



ANNUAL REPORT

2017-18



NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)

Government of India
NDMA Bhawan, A-1, Safdarjung Enclave,
New Delhi-110 029

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Contents

		Page No.
	Abbreviations	iii
Chapter 1	Introduction	1
Chapter 2	Functions and Objectives	5
Chapter 3	Policy, Plans and Guidelines	9
Chapter 4	Disaster Risk Mitigation Projects	19
Chapter 5	Capacity Development	33
Chapter 6	Mock Exercises & Awareness Generation	39
Chapter 7	Strengthening Emergency Response	59
Chapter 8	Administration and Finance	61
	Annexure - I	65
	Annexure - II	67

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 and Rescue
SDRF	State Disaster Response Force
UTs	Union Territories

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 (Gol), 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 Gol took a defining step in the legislative history of the country, through an Act of Parliament, by creating the National Disaster Management Authority (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 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 Gol. 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 R. K. Jain, IAS (Retd.)	Member (Since 01.12.2015)
2.	Lt. Gen. (Retd.) N. C. Marwah, PVSM, AVSM	Member (Since 30.12.2014)
3.	Dr. D. N. Sharma	Member (Since 19.01.2015)
4.	Shri Kamal Kishore	Member (Since 16.02.2015)

- 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 Disaster Management (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 The Draft National Disaster Management Plan (NDMP) prepared by the National Executive Committee (NEC) was revised by NDMA after wide consultation with stakeholders based on the Sendai Framework of Action. The National Disaster Management Plan (NDMP) was released on 01.06.2016 by the Hon'ble Prime Minister and the same is also available on NDMA's website www.ndma.gov.in under the link Policy and Plan - National DM Plan. In order to revise the Plan, a two - day Consultative Workshop of all the stakeholders was held on 12th and 13th April, 2017 to obtain views/inputs/recommendations. Based on the inputs, the Plan is under revision.

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.

Process of Preparation of Guidelines

NINE STEPS

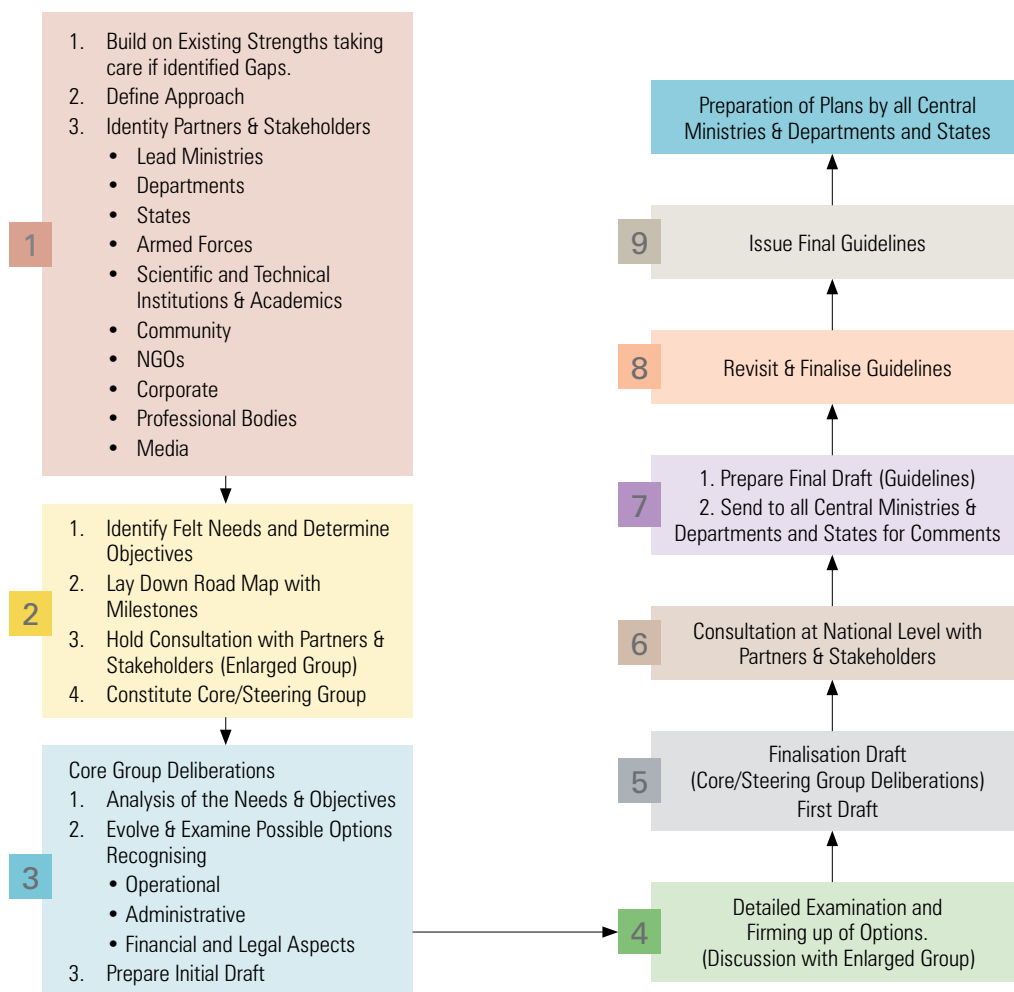


Figure 3.1

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

(i) Guidelines Issued :

S.No.	National Disaster Management Guidelines on	Month and year of preparation/ release
1.	Management of Earthquake	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 Tsunami	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	February 2016
21.	Hospital Safety	February 2016

22.	Minimum Standards for Shelter, Food, Water, Sanitation and Medical Cover in Relief Camps	February 2016
23.	Preparation of Action Plan - Prevention and Mitigation of Heat Wave	April 2016 (Revised in 2017)
24.	Museums	May 2017
25.	Cultural Heritage Sites and Precincts	September 2017
26.	Boat Safety	September 2017

List of other Reports

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 Panchayati Raj Institutions & Urban Local Bodies at District Level
16.	Report on Best Practices adopted by Govt. of Tamil Nadu post 2015 Floods
17.	Roadmap for mitigation of Urban Flood

3.6 Guidelines/Reports released during the year 2017-18 :

- (i) Guidelines on Museums.
- (ii) Guidelines on Cultural Heritage Sites and Precincts.
- (iii) Guidelines on Boat Safety.
- (iv) Report on Best Practices adopted by Government of Tamilnadu post 2015 Floods.
- (v) Roadmap for mitigation of Urban Flood.
- (vi) Guidelines for Preparation of Action Plan - Prevention & Management of Heat Wave (Revised in 2017)

3.7 Guidelines and other documents under preparation

- (i) Guidelines on Temporary Shelters for victims of Disasters.

- (ii) Guidelines on disaster Recovery through Build Back Better.
- (iii) Module for Masons' Training.
- (iv) Guidelines on Disability inclusive Disaster Risk Reduction.
- (v) Logistics and Supply Chain Management for Disaster Relief.
- (vi) Home Owners Guide for Earthquake and Cyclone Safety.

Studies conducted by NDMA

- 3.8 NDMA conducted studies on 'Probabilistic Seismic Hazard Map of India', 'Study of Brahmaputra River Erosion and its Control', 'Report on Technical Document on Geotechnical/Geophysical Investigation of Seismic Microzonation of Urban Centres in India' and 'Seismic Vulnerability Assessment of Building Typology in India'. These study reports are available on NDMA's website. (www.ndma.gov.in under the link Technical Documents).



3.9 Workshop / Training Programmes conducted by NDMA :

- (i) Training of Trainers (ToT) programme on Sendai Monitor to develop action plan for Disaster Risk Reduction:

NDMA collaborated with United Nations International Strategy for Disaster Reduction (UNISDR), Global Education and Training Institute (GETI), Republic of Korea and organized a Training of Trainers



(ToT) module in Vigyan Bhawan, New Delhi, during 18th to 20th December, 2017.

The programme focused on various line Ministries, aimed at unpacking the Sendai Monitor and utilizing this tool to develop action plan for Disaster Risk Reduction (DRR). The training aimed to equip the Trainers to use the globally standardized tools, to assess gaps in their current strategies and plans, and develop actions for DRR. After completion of the training, the services of these trainers will be utilized by the concerned Ministry/Organization to train the concerned staff further to meet the future needs. Representatives of the Ministries/ Departments who are members of the National Executive Committee and

those who are notified as nodal ministries for various disasters attended the training programme.

- (ii) International Workshop on Disaster Resilient Infrastructure

NDMA organized a two-day International Workshop on Disaster Resilient Infrastructure in Hotel Ashok during 15th-16th January, 2018 in collaboration with United Nations Office for Disaster Risk Reduction (UNISDR) setting the stage for taking the dialogue on resilient infrastructure forward at the global level. Experts from 23 countries representing a wide variety of development and disaster risk contexts, multilateral development



banks, the United Nations, the private sector, academics and other stakeholders participated in the workshop.

The workshop was inaugurated by Shri Rajnath Singh, Union Home Minister on 15th January, 2018. On day 1, technical sessions were held on issues pertaining to risk management in key infrastructure sectors, viz. energy, transport and telecommunications, and risk assessment. 2nd Day began with a facilitated cross country panel discussion upon country-specific issues in Disaster Resilient Infrastructure. This was followed by technical sessions on standards for infrastructure and on the role of finance, including risk transfer mechanisms, in building resilient infrastructure. Discussions were also held on reconstruction and recovery of key infrastructure sectors after a disaster.

The workshop identified best practices in the infrastructure sector, as well as key issues in existing practices and ways to address them. Priority areas for collaboration on Disaster Resilient Infrastructure were also identified. Dr. Rajiv Kumar, Vice Chairman, NITI Aayog, addressed the Workshop and invited both NDMA and UNISDR to work together with NITI Aayog to help spread disaster awareness in society rapidly and widely. He also called for the need of ranking States in terms of their progress in Disaster Management. Shri Kiren Rijiju, MoS, Home Affairs, delivered the valedictory address.

(iii) National Workshop on Heat Wave Risk Reduction

In a bid to effectively tackle the onslaught of heat wave this year, NDMA in collaboration with the Government of Andhra Pradesh

organised a two-day national workshop on heat wave risk reduction at Vijayawada on 21-22 February, 2018.

Noticing the intensity of heat wave in the country, NDMA formulated and circulated the 'Guidelines for Preparation of Action Plan - Prevention and Management of Heat-Wave' in 2016. Based on its observation and feedback received from stakeholders, NDMA revised the Guidelines in 2017. This significantly brought down the number of heat wave-related deaths in 2016 and 2017.

This workshop aimed to sensitise the heat prone States to the need of implementing the salient features of the Guidelines. Some of the most vulnerable States, which have done a commendable job in mitigating the impact of heat waves, shared their experiences and best practices to help others prepare their Heat Wave Action Plans.

It also provided an opportunity for community capacity building and awareness generation among populations who are at risk of heat-related illnesses in places where extreme heat conditions are imminent. The workshop also discussed the creation of a database on heat wave to aid policy decision-making.

Three technical sessions - Heat Wave Action Plan and Risk Reduction, Early Warning, Forecasting and Preparedness for Heat Wave, and Experience Sharing and Lessons Learnt for Heat Wave Mitigation Measures and Emerging Issues in 2018 - were held on the first day of the workshop. Two more technical sessions - Capacity Building & Enhancing effective response to Heat wave and Monitoring, Review and Updation of Heat Action Plan - were held on the concluding day of the workshop.

The workshop was attended by experts on heat wave as well as other stakeholders such as early warning and forecasting agencies, State governments and research institutions apart from senior officials from NDMA.

3.10 Formulation of State Disaster Management Plans :

The status of preparation of State Disaster Management Plans (SDMPs) by the States/UTs is as under:

- (a) 35 States/UTs have prepared their SDMPs and shared with NDMA.
- (b) State of Telangana is in the process of preparation of SDMP.

3.11 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 under the link Policy and Plan - Central Ministries/Departments DM Plan.
- (b) 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.
- (c) NDMA approved the Disaster

Management Plan (DMP) of (i) Department of Animal Husbandry, Dairying & Fisheries, (ii) Department of Justice, (iii) Department of Agriculture, Cooperation and Farmers' Welfare and (iv) Ministry of Corporate Affairs.

- (d) NDMA examined the Disaster Management Plan (DMP) of Ministries/Departments of (i) Ministry of Railways, (ii) Ministry of Women & Child Development, (iii) Ministry of Petroleum & Natural Gas, (iv) Ministry of Power, (v) Ministry of Steel, (vi) Ministry of Mines, (vii) Department of Heavy Industries, (viii) Department of School Education and Literacy, (ix) Ministry of Civil Aviation, (x) Department of Atomic Energy, (xi) Department of Agriculture Research & Education (xii) Ministry of Food Processing Industries, (xiii) Department of AYUSH (xiv) Department of Telecommunications, (xv) Department of Space, (xvi) Ministry of Information and Broadcasting and furnished comments for their revision accordingly.

3.12 Scheme under Implementation :

Scheme for strengthening of State Disaster Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs)

NDMA implemented the Scheme 'Strengthening of State Disaster Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs)' at a cost of Rs. 42.5091 crores with the objective to improve the

effectiveness of all SDMAs and selected DDMAs and making them functionally operational by providing dedicated DM professionals for taking up measures for the prevention, mitigation, preparedness and capacity building to deal with the threatening disaster situation or disasters.

2. The Scheme was approved for implementation in all the States/UTs for 20 month during the period from 01.06.2015 to 31.03.2018.
3. The scheme provided for financial support to SDMAs of all the 36 States/UTs & selected 256 DDMAs, as per the following details.
 - A. State Disaster Management Authorities (SDMAs)
 - i. Hiring of 2/3 Human Resources (HR) professional @ Rs. 50,000/- per month for Disaster Management.
 - ii. Administrative cost for advertisement, equipment, domestic travel and contingency @ Rs. 4.00 lakh per financial year.
 - B. District Disaster Management Authorities (DDMAs)
 - i. Hiring of one HR professional @ Rs. 40,000/- per month for each of the selected DDMAs in the States/UTs.
 - ii. Administrative cost for advertisement, equipment, domestic travel and contingency @ Rs. 2.00 lakh per financial year for each of the selected DDMAs in the States/UTs.
4. 28 out of 29 States and 6 out of 7 Union

Territories signed Memorandum of Understanding (MoU) for implementation of the scheme in their respective States/UTs. State Governments of Tamilnadu

and UT of Delhi did not sign MoU for implementation of the scheme.

5. The details of amount released to States/UTs under the Scheme is as given below:

Financial Year	No. of States /UTs to whom fund released	Total amount released
2015-16	29 (25 States and 4 UTs)	Rs. 1044.40 lakh
2016-17	10 (6 States and 4 UTs)	Rs. 475.66321 lakh
2017-18	17 (15 States and 2 UTs)	Rs. 714.51474 lakh
	Total	Rs. 2234.57795 lakh

6. There was also a provision of Scheme Implementation Unit (SIU) at NDMA under the Scheme, which provided for hiring of Project Associate, one Data Entry Operator and one Peon. The total amount

spent for the SIU is Rs. 12.3825 lakh. Thus, total amount released for the Scheme is Rs. 2246.96045 lakh (Rs. 2234.57795 lakh on States/UTs and Rs. 12.3825 lakh on SIU).

CHAPTER - 4

DISASTER RISK MITIGATION PROJECTS

National Cyclone Risk Mitigation Project (Phase I)

4.1 National Cyclone Risk Mitigation Project Phase I, a Centrally Sponsored Scheme being funded through World Bank as Adaptable Programme Loan is under implementation at a cost of Rs. 2541.60 crore from January, 2011. Project Management Unit (PMU) set up at National Disaster Management Authority (NDMA) is the nodal agency with Andhra Pradesh and Odisha as participating States. The broad objectives of the project are to upgrade cyclone Early Warning

Dissemination Systems (EWDS), build Cyclone Risk Mitigation Infrastructure to reduce the risk and vulnerabilities of coastal communities by construction of Multi Purpose Cyclone Shelters (MPCS), Roads, Bridges, Saline Embankments and capacity building for multi-hazard risk management. The Project is extended for completion up to 31.12.2018.

Project Components

4.2 The project has four Components as mentioned below:

Component	Description	Outlay (Rs. in Crore)
A	Early Warning and Dissemination System (EWDS)	132.00
B	Construction of Cyclone Risk Mitigation Infrastructure viz. - Multi-purpose Cyclone Shelters (MPCSs); - Evacuation Roads ; - Bridges; and - Saline Embankments.	2223.67
C	Technical assistance for Cyclone Hazard Risk Mitigation, capacity building and knowledge creation.	22.41
D	Project Management and Implementation Support.	138.64
	Un-allocated Contingencies.	24.88
	Total	2541.60

Implementation Status

Component A : Early Warning Dissemination System (EWDS)

4.3 M/s Telecommunications Consultants India Ltd. (TCIL), a Public Sector Undertaking of Government of India is the Knowledge Partner for suggesting technology for developing Early Warning Dissemination System (EWDS) to ensure Last Mile Connectivity in pre/during/post cyclone period. A.P has awarded the

contract for EWDS to M/s Larsen & Toubro at a cost of Rs. 82 crore and the installation is likely to be completed by August, 2018. Similarly, Odisha has also awarded the contract at a cost of Rs. 66 crore to M/s Larsen & Toubro and installation is likely to be completed by April/May, 2018.

Component B : Cyclone Risk Mitigation Infrastructure (CRMI)

4.4 Physical Achievements in Andhra Pradesh:

Sl. No.	Component	Unit	Total to be constructed	Total completed up to date	Under execution
1.	MPCS	No.	222	208	11 (03 works deleted)
2.	Roads	No./ Km	474/ 704.18	468/ 702.58	1/1.60 (05 works deleted)
3.	Bridges	No.	35	25	10
4.	Saline embankment	No./ Km	2/ 29.90	1/15.60	1/ 14.30

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



MPCS Nellore District



Bridge East Godavari District

4.5 Physical Achievements in Odisha

S. No.	Component	Unit	Total to be constructed	Total completed up to date	Under execution
1.	MPCS	No.	316	298	18
2.	Approach roads	No./ Km	243/ 388.50	242/ 386.50	1/2
3.	Saline embankment	No./ Km	12/ 58.22	12/58.22	0

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



Bajrakote MPCS in Puri District



Connecting Cement Concrete Road in Ganjam District

Under Phase-I of the project, 506 Cyclone Shelters, 1083 Kms of Roads, 25 Bridges and 73.82 Kms of Saline Embankment have been completed.

A total amount of Rs. 2383.63 Cr. (Gol & State share) has been released under NCRMP-I, while a total expenditure of Rs. 2057.20 Cr. has been incurred till March, 2018 (Both Gol and State share).

Component-C: Technical Assistance and Capacity Building

4.6 This component consists of undertaking Studies which have been completed:-

- (i) Coastal Hazard, Risk and Vulnerability Assessment
- (ii) Preparing Long Term Training and Capacity Building
- (iii) Post Disaster Needs Assessment

NCRMP Phase-II

4.7 Government of India has also approved Phase-II of NCRMP in July, 2015 for five

years up to March, 2020. The outlay of NCRMP-II covering the States of Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal is of Rs. 2361.25 crore. The World Bank assistance amounts to the tune of Rs. 1881.10 crore. The remaining amount of Rs. 480.15 crore is being contributed by the State Governments of Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal. The sub-component of underground cabling has been included under NCRMP Phase-II. (Under Component-B).

Implementation Status : Component A (EWDS):

- 4.8 States of Goa, Maharashtra and Karnataka have finalized TCIL as Knowledge Partner/ Consultant for implementation of EWDS. Engagement of TCIL as Knowledge partner for Kerala is under finalization. Gujarat has gone ahead with preparation of RFP with assistance of available consultants which is under finalization. In West Bengal, Price water house Coopers Pvt. Ltd. has been engaged as Knowledge Partner.

Component B : (CRMI)

4.9

Sl. No	State	Component	Total to be constructed	Completed	Under Execution
1.	Gujarat	Cyclone Shelters (MPCS) (Nos.)	100	22	32 (Tender floated for 46 remaining sites)
		Roads (Kms.)	157	100	57
2.	West Bengal	MPCS (No.)	150	-	146 (59 at Finishing Stage)
3.	Goa	MPCS (No.)	16	-	8
4.	Karnataka	MPCS (No.)	11	-	9
		Roads (Kms.)	48	-	43

Remaining works are at various stages of planning viz. obtaining environment clearance, preparation of Design/DPR, Environment Impact Assessment/Social Impact Assessment study etc.

Action Plan (HMRAP): ToR under finalization.

- IV. **Benefit Monitoring & Evaluation (BME) Study:** Evaluation of EoI completed and RfP issued to short listed firms.

Component C:

4.10 Technical Assistance and Capacity Building:

- I. **Multi Hazard Risk Assessment (MHRA) Study:** Tenders evaluated. Contract to engage Consultant under finalization.
- II. **National Seismic Risk Mitigation Project (NSRMP):** RfP being sent to shortlisted firms.
- III. **Hydro-meteorological Resilience**

Under Phase-II of the Project, 22 Cyclones Shelters and 100 Kms of Roads have been completed. An amount of Rs. 844.92 crore has been released to States of Gujarat Goa, Karnataka, Kerala, Maharashtra, and West Bengal with an expenditure of Rs. 598.68 crore till date.

Initiatives by Mitigation Division, NDMA

4.17 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:-

Landslide Risk Mitigation Scheme-LRMS (a Centrally Sponsored Umbrella Pilot Scheme to Demonstrate Benefits to Landslide Mitigation Measures)

- 4.18 NDMA has launched Landslide Risk Mitigation Scheme (LRMS) to provide central assistance to vulnerable State/UTs for disaster preparedness and build their capacity to take other Landslide Mitigation Project by the States/UTs in future.
- 4.19 This scheme is covering 8 States/UTs taken on pilot scale. Four major outcomes of the scheme are Landslide Mitigation, Real Time Monitoring, Awareness programmes and Capacity Building & Training. A Template for preparation of DPR was prepared by NDMA and circulated to all vulnerable State/UTs. All concerned states/UTs was requested to submit DPR on basis of NDMA Template with cost ceiling of Rs. 15 crores.
- 4.20 So far, 8 DPRs from 7 States and consent of cost sharing certificate from 7 States have been received. Six meeting of TEC has been conducted for scrutiny and evaluation of DRPs on landslide mitigation submitted by Uttarakhand, Mizoram, Nagaland, Sikkim, Himachal Pradesh, Assam and Goa have been examined. DPRs of Uttarakhand have been recommended by TEC for financial support and remaining States are revising their DPRs as per TEC scrutiny and their technical evaluation will be done by TEC in

subsequent meetings. SFC proposal of the scheme is submitted to MHA for approval.

Development of Resource Materials on Earthquake Engineering

- 4.21 NDMA has taken an initiative to develop Resource Materials on Earthquake Engineering for undergraduate in the disciplines of Civil Engineering and Architecture. The main aim of developing the resource material is to improve availability, accessibility and affordability of the books of basic concepts in earthquake engineering so as to ensure seismic safety of built environment by the students when they join the workforce of the design and construction after graduation.
- 4.22 NDMA through experts has identified 12 subjects for development of books. The development of these books will fill the gap of non-availability of essential resource material for earthquake engineering. In this regard, NDMA requested 11 National resource institutes for ascertaining their willingness alongwith financial proposal and timeline to develop these books.

Basic Training Programme on CBRN Emergency Management:

- 4.23 NDMA has initiated a Basic Training Programme on CBRN Emergency Management for the Airport Emergency handlers (AEHs) in 12 selected airports in collaboration with INMAS. The AEHs include members for the airport security personnel i.e SI/CRPF, Police, DDMA, DGCA, AAI fire, etc.

4.24 This training programme has been initiated at an estimated cost of Rs. 50.88 lakh. Out of the Rs. 50.88 lakh, NDMA's liability will be Rs. 10.08 lakh for study materials and training kits. The balance amount of Rs. 40.80 lakh will be done by Airports Authority of India. The study material has been prepared and finalized in consultation with INMAS (DRDO) First & Second batch of CBRN training on AEH training programme were successfully conducted during the 18-23 September, 2017 at AAI Cargo, Chennai and 18-22 December, 2017 at Kolkata and 5-10 March, 2018 at Mumbai respectively. Total 100 participants successfully completed the training programme in the two training programmes

Review & Development of Standardized IEC Material for Earthquake Safety and Preparedness

4.25 NDMA has planned to develop Standardized IEC (Information, Education & Communication) material for public awareness and information related to earthquake safety and preparedness. In this regard, states and other stakeholders

were requested to provide IEC materials developed by them. In receipt of these documents from few states, NDMA convened a meeting of expert to review the existing IEC material and to develop Standardized IEC material. As decided in the meeting, a matrix has been prepared by NDMA from available materials and shared with the expert committee for their comments and feedback. On receipt of the comments and feedback, the matrix will be finalized and the same will be uploaded on NDMA website for wider public use.

Construction of Multipurpose Cyclone Shelters in West Bengal from Prime Minister's National Relief Fund (PMNRF).

4.26 50 cyclone shelters are being constructed in the districts of North 24 Parganas (20 nos.), South 24 Parganas (15 nos.) and Purba Medinipur (15 nos.) of West Bengal at an estimated cost of Rs. 138.65 crore. All the 50 shelters have been completed. So far 48 shelters have been handed over to local administration and remaining 2 are under process of handing over.



Construction of Cyclone Shelter at Haridashkati in North 24 Parganas District



Construction of Cyclone Shelter under at Balisai Kanya Vidyalaya in East Medinipur District.

4.27 Construction of one Multipurpose Evacuation cum community Centre at Minicoy island at an estimated cost of Rs. 3,36,99,200/- was accorded the approval of PMO on 15.05.2017. The same was intimated to Lakshadweep Public

Works Department (LPWD) on 19.05.2017. LPWD assigned the construction work to the concerned on 07.09.2017. The work is under progress and likely to be complete by 17.07.2018.



Bird's eye view of proposed shelter at Minicoy Island,

Earthquake Disaster Risk Index (EDRI) for Important Cities and 1 District in Seismic Zone IV & V Areas

4.28 NDMA has taken an initiative to prepare on Earthquake Disaster Risk Index (EDRI) for 50 important cities and 1 District in Seismic Zone IV & V areas. The work have been awarded to International Institute of Information Technology (IIIT), Hyderabad, at a cost of Rs. 45.87 lakh with completion period of 18 months.

4.29 Requisite information received from concerned cities/district is provided to executing agency IIIT Hyderabad, for needful. Besides, IIIT Hyderabad made field visits to identified 10 cities/district to brief the Officers of the city and make them aware on Earthquake & Earthquake Disaster Safety of City with reference to collection of data for preparing the index. After collecting information in this regard, IIIT Hyderabad submitted draft report of EDRI for suggestions of PTC before finalizing it.

Mobile Radiation Detection Scheme (MRDS)

4.30 A pilot project empowering police personnel on management of radiological emergency in public domain has been initiated by NDMA. The project involves equipping the police patrol with Go-NoGo radiation detectors, radiation measuring instruments and safety kits and training of the police personnel. The project was sanctioned on Nov. 2014 at a cost of Rs. 6.97 crore with timeline of 2 years implementation & 5 years warranty plus AMC.

4.31 Training of the police and NDRF personnel is planned to be carried out in two tiers. In the first tier, under 8 batches of ToT programme, detailed training will be imparted to selected participants from police and NDRF who in turn will train the other personnel from States/UTs. Details of ToT programme conducted are as under:-

- (a) 1st batch of ToT conducted at NDRF 5th Bn, Pune with 39 participants w.e.f. 16-28 May, 2016.
- (b) 2nd batch of ToT conducted at NDRF 2nd Bn, Haringhata Kolkata with 44 participants w.e.f. 14-27 September, 2016.
- (c) 3rd batch of ToT conducted at NDRF 4th Bn, Arakkonam, Tamilnadu with 40 participants w.e.f. 9-21 January, 2017.
- (d) 4th batch of ToT conducted at NDRF 3rd Bn, Mundali, Odisha with 51 participants w.e.f. 6-18 Feb., 2017.
- (e) 5th batch of ToT conducted at NDRF 5th Bn, Pune with 42 participants w.e.f. 12-24 June, 2017.

4.32 BARC has placed purchase order for procuring the MRDS equipments and expected to deliver by the end of June, 2018. A photograph of training programme in progress attached.



Pilot Project to improve Earthquake Resiliency of Masonry Lifeline Structures and upcoming construction

4.33 The main aim of the project is to improve earthquake resiliency through capacity building, development of IEC material, safety audit of selected masonry lifeline structures, construction of technology demonstration units and retrofitting of sample masonry buildings. The hands-on experience and knowledge generated due to retrofitting of lifeline structures and capacity buildings of engineers, architects and masons is expected to percolate down to community level for mass retrofitting in the country.

4.34 In this regard, NDMA has sent letters to concerned States/UTs for their willingness to participate in this pilot project.

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



4.35 NDMA has taken an initiative to develop the compendium by inviting the institutes having national importance. The compendium will be prepared highlighting the techniques used during the construction of traditional building practices taking into consideration of cost-benefit traditional practices. The compendium will be useful in developing earthquake engineering course curriculum, preparing building codes and further research by various stakeholders. In this regard, 22 national institutes have been requested to intimate their willingness for developing of traditional earthquake resilient construction practices for knowledge sharing and disaster risk reduction.

Establishment of GIS Server and creation of Geo-Database in NDMA

4.36 Keeping in view the relevance of GIS during various phases of Disaster Management like mitigation, preparedness, response, damage, assessment, relief management, and resource creation, availability of Geo-database system and GIS server is

an essential input for effective disaster management. NDMA has initiated a project names "Establishment of GIS server and creation of Geo-Database in NDMA". The project aimed at developing a standardized spatial database, data layers, maps and web based GIS solutions to help decisions makers to make informed decisions regarding mitigation measures to protect the people at large. The project has been sanctioned costing Rs. 3.30 cr. Out of this expenditure Rs. 2.65 cr. has been incurred till date. The following work has been completed:

- Established a GIS lab in NDMA housing service and recruited expert manpower.
- Most of the hardware and software items have been procured and GIS server has been made operational.
- Creation of MP server and Geo Server has been completed.
- Data Layer from various stakeholders is being integrated on GIS platform.
- Creation of Data Inventory & calibration of Data has been started
- Web Service for data accessibility at user level
- Integration of State information System (Assam/Uttrakhand/Himachal Pradesh) has been completed.
- Incident status Dashboard and incident Briefing Application has been created.

Earthquake Safety Assessment of Buildings in India

4.37 A two-day discussion meeting was organized by National Disaster Management Authority and International Institute of Information Technology (IIIT), Hyderabad on Earthquake Safety Assessment of Buildings in India during 30-31 August, 2017 at Hyderabad to develop a uniform and standardized Rapid Visual Screening (RVS) methodology for buildings in India. As decided in the meeting, IIIT, Hyderabad submitted a proposal for preparing a PRIMER on RVS to standardize the RVS methodology for dominant building types in India.

Development of Simplified Guidelines/Manual for Earthquake Resistant Built Environment

4.38 NDMA in partnership with BIS will 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, a meeting was held on 09.08.2017 and decided the composition of the working Group and Terms of Reference (TOR) for developing simplified guidelines. Accordingly, working group has been constituted on the basis of ToR and two meetings have been held so far to discuss the content of the simplified guidelines.

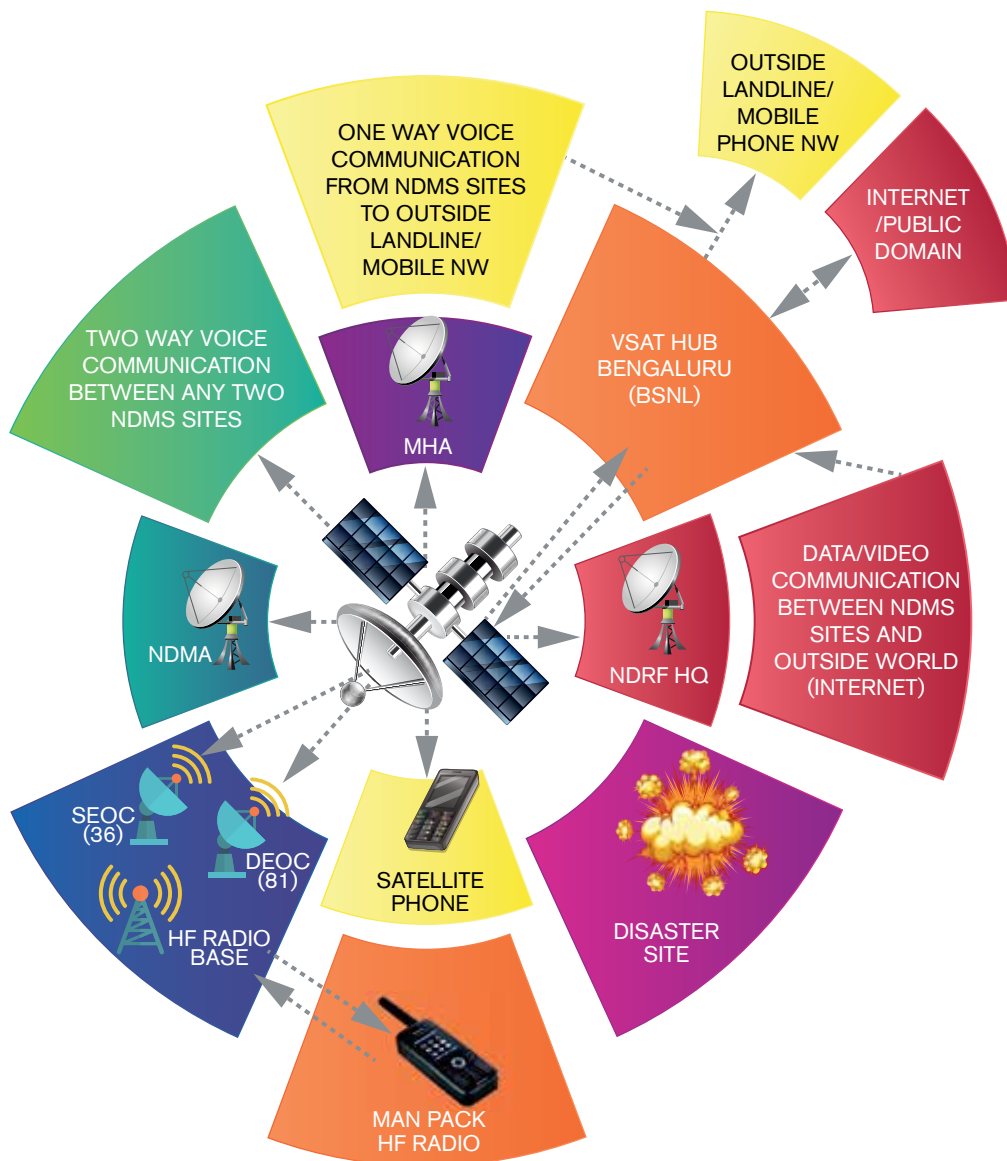
Guideline on Boat Safety:

4.39 Following the Boat tragedy in the Brahmaputra River in the Dhubri District of Assam on 20.04.2012 in which a

ferry carrying about 350 passengers got capsized leading to the loss of life of 103 people, it was decided to formulate a suitable guidelines on the "Boat Safety". Accordingly a core Group was constituted. Based on the consultation/deliberations with all the stakeholders, a Guideline on Boat Safety is finalized and released in September, 2017. The copy of guidelines is available on NDMA portal.

National Disaster Management Services (NDMS) Communication Network :

4.40 NDMA has taken up a project regarding creation of a satellite based National Disaster Management Services (NDMS) communication network pilot project at 120 locations (MHA, NDMA, NDRF Hqr, 36 States capitals/UTs Hqrs and 81 vulnerable disaster Districts) across the



country. The aim of the project is to provide failsafe communication by facilitating voice/data base communication among EOCs of disaster affected districts, respective State capital/UT Hqrs, MHA, NDMA, NDRF Hqr and disaster site. The project has been entrusted to BSNL for implementation by August 2018 which is already in progress w.e.f. February, 2016. As on 31st March, 2018, BSNL has installed VSATs-108, ATA-108, PCs-108, UPS-108 and L2 Switches-108. Installation of equipments at remaining sites is in progress. Regular progress on implementation of project is being monitored by NDMA through progress review meetings with BSNL time to time. The schematic diagram of VSAT communication under NDMS pilot project at 120 locations is as under.

4.41 NDMS Pilot Project Training : Conducting training on handling of NDMS Equipment is a part of NDMA Pilot Project for imparting training to one person from each EOC for proper handling and utilizing of NDMS

Network during disasters/emergency as well as in peace time. Accordingly, the first training workshop was conducted on 28th to 29th August, 2017 in which 25 personnel from various States/UTs participated. The second training workshop was subsequently conducted on 8th and 9th March, 2018 in which 30 personnel participated from MHA / NDMA / NDRF/ States/UTs.

4.42 Workshop on HAM Radio Systems : A ten days workshop on HAM Radio Systems was also organized under NDMS Pilot Project w.e.f 21st February, 2018. Total 15 participants from NDMA, NDRF and DDMA Delhi participated in the workshop.

4.43 Emergency Response Mobile Vehicle (ERMV) : A one day workshop on Emergency Response Mobile Vehicle (ERMV) was organized by NDMA on 5th September, 2017 at NDMA Bhawan, New Delhi. 36 personnel from various organizations participated in the workshop.

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 DM systems for their specific needs in view of the regional diversities and multi-hazard vulnerabilities.
- Conceptualization of community based DM systems at the national level through a consultative process involving the States and other stakeholders with the State and 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.

Aapda Mitra - Scheme for Training Community Volunteers

5.3 The NDMA has approved a centrally sponsored scheme in June, 2016 which is focused on training 6000 community volunteers in disaster response in 30 most flood prone districts (200 volunteers per district) of 25 States of India i.e. Assam, Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Mizoram, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand, West Bengal. The duration of implementation of the scheme is 24 months. The said scheme aims to provide the community volunteers with the skills that they would need to respond to their community's immediate needs in the

aftermath of a disaster thereby enabling them to undertake basic relief and rescue tasks during emergency situations such as floods, flash floods and urban flooding. Under the scheme, the duly signed MoU from 25 project States have been received and also funds for 1st installment have been released during the month of February - May, 2017 to all Project States. The training modules formulated under the said scheme for imparting training to community volunteers and the criteria for selection of community volunteers for the training have also been circulated to all Project States in the month of June, 2017. So far, 23 project States have selected community volunteers and around 20 of the project States have empanelled training institutes who would impart the said training to the community volunteers. The second installment of funds has been released to State of Uttarakhand and Himachal Pradesh. The project has now been extended upto 31st March, 2019.

Sustainable Reduction in Disaster Risk in 10 Multi-Hazard Prone districts

5.4 The project 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 i.e. Assam, Bihar, Himachal Pradesh, Jammu & Kashmir and Uttarakhand. The first installment of funds @ Rs. 39,63,200/- (40% of total cost of the project) has been released to the 5 project States between September, 2016 - January, 2017 to initiate implementation of the scheme at the local level. The State of Uttarakhand has completed state level orientation workshops on CBDM, revised the State Disaster Management Plan (SDMP) and District Disaster Management Plans

(DDMPs) to include aspects of CBDM as well as has initiated trainings for various stakeholders at the district level. The State of Himachal Pradesh has developed the state action plan, conducted workshop on mainstreaming DRR into development schemes as well as state level ToT on CBDM. The State has also initiated the trainings for various stakeholders as well as awareness and sensitization campaigns at the community level in the project districts. Second installment @ Rs. 29,72,400/- (30% of the total cost of the project) to the State of Uttarakhand and Himachal Pradesh has been released during the month of January - March, 2018. The project has now been extended upto 31st March, 2019.

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

5.5 NDMA in collaboration with Centre for Disaster Management, LBSNAA, Mussoorie has approved a project for capacity building of IAS/Central Service officers at the Centre for Disaster Management at LBSNAA for providing basic foundation training courses with regular updates in Refresher and Orientation Programmes for IAS and All India Service Officers during the period of 3 years i.e. from 2017-18 to 2019-20 at a total cost of Rs. 189.36 lakh. To this effect, an MoU has been signed between Centre for Disaster Management (CDM), Lal Bahadur Shastri National Academy of Administration (LBSNAA) and NDMA on 12th February, 2018 for the project to train 2850 officers during entire period of project. The first installment of Rs. 29,23,901/- has been released to CDM, LBSNAA on 18th February, 2018.

Training imparted by NDMA on CBRN Emergencies

5.6 As per the request from Parliament House Training Unit, sensitization courses on preparedness to respond to CBRN emergencies were conducted for the Parliament House Complex Security Staff from 22.05.2017 - 26.05.2017 and from 23.10.2017 - 27.10.2017.

National Workshop on "Sharing of Best Practices & Lessons Learnt under National School Safety Programme (NSSP)"

5.7 A National Stakeholder Workshop was convened by NDMA on "Sharing of Best Practices and Lessons Learnt under NSSP" on 7th April, 2017 at NDMA Bhawan, New Delhi. The objective of the said workshop was to get an updated status of project implementation and gather insights into good practices, challenges and lessons learnt from the Project States for planning any up-scaling of school safety programme in future in the country. The proceedings of the workshop were held under the chairmanship of Shri R. K. Jain, Member, NDMA, which witnessed participation of 32 officers from 18 Project States. Each participating State made a detailed presentation on the work undertaken by them in NSSP, good practices and lessons learnt while implementing the project and some of the States also highlighted the initiative taken to upscale the project to reach to other districts of the State. The Project States mentioned that the said project led to large scale awareness and capacity development on school safety and disaster preparedness amongst various school stakeholders as well as at the community

level. Most of the project States suggested that the project should be up-scaled pan India to reach to other left-out schools under school safety programme. One of the important learnings' of the project was that these awareness campaigns and preparedness drills in schools have made important contribution towards enhanced risk awareness amongst children who in turn have become ambassadors of safety thereby spreading awareness in their communities.

NDMA Formation Day with a focus on School Safety

5.8 The National Disaster Management Authority (NDMA) observed its 13th Formation Day on 28th September, 2017 at Vigyan Bhawan, New Delhi. The theme of this year's Formation Day was 'School Safety'. NDMA has formulated the National Disaster Management Guidelines on School Safety Policy in 2016 which clearly spell out the roles and responsibilities of different stakeholders for preparing plans, developing capacity, incorporating risk reduction in syllabus and improving coordination and synergy at all levels with respect to school safety and disaster preparedness. The Hon'ble Supreme Court of India has directed time - bound implementation of the said Guidelines. The conduct of Formation Day event provided the platform for national dissemination of the said guidelines. The stakeholders included representatives from the States/UTs - Education and DM machinery, District Magistrates DEO, MHRD, other selected Ministries/Departments of GoI, government and private schools, NVS, KVS, CBSE affiliated schools, national

institutions dealing with child centric issues, academic and technical organizations and civil society.

International Cooperation

5.9

- Lt. Gen NC Marwah, Member, NDMA attended Consultative Group (CG) meeting of Global Facility for Disaster Reduction and Recovery (GFDRR) in Zurich from 5th-7th April, 2017
- Shri Kamal Kishore, Member, NDMA attended ISDR Asia Partnership (IAP) meeting in Ulaanbaatar, Mongolia from 5th-7th April, 2017.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA visited Kathmandu, Nepal from 15th-21st April, 2017 to help National Reconstruction Authority to finalize SOP and deployment of resources on the ground for reconstruction work.
- Shri R. K. Jain, Member, NDMA participated at the India - Pacific Islands Sustainable Development Conference, "Furthering the FIPIC Agenda through Sustainable Development Conference on 25th-26th May, 2017 in Suva, Fiji.
- Shri Kamal Kishore, Member, NDMA attended 5th Session of the Global Platform for Disaster Risk Reduction (GPDRR) in Cancun from 22nd-26th May, 2017.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA attended 5th Session of the Global Platform for Disaster Risk Reduction (GPDRR) from 22nd-26th May, 2017 in Cancun.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA attended 3rd World Reconstruction Conference from 6th - 8th June, 2017 in Brussels.
- Shri B. Pradhan, Joint Secretary, NDMA attended the 2017 Regional Humanitarian Partnership Forum (RHFP) for Asia and the Pacific held in Bangkok, Thailand from 7th-8th June, 2017
- Shri Puskar Sahay, Jt. Advisor (Mitigation), NDMA attended the Centre for Excellence in DM and Humanitarian Assistance upcoming Health Emergencies in Large Population (H.E.L.P.) in Honolulu, USA from 9th-21st July, 2017.
- Shri Kamal Kishore, Member, NDMA attended the 9th Meeting of Heads of Government Authorities of Shanghai Cooperation Organization Member States dealing with prevention and elimination of emergency situation held at Cholpon - Ata City of Kyrgyz Republic from 23rd-25th August, 2017.
- Shri Sudeep Singh Jain, Deputy Project Director, NCRMP attended the Heart of Asia - Istanbul Process Workshop on Disaster Emergency Management from 18th to 22nd September, 2017 in Beijing, China.
- Shri Kamal Kishore, Member, NDMA participated in the Resilience Dialogue Session of World Bank Group Annual Meeting from 11th-15th October, 2017 in Washington, DC.
- Shri Kamal Kishore, Member, NDMA and Dr. V. Thiruppugazh, Joint

- Secretary, NDMA attended ISDR Asia Partnership (IAP) Forum for the period from 14th-15th December, 2017 in Bangkok, Thailand.
- Shri B. Pradhan, Additional Secretary, NDMA attended High Level Regional Conference on Information Management for Disaster Risk Reduction and Resilience from 30th-31st January, 2018 in Tehran.
 - Shri B. Pradhan, Additional Secretary, NDMA attended short term training programme on Leadership for 21st Century Chaos Conflict and Courage at JFK School, Harvard University, USA from 4th-9th February, 2018.
 - Dr. Pavan Kumar Singh, Sr. Research Officer, NDMA participated in Course on DKI APCSS - Comprehensive Crisis Management (CCM) 181, from 8th February - 14th March, 2018 in Honolulu, USA.
 - Brig. Ajay Gangwar, Advisor, NDMA attended UNISDR Sendai Monitoring Workshop from 8th-9th March, 2018 in Bangkok, Thailand.
 - Shri Mahendra Meena, Consultant (Earthquake & Tsunami), NDMA participated in the Technical Deep Dive on Seismic Risk and Resilience programme from 12th-16th March, 2018 in Tokyo, Japan.

CHAPTER - 6

MOCK EXERCISES & AWARENESS GENERATION

Introduction

6.1 Recognizing that awareness is the cornerstone of proactive approach to disaster management and community preparedness, NDMA has launched a number of initiatives in this regard. As an ongoing programme, mock exercises/drills are being conducted regularly to generate awareness and identify the gaps in planning and resources at the State/district/enterprise levels. Media is being actively used to sensitize the community about disaster risks and vulnerabilities. Mock exercises help to facilitate the State Governments and District Administration in reviewing the effectiveness of their Disaster Management Plans and assess the response capabilities along with creating public awareness. NDMA conducts these exercises in the most vulnerable districts

and industries on the recommendations of the State Governments. Moreover, since 2016-17, NDMA has been running a scheme of Financial Support to States/UTs for conduct of State/UT/District level Mock Exercises under which a grant of Rs. 1 lakh is given per Mock Exercise per year.

Mock Exercises

6.2 The aim is to test the adequacy and efficacy of the Emergency Response Plans, highlight the roles and responsibilities of the concerned stakeholders at various levels of administration, enhance coordination and synergize efforts of various Emergency Support Functions (ESFs) and find gaps in the resources, manpower, equipment, communication and systems. Mock Exercises also empower the vulnerable groups to face disasters squarely.



ME on EQ in Haryana



ME on Forest Fire in Uttarakhand

- 6.3 These exercises are conducted in a well-planned and comprehensive manner by adopting a step-by-step approach. Initially, an orientation-cum-coordination conference is held to highlight the roles and responsibilities of the various stakeholders.
- 6.4 In the next phase, a Table Top Exercise is carried out to elicit the responses of the participants on simulated scenarios. These scenarios are painted to cover the entire gamut of the disaster management cycle and exercise all the ESFs. At the end of this phase, the lessons that emerge are shared with all the participants and sufficient time is given to them for honing their responses and training their subordinates before the actual mock exercise. The exercise is conducted on a simulated



ME on Forest Fire in Uttarakhand

The gaps identified during these exercises are communicated to the stakeholders for taking necessary actions for improvement.

- 6.6 Mock exercises have helped in creating a culture of preparedness at the grassroot level. Representatives of the community as well as students participate in large numbers in most of these exercises. The District Administration, the Corporate Sector and other First Responders have shown tremendous enthusiasm. The

scenario. Incident response system (IRS) is used as a response mechanism-EOCs are activated. Staging Areas and Incident Command posts are established, Wireless and Satellite phones are used in case of communication breakdown and composite Task Forces are created to respond as per requirement. These exercises enhance the ability to respond faster, better and in an organized manner during the response and recovery phase.

- 6.5 A number of observers are also detailed to monitor the exercise. Apart from the participants, community members and other stakeholders are also invited to attend the mock exercise. Afterwards, a detailed debriefing is carried out in which the observers are asked to give their feedback.



ME on Amarnath Yatra

Armed Forces, NDRF, SDRF, Local Police, Fire & Emergency Services, Medical Assets, Civil Defense & Home Guards take active part as part of composite Task Forces. Most of these exercises are also attended by elected representatives and senior level functionaries at the State level. These exercises are also widely covered by the local print and electronic media, thus spreading the awareness amongst large number of people.



Mock Exercise on Earthquake in Delhi



CBRN Preparedness in Gujarat

6.7 Till now 676 Mock Exercises have been conducted by NDMA across the length and breadth of the country. Following major Mock Exercises were conducted this year

by NDMA for all stakeholders with primary aim of testing the adequacy and efficacy of the Disaster Response Plans of State/ District.

S. No.	Date	Type of Disaster	Place and State
(a)	18 to 20 Apr 2017	State Level ME on Forest Fire	Uttarakhand
(b)	21 to 24 Jun 2017	ME for Amarnath Yatra -17	Baltal in Ganderbal District and Pahalgam in Anantnag District in J&K
(c)	28 to 30 Jun 2017	State Level ME on Earthquake	Delhi NCT
(d)	12 to 13 Oct 2017	State Level ME on Earthquake	Uttarakhand
(e)	19 to 21 Dec 2017	State Level ME on Earthquake	Haryana
(f)	15 to 19 Jan 2018	CBRN Preparedness	Jamnagar, Gujarat
(g)	01 to 08 Feb 2018	State Level ME on Earthquake	Himachal Pradesh
(h)	06 to 16 Mar 2018	State Level ME on Earthquake	Gujarat, Daman & Diu and Dadra & Nagar Haveli

Multi State Mega Mock Exercise on Tsunami

6.8 The MHA through NDMA and INCOIS conducted the first of its kind Multi State ME on Tsunami covering the entire Eastern Coastline of the country on 24.11.2017. The ME was simultaneously conducted in 35

Coastal Districts across four states – West Bengal, Odisha, Andhra Pradesh and Tamil Nadu and one Union Territory Puducherry. The aim of the ME was to assess and improve the early warning and response mechanism to mitigate the impact of high intensity Tsunami.



Orientation Conference at INCOIS, Hyderabad



Coordination Exercise at SEOC at Vijaywada



Activation & Establishment of Staging Areas during Mock Exercise.

Multi State/UT Level Mega Mock Exercise on Earthquake in Gujarat, Daman & Diu and Dadra & Nagar Haveli.

A Multi State/UT Mega Mock Exercise on Earthquake was conducted by NDMA

simultaneously in 08 districts of Gujarat, 02 district of Daman & Diu and 01 district of Dadra and Nagar Haveli on 15 & 16 March, 2018. The aim of ME was to test efficacy of coordinated efforts of Emergency Support Functions.



Orientation & Coordination Conference



Table Top Mock Exercise



Trigger of Mock Exercise

Scheme for State/District Level Mock Exercises (ME) :

6.9 A scheme to provide financial support to all States/UTs (29 States, 7 UTs and 683 Districts) for conduct of State/UTs/District Level Mock Exercises (ME) was launched in the year 2016-17. Under this scheme, Rs. One lakh is provided per Mock Exercise. Last year, Rs. 4.19 crore was released to various States/UTs for conducting MEs. During 2017-18, Rs. 117 lakh has been released under this Scheme.

Incident Response System (IRS) Training:

6.10 Incident Response System (IRS) training is conducted by NDMA to enable the States and Districts to implement this response mechanism in their respective areas. In this system, Incident Response Teams are formed involving all Nodal Officers/ Emergency Support Functionaries (ESFs) of the State Govt. and District Administration to address the needs of affected community during any type of disaster. During the year 2017-18, 13 IRS training capsules have been conducted by NDMA in the State/UTs of Chhattisgarh, Nagaland, J&K, Assam, Odisha, Meghalaya, Tripura, Andhra Pradesh, Delhi, Puducherry, Himachal Pradesh, Haryana and Manipur.



Medical Aid Post

6.11 **HADR Exercises: Representative from NDMA assisted and participated in conduct of three Annual HADR Exercises with the Armed Forces as follows:**

- (a) HADR Exercises on Tsunami at West Coast-Karwar, Karnataka conducted by Navy from 18 to 20 May, 2017.
- (b) HADR Exercises on Flash Floods & Landslides at Shillong conducted by Airforce from 06 to 08 June, 2017.
- (c) HADR Exercises on Urban Flooding at Hyderabad conducted by Army from 22 to 23 September, 2017.

6.12 **Other Training Activities:**

- (a) Eight Training of Trainers (ToT) Courses in Disaster Response for SDRF personnel from Kerala, Rajasthan, Tamilnadu and Sashastra Seema Bal (SSB) were conducted from April, 2017 till Dec., 2017 and Dec., 2017 to Feb 2018 at Central Training College (CTC), CRPF Coimbatore, at NISA (CISF) Campus Hakimpeth, Hyderabad, at BIDR, BSF Academy, Tekanpur and at NITSDR, ITBP, Bhanu. Total 280 personnel attended this Training.

- (b) Four basic CBRN courses for SDRF personnel from Assam, West Bengal, Rajasthan, Tamil Nadu, Haryana and Sashastra Seema Bal (SSB) were conducted from Sept to Oct., 2017 and Feb. to Mar., 2018 at NISA CISF, Hyderabad. Total 220 personnel attended this training.
- (c) Four Disaster Management Training Capsules for Associated NCC Officers (ANOs), Civil Defence (CD), Nehru Yuva Kendra Sangathan (NYKS) and National Cadet Corps (NCC) Cadets and Home Guards were conducted at all the 12 NDRF Bn Locations in June, Sept, Dec., 2017 and Feb., 2018. Around 1050 personnel attended the training programme.
- (d) A three week disaster management training programme for Civil Defence Volunteers was conducted at Odisha Fire & Disaster Response Academy, Bhubaneswar from 6-26 March, 2018. A total of 29 personnel attended this training.
- (b) A representative of NDMA participated in HQ IDS Seminar on Disaster Management from 25th to 28th July, 2017 and gave a presentation on "Protocol for Disaster Management."
- (c) A meeting on 'Ham Radio and Disaster Management' was chaired by Shri R. K. Jain, Member, NDMA, on 17th August, 2017.
- (d) Representative from NDMA attended the Madras Atomic Power Plant (MAPs) Off Site Emergency Exercise (OSEE) 2017 held at Kalpakkam on 23rd August, 2017.
- (e) MHA participated and gave a presentation in the Workshop organized by Assam SDMA on 'Disaster Preparedness in Hotels, Shopping Malls & Cinemas' at Guwahati on 18th to 19th September, 2017.
- (f) A presentation on IRS by the representatives of NDMA was made on 20.03.2018 to the Medical Officers of India Armed Forces.

6.13 Workshops and Seminars:

- (a) A Workshop on Crowd Management was conducted from 11 to 12 July, 2017 at Thiruvananthapuram jointly by NDMA and Kerala State Disaster Management Authority (KSDMA) involving States/UTs Administration/SDMA/Shrine Boards/Religious Trusts/Mandir and Mela Samiti and other Response Agencies like NDRF, SDRF, Armed Forces and Fire Services to enhance preparedness against Crowd related disasters in the country.

Awareness Generation

- 6.14 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 impending disasters (earthquake, cyclone, flood, landslide, etc.).
- b) Informing and educating people on various preventive and mitigative measures to avoid disaster situations.

6.15 The following awareness campaigns were carried out during 2017-18:

Audio-Visual Campaigns

6.16 Doordarshan/All India Radio/Digital

Cinema/Private FM Radio - Audio-Video spots on natural disasters such as **earthquake, flood, urban flood, landslide, heat 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 seconds each on each disaster were run on a shuffling basis for 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. A campaign on earthquake was also run on Lok Sabha TV. Details of the campaigns are as below:-

Campaign	Spot	Title of Spots in 30 sec	Language	States where run	Telecast Medium	Period
Heat Wave	09	1. Heat can Kill	Hindi & English	Andhra Pradesh, Bihar, Chhattisgarh, Delhi NCT, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Telangana, Uttar Pradesh & West Bengal	DD	03/06 to 09/06/17
		2. First aid (before the ambulance arrives)			AIR	15/06 to 26/06/17
		3. General summer precautions (to avoid heat stroke)			Digital Cinema (NFDC)	01/06 to 15/06/17
		4. Heat predictions (importance of heat warning systems)			Private FM Radio (NFDC)	17/05 to 31/05/17
		5. Heat effects on indoor/outdoor workers/slum dwellers				
		6. Heat effects on the elderly				

		<p>7. Heat effects on newborns and infants</p> <p>8. Heat effects on animals/birds</p> <p>9. Small acts of kindness</p>				
Cyclone	02	<p>1. Machuara</p> <p>2. Ghar phir ban jayega</p>	<p>Hindi, Bangla, Oriya, Telugu, Marathi, Gujarati, Tamil, Assamese, Kannada, Malyalam</p>	<p>Andaman & Nicobar Islands, Andhra Pradesh, Dadra & Nagar Haveli, Daman & Diu, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Tamil Nadu, West Bengal</p>	DD	16/06 to 22/06/17
					AIR	15/06 to 29/06/17
					Digital Cinema (NFDC)	01/06 to 15/06/17
					Private FM Radio (NFDC)	01/06 to 15/06/17
Flood	03	<p>1. Amma</p> <p>2. Main Tyar Hoon</p> <p>3. Anekta mein ekta</p>	<p>Hindi, Assamese, Bangla, Bhojpuri, Gujarati, Kannada, Kashmiri, Konkani, Marathi, Oriya, Tamil, Telugu, English (not for telecast)</p>	<p>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</p>	DD	23/06 to 29/06/17
					AIR	06/06 to 20/06/17
					Digital Cinema (NFDC)	16/06 to 30/06/17
					Private FM Radio (NFDC)	15/06 to 29/06/17

Landslide	03	<ol style="list-style-type: none"> 1. Hamari galti 2. Geologist 3. Postman 	Hindi, Assamese, Manipuri, Khasi, Garo, Nepali, Mizo	West Bengal, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttarakhand, Maharashtra, Jammu & Kashmir, Himachal Pradesh, Goa, Tamil Nadu, Kerala, Karnataka	DD	21 to 27/11/17
					AIR	26/09 to 04/10/17
					Digital Cinema (NFDC)	20/09 to 04/10/17
					Private FM Radio (NFDC)	20/09 to 04/10/17
Earthquake	05	<ol style="list-style-type: none"> 1. Salaah se salaamati 2. Jhooko Dhako Pakdo 3. Savdhan hai to jaan hain 4. Taiyari mein hain samajhdari 5. Non structural 	Hindi, Gujarati, Assamese, Bangla, Marathi, English, Oriya,	<ol style="list-style-type: none"> 1. Seismic Zone - III & IV 2. Seismic Zone - V Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttarakhand, West Bengal. 	DD	14/02/18 to 24/02/18
					AIR (through	19/09/17 to 16/10/17
					Bollywood based programme "Chandi ke parde se") Lok Sabha TV	29.01.2018 to 09.02.2018 & 05.03.2018 to 27.03.2018

Print Campaigns

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

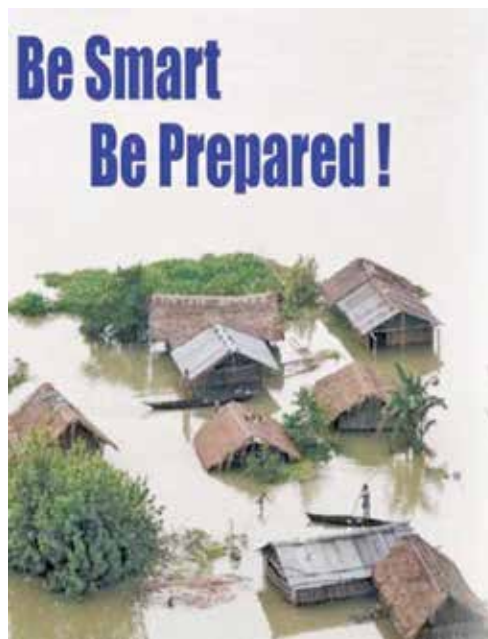
- i) Awareness generation material for **HEAT WAVE** were published on **25/04/2017** and **26/05/2017 (half page each)** in heat wave-prone areas in three types of newspapers viz., big (15), medium (04) and small (02) in the following languages - English (07), Hindi (08) and regional languages (06) for states viz. Andhra Pradesh, Bihar, Chhattisgarh, Delhi NCT, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Telangana, Uttar Pradesh and West Bengal.



- 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.



- ii) Awareness generation material for **FLOOD** was published on **06/07/2017 (full page)** in flood prone as well as flood affected in three types of newspapers viz., big (21), medium (16) and small (03) in the following languages - English (10), Hindi (15) and regional languages (15) 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 and West Bengal.



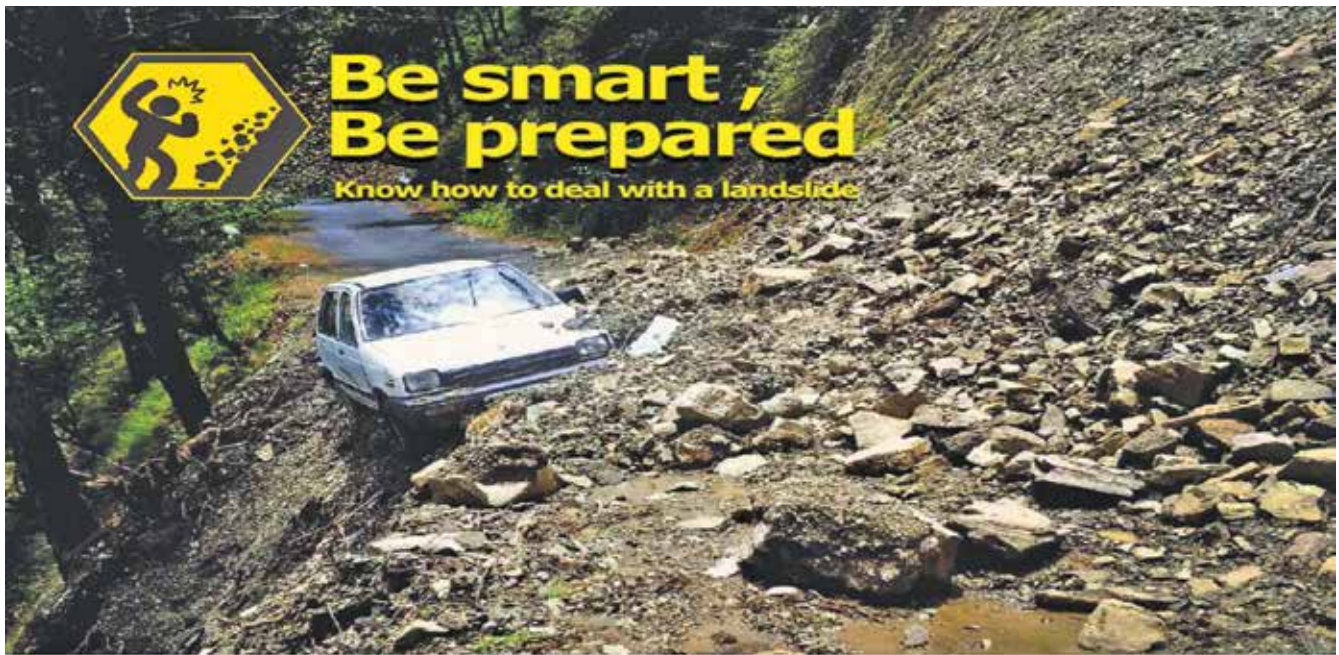
<p>BEFORE FLOODS</p> <ul style="list-style-type: none"> ● Ignore rumours. Stay calm, Don't panic ● Keep your mobile phones charged for emergency communication; use SMS ● Listen to radio, watch TV, read newspapers for weather updates ● Keep cattle/animals untied to ensure their safety ● Prepare an emergency 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 <p>DURING FLOODS</p> <ul style="list-style-type: none"> ● Don't enter flood waters. 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 or dry food. Keep your food covered ● Drink boiled/chlorinated water ● Use disinfectants to keep your surroundings clean 	<p>AFTER FLOODS</p> <ul style="list-style-type: none"> ● 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 <p>IF YOU NEED TO EVACUATE:</p> <ul style="list-style-type: none"> ● 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
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- iii) Awareness generation material for **LANDSLIDE** was published on 06/09/2017 (full page) in landslide-prone areas in three types of newspapers viz., big (08), medium (52) and small (42) in the following languages - English (30), Hindi (48) and regional languages (24) for states viz. Himachal Pradesh, Jammu & Kashmir, Sikkim, Arunachal Pradesh, Nagaland, Mizoram, Uttarakhand and Meghalaya.



Do's	Don'ts
<ul style="list-style-type: none"> ✓ Stay calm, don't panic and ignore rumours ✓ Keep drains clean; Weep holes open ✓ Try to stay with your family/companions ✓ Check for injured and trapped persons 	<ul style="list-style-type: none"> ✗ Do not build houses near steep slopes and near drainage path ✗ Do not touch/walk over loose material and electrical wires or poles ✗ Do not drink contaminated water directly from rivers, springs, wells, etc. ✗ Do not move an injured person without rendering first aid unless he/she is in immediate danger



Care for environment
Grow more trees that can hold the soil through roots



Watch out for landslide warnings
Move away from landslide path or downstream valleys quickly



Keep yourself updated
Listen to radio, watch TV, read newspapers for information



Act quickly
Inform nearest Tehsil/District HQ if you notice any warning signs



Be cautious
Listen for unusual sounds such as trees cracking or boulders knocking together



Stay alert
Watch for subsidence of buildings, cracks on rocks, muddy river waters for information

- iv) Awareness generation material for **CYCLONE** was published on 03/11/2017 (full page) in cyclone-prone areas in three types of newspapers viz., big (22), medium (17) and small (05) in the following languages - English (13), Hindi (04) and regional languages (27) for states viz. Andaman & Nicobar Islands, Andhra Pradesh, Dadar & Nagar Haveli, Daman & Diu, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Tamil Nadu and West Bengal.



**Be smart,
Be prepared**
Why to wait till the last minute?

Do's and Don'ts

<p>1. BEFORE CYCLONE</p> <ul style="list-style-type: none"> ⇒ Ignore rumours, Stay calm, Don't panic ⇒ Keep your mobile phones charged to ensure connectivity; use SMS ⇒ Listen to radio, watch TV, read newspapers for weather updates ⇒ Keep your documents and valuables in water-proof containers ⇒ Prepare an emergency kit with essential items for safety and survival ⇒ Secure your house; carry out repairs; don't leave sharp objects loose ⇒ Untie cattle/animals to ensure their safety <p>Fishermen Should</p> <ul style="list-style-type: none"> ⇒ Keep a radio set with extra batteries handy ⇒ Keep boats/rafts tied up in a safe place ⇒ Don't venture out in the sea 	<p>2. DURING AND AFTER CYCLONE</p> <p>A) If Indoors</p> <ul style="list-style-type: none"> ⇒ Switch off electrical mains, gas supply ⇒ Keep doors and windows shut ⇒ If your house is unsafe, leave early before the onset of a cyclone ⇒ Listen to radio/transistor ⇒ Drink boiled/chlorinated water ⇒ Rely only on official warnings <p>B) If Outdoors</p> <ul style="list-style-type: none"> ⇒ Do not enter damaged buildings ⇒ Watch out for broken electric poles and wires, and other sharp objects ⇒ Seek a safe shelter as soon as possible
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- v) Awareness generation material for **URBAN FLOODING** was published on 16/11/2017 (full page) in areas prone to urban flooding in three types of newspapers viz., big (04), medium (02) and small (02) in the following languages - English (01), Hindi (01) and regional languages (06) for covering main cities of Northern Tamil Nadu and Chennai (specifically Kancheepuram, Nagapattinam, Cuddalore, Chennai, Tiruvannamalai and Tiruvallur districts).



**Be Smart
Be Prepared!**

Prevent and Avoid Floods

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 drive through flooded areas
- Don't enter flood waters. 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 or 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
- 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

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- vi) Awareness generation material for **COLD WAVE** was published on 06/01/2018 (quarter page) for areas experiencing COLD WAVE in following languages – English (05), Hindi (08) and regional languages (13) for covering states viz. Uttar Pradesh, Uttarakhand, Nagaland, Odisha, Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab, Mizoram, Meghalaya, Manipur, Maharashtra, Madhya Pradesh, Chandigarh, Delhi/NCR, Bihar and Assam and five regions viz. North Chhattisgarh, North Jharkhand, Sub-Himalayan West Bengal, Sikkim and North Rajasthan.









STAY SAFE DURING A COLD WAVE

Follow these simple steps

- Have adequate winter clothing
- Listen to radio, watch TV, read newspapers for weather updates
- Have emergency supplies ready
- Drink hot drinks regularly
- Store adequate water as pipes may freeze
- Stay indoors as much as possible
- Take care of elderly and children

**Be Smart
Be Prepared**

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- vii) Awareness generation material for **EARTHQUAKE** was published on 10/02/2018 (full page) for areas prone to earthquakes in three types of newspapers viz., big (21), medium (52) and small (16) in the following languages - English (21), Hindi (33) and regional languages (35) for states falling in Seismic Zone-V viz. Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Bihar, Gujarat, Himachal Pradesh, Jammu and Kashmir, Punjab, Uttarakhand, West Bengal and states falling in Seismic Zone-IV and Seismic Zone-III.



SURVIVING AN EARTHQUAKE

Take following steps

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








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Be prepared



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Observance of 13th Formation Day of NDMA

6.18 The 13th Formation Day of NDMA was observed on 28.09.2017 in Vigyan Bhawan, New Delhi. Shri Rajnath Singh, Union Home Minister, graced the occasion

as the Chief Guest. Speaking on this year's theme of 'School Safety', Shri Rajnath Singh congratulated NDMA for focussing on integrating children with their disaster management plans.



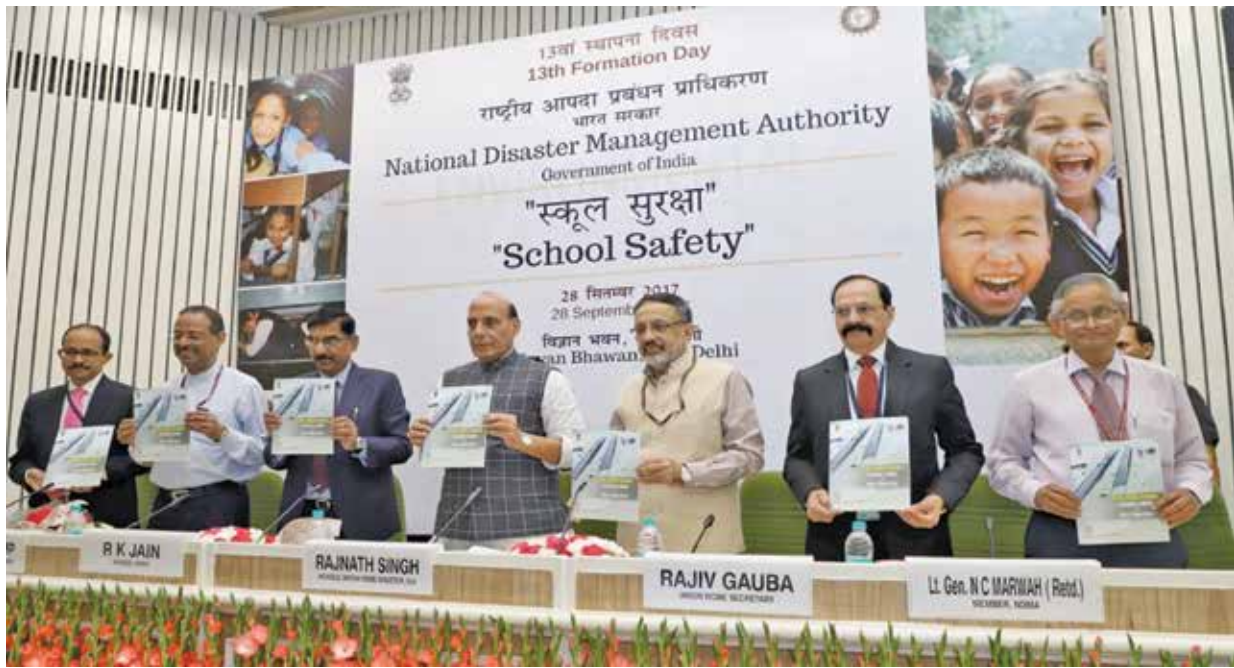
6.19 Various States shared their experiences in terms of Best Practices and Lessons Learnt in their initiatives towards school safety. They covered various aspects of school safety such as safety audits, capacity building and training, simulation exercises, structural safety and incorporation of Disaster Management in school curriculum.

6.20 Central Building Research Institute (CBRI) gave a detailed presentation on retrofitting of unsafe school buildings and explained how it is important for ensuring

safety of school children. Representatives of Kendriya Vidyalaya Sangathan and Navodaya Vidyalaya Samiti also made presentations on their efforts towards making school premises safer. They spoke about how they ensure disaster preparedness and the key challenges that they face while implementing their DM Plans. They also highlighted the need for collaboration between school authorities and government agencies for school safety.

6.21 The inaugural session marked the release of National Disaster Management Guidelines on Boat Safety and Cultural Heritage Sites

& Precincts, and a study report on Chennai Floods of 2015.



6.22 Delivering the valedictory address, Shri Kiren Rijiju, Union Minister of State for Home Affairs, highlighted the need to

strengthen the first responders by building their capacity to ensure swift and efficient response during a disaster.



6.23 Dr. P.K. Mishra, Additional Principal Secretary to the Hon'ble Prime Minister, Shri Rajiv Gauba, Union Home Secretary and Shri Anil Swarup, Secretary, Department of School Education & Literacy, Ministry of Human Resources Development also spoke on the occasion. Shri R. K. Jain, Member, NDMA highlighted the activities undertaken by NDMA during the last one year.

NDMA E-Newsletter and Blog

6.24 A new digital magazine and an official blog, both named "Aapda Samvaad", were started. These platforms are 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 media houses. Similarly, the blog is updated regularly. Their reach is also optimized using various techniques on social media.

Others

- Press Releases issued regularly for important meetings, workshops, conferences.
- NDMA Blog started with an aim to maximize awareness on DRR.

Social Media Campaigns

6.25 NDMA is running 24x7 campaigns on heat wave, cold wave, landslide, earthquake, avalanche, CBRN emergencies, flood, 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. At the time of crisis, NDMA provides online assistance through social media and helps the affected communities. The messages received on social media during a disaster are shared with the National Disaster Response Force (NDRF) and rescue and relief is carried accordingly.

Twitter Report

6.26 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, 2017: **35,900**
- Followers as on March 31, 2018: **66,155**
- **Number of followers increased: 30,255**

Facebook Report

- Followers as on March 31, 2017: **1,89,435**
- Followers as on March 31, 2018: **2,43,405**
- **Number of followers increased: 53,970**

CHAPTER - 7

STRENGTHENING EMERGENCY RESPONSE

Operationalisation of NDMA Control Room

7.1 The NDMA Control Room is manned 24x7 to provide updated information pertaining to disasters whenever required. Reports from Indian Metrological Department (IMD), Indian National Centre for Ocean Information Services (INCOIS), Central Water Commission (CWC), Snow and Avalanche Study Establishment (SASE), State Disaster Management Authority (SDMAs), Media, etc. were timely collected and disseminated to concerned officers within NDMA and outside as and when the situation demanded. Deployment of National Disaster Response Force (NDRF) as well as the Rescue & Relief efforts in the disaster affected States were monitored throughout the year.

Assessing Monsoon Situation

7.2 Weekly meetings were chaired by Shri R. K. Jain, Member, NDMA, to review the Pre-Monsoon and Post-Monsoon situation (April to September, 2017) in the country. Resident Commissioner/ Representatives of the flood prone/affected States attended the meetings and were briefed by officials of IMD, CWC, NDRF and Ministry of Urban Development. The NDRF deployment was reviewed regularly and necessary instructions were given by NDMA to deal with the situation.

CHAPTER - 8

ADMINISTRATION AND FINANCE

General Administration

NDMA Secretariat

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

Policies, Plans and Awareness Generation Division

8.2 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. The total sanctioned staff in this division is 15, comprising one Advisor (JS level), three Joint Advisors (Director Level), three Assistant Advisors (US level) and eight support staff.

8.3 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.

Mitigation Division

8.4 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 10, comprising one Advisor (JS level), two Joint Advisors (Director level), two Assistant Advisors (US level) and five support staff.

Operations and Communication Division

- 8.5 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 round the clock disaster specific information and data inputs and guides the effort during the subsequent stages of response. This division is also closely involved with the tasks relating to Rehabilitation and Recovery.
- 8.6 It also has the task of maintaining a dedicated and continually operational state-of-the-art communications network. The key components of the Communication and IT Wing are Communications and IT network and DM Information System with special reference to Knowledge Management and Data Fusion with emphasis on GIS based applications. The total sanctioned staff in this division is 17, comprising one Advisor (JS level), three Joint Advisors (Director level), four Assistant Advisors (US level), two Duty Officers (US level) and seven support staff.

Administration, Coordination, Capacity Building and Training Division

- 8.7 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. Capacity Building and Training is another important work of this Division. It undertakes various activities and projects towards capacity building and training. The total sanctioned

staff in this division is 27, comprising one Additional Secretary, two Directors, three Under Secretaries, one Assistant Director (OL), three Section Officers and 17 support staff.

Finance and Accounts Division

- 8.8 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, etc. 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 of NDMA.

Preparation and Monitoring of Budget of NDMA

8.9 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:

NDMA-Budget Allocation & Expenditure for the period April, 2017 to March, 2018

(Rs. in Thousands)

Name of the Project	B.E 17-18	R.E 17-18	Expenditure up to 31.03.2018
National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	6942500	6303900	6303233
Other Disaster Management Projects - (ODMP)	349900	195600	155982
Est. Charges	282300	277700	268835

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

Annexure - I

COMPOSITION OF NDMA

Present Composition

1.	Hon'ble Prime Minister of India	Chairperson
2.	Shri R. K. Jain, IAS (Retd.)	Member (Since 01.12.2015) Member Secretary (Since 23.02.2015 to 30.11.2015)
3.	Lt. Gen. N. C. Marwah, PVSM, AVSM (Retd.)	Member (Since 30.12.2014)
4.	Dr. D. N. Sharma	Member (Since 19.01.2015)
5.	Shri Kamal Kishore	Member (Since 16.02.2015)

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)

Annexure - II

LIST OF SENIOR OFFICERS OF THE NDMA

1.	Shri R. K. Jain, Secretary (Since 04.10.2014 to 22.02.2015) Member Secretary (Since 23.02.2015 to 30.11.2015) Member (Since 1.12.2015)
2.	Dr. Pradeep Kumar, Additional Secretary (Admn) & Project Director (Since 05.03.2018)
3.	Shri Ravinesh Kumar, Financial Advisor (Since 10.10.2017)
4.	Smt. Aastha Saxena Khatwani, Financial Advisor (01.01.2015 to 19.05.2017)
5.	Shri B. Pradhan, Joint Secretary (Since 07.08.2015 to 05.03.2018)
6.	Dr. V. Thiruppugazh, Joint Secretary & Advisor (Since 07.09.2015 to 02.07.2016) and (Since 03.01.2017)
7.	Shri Anil Kumar Sanghi, Joint Secretary (Since 03.12.2013)
8.	Brig Ajay Gangwar, Advisor Ops. & Comn. (Since 01.11.2017)
9.	Ms. Sreyasi Chaudhuri, Director (Since 08.12.2015)
10.	Lt. Col Rahul Devrani, Joint Advisor (Since 21.08.2017)
11.	Shri Dharendra Singh Sindhu, Joint Advisor (Since 24.06.2013)
12.	Col Ranbir Singh, Joint Advisor (Since 11.08.2014 to 10.08.2017)
13.	Shri Bhupinder Singh, Dy. Secretary (Since 25.02.2013)
14.	Shri Yogeshwar Lal, Dy. Secretary (Since 07.07.2014 to 30.06.2016) Director (Since 01.07.2016)
15.	Shri Anurag Rana, Joint Advisor (Since 19.10.2016)
16.	Shri Pushkar Sahay, Joint Advisor (Since 08.02.2017)

17.	Shri Vijay Singh Nemiwal, Joint Advisor (Since 31.05.2017)
18.	Col Amit Khosla, Joint Advisor (Since 13.11.2017)
19.	Shri Partha Kansabanik, Under Secretary (Since 18.08.2011)
20.	Shri Amal Sarkar, Under Secretary (Since 14.11.2012)
21.	Shri Turam Bari, Under Secretary (Since 01.01.2013)
22.	Shri M. A. Prabhakaran, Assistant Financial Advisor (Since 15.09.2014)
23.	Shri Sunil Singh Rawat, Under Secretary (Since 30.03.2015)
24.	Shri Pankaj Kumar, Under Secretary (Since 06.04.2015)
25.	Shri Ramesh Kumar Mishra, Under Secretary (Since 28.03.2014)
26.	Shri Rajendra Kumar Bandhu, Under Secretary (Since 19.02.2016)
27.	Shri Mohan Lal Sharma, Under Secretary (Since 16.09.2016)
28.	Ms. Amrapali Dixit, Assistant Advisor (Since 03.06.2013)
29.	Shri Naveen Kumar, Assistant Advisor (Since 22.07.2016)
30.	Shri Kamal Kishore Rao, Assistant Advisor (Since 29.09.2016)
31.	Shri Deepak Ahlawat, Duty Officer (Since 30.01.2017)
32.	Shri Susheel Kumar Atri, Duty Officer (Since 13.02.2017)
33.	Dr. Pavan Kumar Singh, Sr. Research Officer (Since 23.05.2008)
34.	Dr. S. K. Jena, Sr. Research Officer (Since 01.08.2008)
35.	Shri Nawal Prakash, Sr. Research Officer (Since 22.05.2009)
36.	Dr. Monika Gupta, Sr. Research Officer (Since 24.07.2013)

