

year, Rs.27,500/- per month for second year and Rs.30,250/- for third year.

- (iv) Financial support of Rs.2.0 Lakh (one time) for setting up of office.

The details of amount released to States / UTs under the Scheme are as under:

Financial Year	No. of States / UTs to whom fund released	Total amount released
2018-19	31 (29 States and 2 UTs)	Rs. 594.56 lakh
2019-20	3 (3 UTs)	Rs. 22.16 lakh
	<b>Total</b>	<b>Rs. 616.72 lakh</b>

- (ii) Strengthening of District Disaster Management Authorities (DDMAs) of Hazard Prone Districts out of the 115 identified backward districts : The Scheme - Strengthening of District Disaster Management Authorities (DDMAs) of Hazard Prone Districts out of the 115 identified backward districts - has been approved by NDMA at a cost of Rs.28.98 Crore for implementation in all the States except Goa, where no backward district is identified, for three years from 2018-19. The Scheme provides for financial support for hiring of one Disaster Management (DM) professional at the rate of Rs. 70,000/- (Rupees Seventy thousand) per month in each of hazard prone districts out of 115 identified districts in 28 States for the duration of the Scheme. The DM professional will facilitate/ support the District Administration in taking measures for implementation of Sendai Framework for Disaster Risk Reduction.

The details of amount released to States under the Scheme are as under:

Financial Year	No. of States to whom fund released	Total amount released
2018-19	27 States	Rs. 524.30 lakh
2019-20	18 States	Rs. 315.00 lakh
	<b>Total</b>	<b>Rs. 839.30 lakh</b>

### 3.12. Projects under implementation:

- (i) Assessment of Vulnerability and Threshold of heat-related health hazards in four Cities of India

National Disaster Management Authority (NDMA) has awarded the project to Public Health Foundation of India (PHFI), Haryana, India in December, 2019 for study on Assessment of Vulnerability and Threshold of heat-related health hazards in four Cities of India i.e. Ongole(Andhra Pradesh), Karimnagar (Telangana), Angul (Odisha) and Kolkata (West Bengal) at a tentative cost of Rs. 48,98,300/-.

This study will assess the health effect of exposure to heat waves across four cities/towns in the country. Additionally, it will also assess the burden of heat wave in four cities/towns of the country and map the current socio-cultural practices across these four sites. It will explore and document the opportunities and challenges that the vulnerable population are facing in terms of mitigating the risks related to heat waves. Further, the study will provide robust evidence from four cities of India to inform the policy which in turn would strengthen the

current state and region-wise Indian weather warning system for better preparedness. The policy briefs that would be developed for each state, would offer state-specific suggestions to improve preparedness to deal with heat wave.

(ii) **Developing framework for Heat vulnerability Mapping and model Heat Action Plan for Indian Cities**

NDMA has awarded the project to Visvesvaraya National Institute of Technology (VNIT), Nagpur for Developing framework for Heat vulnerability Mapping and model Heat Action Plan for Indian Cities at a tentative cost of Rs. 46,94,612/-.

The deliverables of the project include:

1. Study showing relationship between outdoor thermal comfort, Meteorological parameters and morphological parameters.
2. Heat Vulnerability map for 2 cities in Vidarbha region.
3. Heat Action Plan for a selected city.
4. Generic methodology for HV mapping.
5. Framework for model HAP.

(iii) **Development of Flood Early Warning System in Guwahati Town**

NDMA has awarded the project to The Energy and Resources Institute (TERI), New Delhi for Development of Flood Early Warning System in Guwahati Town at a tentative cost of Rs. 49,20,664 /- in 2018-19 and work is under progress.

The deliverables of the project comprise following activities:

1. (i) Primary and secondary data collection, surveys and analysis and (ii) Setting up the model and model simulation and tuning.
2. (i) Analysis of Results and Validation and (ii) Graphical User Interface (GUI), GUI Training, Draft and Final Report of the study with key findings and Review of the work. The flood warning system developed by TERI, to be used by Guwahati Municipal Corporation will be run by them in the presence of TERI team before handing over the final product to NDMA/ Assam SDMA.



# CHAPTER 4

## DISASTER RISK MITIGATION PROJECTS

### National Cyclone Risk Mitigation Project

4.1 National Cyclone Risk Mitigation Project is a flagship programme of Govt. of India which is being implemented by NDMA in 8 cyclone prone coastal states with overall budget of Rs.5232 Cr. The Project is divided into two phases. The outlay for phase-I was Rs.2541 Cr. and that of phase-II is Rs.2691 Cr. The Phase-I covered the States of Andhra Pradesh & Odisha, where works started during 2011 and got completed during 2018. Presently, the works of Phase-II, which commenced in 2015 in 6 states viz, Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal, are undergoing.

### Project Components

4.2. The project has 4 Components as mentioned below:

**Component A** - Early Warning and Dissemination System (EWDS)

**Component B** - Construction of Cyclone Risk Mitigation Infrastructure viz.

(i) Multi-Purpose Cyclone Shelters (MPCS)

(ii) Evacuation Roads

(iii) Bridges

(iv) Saline Embankments

**Component C**-Technical assistance for Risk Management, capacity Building and Knowledge Creation.

**Component D** - Project Management and Implementation Support.

NCRMP Phase-I		
Component	Description	Outlay (Rs. in Cr.)
A	Early Warning and Dissemination System (EWDS)	132.00
B	Construction of cyclone Risk Mitigation Infrastructure viz, - Multi-Purpose Cyclone Shelters (MPCS) - Evacuation Roads - Bridges - Saline Embankments	2223.67
C	Technical assistance for Cyclone Hazard Mitigation, capacity Building and Knowledge Creation	22.41
D	Project Management and Implementation on Support	138.64
	Un-allocation Contingencies	24.88
	Total	2541.60

NCRMP Phase-II		
Component	Description	Outlay (Rs. in Cr.)
A	Early Warning and Dissemination System (EWDS)	267.12
B	Construction of cyclone Risk Mitigation Infrastructure viz, - Multi Purpose Cyclone Shelters (MPCS) - Evacuation Roads - Bridges - Saline Embankments - Underground Cabling - Coastal Belt Plantation/Lightening Arrestors	2133.48
C	Technical assistance for Cyclone Hazard Mitigation, capacity Building and Knowledge Creation	105.10
D	Project Management and Implementation on Support	135.30
	Un-allocation Contingencies	50.00
	Total	2691.00

#### 4.3 Implementation Status of NCRMP Phase-I (Andhra Pradesh and Odisha)

**Component A:** As regards EWDS, 275 Alert sirens, 476 Digital Mobile Radio and 34 Satellite Terminals have been installed and system made operational

and commissioned in both the states.

**Component B:** Under NCRMP Phase-I, 535 Multipurpose Cyclone Shelters, 1086.52 Kms of Roads, 34 Bridges and 88.12 Kms Saline Embankment have been completed. State wise break-up is given as under:

Sl. N.	States	Sub-Component	Total to be constructed	Completed
1	Odisha	MPCS (no)	316	316
		Roads (km)	388.50	388.50
		Saline Embankment(Km)	58.22	58.22
2	Andhra Pradesh	MPCS (no)	219	219
		Roads (km)	698.02	698.02
		Bridge(No.)	35	34
		Saline Embankment(Km)	29.90	29.90

Component C: Following Technical Studies have been completed:

- (i) The Coastal Hazard, Risk and Vulnerability Assessment (web-CRA)
- (ii) Preparing Long Term Training and Capacity Building
- (iii) Post Disaster Needs Assessment (PDNA) Tool & long term recovery framework.

#### 4.4 Financial Management:

Rs.1983.84 crore (Government of India share) had been released upto December, 2018 and Rs. 1963.53 crore expenditure (Govt. of India Share) incurred up to 30th November, 2019.

#### 4.5 Implementation Status of NCRMP Phase-II (Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal).

Component-A : Four States of Goa, Maharashtra, Karnataka and Kerala have engaged M/s TCIL as their Knowledge Partner/Technical Consultant to provide assistance for implementation of Early Warning Dissemination System (EWDS). West Bengal has engaged M/s PWC as their Knowledge Partner, while KPMG has been engaged by Gujarat as their Knowledge Partner. Work has been awarded to the system integrator in Goa while other five states are at tendering

#### Photographs of Assets created under NCRMP Phase-I (Andhra Pradesh)



*Approach Road in West Godavari District*



*Bridge in Guntur District*

#### Photographs of Assets created under NCRMP Phase-I (Odisha)



*MPCS in Puri District*



*Saline Embankment Work in Odisha*

stage for the engagement of system integrator.

**Component-B :** In Phase-II, two additional mitigation works have been taken under the component-B viz., Under Ground

Electric Cabling Works and Lightning Arresters/Coastal Belt Plantation works in addition to MPCS, Roads, Bridge & Saline Embankment. The state wise physical progress of CRMI works are given as under:-

Sl. N.	States	Sub- component	Total to be constructed	Completed	Under Execution	Tender stage
1	Goa	MPCS (no)	12	0	10	2
		Underground Cabling(km)	98	0	98	
2	Gujarat	MPCS (no)	95	28	51	16
		Roads (km)	157	157	0	
3	Karnataka	MPCS (no)	11	4	7	
		Roads (km)	48	47	1	
		Saline Embankment (km)	7			1
4	Kerala	MPCS (no)	17	0	14	3
5	Maharashtra	MPCS (no)	11	0	0	11
		Saline Embankment (km)	29.55 (3 packages)	0	22.26 (2 packages)	7.29
		Underground Cabling (KM)	471	0	471	
6	West Bengal	MPCS (no)	146	145	1	
		Underground Cabling (km)	515	0	500	15

### Photographs of Assets created under NCRMP Phase-II (Gujarat)



MPCS in Surat District



MPCS in Bharuch District

## Photographs of Assets created under NCRMP Phase-II (West Bengal)



*MPCS in South 24 Parganas District*



*MPCS in South 24 Parganas District*

**Component- C:** The following studies are being conducted under Phase-II(NCRMP):-

- (a) Hazard Risk & Vulnerability Assessment (Web-DCRA)- It includes development of Web-DCRA and DSS Tool for cyclone and associated impacts, including Storm Surge & Inland flooding in 13 coastal States/UTs. This work awarded to M/s.RMSI and is under progress.
- (b) National Seismic Risk Mitigation Program (NSRMP)- To design National Seismic Risk Mitigation Programme for 9 high risk States/UTs viz., Uttarakhand, H.P, Bihar, Assam, Meghalaya, Manipur, Tripura, J&K and Ladakh. Works already awarded to the Consultant (DDF-AKDN JV) and same is being executed by them. Five more high risk States (Delhi, Arunachal Pradesh, Sikkim, Nagaland, Mizoram) are covered under NSRMP-

II. EOIs are under evaluation for NSRMP II.

- (c) Hydro-meteorological Resilience Action Plan (HmRAP)- To assist states in preparing resilience action plans that will focus on extreme weather events in urban areas. Consultancy to be awarded shortly.
- (d) Designing of Comprehensive Multi-hazard Risk Financing Strategy (CMhRFS) - To identify the various risk transfer financial instruments and to develop risk financing strategies. RfP issued to selected firms.
- (e) Capacity Building & Training:
  - i) Capacity Building activities for government officials under five priority sectors (Education, Health, Panchayati Raj Institute, Urban Local Body, Rural Development) are under progress.

- ii) Shelter Level training on First Aid, Shelter Management and Search & Rescue are under progress.

#### 4.6 Financial Management:

Rs.1111.87 crore (Govt. of India Share) has been released to States upto March, 2020 and Rs.805.30 crore expenditure (Govt. of India Share) incurred upto March 2020.

#### Initiatives by Mitigation Division, NDMA

- 4.7 Mitigation Division takes up pilot projects and studies on cross cutting themes covering different aspects of natural and manmade disasters including Floods, Landslides, Earthquakes, Chemical, Biological, Radiological and Nuclear Disasters etc. through reputed Institutions/organizations. Various Projects/ activities undertaken by NDMA are as under:-

#### EARTHQUAKE :

##### 1. Earthquake Disaster Risk Index (EDRI) for 50 Cities and 1 District

- 4.8 A pilot study was conducted by IIIT-Hyderabad to estimate the disaster risk index for the 50 cities and 1 district. These cities were selected from Zone IV & V and selection of these cities were based on high population density and housing threat factor etc. The risk obtained is mainly the combination of hazard, vulnerability and exposure of the city. It provides information to each cities of their impending risk and gave an inter-comparison of the risk among the cities. And perused them to take appropriate action for disaster preparedness and response measure to avert the impending risk.

- 4.9 The final Report of Earthquake Disaster Risk Index was released on the 15th Formation Day of NDMA. A Workshop was also held on 9th January 2020 to sensitize the concerned city officials regarding the EDRI, earthquake mitigation measures the cities may undertake based on the outcome of the study. The Final installment of Rs. 9.5 Lakh was released to IIIT Hyderabad. The project has achieved the envisaged objectives and deliverables thereon.

##### Development of Simplified Guidelines/ Manual for Earthquake Resistant Built Environment

- 4.10 NDMA has associated with BIS to develop simplified guidelines based upon BIS codes and NBC-2016, explaining the basic requirement of earthquake resistant constructions in the interest of common man and public as a whole. In this regard, draft guideline has been prepared through Working Group (WG).
- 4.11 Addition of illustrative pictures/cartoons depicting salient features of BIS and NBC-2016 through CBRI Roorkee with the cost of Rs. 4.56 lakh is in progress. 1st Installment i.e. Rs. 1.83 Lakhs has been released to CBRI Roorkee.

##### Creation, Periodic Review & Updation/Revision of Building Codes for Earthquake Resistant Build Environment

- 4.12 Based on the deliberations of CED 39 Committee of BIS, BIS requested NDMA to fund for the R&D project on 'Probabilistic Seismic Hazard Map', 'Seismic Design of Pipelines-Code of Practice', 'Performance Based Design and Seismic Design' and 'Detailing of New Structures - Steel Buildings'.

4.13 Further, NDMA has decided to fund Rs. 35 lakhs for the above-mentioned 4 Codes. The tri-partite MoUs among NDMA, BIS and concerned IITs has been signed. 1st installment to the concerned IITs has been released and R&D work has been commenced towards development of respective codes. A project monitoring group meeting was also held on 7th January 2020 to review the progress of the work. The first draft of the R&D work on respective standards has been submitted by IIT Madras, IIT Roorkee and IIT Bhubaneswar.

#### **Development of Resource Materials on Earthquake Engineering**

4.14 NDMA has constituted a Core Group of the subject experts to prepare the detailed outline after prioritizing the subjects to be part of the curriculum of earthquake engineering at undergraduate level. 2nd meeting of the Core Group was held on 29.05.2019 at IIT Bombay. In the meeting, outline for the 5 subjects have been finalized and the detailed content in terms of sub-topic with the brief summary is being developed for the identified outline for each subject. Further, the 3rd meeting was held at NDMA on 17.07.2019 to identify the lead institute and lead experts to develop detailed content of the 5 identified subjects.

4.15 IIT Bombay has been identified as the lead agency to develop the resource material through the domain experts with the cost of Rs. 1.924 Crore. The MoU between IIT Bombay and NDMA has been signed and first installment has been released and work has been initiated by IIT Bombay. Various meetings have been held to finalize the outline, the content in line

with the AICTE curriculum. The detailed content writing is in progress by the identified lead experts.

#### **Workshop on Challenges of DRR in Hill Towns**

4.16 NDMA decided to organize two workshops for Himalayan States i.e. Northeastern States and Northwestern to provide the platform to local government and city officials of hill towns to share their issues related to disaster risk and subsequent initiatives in the context of hilly areas to solve the problems affecting the safety of their built environments.

4.17 By keeping the above in mind first workshop was held during 18-19 September, 2019 at Gangtok and the second workshop was held during 22-23 October, 2019 at Shimla in collaboration with the respective State Governments. In this regard, NDMA provided the technical assistance alongwith financial assistance of Rs. 10.00 lakh each to the concerned States.

#### **Resource mapping of Earthquake Engineering Faculties in Engineering/Architect Colleges**

4.18 The mapping of earthquake engineering resources is to be carried out through MNIT Jaipur with the cost of Rs. 23.5 lakh. The MoU between NDMA and MNIT Jaipur has been signed on 18.10.2019. The major deliverable of the projects is developing database of earthquake experts and other relevant resources across the country and development of MIS platform to host the earthquake resource database.

4.19 The first installment i.e. Rs. 9.4 lakh to commence the work has been released and work has been initiated by MNIT Jaipur. A Project review meeting has also been held on 17th March, 2020.

### **Pilot project to improve Earthquake Resiliency of Masonry Lifeline Structures and upcoming constructions**

4.20 NDMA has undertaken a pilot project to improve the earthquake resilience of lifelines structure which include the retrofitting of selected masonry lifeline buildings, construction of technology demonstration unit and capacity building of engineer, bar benders and carpenters.

The main Objectives of the Scheme are: -

- Structural safety audit of selected lifeline masonry buildings
- Retrofitting of selected lifeline masonry buildings
- Construction of Technology Demonstration Units to showcase the earthquake resistant technology (one each in the project States/UT).
- Capacity Building-Training of engineers, masons, bar-benders and artisans

4.21 The initial installment i.e. Rs 91 lakhs has been released to both states of Uttarakhand and Tripura and NDMC Delhi.

4.22 Tripura State has initiated the work and identified 25 Masonry buildings and will further prepare the DPR. Similarly, Uttarakhand state have also identified the buildings and completed the DPR of 1 Hospital buildings.

### **Compendium of Traditional Earthquake Resilient Construction Practices for Knowledge Sharing and Disaster Risk Reduction: Promotion of Traditional Construction Practices**

4.23 Pilot Study on Traditional Earthquake Resistant Construction Practices in Himalayan Region was allotted to IIT Ropar in a consortium with IIT Roorkee

and AEC Guwahati. The main objective of the project is to identify and document the contemporary building typologies in Indian Himalayas, seismic vulnerability assessment and suggesting safety measure for such kind of buildings typologies. The work has been initiated by IIT Ropar.

4.24 The first installment of the project i.e. Rs 10 Lakhs has been released to IIT Ropar to initiate the project and IIT Ropar has submitted the first draft of the report as per the MoU.

### **Regional Workshop on DRR**

4.25 A Regional Workshop was organized in Bhubaneswar, Odisha on 10th & 11th February, 2020 to discuss and deliberate the issues and share their experience to mitigate the disasters the Eastern states are facing. States of Andhra Pradesh, Bihar, Chhatisgarh, Jharkhand, Odisha and West Bengal Participated in the Workshop. The issues and measures relating to mitigation of floods, cyclones, and earthquake alongwith the use of GIS in Disaster Risk Management were discussed in this Regional Workshop.

### **LANDSLIDE :**

#### **Generation of Meso Level 1:10,000 Scale User Friendly LHZ Maps and landslide Inventory for Tapovan-Vyasi Corridor of Haridwar-Badrinath National Highway, Uttarakhand.**

4.26 NDMA has sanctioned the pilot project on "Generation of Meso Level 1:10,000 Scale User Friendly LHZ Maps and Landslide Inventory for Tapovan-Vyasi Corridor of Haridwar -Badrinath National Highway, Uttarakhand" in collaboration with Remote Sensing Application Centre (RSAC) - UP (Lucknow) in which Survey

of India (Sol) and Geological Survey of India (GSI), IIT-Roorkee and Uttarakhand Government will provide their inputs. Creation of Landslide Hazard Zonation (LHZ) maps of 1:10,000 Scale and landslide inventory will be done by high resolution satellite data.

4.27 The total estimated cost of the project is Rs. 35,13,000 (Rupees Thirty Five Lakh and Thirteen Thousand only). Out of which Rs. 20,52,000 (Rupees Twenty Lakh and Fifty Two Thousand only) were released to RSAC-UP and IIT-Roorkee. The present status of the project is as under:

- a. Creation of thematic layers of Road, Settlements, Drainage, Active Slide etc. and procurement of high resolution image.
- b. Team of RSAC-UP & GSI (Uttarakhand State Unit) visited the site in October, 2019.
- c. Survey of India (Sol) provided the base data of 1:10,000 scale and 5m contour interval of 30km road stretch with 0.5km buffer along Tapovan to Vyasi route corridor.
- d. Landslide mapping from high resolution satellite data completed.
- e. Preparation of other thematic layers is in progress.
- f. Testing of samples collected from study area by IIT Roorkee is in progress.

#### **Development and Evaluation of Low-Cost Landslide Monitoring Solutions**

4.28 A pilot project on "Development and Evaluation of Low-cost Landslide Monitoring Solutions" in collaboration with IIT Mandi for the development of low cost sensors and other instruments for landslide monitoring through Micro-

Electro - Mechanical Systems (MEMS) based sensors technology was sanctioned by NDMA.

4.29 The total estimated cost of the project is Rs. 27,85,080 (Rupees Twenty Seven Lakh Eighty Five Thousand and Eighty only). Out of which Rs. 25, 99,408 (Rupees Twenty Five Lakh Ninety Nine Thousand Four Hundred and Eight only) was released to IIT Mandi.

The present status of the project is as under:-

- a. Development of Prototypical low cost MEMS based landslide monitoring solutions (LMS) completed.
- b. Performing lab scale simulation on the LMS completed.
- c. Siteselectionwithsurficialdeployment of equipment was completed and sub-surface deployment of equipment at Garpa hill site is completed.
- d. Machine learning algorithms and calibrations-validation of sensors is in progress.

#### **4.30 Landslide Risk Mitigation Scheme (LRMS)**

- NDMA has conceptualized and formulated "Landslide Risk Mitigation Scheme (LRMS)" under Improving Disaster Risk Governance of SDMA's / DDMA's to provide financial and technical support to landslide prone States for site specific landslide mitigation.
- LRMS is a pilot scheme to demonstrate benefits of landslide mitigation measures along with landslide monitoring, awareness generation, capacity building / training etc.
- MoU were signed with State Disaster Management Authorities (SDMA's)

of Sikkim, Mizoram, Nagaland and Uttarakhand for implementation of scheme.

- The total cost of the scheme is Rs. 43.92 Crores. Out of which Rs. 13.17 Crores released as first installments to Sikkim, Mizoram, Nagaland and Uttarakhand. And, 2nd installment of Rs. 3.27 Crore was released to Nagaland after progress review of the project implementation.

### **Training Programmes on “Landslide Mitigation and Detailed Project Report (DPR) Preparation”.**

4.31 NDMA has approved the training programmes for two and five days on “Landslide Mitigation and Detailed Project Report (DPR) Preparation” in collaboration with expert institution like IIT, CBRI, CRRRI, IISc etc. to impart training to the State Governments officials since the State Governments face difficulties in preparing the DPR on landslide mitigation and stabilization.

4.32 Accordingly, five 2 days training programmes were conducted at Central Road Research Institute (CRRRI), New Delhi; Central Building Research Institute (CBRI), Roorkee with budgetary support and at YMCA, New Delhi in collaboration with National Institute of Disaster Management (NIDM), New Delhi without any budgetary support from NDMA. All the five 2 days training programmes had been successfully conducted.

4.33 So far, four 5 days training programmes were conducted at IIT-Mandi (Himachal Pradesh); Indian Institute of Science (IISc), Bangalore (Karnataka) and NEHU-Shillong (Meghalaya) with budgetary support. Further, two 2-days and two 5-days trainings will be conducted through

online platform in future at CRRRI, CBRI, NIT-Mizoram and IIT-Roorkee.

### **Preparation of Guidelines on Management of Glacial Hazards & Risks especially Glacial Lake Outburst Floods (GLOF)**

4.34 NDMA is collaborating with Swiss Development Cooperation (SDC), Embassy of Switzerland in India, New Delhi to prepare Guidelines on Management of Glacial Hazards & Risks especially GLOFs and Landslide Lake Outburst Floods (LLOFs).

### **4.35 Present Status:-**

- Constitution of Task force
- Inception cum Brainstorming Workshop was held on 3rd-4th July, 2019 at IIC, New Delhi
- Three Task Force meetings were held in Sept., 2019; Dec., 2019 and February, 2020.
- Experts of Task Force are preparing the draft of Guidelines.
- Next brainstorming workshop will be conducted through online platform.

### **National Landslide Risk Management Strategy**

4.36 NDMA released National Landslide Risk Management Strategy on 15th Formation Day of NDMA held on 27th Sept., 2019. The strategy document was prepared by the Task Force of experts. The National Landslide Risk Management Strategy was planned through six independent sub-groups. The six major components of sub-groups are as under:

- Generation of User-Friendly Landslide Hazard Maps
- Development of Landslide Monitoring and Early Warning System (EWS)
- Awareness Programmes

- iv. Capacity Building and Training of stakeholders
  - v. Preparation of Mountain Zone Regulations and Policies
  - vi. Stabilization and Mitigation of Landslides and Creation of Special Purpose Vehicle (SPV) for Landslide Management
- 4.37 The document was circulated among all the concerned Ministries, Departments, States/UTs and other stakeholders for further necessary actions.

### Nuclear and Radiological

#### Equipping and training of police personnel on management of radiological emergency: Mobile Radiation Detection System

- 4.38 NDMA has carried out a project, "Mobile Radiation Detection System" under which police personnel have been equipped and trained on management of radiological emergency in public domain. Under the project, police personnel in 56 select cities have been provided, PPEs, radiation detectors, including, vehicle mounted Go-NoGo radiation meters. A proportionate number of police personnel from all the cities, covered in the project, have been trained in batches under training of trainers programme. SoP for handling of the MRDS during routine surveillance and emergency management, has been prepared and included in the training of trainers programme.
- 4.39 The project is expected to significantly enhance the CBRN safety status in public areas against mishandling, malicious use of radio-isotopes, RDD, transport accident, orphan sources etc. It will also act as a deterrent against trafficking of any radioactive material.

#### Basic training on CBRN Emergency Management for Airports and Seaports

- 4.40 Staff of major airports and seaports have been trained on management of CBRN incidents. The initiative was taken subsequent to a few incidents in public area. NDMA conducted gap analysis of the safety practices in the ports and based on the findings training of staff was initiated. The programme has been successfully completed in 12 major airports and 12 seaports. The initiative is being extended to additional 30 airports and 11 seaports under a project.

#### Revision of DDMPs of the districts with NPPs:

- 4.41 The DDMPs of the seven districts, where nuclear power plants (NPP) are located were, especially, reviewed and found to be not covering plans on offsite nuclear emergency in the nearby operating NPP. A document preparation profile (DPP), giving guidelines on preparation of DDMPs of the districts with NPPs was prepared and the concerned districts were requested to revise the DDMPs. The effort will bring adequate details and uniformity in the documents.

#### Publication of manual on medical management of radiological emergencies:

- 4.42 A book on medical management of nuclear and radiological emergencies was published in Feb, 2019. The manual, which has been prepared with the support of domain experts, aims to serve as a practical resource guide for management of any nuclear or radiological emergency. It also explains the roles and responsibilities of the members of the emergency medical response organizations which includes the response initiation team, the emergency

medical personnel on the scene and the hospital radiological response team.

### **Medical Preparedness and Biological Disasters**

4.43 In order to boost medical readiness and inculcate a culture of preparedness in schools, NDMA along with Indian Red Cross Society developed Modules and Mobile Application on Comprehensive First Aid. These books were designed in content and language as per the age group of students. The three modules were for standard 8 - 10, standard 11 and 12 and for teachers along with FAST mobile App which had interfaces for both children and parents and comprehensively covered topics of First Aid, Skill sets related to life safety, Do's and Don'ts for Disasters, Interesting facts about the first aid and direct ambulance calling feature.

### **NDMA Manual on Medical Management of Nuclear & Radiological Emergencies**

4.44 Management of victims of Nuclear and Radiological Emergencies is complicated and challenging. A clear guidance on how to prepare the hospitals to deal with such patients, what treatment should be provided in case of different exposures, documentation and medico-legal issues, All important aspects to deal with patients of Radiation and Nuclear Emergencies in a comprehensive way is covered in the manual.

### **COVID-19 PANDEMIC**

4.45 On 31st December 2019, the People's Republic of China first reported to the WHO Country Office that pneumonia of unknown cause had been detected in Wuhan, and thereafter a month later by 30th January 2020, 7818 total confirmed

cases were reported worldwide of which only 82 cases from 18 other countries. This disease's severity compelled the WHO to declare the novel outbreak (2019-nCoV) a Public Health Emergency of International Concern (PHEIC) which was subsequently renamed as COVID-19 on 11th February 2020. Meanwhile on 30th January 2020, Kerala reported its first case of COVID-19, which rose to three cases by 3rd February 2020 - all being students returning from Wuhan.

4.46 Appreciating the gravity of the situation, the NDMA on 4th February 2020 issued an advisory to all States/UTs by drawing their attention to the tenets of the National Disaster Management Guidelines on the Management of Biological Disasters and Chapter 7.15 of National Disaster Management Plan 2019 for preparedness activities for the management of COVID-19. This entailed need based targeted capacity building of health care workers and other stakeholders, enhance isolation facilities in all hospitals, dissemination of COVID-19 do's and don'ts in all vernacular languages via all media platforms including its non-pharmaceutical interventions.

4.47 A month later with the upward trajectory of COVID-19 cases, the NDMA's advisory of 5th March 2020 drew attention of all States/UTs to the Containment Plan brought out by MoHFW with particular reference to cluster containment. It again exhorted for various aspects of COVID-19 capacity building measures such as Sensitization training of all its first responders, Tabletop exercises on isolation, quarantine, infection control, surge capacity of hospitals including networking, Inter-sectoral coordination and Risk Communication for all sections

of the society. In addition, psychosocial care helpline, and measures to ensure business continuity and essential services were advocated.

4.48 Protective measures against COVID-19 commenced with thermal screening of passengers arriving from China from 21st January 2020 carried out at seven airports initially, and subsequently, it was expanded to 20 airports towards the end of the month. During February 2020, the screening was extended to all passengers from Thailand, Singapore, Hong Kong, Japan and South Korea, and thereafter, towards the end of the month, Nepal, Vietnam, Indonesia and Malaysia were added to the list. With the backdrop that all passengers coming from specified countries since 1st January 2020 had not undergone proper entry screening, an advisory was issued on 17th March 2020 to all States/UTs to put in place a mechanism to conduct medical examination of these travellers.

4.49 The World Health Organisation declared on 11th March 2020 the COVID-19 a pandemic since its morbidity and mortality in numerous continents was galloping out of control. Likewise, at the national level, deeply concerned both by the alarming levels of spread and severity of COVID-19, it was necessary to take effective measures to prevent its spread across the country and for mitigation of the threatening disaster situation for which Social Distancing was advocated as its solution. Accordingly, the National Disaster Management Authority in exercise of the powers vested under Section 6 (2)(i) of the Disaster Management Act, 2005 directed all Ministries/Departments of Government of India, State Government and State Authorities to take measures to

ensure social distancing for a period of 21 days with effect from 25th March 2020 also colloquially known as Lockdown.

### GIS :

#### **Establishment of GIS Server and creation of Geo-Database in NDMA for Disaster Management**

4.50 Keeping in view the relevance of GIS in disaster risk management the project "Establishment of GIS server and Creation of Geo- database in NDMA" has been initiated. The project is aimed to prepare a Geospatial data inventory, maps, data integration into GIS Server and development of application on web-GIS platform for disaster risk reduction. The sanctioned cost of Rs. 3.30 cr. out of this total expenditure Rs. 3.10 Cr. has been released till date. The following work has been done in the year of 2019-20 as listed under:

- a) Up-gradation of GIS software with one year technical support has been completed.
- b) Up-gradation of installed capacity of Server, RAM- 272 GB and SSD drive 11.8 TB for proper handling of Image processing and GIS analysis into GIS server.
- c) Integration of Geospatial database for Ten (10) new State databases i.e. Arunachal Pradesh, Andhra Pradesh, West Bengal, Madhya Pradesh, Sikkim, Pondicherry, Jharkhand, Telangana, Goa and Maharashtra.
- d) Up-gradation of Web application in NDMA GIS server in new version of GIS software namely: Situational Awareness, Operational Response, Road closure and DM portal of concern states.

### Capacity Building of Stakeholders on GIS in Disaster risk Reduction.

4.51 The project is aimed to create awareness, capacity Building among the officials form SDMAs and other Stakeholders in the field of Application of GIS in DRR, to conduct eleven trainings in the year 2019-20, in which Six, 2 days and five, 5 days training programme and one national level workshop has been approved under this scheme. The institutes were identified for conducting the training i.e. IIRS Dehradun, IISM Hyderabad and NESAC Meghalaya. The total cost of Project is Rs. 2.50 Cr. for three years 2019-20, 2020-21 and 2021-22, out of this Rs. 18 lakhs has been released to the institutes.

- I. Total Nine (9) trainings has been conducted in various institutes namely Indian Institute of Remote Sensing, Dehradun, Indian Institute of Survey and Mapping, Hyderabad and North east space Application Centre, Meghalaya.
- II. Around 125 numbers of professionals from all SDMAs and other stakeholders have been trained and benefitted under this scheme.

### Training on UAV/ Drone Application of Disaster Management.

4.52 The project is aimed to create awareness, capacity building among the officials form SDMAs and other Stakeholders in the field of Application of UAV/Drone in Disaster Management, to conduct five training in two years 2019-20 and 2020-2021. The institutes were identified for conducting the training i.e. IIRS Dehradun, and NESAC Meghalaya. The total cost of Project is Rs. 40 lakhs , out of this Rs. 5.50 lakhs has been released to the IIRS, Dehradun.

One, 5 days trainings has been successfully conducted at IIRS, Dehradun and 17 professionals from all SDMAs and other stakeholders have been trained and benefitted under this scheme.

### Development of Cloud Based Application Information System

4.53 The GIS division has developed a COVID-19 Dashboard, which is tracking and monitoring the growth of COVID-19 cases, infrastructure availability, location of testing facilities, Rahat Camp locations, and other analysis, etc. The GIS portal has been customized quickly integrated MoHFW and ICMR through Application Programming Interface (API) access and visualization of database in form of Geospatial format. The followings task has been completed as listed below.

- New Website i.e. [gis-dm.ndma.gov.in](http://gis-dm.ndma.gov.in) has been registered at NIC cloud space for running the NDMA GIS portal at NIC server.
- Migration of GIS server database i.e. Corona Departmental Dashboard, National Migrant Information System has been successfully completed on allocated Space on NIC cloud for NDMA.

### Coalition for Disaster Resilient Infrastructure (CDRI)

#### Launch of CDRI

4.54 The Prime Minister announced CDRI at the United Nations Climate Action Summit, in New York City on 23rd September 2019, and invited nations around the world to join this initiative.

4.55 The CDRI has held three events bringing together nations and international

organisations to promote the disaster and climate resilience of infrastructure.

- a. **“Resilient Infrastructure: Key to the Success of the 2030 Agenda for Sustainable Development”**, meeting was held on 25th September 2019, at the UN Headquarters in New York. Chaired by India’s Minister for Environment, Forests and Climate Change (MoEFCC) Mr Prakash Javadekar and moderated by the Special Representative of the UN Secretary General for Disaster Risk Reduction, Ms. Mami Mizutori. The event attracted high level participation from several countries including Australia, Bhutan, Japan, Maldives, Qatar, Sri Lanka, Turkey, United Kingdom, and the United States. In addition, Vice President (Sustainable Development) of the World Bank Ms. Laura Tuck, United Nations Assistant Secretary General and UNDP Assistant Administrator, Ms Asako Okai and senior officials from the Green Climate Fund, Global Commission for Adaptation and Insurance Development Facility participated in the event.
- b. **“Surviving Climate Wrath: Building Resilient Infrastructure in an Age of Global Warming”**, event held on 12th, November 2019, at the Paris Peace Forum, in Paris. Hon’ble President of Comoros Islands, Koen Doens, Director General of Development Cooperation at the EU, and other eminent persons working on disaster and climate resilience were part of the panel.
- c. **“Resilient infrastructure: building for an uncertain future”** round table Lunch at the Raisina Dialogue on

14th Jan 2020 in New Delhi. The meeting saw the attendance of representatives from 16 countries and a host of international organisations. There was wide ranging appreciation for the vital issues taken up by CDRI and consensus around bringing these into action in a collaborative manner.

### **Establishment of CDRI**

- 4.56 Government of India has invited G20 and non-G20 countries to join the CDRI. 16 countries (representing a wide variety G20, SIDS, landlocked countries) and 3 international organisations have formally joined the Coalition.
- 4.57 CDRI Society was registered on 03/02/2020 under Society Registration Act 1860. The first meetings of the CDRI Society, General Body and Management Committee were held on 25th February 2020. The Committees adopted various basic rules and procedures required for the smooth functioning of the CDRI Secretariat.
- 4.58 The first meeting of the Governing Council of the Coalition for Disaster Resilient Infrastructure was held on 20th March 2020 in New Delhi. The Governing Council recognised all the members of the Coalition and approved the three-year work programme of the CDRI. In this meeting the CDRI Society was recognised as the Secretariat of the CDRI.

### **Programme of CDRI**

- 4.59 An international consultation meeting was held to discuss the CDRI Work-programme on 23rd-24th January 2020 in New Delhi. The workshop brought together representatives from select partner countries, disaster risk

management agencies, multilateral development banks, and UN agencies to get inputs on the CDRI three year work-programme.

- 4.60 A Three-Year Work-plan of CDRI has been approved by the Governing Council and activities under the work-plan have been initiated. Projects initiated under the work-plan include a study in Odisha on enhancing power sector resilience, a global study on airport resilience, and a global flagship report on infrastructure resilience.

### **PSYCHOSOCIAL CARE AND SOCIAL VULNERABILITY REDUCTION**

- 4.61 NDMA has taken up a project titled 'Preparation of Psychosocial Care and Preparedness Modules and IEC Materials'. The aim of the project is to develop standardized training material for capacity building of psychosocial support providers at all levels national, state, district, and block level to support provision of psycho-social support at the community-level in India. Such training tools will be comprehensive and sensitive to the culture, language and specific disaster risks covering the respective departments, sectors and populations. The lead partners for the projects will be National Disaster Management Authority (NDMA) and National Institute of Mental Health and Neurosciences (NIMHANS) NDMA will provide technical and financial resources to support the implementation of the program. NIMHANS would be the technical partner who will design, develop and standardise the modules and IEC materials. Four levels of model will be developed Level 1, (National), Level 2 (State), Level 3 (District) and Level

4 (Block). The project was launched in March 2020.

- 4.62 The National Disaster Management Guidelines on Psychosocial Support and Mental Health Services in Disasters was published in the year 2009. This Guideline speaks about the significance of psychosocial support and mental health services (PSSMHS) in Disaster Management and the need for such services at the time of disasters. It provides the institutional and policy framework that calls for implementation of PSSMHS at the time of disasters. It identifies the gaps in the operational framework that limits the provision of PSSMHS in the aftermath of disasters. It also lays down detailed guidelines for disaster preparedness in PSSMHS as well as guidelines for PSSMHS in the post -disaster phase. Formulation of this guideline has given a roadmap and directions for PSSMHS initiatives in the country. However, certain developments (passing of the Mental HealthCare Act 2017, changes in the resources pertaining to infrastructure and manpower for PSSMHS etc) necessitated an update of the guideline.
- 4.63 In view of this, NDMA constituted a Core Group of experts with representatives from expert institutions. The first Core Group Meeting on **Update of the NDMA Guideline on Psychosocial Support and Mental Health Services in Disaster, December 2009** was held on 28th January, 2020 in NDMA to discuss and initiate update of the guideline. This meeting discussed the objective and scope of the revision process as well as the allocation of chapters among the members for revision.

# CHAPTER 5

## CAPACITY DEVELOPMENT

### Introduction

5.1 A strategic approach to capacity development can be addressed effectively only with the active and enthusiastic participation of all the stakeholders. This process comprises awareness generation, education, training, Research and Development (R&D), etc. It further addresses putting in place appropriate institutional framework, management systems and allocation of resources for efficient prevention and handling of disasters.

5.2 The approach to capacity development includes:

- According priority to training for developing community based Disaster Risk Reduction (DRR) systems for their specific needs in view of the regional diversities and multi-hazard vulnerabilities.
- Conceptualization of community based DRR systems at the national level through a consultative process involving the States and other stakeholders including local level authorities in charge of implementation.
- Identification of knowledge-based institutions with proven performance.
- Promotion of international and regional cooperation.

- Adoption of traditional and global best practices and technologies.
- Laying emphasis on table-top exercises, simulations, mock drills and development of skills to test the plans.
- Capacity analysis of different disaster response groups at State/District/Local levels.

### Scheme for "Training of Community Volunteers in Disaster Response in selected 30 most flood prone districts of 25 States in India (AapdaMitra)"

5.3 NDMA had approved a central sector scheme in May, 2016 at a total cost of Rs.1547.04 lakh which is focused on training of 6000 community volunteers (200 volunteers per district) in disaster response in 30 most flood prone districts of 25 States of India. The States covered under the scheme are: Assam, Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand and West Bengal. The implementation period of the project has now been extended upto 31.12.2020. 1st installment to all States/UT and 2nd/Final installment to all States/UTs except Punjab and Delhi have been released.

- 5.4 So far, a total number of 5116 community volunteers have been trained by 23 Project States (Andhra Pradesh - 102, Arunachal Pradesh - 91, Assam - 400, Bihar - 400, Gujarat - 200, Haryana - 50, Himachal Pradesh - 200, Jammu & Kashmir - 200, Karnataka - 200, Kerala - 200, Madhya Pradesh - 150, Maharashtra - 200, Manipur - 200, Meghalaya - 200, Mizoram - 200, Nagaland - 200, Odisha - 400, Sikkim - 174, Tamil Nadu - 200, Tripura - 200, Uttar Pradesh - 349, Uttarakhand - 200 and West Bengal - 400).
- 5.5 Based on positive feedback and strong recommendations of States/UTs, NDMA is also planning to upscale the scheme in all States/UTs to train 100,000 Community Volunteers in 350 selected highly vulnerable districts prone to flood, cyclone, landslide and earthquake across the country to provide life saving skills of disaster response, coordination, assistance. The scheme is expected to be launched in FY 2020-2021. A meeting of Expert Committee formed for the purpose was held on 24.10.2019.

### **Project on "Sustainable Reduction in Disaster Risk" in 10 Multi-Hazard prone districts of 5 States in India**

- 5.6 NDMA in partnership with five States viz Assam, Bihar, Jammu & Kashmir, Himachal Pradesh and Uttarakhand are implementing the project on "Sustainable Reduction in Disaster Risk" since June, 2016 at a total cost of Rs 607.40 lakh which aims to strengthen community and local self-government's preparedness and response in 10 most multi-hazard vulnerable districts, 2 each in 5 identified States. The project has been closed on 31.03.2020.
- 5.7 The 1st installment and 2nd installment of funds have been released to all States in FY 2016-17, 2017-18 and 2018-19. Partial amount of 3rd/final installment of funds has been released to Himachal Pradesh and Uttarakhand only.
- 5.8 Various activities like formation of DM Teams; Conduct of Sensitization Workshop on CBDM; Preparation of District Specific Work Plan; Updation of DDMPs and SDMPs; Training of Stakeholders on DRR; Preparation of DRR/Recovery Plan; various awareness programme; ToT on CBDM, Training of Govt Officials, NGO, DM Team members; and Conduct of Mock Drills have been undertaken under the project.

### **Capacity Building on Disaster Management for IAS and Central Services Officers at LBSNAA, Mussoorie**

- 5.9 NDMA in collaboration with Centre for Disaster Management (CDM), Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie had approved the project in January, 2018 with an aim to train 2850 (approx) IAS/Central Service Officers in Capacity Building on Disaster Management and Disaster Risk Reduction at the CDM, LBSNAA during 2017-18 to 2019-20 at a total cost of Rs.189.36 lakh. To this effect, an MoU was signed between CDM, LBSNAA and NDMA on 12.02.2018.
- 5.10 Under the project, Rs.1,69,49,152/- have been released to CDM, LBSNAA. A total number of 2655 Officers (2115 Officers in FY 2017-18 and 2018-19 and 540 Officers in FY 2019-20) have been trained so far. Two case studies on Kerala Flood - 2018 : Enquiry into causes and Risk Mitigation

Strategy and Heat Wave Management in Andhra Pradesh and Telangana : Efficacy of Heat Wave Guidelines & Action Plans have been prepared under this.

### Signing of Memorandum of Understanding / Agreement

- 5.11 An MoU between the National Emergency Management Agency (NEMA) of Mongolia and the National Disaster Management Authority (NDMA) in the field of Disaster Management & Disaster Risk Reduction has been signed on 20.09.2019. A draft plan of activities under the scope of MoU has been prepared and sent to various stakeholders for their comments.

### 2nd BIMSTEC Disaster Management Exercise:

- 5.12 India has decided to host 2nd BIMSTEC Disaster Management Exercise and a half day Policy Meeting of NDMA's/NDMO's of BIMSTEC Nations and 1st BIMSTEC Inter - Governmental Expert Group on Disaster Management in India. A preparatory meeting was organized on 15th - 16th November, 2019 in Puri, Odisha. The main Exercise, half day Policy meeting of NDMA's/NDMO's of BIMSTEC Countries was organized on 11th-12th February, 2020 and 13th February 2020 respectively. 1st BIMSTEC Inter - Governmental Expert Group on Disaster Management was also scheduled on 14th February, 2020 in Puri/ Bhubaneswar, Odisha. However the same could not be convened due to non- receipt of nomination from BIMSTEC Countries.

### SCO Joint Exercise on "Urban Earthquake Search and Rescue-2019 (SCOJtEx-2019)

- 5.13 In pursuance to the decision taken in the 9th meeting of the Heads of Departments

of disaster prevention of SCO countries of Shanghai Cooperation Organization (SCO) held at Kyrgyzstan during 23-25 August 2017, the Government of India had decided to organize a Joint SCO Mock Exercise - 2019 on Urban Earthquake Search & Rescue for SCO Member Countries on 21st - 24th February, 2019 and an Expert Level Meeting on 24th February, 2019 (A/N) and the Tenth Meeting of the Heads of Departments of Disaster Prevention of SCO Member States on 25th February, 2019 in New Delhi. In this connection, a Preparatory Meeting was held on 1st - 2nd November, 2018 in New Delhi. Delegates from all member countries participated in the preparatory meeting. A three day Joint EXCON Meeting cum Training of SCO Joint Exercise 2019 was also organized by NDRF on 6th - 8th February, 2019 in New Delhi. Six (6) SCO Member States including India had participated in the training programme. However, due to National Mourning for Pulwama tragedy in February, 2019, the events were deferred and the Joint SCO Mock Exercise - 2019, the Expert Level Meeting, and the Tenth Meeting of the Heads of Departments of Disaster Prevention of SCO Member States was successfully organized during 4th - 7th November, 2019; 7th November, 2019; and 8th November, 2019 respectively.

### Video Conference with most affected States by Lightning and Thunderstorm and also on Heat Wave and Flood with representatives of the most affected States :

- 5.14 A Video Conference was held on 30.04.2019 with the representatives of most affected States by Lightning and Thunderstorm and also on Heat Wave

and Flood and reviewed the preparedness measures. The Video Conference was attended by the officers from 12 most affected States and representatives of Resident Commissioners office.

### **Meeting with Cold Wave affected States/ UTs and Ministries/ Departments on Prevention and Management of Cold Wave:**

5.15 A review meeting was held with the Resident Commissioner/ representatives of 12 Cold Wave affected States/UTs as well as representatives from Ministry of Agriculture & Farmer's Welfare, Ministry of Health & Family Welfare, Ministry of Home Affairs and India Meteorological Department (IMD) on 9th January, 2020 and reviewed the issues relating to prevention and management of cold wave and necessary precautions and mitigation measures.

### **Guidelines for Preparation of Action Plan - Prevention and Management of Thunderstorm & Lightning :**

5.16 NDMA vide letter dated 05.03.2020 requested the States/ UTs to revise the action plan with reference prevention and management of thunderstorm & lightning and upload the action plan on their website for information of all stakeholders.

5.17 NDMA shared the TVCs and Pocket Books containing Do's and Don'ts on Thunderstorm and Lightning vide letter dated 18.03.2020 and requested the concerned State Governments/ UT Administration to disseminate in the public for creating awareness. Also, the State Governments/ UT Administration were requested to translate the TVCs in vernacular language, if required.

## **International Cooperation:**

### **Visit of foreign delegation in NDMA**

- a) A Japanese Delegation comprising 10 members visited NDMA on 17.06.2019 for following-up meeting for tangible collaboration (wrap-up the third Indo-Japan Workshop for Disaster Risk Reduction).
- b) A Gambian Delegation comprising 25 members visited NDMA on 18.06.2019 to interact with higher officials of NDMA on disaster management. The visit of Gambian Delegation was part of Special Training Programme which aims at enabling its participants to gain requisite knowledge and skills in the area of field administration.
- c) A Zambian Delegation comprising 5 members visited NDMA on 23.08.2019 to learn more about GoI's initiatives.
- d) A German delegation comprising 7 members visited NDMA on 17.09.2019 for interaction with NDMA Officers to explore the opportunities for future cooperation with NDMA.
- e) A Nepalese delegation comprising 5 members visited NDMA on 24.09.2019 for interaction with NDMA Officer on various issues related to Disaster Management.
- f) A delegation comprising 35 members from Maldives, trainees of NCGG training programme on Field Administration visited NDMA on 25.09.2019 for interaction with NDMA Officers to share cross - country experience, institutional arrangements and best practices in disaster management.

- g) A delegation comprising 3 members visited NDMA on 3.10.2019 for interaction with NDMA Officers on possible future collaborative activities.
- h) A Nepalese delegation comprising 17 members visited NDMA on 15.11.2019 for interaction with NDMA Officers to share cross - country experiences, institutional arrangements and best practices in the area of reconstruction and recovery.
- i) A Bhutanese Media delegation comprising 15 members visited NDMA on 18.11.2019 for interaction with NDMA Officers to share cross - country experience, institutional arrangements and role of media during various phases of disasters.
- j) A delegation from Vietnam comprising 8 members visited NDMA on 22.11.2019 for interaction with Officers of NDMA to share cross - country experiences, institutional arrangements and best practices and explore further areas of cooperation in the field of disaster management.
- k) A delegation comprising 31 members from Maldives, trainees of NCGG training programme on Field Administration visited NDMA on 28.11.2019 for interaction with NDMA Officers.
- l) A Chinese delegation comprising 8 members visited NDMA on 09.11.2019 for interaction with NDMA Officers.
- Annual South to South Learning Workshop on Strengthening Geo - Hazard Risk Management in Transport in Wellington, New Zealand from 29.04.2019 to 02.05.2019.
- b) Shri Kamal Kishore, Member, NDMA attended the 6th Session of the Global Platform for Disaster Risk Reduction 2019 from 13.05.2019 to 17.05.2019 in Geneva, Switzerland.
- c) Shri Kamal Kishore, Member, NDMA attended Raising Climate Ambition - Time to Act for a Resilient Future on 03.07.2019 in London.
- d) Shri Samir Kumar, Deputy Project Director, NCRMP attended the Regional Workshop on Emergency Operations Centre (EOC) from 22.07.2019 to 24.07.2019 in Bangkok, Thailand.
- e) Shri Ramesh Kumar G, Joint Secretary (Admn/CBT), NDMA attended the regional conference on DRR & Implementation of SFDRR 2015-30 on 21.08.2019 in Dushanbe, Tajikistan.
- f) Shri Vijay Singh Nemiwal, Joint Advisor (Mit), NDMA attended 6th Session of the Committee on DRR from 28.08.2019 to 30.08.2019 in Bangkok, Thailand
- g) Dr. Pavan Kumar Singh, Joint Advisor (Ops), NDMA has attended the High - Level Conference on Near - Field Tsunamis in the Makran Region, Muscut Oman from 01.09.2019 to 02.09.2019.
- h) Shri Kamal Kishore, Member, NDMA attended a event for discussion of Coalition for Disaster Resilient Infrastructure (CDRI) from 21.09.2019

#### **Foreign tours undertaken by the Officers of NDMA**

- a) Shri Sushanta Kumar Jena, Sr. Research Officer, NDMA attended

to 25.09.2019 in New York, United States of America.

- i) Shri Sandeep Poundrik, Joint Secretary (Mitigation), NDMA attended Zonal Crisis Management Exercise on CBRN Terrorist Attack Type on 2-3 Oct, 2019; bilateral meeting on 1st Oct 2019 with the French Directorate General for Civil Safety and Crisis Management (DGSCGG) & The prefecture of Police, and Presentation on material and equipment used for responding to a CBRN on 4th Oct, 2019.
- j) Brig. Ajay Gangwar, Advisor (Ops), NDMA attended Regional Planning Meeting of the Programme of Enhancement of Emergency Response (PEER) institutionalization in South Asia on 15th - 16th October, 2019 in Bangkok, Thailand.
- k) Shri G.V.V. Sarma, Member Secretary participated in a Workshop on Disaster Risk Governance of Istanbul Process at Beijing, China from 28.10.2019 to 01.11.2019.
- l) Shri Kamal Kishore, Member, NDMA attended ADPC Board of Trustee Meeting on 07.11.2019 in Bangkok, Thailand.
- m) Shri Kamal Kishore, Member, NDMA attended Paris Peace Forum on 11th - 13th November, 2019 in France.
- n) Dr. V. Thiruppugazh, Additional Secretary (Policy & Plan), NDMA and Dr. Pavan Kumar Singh, Joint Advisor (Ops), NDMA attended 2019 Technical Forum: Contribution of Sendai Framework Monitoring (SFM) Process to Reducing the Risk of Most Vulnerable from 5th - 7th November, 2019 in Bonn, Germany.
- o) Shri Nawal Prakash, Joint Advisor (CBT), NDMA attended course on Daniel K. Inouye Asia Pacific Centre for Security Studies (DKJ APCSS) Comprehensive Crisis Management (CCM) 20-1 from 23rd January to 26th February, 2020 in Honolulu, Hawaii (USA).

# CHAPTER 6

## MOCK EXERCISES & AWARENESS GENERATION

### Introduction

6.1. The Incident Response System (IRS) is intended as the preferred mechanism for responding to any hazard or disaster situation. Although some States / Union Territories (UTs) have notified the IRS and others are working towards that, notification alone is unlikely to lead to an efficient and effective response. This is where Mock Exercises (ME) come in – they provide an optimal, cost-effective means for generating awareness about the IRS, how to implement it, form and utilize Incident Response Teams (IRTs) and associated Task Forces/Groups, and overall, for building capacity of States / Union Territories (UTs) to respond effectively to any disaster situation. To this end, the Operations Division of NDMA has been conducting MEs at multi-State, State, and in special cases, at the District-level too. Stand-alone training on the IRS

is also conducted at the explicit request of the State/UT. Each ME is based around the hazard risk vulnerability of the State/UT, and in specific cases, of individual district. Up till now, the Operations Division of NDMA has conducted approximately 923 MEs across India.

6.2 The objectives of a ME are to (i) review the DM plans of the State and Districts, as well as of each Deptt; (ii) highlight the roles and responsibilities of various stakeholders involved in managing disasters as per the IRS; (iii) enhance coordination among emergency support functions at the District level; and (iv) identify gaps, if any, in the resources, manpower, communications, response capabilities, etc. The MEs are part of a robust process that commences each year with the formulation of an annual calendar, and are conducted in the following sequence:-

Step	Event
Step-I	<ul style="list-style-type: none"> <li>• <b>Training on the IRS.</b> This includes:-               <ul style="list-style-type: none"> <li>o Part-I: Reiteration of the importance of disaster management, its linkage to sustainable development, and India's Three-Tier Disaster Response Mechanism.</li> <li>o Part-II: Training on the Incident Response System.</li> <li>o Part-III: How to leverage technology to support Disaster Management, including building of Situational Awareness, Resource Mapping, etc.</li> </ul> </li> <li>• <b>Orientation &amp; Coordination Conference</b> (in this, the detailed modalities and preparations required for the ME are discussed and finalized).</li> </ul>
Step-II	Table Top Exercise.
Step-III	Mock Exercise.

**Financial Support**

6.3 The Mock Exercise programme is supported with financial support to the States/UTs, with the NDMA allocating Rs. one lakh per district for conduct of a ME. Under this scheme, Rs. 2.55 cr and Rs. 1.59 cr were released in FY2018-

2019 and FY2019-2020, respectively, to States/UTs.

**Mock Exercises**

6.4 In FY2019-2020, the Operations Division of the NDMA conducted under mentioned training:

Date	State, Disaster Scenario and Event	Remarks
10 - 27 June 2019	States: National Capital Region Scenario: Earthquake Event: Multi-State Mock Exercise:	Given the risk vulnerability of the National Capital Region to seismic activity, the NDMA conducted a Multi-State ME, in which all eleven districts of the National Capital Territory of Delhi, three districts of Uttar Pradesh and four districts of Haryana participated (total: 18), along with the Indian Army, Indian Air Force, NDRF, CAPF, SDRF, Civil Defense Volunteers, etc. The ME, simulating an earthquake along the Sohna Fault, was overseen by the Hon'ble Lt Governor of Delhi, the Chief Ministers of Delhi and Haryana, and the Vice Chairman of UPSDMA, in addition to several other high-level officials.
28 June 2019	<ul style="list-style-type: none"> <li>Coordination Conference and Table-Top exercise (separately in each State)</li> <li>ME</li> </ul>	

**Coordination Conference, Chaired by the Chief Secretary of Delhi**



**Table-Top Exercise in NCT, Chaired by the Chief Secretary of Delhi**



**Hon'ble Lt Governor, Chief Minister & Chief Secretary of Delhi, and Member NDMA at Delhi State EOC**



**Chief Secretary, Addl Chief Secretary, and other stakeholders at Haryana State EOC (Chandigarh)**



State EOC of Uttar Pradesh State at Ghaziabad



Hon'ble Chief Minister of Haryana at Faridabad



Visuals - Mock Exercise



### Surge Capacity and Trauma Reception Created in Hospitals



### Selected Media Reports

**दिल्ली के सभी जिलों में भूकंप आपदा प्रबंधन पर माँक एक्सरसाइज**

**जतिंदर सिंह**  
एक्सएनई, दिल्ली

**28 जून, 2019 | सुबह: 10:30 बजे**

सभी दिल्लीवासियों को सूचित किया जाता है कि भूकंप आपदा प्रबंधन के लिए दिल्ली के सभी जिलों में माँक एक्सरसाइज होने जा रही है। यह माँक एक्सरसाइज सरकारी बिल्डिंग, अस्पतालों और मेट्रो स्टेशन पर की जायेगी। सभी से अनुरोध है कि इसमें सहयोग दें और भाग लें। इससे आपदा के समय सहायता के लिए आपदा हेल्पलाइन नंबर पर कॉल करें-

**आपदा : 1077      पुलिस: 100      अग्निशमन: 101**

दिल्ली आपदा प्रबंधन प्राधिकरण  
राज्य विभाग, राष्ट्रीय आपदा प्रतिक्रमा केंद्र, दिल्ली सरकार

**राष्ट्रीय राजधानी क्षेत्र (एन.सी.आर.) में भूकम्प आपदा प्रबंधन पर माँक एक्सरसाइज**

**श्री मनोहर लाल**  
मुख्य मंत्री, हरियाणा

**हरियाणा के वर्धित जिले**

**राष्ट्रीय आपदा प्रबंधन प्राधिकरण, भारत सरकार के समन्वय से**

**28 जून, 2019 | प्रातः 10:30 बजे**

<b>आपदा विकल्प सेवाएं</b>	<b>अग्नि सुरक्षा सेवाएं</b>
खोज एवं बचाव	संसार

आपदा के समय सहायता के लिए आपदा हेल्पलाइन पर सावत करे

**पुलिस : 100      अग्निशमन : 101**

राज्य आपदा प्रबंधन प्राधिकरण  
राजस्थान एवं आपदा प्रबंधन विभाग, हरियाणा

Date	State, Disaster Scenario and Event	Remarks
21 - 27 June 2019	<p>State: erstwhile State of J&amp;K Scenario: multi-hazard Event: Multi-hazard DM training prior to the Shri Amarnath ji Yatra-2019:</p> <ul style="list-style-type: none"> <li>▪ Training on the IRS</li> <li>▪ Coordination Conference</li> <li>▪ Table-top Exercise</li> <li>▪ Mock Exercise</li> </ul>	<p>This training on disaster management has been an annual event prior to the Shri Amarnath ji Yatra.</p> <p>In June 2019 too, at the specific request of the Shrine Board and the Hon'ble Governor of the erstwhile State of J&amp;K, the NDMA carried out training on disaster management for all stakeholders involved in managing this Yatra.</p> <p>This training was conducted separately on both routes of the Yatra, i.e, Baltal axis (District Ganderbal) and Pahalgam axis (District Anantnag).</p> <p>The ME, presided over by the DCs of each District and officers of the Shrine Board, saw participation from the State and District Administrations along with their emergency response forces, the SDRF, NDRF, Armed Forces, CAPF and community volunteers.</p>

Coordination Conference



Table-Top Exercise



Mock Exercise





Date	State, Disaster Scenario and Event	Remarks
03 July 2019 10 July 2019 11 July 2019	State: Himachal Pradesh Scenario: Earthquake Event: State-level Mock Exercise: <ul style="list-style-type: none"> <li>• Coordination &amp; Orientation Conference</li> <li>• Table-Top Exercise</li> <li>• Mock Exercise</li> </ul>	The NDMA and the Govt. of Himachal Pradesh jointly conducted this ME in all twelve districts simultaneously. At the State-level, the proceedings were presided over by the Chief Secretary of the State, Shri B.K Agarwal. The ME saw participation by all stakeholders at State and District levels, along with the NDRF, Indian Army, Indian Air Force and CAPF.

**Coordinating Conference Chaired by Sh. BK Agarwal, Chief Secretary, Himachal Pradesh**

**Table-Top Exercise at Shimla**



**Visuals - Mock Exercise**



Date	State, Disaster Scenario and Event	Remarks
10 July 2019 17 July 2019 18 July 2019	<p>State: Uttar Pradesh Scenario: Floods Event: State-level Mock Exercise:</p> <ul style="list-style-type: none"> <li>• Coordination &amp; Orientation Conference</li> <li>• Table-top Exercise</li> <li>• Mock Exercise</li> </ul>	<p>Every year, large parts of India get affected by Floods. There is hence a need to ensure that the State Government and districts likely to be affected are fully ready to handle this recurring disaster.</p> <p>Consequent to a request from the SDMA of Uttar Pradesh, the NDMA conducted a ME in forty districts of Uttar Pradesh that are flood-prone. All stakeholders from the State &amp; District Administrations, and teams from the Indian Army, Indian Air Force, NDRF and CAPF participated.</p> <p>The ME was overseen by Smt Swati Singh, Minister of State, Flood Control (Independent charge) and Shri Anup Chander Pandey, Chief Secretary. In attendance were Lt Gen R P Sahi (retd), Vice Chairman, UP-SDMA; Shri Sudhir Singh Chauhan, Addl. Chief Secretary; Shri Gauri Shankar Priyadarshi, Secretary &amp; Relief Commissioner, among others.</p> <p>The NDMA was represented by Lt Gen N C Marwah, Member (retd), Member; Brig Ajay Gangwar, Advisor (Ops &amp; Comn); Maj Gen V K Datta (retd), Sr Consultant; and Col Amit Khosla, Jt Advisor.</p>

**Hon'ble Minister of State Smt Swati Singh at the Coordination Conference**



### Table Top Exercise Chaired by the Chief Secretary, UP



### Mock Exercise





Date	State, Disaster Scenario and Event	Remarks
04 July 2019 02 - 05 August 2019	State/UT: Tamil Nadu and Puducherry Scenario: Cyclone & Urban Flooding Events: State-level Joint HADR Exercise, led by the Indian Navy, HQ Integrated Defence Staff and NDMA <ul style="list-style-type: none"> <li>• Coordination Conference</li> <li>• Annual Joint HADR Exercise</li> </ul>	Led by the Indian Navy, this State-level HADR Exercise had participation from districts in Chennai and Puducherry, and all State-level and District-level stakeholders in the State of Tamil Nadu and UT of Puducherry. It would be recalled that the Hon'ble Prime Minister had, during the Combined Commander's Conference of Dec 2015, directed that joint Humanitarian Assistance & Disaster Relief (HADR) Exercises be conducted by Armed Forces involving all stakeholders.

**Visuals - Joint HADR**





Date	State and Event	Remarks
17 - 18 Sept 2019	UT: Andaman & Nicobar Event: State-level training on the Incident Response System (IRS)	This training for officials of the Andaman & Nicobar Administration, and its three Districts was conducted on the instructions of Hon'ble Lt Governor Admiral DK Joshi (retd). The training also entailed evaluation of the A&N Administration's preparedness for a disaster.

### Training on the Incident Response System at Port Blair, UT of Andaman & Nicobar



Date	State, Disaster Scenario and Event	Remarks
25 Sept 2019 10 Oct 2019 11 Oct 2019	State: Gujarat Scenario: Earthquake / Chemical-Industrial Disaster Event: State Level ME: <ul style="list-style-type: none"> <li>▪ Coordination Conference</li> <li>▪ Table Top Exercise</li> <li>▪ Mock Exercise</li> </ul>	Gujarat is a highly industrialized State. Hence, a State-level ME was conducted by NDMA in conjunction with the State administration and 216 Major Accident Hazard (MAH) industries in six districts of Gujarat (viz, Jamnagar, Ahmedabad, Vadodara, Surat, Bharuch and Valsad).

**Coordination Conference**



**Table Top Exercise**



**Response (On-Site and Off-Site)**





Date	State, Disaster Scenario and Event	Remarks
19 - 21 Aug 2019  22 - 25 Oct 2019	State: Punjab Scenario: Multi-hazard and Crowd Management at Planned Mass Gatherings Events: Multi-District Mock Exercise: <ul style="list-style-type: none"> <li>▪ Training on IRS and Crowd Management</li> <li>▪ Coordination Conference</li> <li>▪ Table-Top Exercise</li> <li>▪ Mock Exercise</li> </ul>	To assist the State of Punjab in its preparation for the 550th Birth Anniversary Celebrations of Guru Nanak Dev ji in November 2019, the NDMA conducted comprehensive training for officials of the Govt of Punjab and other stakeholders commencing from August 2019 onwards. The training, which culminated in a day-long Mock Exercise based around hazards / disasters likely during Planned Mass Gathering Events, included:- <ul style="list-style-type: none"> <li>▪ IRS and the need for "whole of the Govt Approach".</li> <li>▪ Integrated Approach to Crowd Management.</li> <li>▪ Use of ICT in Crowd Management.</li> </ul>

#### Training on the Incident Response System, District Kapurthala (20 Aug 2019)



### Table-Top Exercise (22 Oct 2019)



### Mock Exercise, Sultanpur Lodhi (25 Oct 2019)





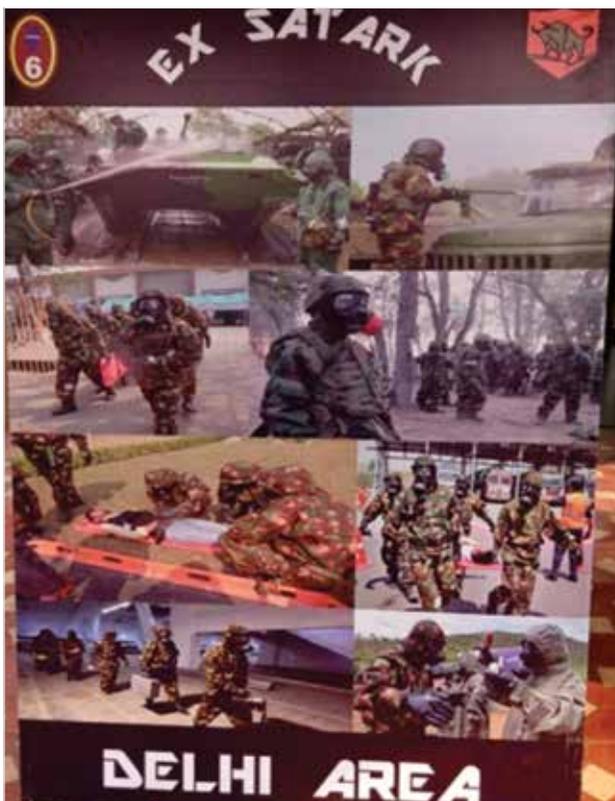
Debriefing - 25 Oct 2019 (Sultanpur Lodhi)



Date	State, Disaster Scenario and Event	Remarks
07 Nov 2019 08 Nov 2019 09 Nov 2019	State: HQ Delhi Area, Delhi Cantt. Scenario: CBRN Events: Joint Exercise: <ul style="list-style-type: none"> <li>• Coordination &amp; Orientation Conference</li> <li>• Table-top exercise</li> <li>• Mock Exercise</li> </ul>	The HQ Delhi Area, in conjunction with the NDMA and the Delhi SDMA, conducted a ME simulating a response to a CBRN incident. The ME saw participation of the Indian Army, INMAS, NDMA and the disaster managers of National Capital region of Delhi.

Visuals - Mock Exercise - CBRN Response





Date	State, Disaster Scenario and Event	Remarks
14 Nov 2019	State: Manipur Scenario: Earthquake Events: State-level: <ul style="list-style-type: none"> <li>▪ Coordination &amp; Orientation Conference</li> <li>▪ ME - postponed</li> </ul>	The NDMA had planned to conduct a ME on an earthquake scenario in the State of Manipur which lies in Seismic Zone V. However, the training could not be carried beyond the Coordination & Orientation Conference on account of diverse commitments of the State.

Date	State, Disaster Scenario and Event	Remarks
21 - 22 Nov 2019	<p>State: Nagaland</p> <p>Scenario: Extreme Weather Event (Climate Change)</p> <p>Events: State-level:</p> <ul style="list-style-type: none"> <li>• Training on the Incident Response System</li> <li>• Table-Top Exercise</li> <li>• Mock Exercise</li> </ul>	<p>The State of Nagaland, located in Seismic Zone V, is also vulnerable to other natural calamities like landslide, heavy rainfall, flashfloods, thunderstorm, hail storm, forest fires, etc.</p> <p>While the State-level MEs of 2017 and 2018 were pegged around an earthquake scenario, in 2019, it was decided to peg the ME around an Extreme Weather Event in view of recent disasters in the State.</p> <p>The ME saw the State of Nagaland using improved methodologies, better communications, Unmanned Aerial Vehicles and a number of other specialized equipment.</p> <p>The exercise, overseen by the officiating Chief Secretary, saw participation of all eleven Districts, the State administration, NDRF, Assam Rifles/ Indian Army, CAPF and a large number of volunteers.</p>

#### Training on the IRS and Table-Top Exercise at Kohima (21 Nov 2019)



#### Visuals - ME (22 Nov 2019)







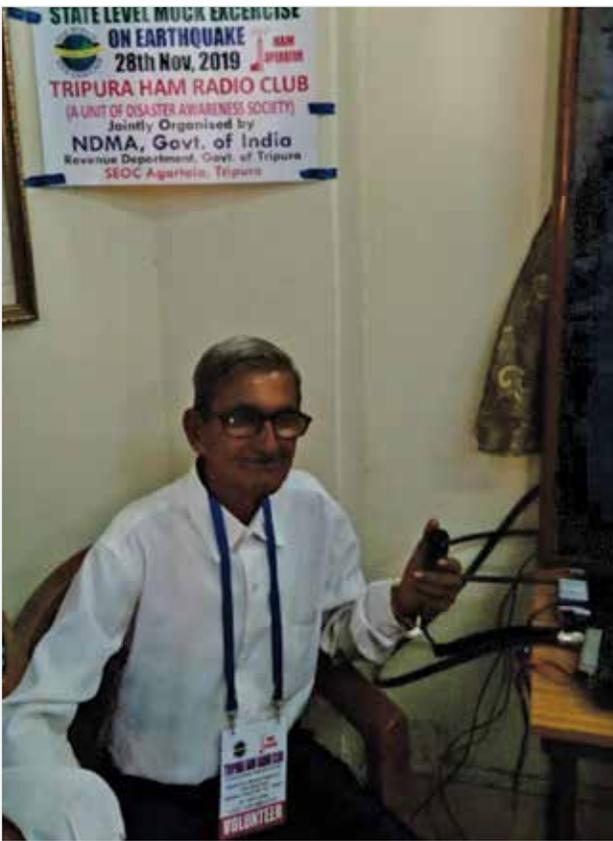
Date	State, Disaster Scenario and Event	Remarks
27 Nov 2019 28 Nov 2019	State: Tripura Scenario: Earthquake) Events: State-level ME: <ul style="list-style-type: none"> <li>• Table-Top Exercise</li> <li>• Mock Exercise</li> </ul>	<p>Tripura, a landlocked State located in Seismic Zone V, is characterized by poor connectivity, and harsh topography. Hence, an in-house response by the Districts in the immediate aftermath of a disaster is an imperative.</p> <p>The State had been improving its in-house capabilities since 2017 and this year's ME saw the State incorporating some new measures and technologies, including improved communications, Unmanned Aerial Vehicles to build situation awareness and 'ham' (amateur) radios which were incorporated into the disaster response network.</p> <p>The entire training was overseen by Shri Manoj Kumar, officiating Chief Secretary, and Shri BK Sahu, Principal Secretary (Revenue), and saw participation of all eight Districts, the State administration, SDRF, NDRF, Assam Rifles/ Indian Army, CAPF, AAI, Emergency Response Service System (ERSS), Tripura Small Industries Corporation Ltd, Tripura Education Services and some NGOs</p> <p>The State had improved its disaster response communication network by building repeater stations. It is also working to integrate Education Services Network into DM.</p>

#### Table-Top Exercise - 27 November 2019



### Visuals - Mock Exercise - 28 November 2019







### Media Briefing and Coverage



Tripura Times, Agartala, Friday, November 25, 2019

# Mock exercise on earthquake held

**News**

Agartala, Nov 28: Tripura lies in seismic Zone-V. To test the readiness for an earthquake the state government, in conjunction with the National Disaster Management Authority, Government of India organised a wide full-scale Mock Exercise on earthquake today. The mock drill started at 10.30 am and continued upto 1.45pm simultaneously at 45 locations across the state. The locations were identified in various categories, such as a government office, a hospital, a school, a bank/ industrial establish-

ment. In the mock exercise, key agencies- Tripura Police, TSR, Fire Service, PWD, Health, National Disaster Response Force (NDRF), Civil Defence, the Indian Armed Forces including the Assam Rifles, Border Security Force, CISF, CRPF, selected non-governmental organisations such as Indian Red Cross Society, Tripura Ham Radio Club and other community based organisations as well as the general public participated actively. Observers were engaged to monitor the drills at all locations. The public was advised a day prior not to panic as this is an exercise and not a real event. An appeal was also made to general public for their active participation. As per the Incident Response System (IRS), the responders assembled at the staging areas after getting information from the state and district emergency operation centres. After briefing, they moved to the affected locations, extended search and rescue operations, provided medical first-aid and transported the casualties to hospitals for better treatments. Other agencies also supported in debris clearance, relief operations, alternate communication setup and restoration activities etc. The drills came to an end at 1.45pm. After the drill, debriefing was conducted by the Principal Secretary, Revenue and Brig. Kuldip Singh, NDMA, with all state and district authorities along with the response organisations. The DM and Collectors and coordinators/observers offered their views. The gaps in the response, which were applicable, were noted for improvement in the next exercise. Brig. Kuldip Singh, NDMA opined that the performance of the state in terms of mock exercise has improved as compared to last year. The overall impression was good. He also prescribed suggestions for consideration for next year's mock exercise.

**STATE BANK OF INDIA**  
RASMECC & SARC, Agartala  
Mantli Bari Road, Agartala - 799001

**POSSESSION NOTICE**  
FOR IMMOVABLE PROPERTIES

**Dailyworld** Punjab State Power Corporation  
Consumers can pay bills using  
UPI, Credit Card, Debit Card, Net Banking, etc.

12  
All Rights Reserved. \*Obtained political news in PDF is to be released by local administration of appropriate level. There will be no liability.

## Mock rescue operation drill at a school in Agartala

By Binayak Das | 27 November 2019 9:02 am | Daily World



Agartala: Fire service personnel carry a school boy during a mock rescue operation drill in Agartala. Thursday, Nov. 28, 2019. The drill was conducted by the National Disaster Management Authority and Assam Fire Service to check the preparedness and coordination of agencies in the wake of a...

**TripuraIndia** Since 2017

HOME ENTERTAINMENT ENVIRONMENT HEALTH TECHNOLOGY VID-2018 ARTICLES LITERATURE EDUCATION

WWW.TRIPURAINdia.COM RIT Agartala: Country's Best localisation centre set to open new doors December 26 2019

NEWS PHOTO SPORTS FESTIVALS AGRICULTURE PHOTOGRAPHY BLOOD DONATION DURGA PUJA 2017 DURGA PUJA

## Disaster management holds the mock drill at Gorkhabasti Agartala



© November 25, 2019

Date	State, Disaster Scenario and Event	Remarks
30 Jan 2020	State: Arunachal Pradesh Scenario: Earthquake Events: State-level ME:	Although the State of Arunachal Pradesh, located in Seismic Zone V, has a history of major and minor quakes, this was the first ME in the State after 2013. Hence, a large amount of effort was put in by NDMA, the State administration, the Districts, the NDRF, Indian Army, Border Roads Organization and CAPF for this ME, which was conducted as a capacity building as well as capability-demonstration event.
11 - 12 Feb 2020	<ul style="list-style-type: none"> <li>• Training on the IRS and Coordination &amp; Orientation Conference</li> <li>• Table-top exercise</li> <li>• Mock Exercise</li> </ul>	

### Training on the Incident Response System and Coordination & Orientation Conference, Itanagar (30 Jan 2020)



Visuals - Mock Exercise (11 Feb 2020)



Team for Clearance of Access to Critical Facilities



Staging Area



Briefing of Task Forces



### Search & Rescue, First Aid and TRIAGE



### Surge in Hospital Capacity



### Border Roads Organisation



### NDRF - CBRN Response Demonstration



### Media Coverage

Date	State, Disaster Scenario and Event	Remarks
04 Feb 2020	State: Uttarakhand Scenario: Earthquake / Chemical-Industrial Disaster Events: State-level ME:	The quest to increase India's GDP has progressively increased industrialization. This has led to an increase in the number of industries utilizing hazardous materials (HAZMAT)/ hazardous chemicals (HAZCHEM) in their processes. In turn, this requires the industry, States and Districts to be prepared with both on-site and off-site emergency and disaster management plans.
11 Feb 2020	<ul style="list-style-type: none"> <li>Orientation and Co-ordination Conference.</li> </ul>	
12 Feb 2020	<ul style="list-style-type: none"> <li>Table Top Exercise.</li> </ul>	
12 Feb 2020	<ul style="list-style-type: none"> <li>Mock Exercise.</li> </ul>	

Uttarakhand is located in a seismically active zone, which aggravates the risk to industry. Hence, at the request of the Uttarakhand administration, a State-level ME was conducted in four districts (Dehradun, Haridwar, US Nagar and Nainital) that have Major Accident Hazard (MAH) industries. The ME was preceded by an Orientation & Coordination Conference that was chaired by Secretary (DM), and co-chaired by the Addl CEO, Uttarakhand State Disaster Management Authority, and a Table-top Exercise. The ME, triggered by a simulated earthquake and consequent leakage of HAZCHEM at multiple sites, saw participation of the SDMA, State Emergency Operations Centre, Incident Response Teams of the industries and the Districts, SDRF, NDRF, Indian Armed Forces and the CAPF.

**Coordination Conference**



**Table-Top Exercise**



**Activity at SEOC**



**Hon'ble Chief Minister reviewing the Situation at the SEOC along with Chief secretary and State IRT**



### Visuals - Mock Exercise



### CBRN Response by the Armed Forces





Debriefing



Date	State, Disaster Scenario and Event	Remarks
19 Feb 2020	State: Goa and Indian Coast Guard Scenario: Maritime Rescue at high seas Events: State-level	A training workshop was conducted on the Institutional Mechanism for Disaster Management in India and the Incident Response System, and its applicability during maritime rescue at high seas.



Date	State, Disaster Scenario and Event	Remarks
29 Feb 2020	<p><b>Venue:</b> HQ Central Air Command, Allahabad</p> <p><b>Scenario:</b> Joint HADR Exercise, Indian Air Force and Myanmar Air Force</p> <p><b>Event:</b> Training - "Institutional Mechanism for Disaster Management In India"</p>	A training event on the "Institutional Mechanism for Disaster Management In India" was conducted for all participants of the Joint HADR Exercise (Indian Air Force and Myanmar Air Force)



Date	State, Disaster Scenario and Event	Remarks
12 Mar 2020 19-20 Mar 2020	<p><b>State:</b> West Bengal</p> <p><b>Scenario:</b> Chemical (Industrial) Disaster</p> <p><b>Events:</b> State-level (participation of eight Districts):</p> <ul style="list-style-type: none"> <li>• Training on the IRS and Coordination Conference</li> <li>• Scheduled Mock Exercise could not be held due to outbreak of the COVID-19 pandemic.</li> </ul>	<p>A ME on Chemical (Industrial) Disaster was scheduled on 19 &amp; 20 March 2020 in the State for eight industrialized Districts (North 24 Parganas, South 24 Parganas, Purba Medinipur, Paschim Bardhaman, Howrah, Hoogly, Darjeeling and Kolkata).</p> <p>Step-I of the ME, i.e. training of the IRS and Coordination Conference, was conducted on 12 March 2020. The programme was jointly chaired by Shri Dushyant Nairala, IAS, Principal Secretary, (Disaster Management &amp; Civil Defence), Govt of West Bengal, and Maj Gen (Dr) VK Naik, Senior Consultant, NDMA. All stake-holders including departments of the State Government, DCs/DMs of the Districts, NDRF, CAPF and Armed Forces attended.</p> <p>The ME however, had to be called off on account of the emergent situation (COVID-19).</p>

## Talks / Workshops

6.5 In 2019-2020, the NDMA also rendered specialized guidance, ran awareness campaigns and conducted workshops on a number of issues for diverse agencies and organizations. Some of these are mentioned below:-

Date	Topic / Event
10 Apr 2019	Guidance to the Strategic Health Operations Centre, National Centre for Disease Control, New Delhi, on "Designing, Building and Operating an Emergency Operations Centre"
25 Apr 2019	Presentation-cum-Talk on "Climate Change, Extreme Weather Events and Planning for Critical Infrastructure and Lifeline Networks", at the School of Planning & Architecture, New Delhi
30 Apr 2019	Presentation-cum-Talk on "Institutional Mechanism for Disaster Management & Incident Response System" at the Indian Railway Institute of Transport Management, Lucknow
07 June 2019	Presentation to CBRN Emergency Working Group on "National Framework for CBRN Emergencies"
09 July 2019	Presentation-cum-Talk on "Current and Emerging CBRN Threats and Management of CBRN Emergencies", to Medical Officers of the Armed Forces, HQ Integrated Defence Staff, Ministry of Defence
09 July 2019	Presentation-cum-Talk on "Chemical Industrial Disaster Risks - Preventive Measures & Response, and Community Preparedness for Management of Chemical Industrial Disaster Management" to industry captains at FICCI, New Delhi
01 Aug 2019	Presentation-cum-Talk on "Institutional Mechanism for Disaster Management & Incident Response System" at the Indian Railway Institute of Transport Management, Lucknow
28 Aug 2019	Presentation-cum-Talk on "Institutional Mechanism for Disaster Management, Incident Response System, and Planning & Coordination for Crisis Situation" at the Indian Railway Institute of Transport Management, Lucknow
18 Sept 2019	Presentation-cum-Talk on "Institutional Mechanism for Disaster Management, Incident Response System, and Planning & Coordination for Crisis Situation" at the Indian Railway Institute of Transport Management, Lucknow
25 Sept 2019	Presentation-cum-Talk, "CBRN Emergencies and the Incident Response System" to officials of HQ Integrated Defence Staff, Ministry of Defence
27 Sept 2019	Presentation-cum-Talk on "Unmanned Aerial Systems in Disaster Management" to members of Indian Armed Forces and industry at the Centre for Joint Warfare Studies (CENJOWS), New Delhi
07 Nov 2019	Presentation-cum-Talk on "Fire Safety and Search-&Rescue", to government officials at LBSNAA, Mussoorie.
05 Dec 2019	Presentation-cum-Talk on "Chemical Industry Disaster Risks - Preventive Measures & Response" to industry captains and officials of the Govt of Sikkim

17 Dec 2019	Presentation-cum-Talk on "Current and Emerging CBRN Threats and Management of CBRN Emergencies", to Medical Officers of the Armed Forces, HQ Integrated Defence Staff, Ministry of Defence
12 Feb 2020	Presentation-cum-Talk, "CBRN Emergencies and the Incident Response System" to officials of Medical Services of the Indian Armed Forces
14 Feb & 02 March 2020	Presentation to, and dialogue with all States / UTs regarding conduct of MEs, scheme for financial support to States / UTs for MEs, and capacity building of EOCs through Video Conference.

### Capacity Building of SDRF

6.6 Notwithstanding the support extended by the NDRF for building capacity of the SDRFs of various States/UTs, there remains, at this juncture, a significant gap in the training requirement of the States/UTs. Hence, in pursuance of the National Disaster Management Policy 2009, the NDMA has continued to encourage various States/UTs to raise SDRFs and

build their capacity. Further, in order to optimize instruction at the DM training institutes of CAPFs, the capacities for running various DM-related courses at these institutes were ascertained; training needs of respective SDRFs were sought from all States/UTs; and vacancies were sub-allocated by NDMA to the States/UTs in coordination with the Headquarters of various CAPFs.

6.7 A total of 17 courses in disaster response were conducted during this year:-

S.No	Course	No. and Duration	DM Training Institutes Involved
a.	ToT Course MFR / CSSR	04 (03 to 06 weeks)	<ul style="list-style-type: none"> <li>CTC, CRPF, Coimbatore</li> <li>BIDR, BSF Academy, Tekanpur, Gwalior</li> <li>FSTI, NISA, CISF, Hyderabad</li> <li>NITSRDR, ITBP, Bhanu, Panchkula, Chandigarh</li> </ul>
b.	Basic Course MFR/ CSSR	10 (06 to 07 weeks)	
c.	NBC/ CBRN Basic Course	03 (03 weeks)	

6.8 The training of SDRF personnel was demand driven and the following availed the capacity building courses facilitated by the NDMA:-

i	SDRF, Assam	viii	SDRF, Rajasthan
ii	SDRF, J&K	ix	SDRF, Uttarakhand
iii	SDRF, Karnataka	x	SDRF, West Bengal
iv	SDRF, Maharashtra	xi	SDRF, RPF, Indian Railways
v	SDRF, Manipur	xii	Delhi Police
vi	SDRF, Meghalaya	xiii	DMG, Kolkata Police
vii	ODRAF, Odisha		

### Radiological Decontamination Training For SDRF Personnel at NISA, CISF



### Training of Civil Defence Volunteers

- 6.9 The Civil Defence Organization is a vital resource in the broader context of Disaster Risk Management in India. Its employment has hence been institutionalized through an amendment to the Civil Defence Act 1968, in which the scope of Civil Defence has been enhanced to include "disaster management". The Civil Defence Organization, with strength of over 5.4 lakh volunteers, is currently operational in 26 States/UTs as well as Indian Railways.
- 6.10 The NDMA has been consistently encouraging the augmentation of numbers as well as the capabilities of civil defence volunteers for disaster management. A three-week course

conceptualized by NDMA in consultation with Director General (FS, HG & CD), MHA, is aimed at facilitating integration of the Fire Services and Civil Defence for response operations at community level. The programme was essentially demand driven and the courses were conducted at the Fire Services Training Institutes of Assam, Andhra Pradesh, Karnataka, and Odisha in batches of 30 participants each at a cost of Rs. 5 Lakhs per course. A total of 540 Civil Defence Volunteers were trained in 18 courses in Yr 2018-2019 and 600 over 20 courses in Yr 2019 -2020. For these, NDMA approved financial support of Rs 84.85 Lakh and Rs 1 crore respectively. The State-wise breakdown of civil defence volunteers trained under

the scheme is as under :-

Yr 2018-2019		Yr 2019-2020	
Assam	150	Assam	180
Andhra Pradesh	210	Andhra Pradesh	180
Karnataka	120	Karnataka	120
Odisha	60	Odisha	120

### Training of Civil Defence Volunteers





### 6.11. **Common Alerting Protocol (CAP) Pilot Project**

The project would facilitate dissemination of alerts/warnings through SMS to the population in a geographical area in regional language. A Proof of Concept for SMS & Cell Broadcast would be done in the Tamil Nadu. Sanction Order for execution of the Pilot Project has been issued to C-DOT on 21 Jan 2020. The cost of the Project is Rs. 15 Cr. A MoU between NDMA & CDoT has been signed on 16th Jan 2020.

### 6.12 **Priority Call Routing (PCR)**

At the time of disaster, the decision makers, disaster managers and first responders do not have access to telecom network due to heavy congestion on telecom networks. The Priority Call Routing (PCR) system accords priority to these officials during network congestion during disasters. The project is proposed to be implemented through C-DOT. Revised Techno-commercial proposal is awaited from C-DOT.

### 6.13 **Use of ICT (CDR Analysis) in Disaster Risk Management**

The project aims to utilize call data



records of mobile subscribers to find the last known location of the subscriber during disasters. This will also assist in locating missing persons and estimating number of affected persons. A Technical Committee has already been constituted to formulate the proposal. Revised techno commercial proposal is awaited from C-DOT.

### 6.14 **Capacity Building - Emergency Operation Centers (EOCs)**

The project purposes to improve Emergency Operation centers (EOCs) of the States by providing one time financial assistance for procurement of equipments and imparting training related

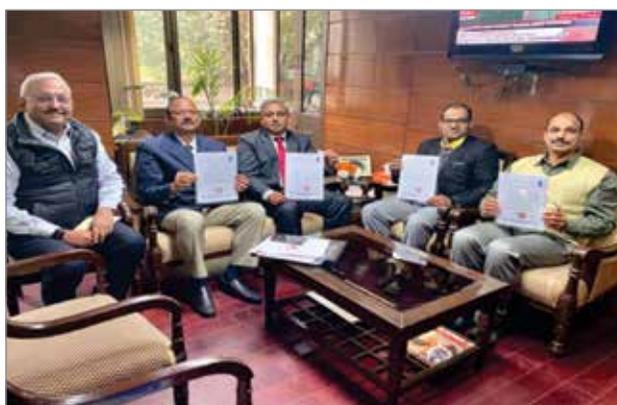
to EOC. The project cost is Rs. 5 Cr. Funds have been transferred to 22 States on 28 Nov 2019 based on their requisition for implementation of Project.

#### 6.15 **Emergency Response Mobile Vehicle (ERMV)**

The project envisages design and development of response vehicles equipped with communication equipment. These vehicles can be deployed quickly at the disaster sites to facilitate backward communication to the stake holders/ first responders from the disaster sites. The project cost is Rs.5 Cr. It is being implemented by NDRF. MoU between NDMA & NDRF has been signed in the month of Dec 2019 for implementation of the Project. The Project duration is 18 months.

#### 6.16 **Web Based Training**

The project aims at capacity building of citizens in disaster management through web based training modules and courses. Jawahar Lal Nehru University, New Delhi and Odisha State Open University are implementing the project at a total cost of Rs 98 Lac. MoU between NDMA & both the Universities have been signed



on 06 Jan 2020 for implementation of the Project. The Project duration is 06 months.

#### 6.17. **Subhash Chandra Bose Aapda Prabandhan Puraskaar**

Subhash Chandra Bose Aapda Prabandhan Puraskaar for the year 2020 has been declared on 23 Jan 2020. Sh. Kumar Munnan Singh in the Individual category and Disaster Mitigation & Management Centre (DMMC) Uttarakhand in the Institutional category have won the award.

#### **Awareness Generation**

6.18 In its endeavor to spread awareness amongst the masses, Public Relations & Awareness Generation (PR&AG) Division, National Disaster Management Authority (NDMA), launches various public awareness initiatives through electronic and print media. The focus is on building an appropriate environment for disaster management by reaching out to the masses. These awareness campaigns are being implemented through various modes like TV, Radio, Print media, Exhibitions, etc. The awareness campaigns have two prime objectives:

- a) Preparing citizens for any impending disasters (earthquake, cyclone, floods, landslides etc.)
- b) Informing and educating people on various preventive and mitigate measures to avoid disaster situations.

6.19 The following awareness campaigns were carried out during 2019-20 (up to 31.03.2020)

## Audio-Visual and Print Campaigns

6.20 Details of all the campaigns are as below:-

Sl No.	Details of various Awareness Campaign run during 2019-20
1	Awareness Campaign on "Heat Wave" run through Prasar Bharati (All India Radio) for 05 days from 2/5/2019 to 6/5/2019
2	Awareness Campaign on "Cyclone Fani" run through Prasar Bharati (All India Radio) for 04 days from 2/5/2019 to 5/5/2019
3	Awareness Campaign on "Cyclone Fani" run through PrasarBharati (Doordarshan) for 04 days from 2/5/2019 to 5/5/2019
4	Awareness Campaign on "Heat Wave" run through Prasar Bharati (Doordarshan) for 10 days from 4/5/19 to 13/5/2019
5	Awareness Campaign on "Heat Wave" run through NDFC(Digital Cinema) for 10 days from 15/5/2019 to 24/5/2019
6	Awareness Campaign on "Cyclone" run through Prasar Bharati (All India Radio) for 05 days from 15/5/2019 to 19/5/2019
7	Advertisement for awareness Campaign on "Heat Wave" published on 29/5/2019 in various News Papers through DAVP
8	Awareness Campaign on "Heat Wave" run through Prasar Bharati (Doordarshan) for 07 days from 12/6/2019 to 18/6/2019
9	Awareness Campaign on "Heat Wave" run through Prasar Bharati (All India Radio) for 05 days from 12/6/2019 to 16/6/2019
10	Awareness Campaign on "Cyclone" run through Prasar Bharati (Doordarshan) for 05 days from 11/6/2019 to 15/6/2019
11	Awareness Campaign on "Cyclone" run through Prasar Bharati (All India Radio) for 05 days from 11/6/2019 to 15/6/2019
12	Awareness Campaign on "Flood" run through Prasar Bharati (All India Radio) for 05 days from 28/6/2019 to 2/7/2019
13	Running of "Flood" Campaign through Prasar Bharati (Doordarshan) for 07 days from 29/6/2019 to 5/7/2019
14	Awareness Campaign on "Flood" run through NFDC (FM Radio) for 07 days from 28/6/2019 to 4/7/2019
15	Awareness Campaign on "Flood" run through NFDC (Digital Cinema) for 10 days from 28/6/2019 to 7/7/2019
16	Advertisement for awareness Campaign on "Flood" published 01/7/2019 in various news papers through DAVP
17	Publication of Qtr page Colour Advt. on "Urban Flood" (Published on 06.07.2019)
18	Awareness Campaign on "Urban Flooding " run through Prasar Bharati (AIR) for 12/14 days from 6/7/2019 to 17/7/2019 and up to 19/7/2019
19	Awareness Campaign on "Urban Flooding" run through Prasar Bharati (Doordarshan) for 14 days from 8/7/2019 to 21 /7/2019

20	Running of "Landslide" Campaign through AIR for 05 days from 22/7/2019 to 26/7/2019
21	Running of "Landslide" Campaign through DD for 14 days from 23/7/2019 to 5/8/2019
22	Publication of Qtr. page Colour Advt. on Landslide (Ad Published on 28 .8.2019)
23	Awareness Campaign on "Cyclone-Pre(NE Monsoon)" run through Prasar Bharati (Doordarshan) for 10 days from 26/10/2019 to 4/11/2019
24	Awareness Campaign on "Cyclone-Pre(NE Monsoon)" run through PrasarBharati (AIR) for 10 days from 1/11/2019 to 7/11/2019
25	Advertisement for awareness Campaign on "Earthquake" published 21/12/2019 in various news papers through DAVP
26	Awareness Campaign on "Earthquake" run through Prasar Bharati (DD) for 7 days from 20/12/2019 to 27/12/2019
27	Awareness Campaign on "Earthquake" run through Prasar Bharati (AIR) for 7 days from 20/12/2019 to 26/12/2019
28	Advertisement for awareness Campaign on "Cold Wave" published 24/12/2019 in various news papers through DAVP
29	Awareness Campaign on "Cold Wave" run through Prasar Bharati (AIR) for 7 days from 21/12/2019 to 27/12/2019
30	Awareness Campaign on "Cold Wave" run through Prasar Bharati (DD) for 7 days from 21/12/2019 to 28/12/2019
31	Advertisement for awareness Campaign on Prasar Bharati "Cold Wave" published 08/1/2020 in various news papers through DAVP
32	Awareness Campaign on "Cold Wave" run through PrasarBharati(AIR) for 7 days from 2/1/2020 to 8/1/2020
33	Awareness Campaign on "Cold Wave" run through Prasar Bharati (DD) for 7 days from 2/1/2020 to 8/1/2020

6.21 **Doordarshan/All India Radio/Digital Cinema /Private FM Radio** - Audio-Video spots on natural disasters such as earthquake, flood, urban flood, landslide, heat wave, cold wave and cyclone were telecast/broadcast on Doordarshan (National Network and Regional Kendras of Doordarshan) and All India Radio. Multiple spots of 30/40/50/60 seconds each on each disaster were run on a shuffling basis for 4/5/7/10/15 days in their respective disaster prone regions. Similarly, all these campaigns (except earthquake) were also run on Digital Cinemas and Private FM Radio Channels through NFDC.

## 6.22 **Print Campaigns**

Print media was also utilized by way of getting awareness generation material printed in various newspapers through DAVP.

- i) Awareness generation material for HEAT WAVE was published for heat wave-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages on 29/5/2019 (Quarter-page) for states viz. Andhra

Pradesh, Bihar, Chhattisgarh, Delhi NCT, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Telangana, Uttar Pradesh & West Bengal.



**Are you prepared for the HEAT WAVE?**

**TAKE THE FOLLOWING PRECAUTIONS**

- Drink sufficient water - even if not thirsty.
- Use ORS (Oral Rehydration Solution), homemade drinks like lassi, torani (rice water) lemon water, buttermilk, etc. to keep yourself hydrated.
- Keep updated with local weather news through Phone, TV, Radio, Newspaper.
- Wear lightweight, light-coloured, loose, cotton clothes.
- Cover your head: Use a cloth, hat or umbrella.
- Keep animals in shade and give them plenty of water to drink.
- Do not leave children or pets in parked vehicles - as they may get affected by Heat Wave.

**National Disaster Management Authority**  
Government of India

Follow us on: [Facebook](#) [Twitter](#) [LinkedIn](#) [Pinterest](#) [YouTube](#) [Instagram](#)

For more information log on to: [www.ndma.gov.in](http://www.ndma.gov.in)

ii) Awareness generation material for FLOOD was published on 01/7/2019 (Quarter-page) (for especially flood affected areas) in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi NCT, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh & West Bengal.



**Be Smart Be Prepared!**

**BEFORE FLOODS**

- Ignore rumours. Stay calm. Don't panic
- Keep your mobile phones charged for emergency communication, use SMS
- Listen to radio, watch TV, read newspapers for weather updates
- Keep cattle/animals untied to ensure their safety
- Prepare an emergency kit with essential items for safety and survival
- Keep a First Aid kit with extra medication for snake bite and diarrhoea ready
- Keep your documents and valuables in water-proof bags

**DURING FLOODS**

- Don't enter floodwaters. In case you need to, wear suitable footwear
- Stay away from sewerage lines, gutters, drains, culverts, etc.
- Stay away from electric poles and fallen power lines to avoid electrocution
- Eat freshly cooked/dry food. Keep your food covered
- Drink boiled/chlorinated water
- Use disinfectants to keep your surroundings clean

**AFTER FLOODS**

- Do not allow children to play in or near flood waters
- Don't use any damaged electrical goods, get them checked
- Watch out for broken electric poles and wires, sharp objects and debris
- Do not eat food that has been in flood waters
- Use mosquito nets to prevent malaria
- Don't use the toilet or tap water if the water lines/sewage pipes are damaged

**IF YOU NEED TO EVACUATE:**

- Raise furniture, appliances on beds and tables
- Put sandbags in the toilet bowl and cover all drain holes to prevent sewage back flow
- Turn off power and gas connection
- Move to a higher ground/ safe shelter
- Take the emergency kit, first aid box and valuables with you
- Do not enter deep, unknown waters; use a stick to check water depth
- Come back home only when officials ask you to do so

**National Disaster Management Authority**  
Government of India

Follow us on: [Facebook](#) [Twitter](#) [LinkedIn](#) [Pinterest](#) [YouTube](#) [Instagram](#)

Call : 011-1078  
[www.ndma.gov.in](http://www.ndma.gov.in)

- iii) Awareness generation material for URBAN FLOOD was published on 06/7/2019 (Quarter-page) (for especially Urban flood affected areas) in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi NCT, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh & West Bengal.



## बाढ़ जानलेवा हो सकती है बाढ़-ग्रस्त क्षेत्र में न जाएं

### बाढ़ से बचने के लिए क्या करें और क्या न करें

#### बाढ़ आने से पहले

- अफवाहों पर भ्रम नही दें। शोक न करें। एम्बरजै नहीं
- आवश्यकतानुसार संपर्क के लिए मोबाइल फोन इमेडा चार्ज रखें, एम्बरजैस का प्रयोग करें
- रेडियो, टीवी, समाचार पत्र के माध्यम से मौसम की ताज़ा जानकारी रखें
- मॉबैलिटी / वाहन जानकारी की सुरक्षा के लिए उन्हें बंद कर नही रखें
- सुरक्षा और जीवन रक्षा के लिए आवश्यक वस्तुओं की इमरजेंसी किट तैयार कर लें
- प्राथमिक उपचार पीटी में साथ चलने और आपरिचा की दवा आवश्यक रखें
- महत्वपूर्ण कागजात और अन्य बहीवली चीजों बीटर-पूक बैगों में रखें

#### बाढ़ के दौरान

- बाढ़ के पानी में डूबने नहीं करें
- बाढ़ के पानी में जाने से बचें। यदि ज़रूरी हो तो पैरों में उचित जूते पहनें
- सीवर लाइनों, गट्टों, नालों, पुलियों आदि से दूर रहें
- बिजली के खम्भों और गिरे/टूटे हुए बिजली के तारों से बच कर रहें। इन से बिजली के आघातक इन्टैक लगे सकते हैं।
- ताज़ा पकव हुआ अन्नक सुरक्षित खाया खाएं। पानी को इमेडा दवा कर रखें
- पानी उपभोग कर / क्लोरीन डालकर पीएं
- डिमल्टेफैक्ट से अपने आसपास की जगहों को साफ रखें

#### बाढ़ के बाद

- बर्बातों को बाढ़ के पानी में न जाने दें
- क्षतिग्रस्त बिजली उपकरणों का प्रयोग नहीं करें। पहले उपकी जांच करा लें
- बिजली के टूटे खम्भों और तारों, चारपाय नीलों और मलबों से साफ रहें
- बाढ़ के पानी में भीगा खाक न खाएं
- मॉबैलिटी से बचने के लिए बख्तरबंदी लगाएं
- पानी को पहाड़/ सीवर में टूट-पूट हो ली शौचालय या नाल के पानी का उपयोग नहीं करें

#### यदि घर खाली करना पड़े

- पानीघर, अफलापसिन को बिलगर और पेज के ऊपर रखें
- टॉयलेट बोल से रेत की थोड़ी रखा दें और बाकी नाली को दवाक में लॉक सीवर का पानी बहाव घर के अंदर नही जाए
- बिजली और गैस के कनेक्शन बंद कर दें
- इमरजेंसी किट, प्राथमिक उपचार पीटी और बहीवली सामान अपने साथ रखें
- गहरे पानी में नही डालें। यदि आवश्यक हो ली पहले एक बड़े से पानी की महलाई का अनुमान लें
- स्थानीय अधिकारियों की अगुआ के साथ ही वापस अपने घर, अला



## तैयारी में ही समझदारी।



राष्ट्रीय आपदा प्रबंधन प्राधिकरण  
भारत सरकार

 @NDMA.in
  @ndmanindia
  ndmanindia
  NDMAIndia

संपर्क करें: 011-1078  
www.ndma.gov.in

- iv) Awareness generation material for LANDSLIDE was published on 28/08/2019 (quarter-page) in landslide-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Himachal Pradesh, Jammu & Kashmir, Sikkim, Arunachal Pradesh, Nagaland, Mizoram, Uttarakhand & Meghalaya.



## बचें भूस्खलन से!

### भूस्खलन से पहले

- अधिक पेड़ लगाए ताकि जड़ों के माध्यम से मिट्टी के फटाव को रोका जा सके
- भूस्खलन से जुड़ी ताज़ा जानकारी के लिए रेडियो सुनें, टीवी देखें व अग्रचार पढ़ें
- नालों को साफ रखें; रिसाव छिद्रों को खुला रखें
- कमज़ोर इमारतों, पत्थरों में दरारों व नदी में भटमैला पानी आ जाने को भी चेतावनी समझें व जानकारी दें
- गहरी झुलानों व रिसाव के रास्ते में घर व इमारतें न बनाएं

### भूस्खलन के दौरान

- शांत रहें, घबराएं नही व अफवाहों पर ध्यान न दें
- परिवारजनों के साथ रहने का प्रयास करें
- कोई भी असामान्य आवाज़ जैसे पेड़ों के गिरने, पत्थरों के छिस्कने पर ध्यान दें
  - भूस्खलन के रास्ते व झुलानों से तुरंत हट जाएं
  - अपने नज़दीकी तहसील व जिला कार्यालय से सम्पर्क करें

### भूस्खलन के बाद

- खुले सामान, बिजली के तारों व खम्भों को न छुएं
- भूस्खलन के रास्ते व झुलानों से तुरंत हट जाएं
- घायल व फंसे हुए व्यक्तियों पर ध्यान दें
- प्राथमिक उपचार दिए बिना किसी भी घायल व्यक्ति को इधर उधर न ले जाएं जब तक कोई तत्काल इतरा न हो
- कुएं, नदियां, झरनों इत्यादि से दूषित पानी न पिएं



**तैयारी में ही  
समझदारी**



राष्ट्रीय आपदा प्रबंधन प्राधिकरण  
National Disaster Management Authority



@NDMA.in



@ndmaIndia



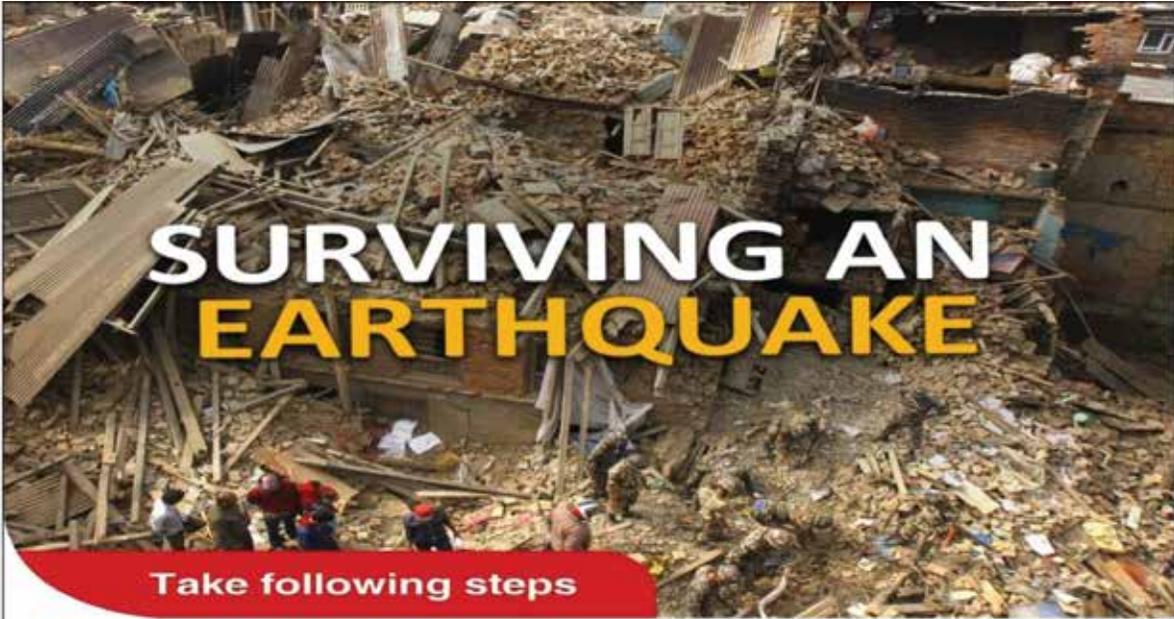
ndmaIndia



NDMAIndia

संपर्क करें : 011-1078  
www.ndma.gov.in

- v) Awareness generation material for EARTHQUAKE was published on 21/12/2019 (quarter-page) in earthquake-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Andaman & Nicobar Island, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Bihar, Gujarat (Kachchh Distt), Himachal Pradesh, Jammu & Kashmir, Sikkim, Punjab, Uttarakhand, West Bengal, Chandigarh, Delhi, Sikkim, Haryana, Jharkhand (Godda, Sahibganj, Giridih) Maharashtra (Raigarh, Ratnagiri, Satara, Kolhapur, Sangli, Pune) Rajasthan (Alwar, Barmer, Bharatpur, Jalor) Uttar Pradesh.



# SURVIVING AN EARTHQUAKE

**Take following steps**

Before	During	After
<ul style="list-style-type: none"> <li>● Consult a structural engineer to make your house earthquake resistant;</li> <li>● Repair deep plaster cracks on walls and ceilings;</li> <li>● Fasten shelves securely to walls; place heavy / large objects on lower shelves;</li> <li>● Have an emergency kit ready;</li> <li>● Develop an emergency communication plan for family;</li> <li>● Learn the technique of 'Drop — Cover — Hold'.</li> </ul>	<ul style="list-style-type: none"> <li>● Stay Calm and Do Not Panic;</li> <li>● DROP under a table; COVER your head with one hand and HOLD the table till the tremors last;</li> <li>● Run outside as soon as the tremors stop — DO NOT use lift;</li> <li>● When outside move away from buildings, trees, walls and poles;</li> <li>● When inside a vehicle — pull over in an open place and remain inside; avoid bridges.</li> </ul>	<ul style="list-style-type: none"> <li>● Avoid entering damaged buildings;</li> <li>● If trapped in rubble:               <ul style="list-style-type: none"> <li>- Do not light a matchstick;</li> <li>- Cover your mouth with a cloth;</li> <li>- Tap on a pipe or wall;</li> <li>- Sound a whistle;</li> <li>- Shout only as a last resort.</li> </ul> </li> <li>● Use stairs and NOT lifts or elevators.</li> </ul>








 National Disaster Management Authority  
Government of India



Call : 011-1078  
www.ndma.gov.in

- vi) Awareness generation material for COLDWAVE was published on 24/12/2019 (quarter-page) in coldwave-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Uttar

Pradesh, Uttarakhand, Nagaland, Odisha, J&K, Himachal Pradesh, Haryana, Punjab, Mizoram, Meghalaya, Manipur, Maharashtra, Madhya Pradesh, Chandigarh, Delhi, Bihar, Assam, North Chhattisgarh, North Jharkhand, Sub Himalayan West Bengal, Sikkim and North Rajasthan.

Due to severe cold in Northern Part of India Awareness generation material for COLD WAVE was again published on 8/1/2020 (quarter-page) in the above-mentioned coldwave-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages.



**SAFETY DURING COLD WAVE**

**Follow these simple steps**

- Have adequate winter clothing
- Stay indoors as much as possible
- Prefer mittens over gloves; mittens provide more warmth and insulation from cold
- Listen to radio, watch TV, read newspapers for weather updates
  - Drink hot drinks regularly
- Take care of elderly people and children
- Store adequate water as pipes may freeze
  - Have emergency supplies ready

**Be Smart  
Be Prepared**

National Disaster Management Authority  
Government of India

Follow us on:

Facebook: @NDMA\_India, Twitter: @ndmanrda, Instagram: @ndmanrda, YouTube: NDMAIndia

Call : 011-1078  
www.ndma.gov.in

## Observance of 15th Formation Day of NDMA

6.23 The 15th Formation Day of NDMA was observed on 27th September, 2019 at The Ashok Hotel New Delhi. Shri G. Kishan Reddy, Union Minister of State for Home Affairs, graced the occasion as the Chief Guest. Speaking on this year's theme of "Fire Safety in India", Shri G. Kishan Reddy congratulated and appreciated NDMA for focusing on various disasters.

aspects of fire risk-Act and regulations, Smart Cities and Fire Safety, Challenges of fire fighting in urban areas, Institutional mechanism- inadequacies and issues, and Modernization of fire services and Technology for fire Safety. Presentation on Fire Risk, existing and emerging scenarios was shown by Sh. M.V. Deshmukh, President, National Association of Fire Officers (NAFO), Presentation on



6.24 Representatives from various States participated and discussed various issues on Fire Risk in India, Fire prevention and mitigation, Institutional challenges and issues, existing and emerging scenarios, Climate Change and its implication for fire risk, Chemical and Industrial fire risk, Planning for fire risk mitigation and safety audit of buildings-a case of Surat, Legal

climate change and its implication for fire risk by Dr. Arti Choudhary, Head, Silviculture, Forest Research Institute Dehradun and presentation on Chemical and Industrial fire risk were shown by Sh. VaradendraKoti, Group Head S & OR- Fire Service, Reliance Industries Limited. Presentation on Planning for fire risk mitigation and safety audit

of buildings- a case of Surat was also shown by Shri Hitesh Kumar Taparia, Chief Fire Officer, Vadodra, Presentation on Legal aspects of fire risk- Acts and regulations was made by Ms. Alpa Seth, Managing Director, VMS consultants Pvt Ltd. Mumbai. Presentation on Smart Cities and Fire Safety was made by Dr. Rajiv Kathpalia, and presentation on Challenges of fire fighting in urban areas were shown by Shri Prabhat S. Rahandale, Director. Maharashtra Fire Services. Presentation on Institutional mechanism- inadequacies and issues was also presented by Shri G. C. Mishra, Ex-Director, Delhi Fire Services.

6.25 Presentation on Modernization of Fire services and Technology for fire Safety was presented by Shri R. A. Venkatachalam, Advisor, IIT-GN. Various issues like Fire Risk in India in Session-I, and issues on Fire prevention and mitigation in Session-II, and Institutional challenges and issues were discussed in Technical Session III

6.26 Delivering the valedictory address, Dr. P.K. Mishra, Principal Secretary to Prime Minister, said and highlighted the need of Fire safety in India during valedictory session.



6.27 On the occasion, Shri G.V.V. Sarma, Member, NDMA highlighted the activities undertaken by NDMA during the last one year.



### NDMA E-Newsletter and blog

6.28. A digital magazine and an official blog, both named "Aapda Samvaad", were used for informing the stakeholders about major activities of NDMA, SDMAs, success stories on DRR, expert interviews, etc. The magazine is regularly published and widely shared with various stakeholders, including major editors of media houses. Similarly, the blog is updated regularly. Their reach is also optimized using various techniques on social media.

### Others

- NDMA has published a Booklet on Do's and Don'ts on various disasters

which is being circulated to all SDMAs for further distribution and publication in their regional language for creating awareness amongst general public. NDMA has incorporated sign language in its audio video awareness generation material on various disasters for persons with speech and hearing impairment.

- NDMA also published (i) **Advisories on COVID-19** and (ii) a **digital booklet on Do's & Don'ts and FAQs on Coronavirus and COVID-19**. These documents are available on the NDMA website.
- Press Releases issued regularly for important meetings, workshops, conferences.

### Social Media Campaigns

6.29. Awareness campaigns were run on social media to spread the messages related to prevention, mitigation and preparedness. These social media campaigns comprised Do's and Don'ts pertaining to heat wave, flood, cold wave, urban flood, earthquake, CBRN emergencies, first aid, stress management, hospital safety, gas leakage safety, lightning, fire safety and cyclone. Hash tags such as #heatwavesafety, #heatwaveawareness, #earthquakesafety, #floodsafety, #urbanflood, #lightningsafety, #coldwave, #nuclearemergencies, #Homesafety, #chemicalemergencies, #cyclonesafety, and #firesafety, etc. were used. These hash tags helped NDMA's social media channels gain greater online audience engagement.

NDMA is running 24X7 campaigns on heatwave,coldwave,landslide,earthquake,

avalanche, CBRN emergencies, floods, frost bite, basic first aid, hospital management, stress management, fire safety, home safety, smog, etc. The main aim of these campaigns is to generate awareness amongst masses. These campaigns run by NDMA includes do's and don'ts of disasters promoted through pictorial templates. It is also running miscellaneous campaigns which involves updating links of news related to disaster management, NDMA blog and Aapda Samvaad (E-Magazine). With such a large follower base on **Twitter 1,58,209** and **Facebook 2,83,500**, NDMA's updates on disaster awareness are shared widely on social media platforms. At the time of crisis, NDMA also provides online assistance through social media and helps the affected communities. The messages received on social media during a disaster are shared with NDRF and relief and rehabilitation is carried accordingly.

In the quarter January-March, extensive campaigns were run on Coronavirus and COVID-19. NDMA also re-tweeted messages on the prevention and containment of the pandemic shared by verified handles such as the Ministry of Health & Family Welfare and World Health Organisation. Besides this, various positive, human-interest stories sourced from various media were also published on Twitter and Facebook.

### Twitter Report

6.30 Impression/Reach: NDMA's Tweets and Facebook updates are reaching a large number of people. Not only these appear on their personal accounts, these are also being shared by them. The updates are thus reaching even secondary users

who may or may not be following NDMA accounts but are reading its updates.

### Twitter Report

- Followers as on March 31, 2019 : 95,000
- Followers as on March 31, 2020: 1,58,209
- Number of followers increased: 63,209

### Face book Report

- Followers as on March 31, 2019: 2,50,150
- Followers as on January 31, 2020: 2,83,500
- Number of followers increased: 33,350

#### 6.31. Special Social Media Campaigns

- **News on Disasters**  
Apart from generating awareness on disaster safety, NDMA published

news on mishaps like accidents. NDMA also published updates on rescue and relief operations carried out by organisations such as the National Disaster Response Force (NDRF).

Related news items and information from across the world were also published from across the world.

- **Followers**

NDMA's social media accounts are followed by well-known media personalities, NGOs, international agencies, government agencies of many countries, CEOs of many media organisations and other verified account holders.

- **Other activities**

Awareness generation is also being done on other social media platforms such as on YouTube, Instagram and Pinterest.

# CHAPTER 7

## ADMINISTRATION AND FINANCE

### General Administration

#### NDMA Secretariat

7.1 The NDMA Secretariat comprises five Divisions, namely (i) Policies, Plans, Rehabilitation & Recovery, Awareness Generation and Capacity Building & Training Division (ii) Mitigation Division (iii) Operations and Communications Division (iv) Administration and Coordination Division and (v) Finance and Accounts Division.

#### Policies, Plans, Rehabilitation & Recovery, Capacity Building & Training and Awareness Generation Division

7.2 The division deals with all matters pertaining to the formulation of policies, guidelines and approval of plans of all the Central Ministries/Departments as well as capacity building and awareness in all the States. Mainstreaming disaster management in development plans is also an important task of this division. Capacity Building and Training is another important work of this Division. It undertakes various activities and projects towards capacity building and training.

7.3 Public Relation and Awareness Generation is a major subject to be dealt with by the NDMA, is another task of this division. This division has taken up the task to lead

this effort and ensure that the culture of preparedness is inculcated at all levels. It also handles conceptualization and execution of awareness generation campaigns involving both electronic and print media, besides involvement of the community and other stakeholders at the grassroots level. The total sanctioned staff in this division is 20, comprising one Advisor (JS level), four Joint Advisors (Director Level), four Assistant Advisors (US level) one Section Officer and ten support staff.

#### Mitigation Division

7.4 The responsibilities of this division are to take up Risk Mitigation Projects at the national level in conjunction with the Ministries of the Central Government and the States (pertaining to disasters like cyclones, earthquake, floods, landslides and failsafe Communication and IT plan etc.). It also guides and commissions specialized studies and projects like Micro-Zonation, Vulnerability Analysis, etc. It also supervises and monitors the design and implementation of the mitigation projects to be undertaken by the Ministries themselves. The total sanctioned staff in this division is 14, comprising one Advisor (JS level), two Joint Advisors (Director level), two Assistant Advisors (US level) and nine support staff.

## Operations and Communication Division

7.5 NDMA needs to be in a state of readiness to render advice to the Government on disaster situations for which it must remain fully apprised of the latest information. For this, NDMA has an Operations Centre which provides disaster specific information and data inputs of NDMA Officers. The Division co-ordinates the efforts of all stakeholders during the response stage of any Disaster. It also has a major role in training and capacity building of first responders in the country. The Division conducts State and Multi-State level Mock Exercises ensuring participation of all stakeholders including Central Agencies, Armed Forces and CAPFs. The division is also involved in DM related training activities including training on IRS and raising awareness at premier institutions in the country. In addition, the division is closely involved with the tasks relating to Rehabilitation and Recovery. The Division vets the Crisis Management Plans of all the Central Ministries/Departments.

7.6 The Division implements communication and IT related solutions for NDMA. It also advises and carries out capacity building of all Central and State Ministries/Departments in the field of Communication, IT and GIS. The total sanctioned staff in this division is 15, comprising one Advisor (JS level), two Joint Advisor (Director level), three Assistant Advisors (US level), two Duty Officers (US level) and seven support staff.

## Administration and Coordination Division

7.7 This division is responsible for all aspects of Administration and Coordination. Its

activities involve extensive interface with the Ministries/ Departments and States. This division also provides administrative and logistic support to the Members and the staff of the NDMA at all levels. The total sanctioned staff in this division is 21, comprising one Joint Secretary, one Director, two Under Secretaries, one Assistant Director (OL), two Section Officer and 15 support staff.

## Finance and Accounts Division

7.8 The Finance and Accounts Division deals with the work relating to maintenance of accounts, preparation of budget, financial scrutiny of proposals, etc. This division also monitors the progress of expenditure and advises NDMA on all matters falling within its delegated financial power. The total sanctioned staff in this division is eight, comprising one Financial Advisor (JS Level), one Director, one Asst. Financial Advisor (US Level), one Section Officer, two Asst. Section Officer (ASO) and two support staff. Details of its functions and responsibilities are:

- Advise NDMA on all matters falling within the field of delegated powers.
- Associate closely with the formulation of schemes and important expenditure proposals from their initial stages.
- To watch settlement of audit objections, Inspection reports, Draft Audit Paragraph etc.
- To ensure prompt action on Audit Reports, Reports of Public Accounts Committee (PAC) and Estimates Committee.
- To ensure timely submission of periodical reports and returns.

- Preparation and Monitoring of budget NDMA.

7.9 The accounts of NDMA are maintained by the office of Chief Controller of Accounts

(CCA), Ministry of Home Affairs, Payment and receipt functions for NDMA are also managed by the PAO, NDMA under the supervision of CCA, Ministry of Home Affairs.

### Finance and Budget:

Budget Estimate, Revised Estimate & Expenditure under ODMP, NCRMP and Est. Charges for the period April 2019 to March 2020 are as follows :

(Rs. in Crores)

Name of the project	B.E 19-20	R.E 19-20	F.E 19-20 + Re-app From MHA	Expenditure up to 31.03.2020
National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	296.19	282.77	226.79	225.21
Other Disaster Management Projects - (ODMP)	46.29	53.44	66.28	60.00
Est. Charges	38.16	38.15	36.06	30.66*

**Note: \* Inclusive of figures of I&B Ministry- DAVP.**

(Rs. in Crores)

Grant No.46-MHA					
Major Head	Scheme	B.E. 2019-20	R.R. 2019-20	F.E.19-20/Re-app. By MHA	Exp. Upto 31.03.2020
2245	ODMP	20.12	26.50	40.74	34.47
3601	ODMP (Release to State Govt.)	26.00	25.40	25.40	25.39
3602	ODMP (Release to UT w/o Legis)	0.17	1.54	0.14	0.14
	Total a)	46.29	53.44	66.28	60.00
2245	NCRMP (Est. Charges)	26.19	12.77	12.79	11.21
3601	NCRMP (G-i-A)	270.00	270.00	214.00	214.00
	Total b)	296.19	282.77	226.79	225.21
2245	Est. Charges	38.16	38.15	36.06	30.66
	Total c)	38.16	38.15	36.06	30.66
	Grand total (a+b+c)	380.64	374.36	329.13	315.87



# Annexure I

## COMPOSITION OF NDMA

### Present Composition

1.	Hon'ble Prime Minister of India	Chairperson
2.	Shri G. V. V. Sarma	Member Secretary (Since 29.07.2019)
3.	Shri Kamal Kishore	Member (Since 16.02.2015)
4.	Lt Gen (Retd) Syed Ata Hasnain, PVSM, UYSM, AVSM, SM, VSM & BAR	Member (Since 21.02.2020)
5.	Shri Rajendra Singh	Member (Since 20.02.2020)

### Former Members

1.	Gen. N. C. Vij	Vice-Chairperson (28.9.2005 to 27.9.2010)
2.	Shri M. Shashidhar Reddy	Vice Chairperson (16.12.2010 to 16.06.2014) Member (11.10.2010 to 16.12.2010) Member (05.10.2005 to 04.10.2010)
3.	Lt. Gen. (Dr.) J. R. Bhardwaj	Member (28.09.2005 to 27.09.2010)
4.	Dr. Mohan Kanda	Member (05.10.2005 to 04.10.2010)
5.	Prof. N. Vinod Chandra Menon	Member (28.09.2005 to 27.09.2010)
6.	Smt. P. Jyoti Rao	Member (14.08.2006 to 13.08.2011)
7.	Shri K. M. Singh	Member (14.12.2011 to 11.07.2014) Member (28.09.2005 to 27.09.2010)
8.	Shri B. Bhattacharjee	Member (15.12.2011 to 11.07.2014) Member (21.08.2006 to 20.08.2011)
9.	Shri J. K. Sinha	Member (04.06.2012 to 11.07.2014) Member (18.04.2007 to 17.04.2012)
10	Shri T. Nandakumar	Member (8.10.2010 to 28.2.2014)
11	Shri V. K. Duggal	Member (22.06.2012 to 23.12.2013)

12	Maj. Gen. J. K. Bansal	Member (6.10.2010 to 11.07.2014)
13	Muzaffar Ahmad	Member (10.12.2010 to 03.01.2015)
14	Dr. Harsh K. Gupta	Member (23.12.2011 to 11.07.2014)
15	Dr. K. Saleem Ali	Member (03.03.2014 to 19.06.2014)
16	Sh. K. N. Shrivastava	Member (03.03.2014 to 11.07.2014)
17	Shri R. K. Jain, IAS (Retd.)	Member Secretary (23.02.2015 to 30.11.2015) Member (01.12.2015 to 30.11.2018)
18	Lt. Gen (Retd.) N. C. Marwah, PVSM, AVSM	Member (30.12.2014 to 29.12.2019)
19	Dr. D. N. Sharma	Member (19.01.2015 to 18.01.2020)

## Annexure II

### LIST OF SENIOR OFFICERS OF THE NDMA

1.	Shri G. V. V. Sarma, Member Secretary (Since 29.07.2019)
2.	Dr. Pradeep Kumar, Special Secretary & Project Director [Since 13.12.2019 (A.N)] Additional Secretary & Project Director [01.08.2017 to 13.12.2019 (F.N.)]
3.	Sh. Ravinesh Kumar, Financial Advisor (Since 10.10.2017)
4.	Dr. V. Thiruppugazh, Additional Secretary & Advisor (Since 24.10.2019) Joint Secretary & Advisor (21.09.2015 to 02.07.2016) and (03.01.2017 to 23.10.2019)
5.	Shri Ramesh Kumar Ganta, Joint Secretary (Admn.) (Since 01.04.2019)
6.	Sh. Sandeep Poundrik, Advisor (Mitigation) (Since 01.05.2019)
7.	Brig Ajay Gangwar, Advisor (Ops. & Comn. (Since 01.11.2017)
8.	Ms. Sryesi Chaudhuri, Director (Since 08.12.2015)
9.	Lt. Col Rahul Devrani, Joint Advisor (21.08.2017 to 18.10.2019)
10.	Dr. Pavan Kumar Singh, Joint Advisor (Since 6.7.2018) SRO (Since 23.05.2008 to 5.7.2018)
11.	Shri Bhupinder Singh, Director (Since 27.09.2018) Dy. Secretary (Since 25.02.2013)
12.	Shri Yogeshwar Lal, Director (Since 01.07.2016) Dy. Secretary (Since 07.07.2014 to 30.06.2016)
13.	Shri Anurag Rana, Joint Advisor (Since 19.10.2016)
14.	Shri Pushkar Sahay, Joint Advisor (08.02.2017 to 10.05.2019)
15.	Shri Vijay Singh Nemiwal, Joint Advisor (Since 31.05.2017)
16.	Col Amit Khosla, Joint Advisor (13.11.2017 to 12.11.2019)
17.	Dr. S K Jena, Joint Advisor (Since 21.08.2019) SRO (Since 01.08.2008 to 20.08.2019)
18.	Sh. Naval Prakash, Joint Advisor (21.11.2019) SRO (Since 22.05.2009 to 20.11.2019)
19.	Sh Partha Kansabanik, Under Secretary (18.08.2011 to 13.08.2019)

20.	Sh Amal Sarkar, Under Secretary (14.11.2012 to 30.04.2019)
21.	Sh Turam Bari, Under Secretary (01.01.2013 to 13.08.2019)
22.	Sh Sunil Singh Rawat, Under Secretary (Since 30.03.2015)
23.	Sh Pankaj Kumar, Under Secretary (Since 06.04.2015)
24.	Shri Ramesh Kumar Mishra, Under Secretary (Since 28.03.2014)
25.	Shri Mohan Lal Sharma, Under Secretary (Since 16.09.2016)
26.	Shri Abhishek Biswas, Under Secretary (Since 01.10.2019)
27.	Shri Ambuj Bajpai, Under Secretary ( Since 07.10.2019)
28.	Shri A Sachidanandan, Under Secretary (01.01.2019 to 30.09.2019)
29.	Shri Hausuanthang Guite, Under Secretary (Since 01.01.2019 to 28.02.219)
30.	Ms. Amrapaali Dixit, Assistant Advisor (03.06.2013 to 25.07.2019)
31.	Shri Naveen Kumar, Assistant Advisor (22.07.2016 to 19.07.2019)
32.	Shri Kamal Kishore Rao, Assistant Advisor (Since 29.09.2016)
33.	Shri Deepak Ahlawat, Duty Officer (Since 30.01.2017)
34.	Shri Susheel Kumar, Duty Officer (Since 13.02.2017)
35.	Shri Abhishek Sharma, Sr. Research Officer (Since 22.07.2019)



