



ANNUAL REPORT 2018-19



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

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Abbreviations

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

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CHAPTER 1

INTRODUCTION

Vulnerability Profile

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

Genesis of NDMA

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

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

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

of disasters and prompt response to any disaster situation.

Constitution of NDMA

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

Composition of NDMA

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

1.	Shri R. K. Jain, IAS (Retd.)	Member (Since 01.12.2015 to 30.11.2018)
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)

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

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

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

NDMA Secretariat

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

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

CHAPTER 2

FUNCTIONS AND OBJECTIVES

Functions of NDMA

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

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

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

Vision of NDMA

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

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

Objectives of NDMA

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

CHAPTER 3

POLICY, PLANS AND GUIDELINES

National Policy on Disaster Management (NPDM) 2009

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

National Disaster Management Plan (NDMP)

3.2 The National Executive Committee (NEC) in its 15th Meeting held on 21.10.2013 under the chairmanship of Home Secretary had cleared the draft NDMP and the same was forwarded through Ministry of Home Affairs for approval of NDMA. After wide consultation with stakeholders, the draft NDMP was restructured and revised within the Sendai Framework of Action declared in March 2015. 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 view/ 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 4.1.

3.4 The process of preparation of guidelines comprises:

- A quick review of the studies conducted, disaster-wise, of the actions/steps taken so far by various agencies, including the Central Ministries/Departments, States, Scientific and Technical Institutions etc.
- Identification of the residual agenda in

terms of operational, administrative, financial and legal issues.

- The drawing up of a roadmap to the destination duly indicating milestones to facilitate easy monitoring.
- In terms of goals and objectives, screening down the destination is to be attained, in the short, as well as

long term, duly prioritized as vital, essential and desirable.

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

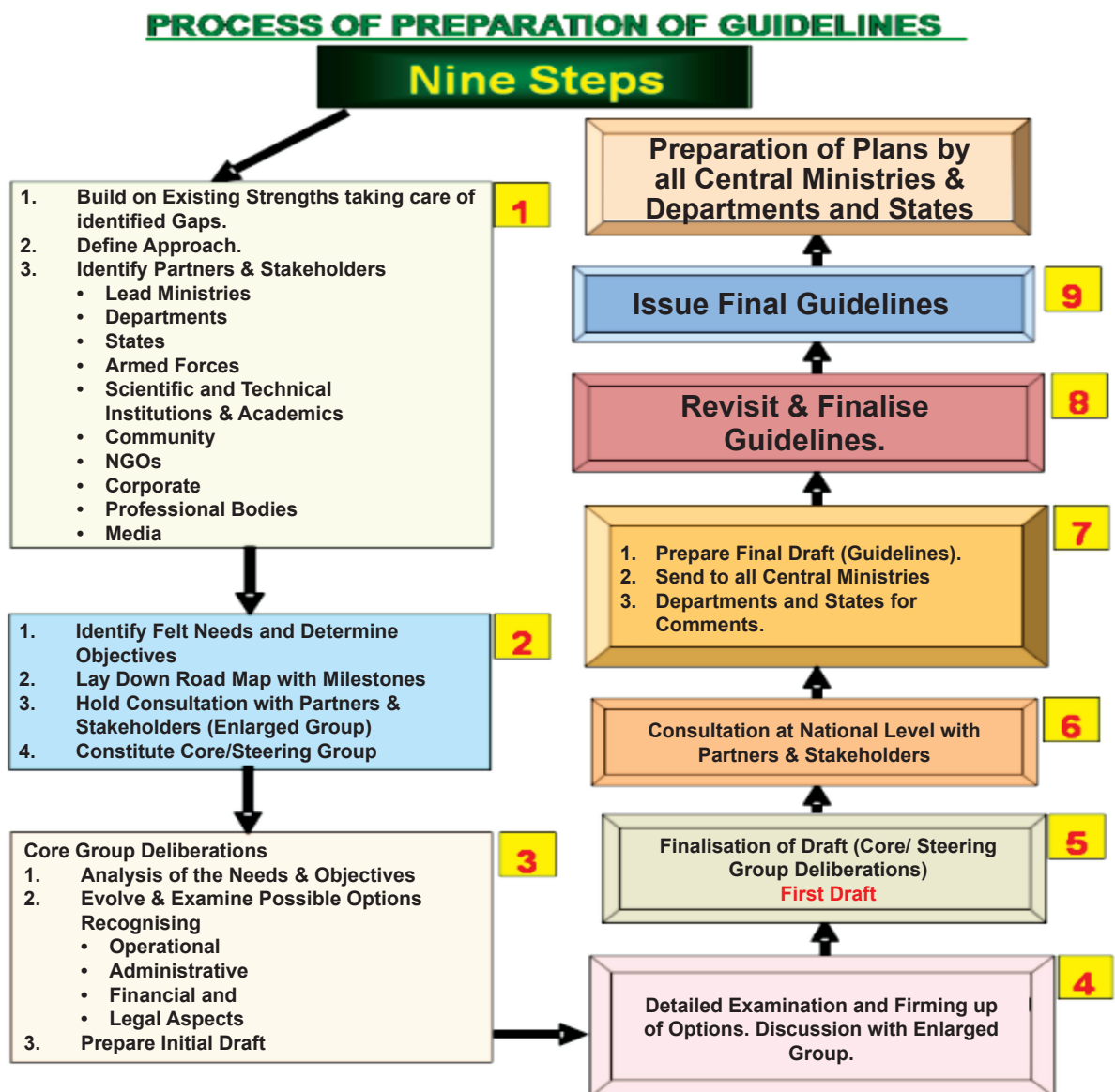


Figure 3.1

3.5 Guidelines and Reports & Other documents released by NDMA :

(i) Guidelines issued :

SNo.	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	Feb 2016
21.	Hospital Safety	Feb 2016
22.	Minimum Standards for Shelter, Food, Water, sanitation and Medical Cover in relief camps.	Feb 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
27.	Preparation of Action Plan- Prevention and Management of Thunderstorm & Lightning/ Squall/ Dust/ Hailstorm and Strong Wind	March 2019

(ii) Reports and other documents issued :

S. No.	Description
1.	Revamping of Civil Defence
2.	NIDM's Functioning
3.	Strengthening of safety and security for transportation of POL tankers
4.	Threats to Municipal Water Supply and Water Reservoir's
5.	Training Regime for Disaster Response
6.	Hand Book for Training and Capacity Building of Civil Defence and Sister Organizations: Part I & II
7.	Managing Crowds at Events and Places of Mass Gathering
8.	Concise Framework for Preparation of Management Plan for Events/ Venues of Mass Gathering
9.	Compendium of relevant Acts/Laws/Rules / Regulations/ Notifications on Disaster Management
10.	Model Framework of District Disaster Management Plan (DDMP) and Explanatory Notes for preparation of DDMP.
11.	Cyclone Hudhud - Strategies and Lessons for Preparing Better & Strengthening Risk Resilience in Coastal Regions of India
12.	Training Manual : How to conduct emergency management exercise
13.	Guidelines on ensuring Disaster Resilient construction of Buildings and Infrastructure
14.	Pilot Project on Capacity Building for advanced Trauma Life Support in India
15.	Capacity Building in DM for Govt. Officials & Representative of Panchayat Raj Institution & Urban Local Bodies at District Level
16.	Roadmap for mitigation of Urban Flood
17.	Report on 'Best Practices' adopted by Government of Tamil Nadu post 2015 Floods.
18.	Gujarat Flood 2017- A case study
19.	Manual for Training of Masons on Hazard Resistant Construction

3.6 Guidelines/ Reports released During the Year 2018-19 :

- (i) **Gujarat Flood 2017- A case study :** Almost all parts of Gujarat are prone to floods with the State historically recording an average of four flood events in a decade. The past decade and half has been even worse with seven flooding events, including the most recent in 2017. The floods resulted in loss of lives, livestock, crops, durable assets, and damage to public and private infrastructure.

In this backdrop, a study was undertaken to document the best practices adopted by Gujarat and the lessons learnt, especially in preventing the outbreak of epidemics in the flood-affected areas and the use of drones to supply relief material to stranded persons. This study also highlights long-term measures being undertaken by the State to improve the resilience of its people besides making recommendations for strengthening institutional arrangements towards the same.

- (ii) **Curriculum & Manual for Masons' Training :** In India, there is serious shortage of safe and adequate housing for its people. Well trained skilled Masons are extremely important for ensuring construction of safe houses that are also hazard resistant as Masons play critical role in advising, guiding, managing and constructing houses. Therefore, NDMA felt the need for preparation of mason's training module for hazard resistant construction to facilitate the nodal agencies for imparting training

to them. This training curriculum has been prepared keeping in mind the diversity of construction techniques in the country, spatial - functional requirements of different regions and range of material available and accessible to build houses.

3.7 Guidelines and other documents under preparation

- (i) **Guidelines on Disability Inclusive Disaster Risk Reduction (DRR):** The Guidelines on Disability Inclusive DRR will cover all the aspects of Disaster Management - pre, during and post. During pre-disaster phase special preparedness measures for disabled people will be taken care of. Special requirement for persons with disability would be addressed during the disaster situation. Post disaster activities will focus on reconstruction, rehabilitation and recovery aspects with special focus on requirements of the person with disabilities. The Guidelines are being prepared in consultation with United Nations Resident Coordinator (UNRC) Office, New Delhi and is likely to be finalized by August, 2019.
- (ii) **Guidelines on Build Back Better (BBB):** The Guidelines on Build Back Better aim to help the Central and State Governments in better organizing post-disaster recovery activities to strengthen the institutional and community resilience to disasters and ensure sustainable development. The Guidelines are being prepared in consultation with United Nations Development Project (UNDP) Office, New Delhi and is likely to be finalized

by November, 2019.

(iii) **Guidelines on Temporary Shelters**

: The Guidelines on Temporary Shelters would facilitate all government / private agencies in constructing temporary shelters for the victims of disasters as per their needs. The Shelters should be economical, safe and sensitive to the cultural aspects of the local people. The guidelines will help agencies in deciding the construction material/ technology to be used for construction of the temporary shelters and provide information about availability of resources in various geographical location and methodology to be adopted for construction of the shelters. The guidelines shall provide information about all aspects of temporary shelters. The work of preparation of the Guidelines has been entrusted to M/s People in Centre Consulting Services Pvt. Ltd., an NGO working in this field, in consultation with Expert Committee constituted in NDMA for this purpose. The Guidelines is likely to be finalized by August, 2019.

(iv) **Home Owners' Guide to Earthquake Safety:**

An Memorandum of Understanding (MoU) has been signed with Indian Institute of Technology (IIT), Jodhpur on 11.08.2016 for preparation of an illustrated Home Owners Guide for Earthquake and Cyclone Safety. This will facilitate a person to build/ buy earthquake and cyclone resistant houses/ flats/ buildings. The guide is being developed for both aspects i.e. structural and non - structural safety.

It will be made available in different forms i.e. booklet, online version of the web which is printable, Audio - Video CDs/ DVDs.

(v) **Study Report on "Gaja" Cyclone**

- 2018 : Severe Cyclonic Storm Gaja was the fifth named cyclone of the 2018 North Indian Ocean cyclone season. It affected the Nagapattinam, Thanjavur, Thiruvavur, Pudukottai, Karaikal, Cuddalore, Trichy and Ramanathapuram districts of Tamil Nadu. Although, the State Government and District Administrations took preventive measures and saved several precious human lives, however, Cyclone 'Gaja' affected these districts very badly in terms of economic losses. Several electric poles, transformers and power stations were severely damaged. It also affected the fishing community and destroyed their livelihoods. Animal loss and loss of coconut trees were reported from the affected districts. It also completely destroyed crops in these districts. The study will focus on the preventive and mitigative measure taken by the State Governments and District Administrations, actions taken by the State Governments for restoration of power transmission lines and other basic services, best practices taken by the State Governments and to prepare a document on lessons learnt.

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

(i) **National Workshop on Disaster Database**

National Disaster Management Authority (NDMA) in collaboration with United Nations International Children's Emergency Fund (UNICEF), United Nations Development Programme (UNDP) and United Nations International Strategy for Disaster Reduction (UNISDR) conducted a two-day national workshop on Disaster Database on May 2-3, 2018. The workshop aims to develop consensus on disasters, thresholds and develop standardised templates for data collection, updation and validation to ensure accuracy and quality.

Officials from NDMA and representatives of concerned Central Ministries and Departments, State Governments, UN agencies, Administrative Training Institutes (ATIs), Disaster Management Institutes and Universities participated in the workshop. During the Workshop five technical sessions, Group Presentations and Discussions, Panel discussion on setting up baseline data for damage and loss estimation using 2005-2015 dataset, Discussion on Formation of a "Steering Group for DMIS" and Way forward were held. Issues such as interoperability and security of the data was also discussed.

It was decided to form a Steering Group to oversee the setting up of the database, and guiding trainings and capacity building for operating, maintaining, updating and using the database. The Group will also identify pilot States and draw a road map for implementation of the project.

(ii) **National Workshop on Heat Wave:** In order to prepare for the heat waves in the year 2019, a two-day National Workshop on Heat Wave (Themes: Early Warning, Early Action-Big Impact on Heat Wave Risk Reduction) was organized by NDMA in collaboration with Government of Maharashtra at Nagpur on 27-28 February 2019. The broad objectives of workshop include sharing of experiences and lessons learnt, long term mitigation measures and future course of action on heat wave. The Workshop was attended by representatives of all heat wave prone States, the concerned central Ministries and other stakeholders involved in weather forecasting & mitigation including Research Institutions.

3.9 Formulation of State Disaster Management Plans :

All the 36 States/ UTs have prepared their State Disaster Management Plan (SDMP).

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

(a) For assistance of the Ministries/ Departments of the Govt. of India in preparation of their Disaster Management Plan (DMP), NDMA formulated a 'Suggested Structure for Disaster Management Plan-Departments/ Ministries in the GoI' and circulated the same to all concerned. This is available on NDMA's web site www.ndma.gov.in 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) (As on 31.03.2019) 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 (iv) Ministry of Corporate Affairs and (v) Department of Atomic Energy.
- (d) (As on 31.03.2019) NDMA examined the Disaster Management Plan (DMP) of Ministries/ Departments of (i) Ministry of Railways, (ii) Ministry of Women & Child Development, (iii) Ministry of Power, (iv) Ministry of Steel, (v) Ministry of Mines, (vi) Department of Heavy Industry, (vii) Department of School Education and Literacy, (viii) Ministry of Civil Aviation, (ix) Department of Agricultural Research & Education (x) Ministry of Food Processing Industries, (xi) Ministry of AYUSH (xii) Department of Telecommunications, (xiii) Department of Space, (xiv) Ministry of Information and Broadcasting, (xv) Ministry of Water Resources, River Development and Ganga Rejuvenation (xvi) Department of Fertilizers (xvii) Ministry of Petroleum and Natural Gas and furnished comments for their revision accordingly.

3.11 Scheme under implementation :

- I. Scheme for strengthening of State Disaster Management Authorities

(SDMAs) and District Disaster Management Authorities (DDMAs) : The Scheme "Strengthening of State Disaster Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs)" was approved for implementation in all the States/ UTs for 20 months during 01.06.2015 to 31.03.2019. The date of start of the Scheme was treated as the date from which Disaster Management (DM) professionals were hired under the Scheme. The objective of the Scheme was to improve the effectiveness of SDMA 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.

The Scheme provided for financial support for the following:

- A. State Disaster Management Authorities (SDMAs)
- (i) Hiring of 2/3 Disaster Management (DM) 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 DM professional

@ Rs.40,000/- per month for each of the selected DDMA's 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 DDMA's in the States/UTs.

Except State Government of Tamilnadu and Union Territory of Delhi, all the States/ UTs signed Memorandum of Understanding (MoU) for implementation of the scheme in their respective States/ UTs.

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

(Rs.2234.58 Lakh on States/ UTs and Rs.12.38 Lakh on SIU).

- (i) Implementation of the Sendai Framework for Disaster Risk Reduction: The Scheme - Implementation of the Sendai Framework for Disaster Risk Reduction - has been approved by NDMA at a cost of Rs. 2010.6 Lakh for implementation in all the States and UTs for three years from 2018-19. The Scheme, inter - alia, provides for financial support for hiring of one Disaster Management (DM) professional at SDMA in all States/ UTs. The DM professional will facilitate/ support the State Administration in taking measures for implementation of Sendai Framework for Disaster Risk Reduction. The details of financial

Financial Year	No. of States / Uts to whom fund released	Total amount released to States/ UTs
2015-16	29 (25 States and 4 Uts)	Rs. 1044.40 lakh
2016-17	10 (6 States and 4 Uts)	Rs. 475.66 lakh
2017 - 18	17 (15 States and 2 UT)	Rs.714.51 Lakh
2018 - 19	The Scheme was to be implemented in 2018 - 19 with funds already provided, if the Scheme could not be completed by 31.03.2018.	
	Total	Rs. 2234.58 lakh

3.12 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. 12.38 lakh. Thus, total amount released for the Scheme is Rs. 2246.96 Lakh

support for the components of the Scheme are as under :

- (a) Hiring of one Sr. Consultant at the rate of Rs. One Lakh per month.
- (b) Hiring of one Data Entry

Operator at the rate of Rs.22,000/- per month.

(c) Hiring of vehicle with ceiling of Rs.25,000/- per month for first year, Rs.27,500/- per month for second year and Rs.30,250/- for third year.

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

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

Financial Year	No. of States / UTs to whom fund released	Total amount released
2018-19	31 (29 States and 2 UTs)	Rs. 594.56 lakh

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

the District Administration in taking measures for implementation of Sendai Framework for Disaster Risk Reduction.

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

Financial Year	No. of States to whom fund released	Total amount released
2018-19	28 States	Rs. 524.30 lakh

3.13. NDMA - IRCS Project : First Aid for Students & Teachers (FAST) : NDMA initiated a project in collaboration with Indian Red Cross Society (IRCS) & its technical partner agencies to develop First Aid training modules for Students & Teachers to train them in subsequent phases in both Private & Public Sector Schools across all the States of the Country. The Modules for standard 8th to 10th, 11th & 12th & teachers as well as interactive mobile application for both android and iOS has been prepared.

3.14 " Guidelines for Preparation of Action plan - Prevention and Management of Thunderstorm & Lightning / Squall / Dust / Hailstorm and Strong Winds": NDMA has prepared the 'Guidelines for Preparation of Action Plan- Prevention and Management of Thunderstorm & Lightning/ Squall/ Dust/ Hailstorm and Strong Winds' and uploaded on the NDMA website. Consequently, NDMA has requested States to prepare their own Action Plan and responsibility matrix. Further, the States have been asked to upload the same on their website and also for information of all stakeholders within the State.

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 (MPCSs), Roads, Bridges, Saline Embankments and capacity building for multi-hazard risk management. The Project has since closed on 31.12.2018.

Project Components

4.2 The project had four Components as mentioned below:

Component	Description	Outlay (Rs. in Cr.)
A	Early Warning and Dissemination System (EWDS)	132.00
B	Construction of Cyclone Risk Mitigation Infrastructure viz. - Multi-purpose Cyclone Shelters (MPCS) - Evacuation Roads - Bridges - Saline Embankments.	2223.67
C	Technical assistance for Cyclone Hazard 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 of NCRMP Phase-I (Andhra Pradesh and Odisha)

4.3 Under NCRMP Phase-I, 535 Multi purpose Cyclone Shelters, 1086 Kms of Roads, 32 Bridges and 88.12 Kms Saline Embankment have been completed. As regards EWDS, 275 Nos. Alert sirens, 476 Nos. Digital Mobile Radio and 34 Nos. Satellite Terminals have been procured and installed.

4.4 Three Technical Studies, viz: (i) The

Coastal Hazard, Risk and Vulnerability Assessment (ii) Preparing Long Term Training and Capacity Building Modules; and (iii) Post Disaster Needs Assessment (PDNA) have been completed.

Financial Management :

4.5 Rs.1983.85 crore (Government of India share) has been released upto December, 2018 and Rs. 1824.64 crore expenditure (Government of India share) incurred upto March, 2019.

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



Approach Road in West Godavari District



Bridge in Guntur District

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



MPCS in Puri District

NCRMP Phase-II

4.6 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. 2361.35 crore. The World Bank assistance amounts to the tune of Rs.1881.20 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.

Project Components:

4.7 The project has four components as mentioned below:

Component	Description	Outlay (Rs. in Cr.)
A	Early Warning and Dissemination System (EWDS)	110.50
B	Construction of Cyclone Risk Mitigation Infrastructure viz. - Multi-purpose Cyclone Shelters (MPCS) - Evacuation Roads - Bridges - Saline Embankments - Underground Cabling	1920.60
C	Technical assistance for Cyclone Hazard Risk Mitigation, capacity Building and Knowledge Creation.	179.95
D	Project Management and Implementation Support.	150.30
	Total	2361.35

Implementation Status

Component -A (Early Warning Dissemination System)

4.8 States of Goa, Maharashtra, Karnataka and Kerala have engaged TCIL as their

Knowledge Partner/Technical Consultant to provide assistance for implementation of Early Warning Dissemination System (EWDS). West Bengal and Gujarat have engaged PWC and KPMG respectively as their Knowledge Partner.

Component-B (Cyclone Risk Mitigation Infrastructure)

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



MPCS in Surat District



MPCS in Bharuch District

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



MPCS in South 24 Parganas District



MPCS in South 24 Parganas District

4.9 Physical Progress and Achievement (State-wise)

Sl. N.	States	Component	Total to be constructed	Completed	Under Execution
1	Goa	MPCS	12 Nos.	0	10 Nos.
		Saline Embankment	15.6 Km	0	0
		Underground Cabling	98 Km	0	0
2	Gujarat	MPCS	95 Nos.	26 Nos.	67 Nos
		Roads	157 Km	129 Km	28 Km
3	Karnataka	MPCS	11 Nos.	0	11 Nos.
		Roads	48 Km	45 Km	3 Km
4	Kerala	MPCS	17 Nos	0	2 Nos.
5	Maharashtra	MPCS	12 Nos.	0	0
		Saline Embankment	32Km	0	0
		Underground Cabling	471 Km	0	0
6	West Bengal	MPCS	146 Nos.	105 Nos.	41 Nos.
		Underground Cabling	515 Km	0	500 Km

Component- C (Technical Assistance & Capacity Building)

This component consists of undertaking following studies:

- Hazard, Risk & Vulnerability Study: Probabilistic Modeling & Development of Dynamic Web based Composite Risk Atlas of coastal States is in progress.
 - Benefit Monitoring & Evaluation: The study is in progress.
 - Designing National Seismic Risk Mitigation Programme (NSRMP): Selection of Consultant is underway.
 - Hydro-meteorological Resilience Action Plan: Expression of Interest (EoI) are being evaluated for shortlisting of consultants.
- 4.10 Rs. 886.65 crore (Government of India share) has been released to the States upto March, 2019 and Rs. 680.60 crore

expenditure (Government of India share) incurred upto March, 2019.

Initiatives by Mitigation Division, NDMA

- 4.11 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:-
- 4.12 50 cyclone shelters 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 and handed over to the Govt of West Bengal.



Construction of Cyclone Shelter at Haridashkati in North 24 Parganas District



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

Construction of Evacuation cum Community Centre at Minicoy Island of Lakshadweep

4.13 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 completed shortly.

reports of 50 cities/ towns and Bareilly district in May 2018, which was discussed in the Project Technical Committee (PTC) meeting of EDRI held on 25.05.2018. The PTC of EDRI has advised IIIT Hyderabad to revisit the requisite data sets provided by respective cities/ towns and further recheck the calculation of EDRI of cities/ towns. In this regard, IIIT Hyderabad alongwith NDMA representative visited two cities namely Meerut and Gurugram on 9-11 July 2018 to cross check and revalidate the grand data for calculation of EDRI.



Birdseye view of proposed shelter at Minicoy Island, Lakshadweep

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

EARTHQUAKE :

Earthquake Disaster Risk Index (EDRI)

4.14 IIIT Hyderabad submitted the revised report of EDRI alongwith individual

4.15 The draft final report has been submitted by IIIT Hyderabad in March 2019. Further, the report has been sent to PTC committee members for their comments and feedback. The project is likely to be completed by June 2019.

Earthquake Safety Assessment of Buildings in India

4.16 IIIT Hyderabad submitted the draft PRIMER on Rapid Visual Screening (RVS) of buildings to NDMA on 29.06.2018, which was examined in NDMA and sent observations on 31.07.2018. Final primer is awaited from IIIT Hyderabad.

Development of Simplified Guidelines for Earthquake Resistant Built Environment

4.17 NDMA is associated with BIS to develop simplified guidelines based upon BIS codes and NBC-2016, explaining the basic requirement of earthquake resistant constructions in the interest of common man and public as a whole. In this regard, draft guideline has been prepared through Working Group (WG) and sent to Convener of the WG for his comments.

4.18 As per the decision of the previous meeting regarding identification of cartoonist for depiction of pictorial/ illustrations in simplified guidelines, the members of Working Group decided that CBRI Roorkee, (is having adequate experience in pictorial representation of the salient structural aspects) has to develop cartoons through professionals depicting the salient features of BIS codes and NBC-2016 in pictorial/ cartoon format. Accordingly, NDMA has requested CBRI Roorkee to send the proposal to add the illustrative/pictures in the simplified guidelines.

Creation, Periodic Review & Updation/Revision of Building Codes

4.19 Based on the deliberations of CED 39 Committee of BIS, BIS requested NDMA to fund for the R&D project on 'Probabilistic Seismic Hazard Map', 'Seismic Design of Pipelines-Code of Practice', 'Performance

Based Design and Seismic Design' and 'Detailing of New Structures-Steel Buildings'.

4.20 Further, NDMA has decided to fund Rs. 35 lakhs for the abovementioned 4 Codes. The MoU for R&D work on Probabilistic Seismic Hazard Map of India has been approved and ready for signing. The work for the same is likely to be commenced in June 2019. Draft MoU for R&D work on other 3 codes is under preparation.

Development of Resource Materials on Earthquake Engineering

4.21 NDMA has taken an initiative to develop 12 identified subjects on Earthquake Engineering/Architecture in book form 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.

4.22 In this regard, NDMA has constituted a Core Group of the subject experts to prepare the detailed outline after prioritizing the subjects to be part of the curriculum of earthquake engineering at undergraduate level. 1st meeting of the Core Group was held on 08.09.2018 at IIT Bombay. In the meeting, outline for the 5 subjects have been finalized and the detailed content in terms of sub-topic with the brief summary is being developed for the identified outline for each subject.

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

4.23 NDMA has decided to prepare

Compendium of Traditional Earthquake Resilient Construction Practices for Knowledge Sharing and Disaster Risk Reduction. In this regard, NDMA has sought willingness from Institutes of National Importance. CBRI Roorkee, IIT Delhi, NIT Srinagar and NIT Hamirpur have shown interest. Further, technical and financial proposal has been received from NIT Hamirpur and IIT Delhi. The same is under examination in NDMA.

LANDSLIDE :

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

4.24 NDMA has sanctioned the pilot project on "Generation of Meso Level 1:10,000 Scale User Friendly LHZ Maps and landslide Inventory for Tapovan-Vyasi Corridor of Haridwar-Badrinath National Highway, Uttarakhand" in collaboration with Remote Sensing Application Centre (RSAC)- UP (Lucknow) in which Survey of India (SoI) and Geological Survey of India (GSI) will provide their inputs. Creation of Landslide Hazard Zonation (LHZ) maps of 1:10,000 Scale and landslide inventory will be done by high resolution satellite data.

4.25 The total estimated cost of the project is Rs. 23,00,000 (Rupees Twenty Three Lakhs only). Out of which Rs. 9,00,000 (Rupees Nine Lakh only) was released to RSAC-UP on 21st May, 2018. The present status of the project is as under:

(a) Project scientist has been recruited by RSAC, UP

- (b) 0.5 km buffer and Area of Interest (Aoi) has been created on GIS.
- (c) Geo-referencing of available maps and image.
- (d) Creation of thematic layers of Road, Settlements, Drainage, Active Slide etc.
- (e) Team of RSAC-UP had done a field study and collected relevant data.
- (f) Survey of India (SoI) is creating base map of 1:10,000 scale and 5m contour interval of 30 km road stretch with 0.5 km buffer along Tapovan to Vyasi route corridor which is under finalization.

Development and Evaluation of Low-Cost Landslide Monitoring Solutions

4.26 A pilot project on "Development and Evaluation of Low-Cost Landslide Monitoring Solutions" in collaboration with IIT Mandi for the development of low cost sensors and other instruments for landslide monitoring through Micro-Electro Mechanical Systems (MEMS) based sensors technology was sanctioned by NDMA. Lab scale simulation and testing of sensors with deployment in the field was completed and monitoring of landslide is under progress in this project.

4.27 The total estimated cost of the project is Rs. 27,85,080 (Rupees Twenty Seven Lakh Eighty Five Thousand and Eighty only). Out of which Rs. 5,05,788 (Rupees Five Lakh Five Thousand Seven Hundred Eighty Eight only), Rs. 12,51,614 (Rupees Twelve Lakh Fifty One Thousand Six Hundred Fourteen only) and Rs.5,83,767 (Rupees Five Lakh Eighty Three Thousand Seven Hundred sixty seven only) were

released to IIT Mandi on 8th Dec, 2017 and 31st May, 2018 and 30th March 2019 respectively. The present status of the project is as under:-

- (a) Hiring of contractual manpower and procurement of equipment completed.
- (b) Development of Prototypical low cost MEMS based LMS completed.
- (c) Performing lab scale simulation on the LMS completed.
- (d) Site selection with surficial deployment of equipment as completed and sub surface deployment is under progress.

Landslide Risk Mitigation Scheme (LRMS)

4.28 NDMA has conceptualized and formulated a Central Sector Scheme "Landslide Risk Mitigation Scheme (LRMS)", which envisages financial support to landslide prone States for site specific landslide mitigation. LRMS is a pilot scheme to demonstrate benefits of landslide mitigation measures along with landslide instrumentation, awareness programme, capacity building and training. NDMA's cost ceiling of Rs. 15.00 crore is proposed for each landslide affected site or group of sites adjacent to each other. The DPR will be approved by the Technical Evaluation Committee (TEC) of NDMA. MoU will be signed with State after approval of the scheme and DPR.

4.29 Twelve States namely Uttarakhand, Mizoram, Nagaland, Sikkim, Himachal Pradesh, West Bengal, Maharashtra, Goa, Tamil Nadu, Assam, Jammu & Kashmir and Madhya Pradesh have responded to NDMA proposal for mitigation of landslide sites under this scheme. Seven

meetings of TEC have been conducted for scrutiny and evaluation of DPRs submitted by the States of Sikkim, Mizoram, Goa, Nagaland, Himachal Pradesh, Uttarakhand and Assam. DPRs submitted by Uttarakhand, Sikkim and Nagaland have been recommended by Technical Evaluation Committee (TEC) for financial support and remaining States are revising their DPRs as per TEC scrutiny and their technical evaluation will be carried out by TEC in subsequent meetings.

4.30 Other States such as Himachal Pradesh, Maharashtra etc. are in the process of preparation of DPR. An SFC of Rs. 44,899 crores is prepared by NDMA and submitted to MHA for approval of the scheme.

Training Programmes on "Landslide Mitigation and Detailed Project Report (DPR) Preparation".

4.31 NDMA has approved the training programmes for two and five days on "Landslide Mitigation and Detailed Project Report (DPR) Preparation" in collaboration with expert institution like IIT, CBRI, CRRI IISc etc. to impart training to the State Governments officials since the State Governments facing difficulties in preparing the DPR on landslide mitigation and stabilization. NDMA has requested to all landslides affected States/UTs to submit a DPR on the basis of NDMA template for preparation of DPR for site specific landslide risk mitigation. It has been found that States/UTs are facing difficulty in preparation of sound technical DPR. Therefore, NDMA decided to take pro-active steps in States/UTs to impart training to the State Government Officials of two and five days training programmes on landslide management.

4.32 Accordingly, three 2 days training programmes were conducted at Central Road Research Institute (CRRRI), New Delhi from 7th to 8th September, 2018 and Central Building Research Institute (CBRI), Roorkee from 17th to 18th January, 2019 with budgetary support of Rs. 2,50,000 per training and at YMCA, New Delhi from 18th to 19th March, 2019 in collaboration with National Institute of Disaster Management (NIDM), New Delhi without any budgetary support from NDMA. All the three 2 days training programmes successfully conducted.

4.33 One 5 days training programme was conducted at IIT-Mandi, Himachal Pradesh from 27th to 31st August, 2018 and next training programme is to be conducted at Indian Institute of Science (IISc), Bangalore, Karnataka from 6th to 10th May, 2019 with budgetary support of Rs. 7,60,200/- (approx) per training from NDMA.

National Landslide Risk Management Strategy

4.34 NDMA has constituted a Task Force of experts for formulation of National Landslide Risk Management Strategy. The National Landslide Risk Management Strategy has been planned through six independent sub-groups. The six major components of sub-groups are as under:-

- i) Generation of User-Friendly Landslide Hazard Maps
- ii) Development of Landslide Monitoring and Early Warning System (EWS)
- iii) Awareness Programmes
- iv) Capacity Building and Training of stakeholders

- v) Preparation of Mountain Zone Regulations and Policies
- vi) Stabilization and Mitigation of Landslides and Creation of Special Purpose Vehicle (SPV) for Landslide Management

4.35 The overall strategy was prepared by Group of Head of Sub-Groups. All Heads of Sub-Groups have finalized and submitted their sub-group documents. Now, strategy document is under finalization and printing in NDMA.

CBRN :

Mobile Radiation Detection Scheme (MRDS)

4.36 NDMA has taken up a pilot project under which police personnel in 56 select cities will be trained and equipped for management of radiological emergency in public place. The project includes supply of radiation instruments, personnel protection equipments, preparation of SOP and training. Supply of PPEs to all the locations has been completed. Supply of radiation instruments to 14 locations has been completed and are still in progress. The project is expected to be completed during the coming financial year.

Basic Training Programme on CBRN Emergency Management for Airport Emergency Handlers (AEH):

4.37 NDMA has taken an initiative to improve the preparedness against any CBRN emergency in the airports by conducting training for the airport staff. Under the training programme, select batch of staff responsible for O&M, including security and safety, at 12 major airports, were

imparted one week training; Resources from domain departments including DAE, DRDO, NDRF, MoH&FW etc. were utilized in the programme. Training of AEH at Varanasi, Patna, Ahmedabad, Hyderabad, Chandigarh, Raipur, Bengaluru, Thiruvananthapuram and Delhi were covered during the period. Under the programme 585 AEH have been trained and additionally, about 2250 working level staff were sensitized on CBRN Emergency management.

GIS :

Basic training programme on CBRN Emergency Management for Sea Port Emergency Handlers

4.38 National Disaster Management Authority (NDMA) is conducting a basic training programme to enhance the preparedness of Seaport Emergency Handlers to respond against CBRN emergencies, encompassing threats emanating from the use of Chemical, Biological, Radiological and Nuclear material at the seaports. The training programme is being conducted in collaboration with the Indian Ports Association (IPA), Institute of Nuclear Medicine and Allied Sciences (INMAS) and National Disaster Response Force (NDRF). The total cost of the project is Rs. 69.15 lakh. Out of Rs.69.15 lakh, NDMA share is Rs.7.35 lakh for developing study material, procuring stationery/training kits, etc. The amount of Rs.7.35 lakh has been released to INMAS during 2018-19. Two training programmes were successfully completed at New Mangalore Port Trust and Cochin on 11-15th Feb, 2019 and 11-15th March, 2019 respectively.

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

4.39 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 of cost of Rs. 3.30 cr. Out of this expenditure Rs. 2.25 cr. incurred till date. The following work has been completed:

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

Second International Workshop on Disaster Resilient Infrastructure (IWDR 2019)

- 4.40. The Second International Workshop on Disaster Resilient Infrastructure (IWDR) was held in New Delhi on 19th - 20th March 2019. The workshop was organized by the National Disaster Management Authority (NDMA), Government of India, in collaboration with the United Nations Office for Disaster Risk Reduction (UNDRR), and in partnership with the United Nations Development Programme (UNDP), the World Bank Group and the Global Commission on Adaptation (GCA).
- 4.41 The event brought together more than 270 participants from 34 national governments, multilateral development banks, United Nations agencies, the private

sector, policy think tanks and academia. The workshop was held in the context of the Government of India's proposal to establish a global Coalition for Disaster Resilient Infrastructure (CDRI). Over two days, the participants deliberated on the importance of facilitating disaster and climate resilient infrastructure including through risk assessments, standards and regulation, recovery and reconstruction and appropriate financial, governance and institutional arrangements.

- 4.42 The Outcome Document of the workshop, drafted in consultation with the participants, recognised the broad-based international appreciation and support of the leadership role taken by Government of India by proposing to set up the Coalition for Disaster Resilient Infrastructure (CDRI).



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 of Community Volunteers in Disaster Response in selected 30 most flood prone districts of 25 States of India.

5.3 The NDMA has approved a Central Sector scheme in May, 2016 which is focused on training 6000 community volunteers (200 volunteers per district) in disaster response in 30 most flood prone districts 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, Uttrakhand and West Bengal. The said scheme aims to provide the community volunteers with the skills that they 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 @Rs. 22,70,000/- per district (50%) have been released during the period from February – May, 2017 to all Project States. 2nd and final installment @Rs. 22,70,000/- per district (50%) has been released to 26 districts of 21 States i.e. Assam, Arunachal Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttrakhand and West Bengal. A total number of 4221 community volunteers have been trained by 23 Project States so far. The implementation period of the project is upto 31st March, 2020.

Project on “Sustainable Reduction in Disaster Risk” in 10 Multi-Hazard prone districts of 5 States of India.

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 Uttrakhand. The first installment of funds @ Rs. 39,63,200/- (40%) and second installment @Rs. 29,72,400/- (30%) has been released to all 5 project States under the scheme. Third installment has also been released to State of Himachal Pradesh and Uttrakhand. The implementation period of the scheme is upto 31st March, 2020.

Project on “Capacity Building on Disaster Management for IAS and Central Services Officers” at CDM 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, 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. First installment of Rs. 37,87,000/- (60%) for F.Y. 2018-19 has been released to CDM, LBSNAA during the month of September, 2018 and 2nd installment of Rs.25,50000/- (40%) for FY 2018-19 was also released in February 2019. In addition, NDMA has sanctioned an amount of Rs.30.87 lakhs in February, 2019 to carry out two case studies i.e Kerala Flood- 2018 Enquiry into causes and Risk Mitigation Strategy and Heat Wave Management in Andhra Pradesh and Telangana : Efficacy of Heat Wave Guidelines & Action Plans. During the F.Y. 2018-19 (as on 31st December, 2018), CDM, LBSNAA has trained a total number of 1063 officers in Disaster Management.

National School Safety Programme (NSSP)

5.6. The “National School Safety Programme (NSSP)”, a Central Sector Demonstrative

Project of the GoI, was implemented by NDMA in partnership with the State/UT Governments. The project covered 200 schools in each of the selected 43 districts (a total of 8600 schools) spread over 22 States/UTs of the country falling in seismic zones IV & V with the aim to sensitize children and the school community on disaster preparedness and safety measures. The implementation period of the programme was upto 31st March, 2019. Out of 22 project States/UTs 15 States have submitted the Utilization Certificate. Reminders are being issued to remaining States with request to submit the complete Utilization Certificate and project report etc. at the earliest.

- 5.7. The Child Centered Disaster Risk Reduction and Education Sector Mexican delegation comprising of 15 Members visited NDMA on 30th November, 2018 to share experience on comprehensive school safety, but also other relevant disaster risk reduction initiatives.

Meeting between NDMC, South Africa and NDMA, GoI:

- 5.8 A meeting was held between NDMA officials and South African Delegation headed by Dr. Mmaphaka Tau, Head, National Disaster Management Centre (NDMC), Department of Co-operative Governance and Traditional Affairs, Govt of the Republic of South Africa on 6th February, 2019 to discuss various issues including the BRICS Joint Action Plan (JAP) 2018-2020 and areas of possible bilateral collaboration.

Meeting of Indian Ocean Rim Association (IORA) Member States:

- 5.9 NDMA (MHA) in collaboration with MEA,

NDRF and Indian Ocean Rim Association (IORA) Secretariat successfully organized the "Meeting of IORA Cluster Group on Disaster Risk Management (DRM)" from 5-6 February, 2019 at the Pravasi Bhartiya Kendra in New Delhi. The meeting was attended by various stakeholders from Government, delegates from eight IORA Member States, including India, Indonesia, Mozambique, Sri Lanka, Australia, Bangladesh, Malaysia, Oman and the current IORA Chair, South Africa. The meeting resulted in the formulation of an aspirational DRM Work Plan (DRMWP) which will be instrumental in enhancing regional collaboration among the IORA Member States.

2nd BIMSTEC Disaster Management Exercise in India 2019-20:

- 5.10 The Government of India has decided to host the 2nd BIMSTEC Disaster Management Exercise in 2019 in New Delhi. In this connection, an Inter - Ministerial meeting was held in NDMA on 11th February, 2019. It was decided to organize the Preparatory Meeting in August, 2019 and the Exercise in October, 2019. A training programme on Capacity Building of Officials from BIMSTEC Countries in the area of Disaster Management will be held at GIDM, Gujarat. NDMA has also prepared a Concept Note on BIMSTEC Disaster Management Cooperation and submitted to MHA and MEA on 26th March, 2019. The Joint Secretary (PP/CBT), NDMA has also been nominated for Inter - Governmental Expert Group who will lead the Indian Expert Group. The 1st Meeting of the Inter - Governmental Meeting is also proposed to be held on 28th August, 2019.

Conduct of Joint SCO Mock Exercise on Urban Earthquake Search & Rescue for SCO Member Countries, Expert Level Meeting, and Tenth Meeting of the Heads of Departments of Disaster Prevention of SCO Member States:

5.11 The Government of India had decided to organize a Joint SCO Mock Exercise - 2019 on Urban Earthquake Search & Rescue for SCO Member Countries on 21st - 24th February, 2019 in New Delhi and an Expert Level Meeting on 24th February, 2019 (A/N) and the Tenth Meeting of the Heads of Departments of Disaster Prevention of SCO Member States on 25th February, 2019. In this connection, a Preparatory Meeting for smooth conduct of SCO Joint Exercise - 2019 was held on 1-2 November, 2018 in Le Meridien Hotel, New Delhi. A three day Joint EXCON Meeting cum Training of SCO Joint Exercise 2019 was also organized by NDRF on 6th - 8th February, 2019 in New Delhi. Six (6) SCO Member States including India had participated in the training programme. However, due to National Mourning for Pulwama tragedy in February, 2019, the events were deferred on a later date.

Now, NDMA in consultation with NDRF has sent the proposed dates to MHA for organizing the Joint SCO Mock Exercise - 2019, the Expert Level Meeting, and the Tenth Meeting of the Heads of Departments of Disaster Prevention of SCO Member States on 9th - 12th December, 2019; 12th December, 2019 (A/N); and 13th December, 2019 respectively.

National Disaster Management Guidelines on School Safety Policy

5.12 In compliance to the directions of Hon'ble Supreme Court of India made on 14th

August, 2017, the National Disaster Management Guidelines on School Safety - 2016 are being implemented in time bound manner in all schools of India. For monitoring the implementation of the guidelines, a Joint Monitoring Committee (JMC) has also been constituted with Members from Department of School Education & Literacy (MoHRD) and NDMA in October, 2017. The JMC Meeting is being held regularly, the last JMC meeting was held on 23.01.2019 under the Chairmanship of JS(PP/CBT), NDMA to review the efforts taken by State Government. The report is being compiled regularly.

National Disaster Management Guidelines on Hospital Safety:

5.13 Considering the safety of Hospitals for human life, NDMA has formulated National Disaster Management Guidelines on Hospital Safety - 2016 so that the hospitals are not just better prepared but fully functional immediately after disasters and are able to respond without any delay. These Guidelines are statutory in nature and are required to be complied with. For monitoring implementation of the Guidelines, NDMA has devised a standard reporting template and circulated it to all States/UTs with request to implement the Guidelines in all hospitals and submit quarterly reports to NDMA. The report is being compiled regularly.

Conduct of DM Exhibition and Mock Drills in Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Cities:

5.14 As per the Action Points emerged during DsGP/ IsGP Conference-2018, DM

Exhibitions and Mock Drills to be held in all AMRUT Cities (500) covering major educational institutions.

- 5.15 NDMA has devised broad guidelines for conducting the said activities and a reporting format and circulated them to all States/UTs with request to conduct the said activities in all the schools of AMRUT City one by one throughout the year on a continuous basis and submit a detailed plan of action and quarterly reports to NDMA, MHA, MoUD and MHRD. The report is being compiled regularly.

International Cooperation

5.16

- Shri Anil Kumar Sanghi, Joint Secretary, NDMA attended the ATA-IN16SCMS01 Seminar on Crisis Management from 9th - 13th April, 2018 in Washington, USA.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA attended 2nd Asian Science and Technology Conference for Disaster Risk Reduction from 17th - 18th April, 2018 in Beijing, China.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA attended ISDR Asia Partnership (IAP) Forum from 24th - 25th April, 2018 in Ulaanbaatar, Mongolia.
- Lt. Gen. N. C. Marwah (Retd.), Member, NDMA participated in the EAS International Disaster Assistance Workshop from 8th - 10th May, 2018 in Perth, Australia.
- Shri Kamal Kishore, Member, NDMA participated in the Understanding Risk Forum and Spring 2018 Consultative Group (CG) of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR) meeting from 14th - 18th May, 2018 in Mexico City, Mexico.
- Brig. Ajay Gangwar, Advisor, NDMA participated in 11th International Integrated Safety & Security Exhibition (ISSE - 2018) from 6th - 9th June, 2018 in Moscow, Russia.
- Shri Pradeep Kumar, Additional Secretary & Project Director, NCRMP attended BRICS Ministers for Disaster Management meeting and related meetings from 29th June - 1st July, 2018 in East London, South Africa.
- Shri R.K. Jain and Shri Kamal Kishore Members, NDMA attended AMCDRR 2018 from 3rd - 6th July, 2018 in Ulaanbaatar, Mongolia.
- Shri Ravinesh Kumar, Financial Advisor, NDMA attended an Executive Program on Disaster Risk Finance at Cambridge University from 16th - 20th July, 2018 in United Kingdom
- Lt. Col. Rahul Devrani, Joint Advisor, NDMA attended Centre for Excellence in DM and Humanitarian Assistance upcoming Health Emergencies in Large Population (H.E.L.P.) from 30th July - 10th August, 2018 in Honolulu, USA
- Col. Amit Khosla, Joint Advisor, NDMA attended Working Group meeting of SCO on National Comprehensive system of alerting public in emergency situation on 23rd August, 2018 in Bishkek, Kyrgyz Republic

- Shri Ravinesh Kumar, Financial Advisor, NDMA attended Regional Forum on Strengthening the Enabling Environment for Disaster Risk Financing: Options for Enhancing Financial Resilience from 25th - 26th September, 2018 at ADB Headquarters, Manila, Philippines.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA participated in Exploring the role of New Technologies to Address Disaster Risk from 1st - 5th October, 2018 in San Francisco Bay Area and Silicon Valley, California.
- Shri Kamal Kishore, Member, NDMA attended 2nd Indo - Japan Workshop on Disaster Risk Reduction from 13th - 15th October, 2018 in Tokyo, Japan.
- Shri Kamal Kishore, Member, NDMA attended the Fall 2018 Consultative Group meeting of Global facility for Disaster Reduction and Recovery (GFDRR) including Knowledge Partnership Day and ACP Forum Day of the GFDRR from 7th - 9th November, 2018 in Brussels, Belgium.
- Dr. V. Thiruppugazh, Joint Secretary, NDMA attended Technical Forum on Sendai Framework Monitoring (SFM) process from 27th - 29th November, 2018 in Bonn, Germany.
- Shri Nawal Prakash, Sr. Research Officer, NDMA attended 14th RCC Meeting on Disaster Management from 3rd - 5th December, 2018 in Kathmandu, Nepal.
- Dr. Pavan Kumar Singh, Joint Advisor, NDMA attended APCSS Workshop - Integrating Private, Civil and Public Sector Disaster Response from 11th - 13th December, 2018 in Taipei, Taiwan.
- Shri Pradeep Kumar, Additional Secretary & Project Director, NCRMP attended ISDR Asia Partnership Forum and a consultative workshop focusing on Sendai Framework Target E on national and local disaster risk reduction strategies from 11th - 14th December, 2018 in Bangkok, Thailand.
- Lt. Col. Rahul Devrani, Joint Advisor, NDMA attended 13th meeting on Nepal - India Bilateral Consultative Group on Security issues with Government of Nepal from 13th - 14th December, 2018 in Kathmandu, Nepal.
- Brig. Ajay Gangwar, Advisor, NDMA attended the High - level Expert Consultation on Disaster Information Management from 18th - 19th December, 2018 in Tehran.

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, a Scheme to provide financial support to all the States

/ Union Territories (UTs) for conduct of State/UTs/District Level Mock Exercises (ME) was launched in the year 2016-17. Under this scheme, Rupees (Rs.) One lakh is provided per Mock Exercise. Rs.4.19 Crore and Rs.1.17 Crore was released in Financial Year 2016 -2017 and 2017-2018 respectively to various States / UTs for conducting MEs as per their demands. During current Financial Year 2018-2019, Rs. 2.54 Crore has been released till date under this Scheme.

Mock Exercises

6.2 Till now 788 Mock Exercises have been conducted by National Disaster Management Authority (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 as given below:-

S.No.	Date	Type of Disaster Scenario	Place and State
(a)	12.04.2018 to 26.04.2018	Multi State Level Mega ME on Earthquake.	Simultaneously in 08 districts of Tripura, 07 districts of Mizoram and 11 districts of Nagaland.

Orientation and Coordination Conference, Mizoram



(b)	05.06.2018 15.06.2018	to	State Level Mega Mock Exercise on Flood preparedness.	Uttar Pradesh (For 24 most flood prone districts).
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(c)	19.06.2018 25.06.2018 (Recce of Sites)	to	ME for Amarnath Yatra -18	Baltal in Ganderbal District and Pahalgam in Anantnag District in J&K
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Baltal in Ganderbal District and Pahalgam in Anantnag District in J&K



ME before Start of Amarnath Yatra -2018

(d) 17.09.2018 & 25.09.2018 Multi State ME on Earthquake.

Orientation Conference & Coordination Conference at Sikkim



(e) 23.10.2018 (Orientation & Coordination Conference) State Level Mega ME on Earthquake.
30.10.2018 (Table Top Exercise) & 31.10.2018 (ME).

Orientation Conference & Coordination Conference at Meghalaya



(f)	01.11..2018 (Orientation & Coordination Conference) 19.12.2018 (Table Top Exercise) & 20.12.2018 (ME). State Level Mega ME on Earthquake.	Assam	Orientation Conference & Coordination Conference at Assam
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(g)	27.12.2018 (Orientation & Coordination Conference) 28.12.2018 (Table Top Exercise) & 29.12.2018 (ME). 11.01.2019 Coordination Conference during Final ME before start of Kumbh Mela	ME on Preparation for Kumbh Mela	Prayagraj Distt. UP
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Orientation Conference & Coordination Conference at Prayagraj distt.



- 6.3 Capacity Building of Civil Defence Volunteers: A Scheme for training Civil Defence Volunteers in Disaster Management was undertaken by the NDMA for the Financial Year 2018-2019. Under this Scheme, Civil Defence Volunteers were imparted 21 days training at State Fire Services Training Institutes. Rs. 5 Lakh were provided for each batch of 30 Civil Defence Volunteers. A total of 17 courses were conducted in the states of Odisha, Assam, Andhra Pradesh and Karnataka.
- 6.4 Incident Response System (IRS) Training: 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 (ESF) of the State Govt. and District Administration to address the needs of affected community during any type of disaster. During the year 2018-19, IRS training capsules have been conducted by NDMA in the States of Tripura, J&K, Chattisgarh, West Bengal, Uttar Pradesh and Maharashtra on 11.04.2018, 22.06.18, 17.9.18, 18.9.2018, 19.12.2018 and 11 Jan 2019 respectively. Three IRS trainings have been planned in the States of Uttarakhand on 11.10.2019, Bihar on 23.10.2019 and in UT of Lakshadweep on 17.10.2019.
- 6.5 Humanitarian Assistance and Disaster Relief (HADR) Exercises: Armed Forces conducted the following HADR Exercises in collaboration with NDMA.
- (a) HADR Exercises on Cyclone at Kochi (Kerala) conducted by Navy on 05.04.2018.
- (b) HADR Exercises on Earthquake at Allahabad conducted by Air Force from 25.09.2018 to 26.09.2018.
- (c) The HADR Exercise on Earthquake by the Army in Rajasthan conducted from 11 to 12 Feb. 2019.
- 6.6 Capacity Building of SDRF :
- (a) NDMA facilitated training of SDRF of various States / UTs at the following training institutes of CAPFs.
- (i) CTC, CRPF, Coimbatore.
- (ii) BIDR, BSF Academy, Tekanpur, Gwalior
- (iii) FSTI, NISA, CISF, Secunderabad
- (iv) NITSRDR, ITBP, Bhanu, Panchkula, Chandigarh.
- (b) The following type of courses were conducted towards capacity building of SDRF.
- (i) ToT Course MFR / CSSR
- (ii) Basic Course MFR/CSSR
- (iii) Basic Course CBRN
- 6.7. Kerala Floods 2018: The response to Kerala floods 2018 was a highly coordinated effort between the State and Central agencies. The response and relief was being monitored at the highest level by the National Crisis Management Committee (NCCMC). NDMA participated in NCCMC meetings. NDMA organised a meeting to facilitate the coordination between Non Governmental Organisations (NGOs) and Kerala to ensure the coordination of relief efforts for the State. A team comprising Members, NDMA and Joint Secretary, NDMA conducted field visits in Kerala

during 30.08.2018 to 01.09.2018 and held meetings with Chief Secretary and other officers of State Government.

6.8 Indonesia Tsunami 2018: Government of India had approved to provide relief materials worth US \$ 1 million to Tsunami hit Indonesia. NDMA coordinated the move of the relief material by air on short notice with various stakeholder ministries and departments. The relief material moved by air consisted of field hospital, medicines, tents, generators and fuel. Approximately 40 doctors and paramedics also moved to Indonesia alongwith above items.

6.9. Workshops and Seminars:

i) Jammu and Kashmir State Disaster Management Authority (SDMA) in collaboration with NDMA conducted a three day Seminar on SDRF and Disaster Management from 03.10.2018 to 05.10.2018 at Srinagar which was attended by a representative from NDMA and officials of Jammu & Kashmir Disaster Management Department, SDMA, SDRF, Jammu & Kashmir Police, Air Force, Para Military Forces and other concerned officials. The seminar culminated in a Mock Exercise.



Seminar on SDRF and Disaster Management at Srinagar.

- ii) A presentation on implementation of the 'Integrated Control Room for Emergency Response' given by the representative of NDMA on 31.10.2018.
- iii) A presentation on Management of CBRN issues Fire Safety and Search & Rescue at LBSNAA, Mussoorie.
- iv) A presentation on Disaster Management in India at the SVP-NPA, Hyderabad.
- v) A presentation cum lecture was rendered to GAIL, New Delhi, on "Chemical Industrial Disaster Risks - Preventive Measures and Response".
- vi) A presentation -cum-lecture on Management of CBRN issues at Indian Air Force School of NBC Protection, New Delhi.

6.10. National Disaster Management Services (NDMS) Communication Network:

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 communication among EOCs of disaster affected districts, respective State, MHA, NDMA and NDRF. Communication from the disaster site can be made through hand held I-Sat Phones. Project has been completed on 31.03.2019. The schematic diagram of VSAT communication under NDMS pilot project at 120 locations is as under.

6.11 NDMS Pilot Project Training: Under NDMS Pilot Project, NDMA has conducted 05 training workshops in which 128 personnel from various States/UTs/MHA/NDMA/NDRF have been trained so far. It has also conducted 02 days training workshops on NDMS Pilot Project at 12 BSNL RTTCs across the country in the month of Jan 2019. Training on HAM Radio was also conducted by NDMA.

6.12. SUBHASH CHANDRA BOSE AAPDA PRABANDHAN PURASKAR

To recognize the excellent work done by individuals and institutions in the field of Disaster Management, Government of India in 2018 decided to institute an annual award. The award shall be called Subhash Chandra Bose Aapda Prabandhan Puraskar. There are total 3 awards to be announced on 23rd January of each year. Both Individuals and institutions are eligible for it. The award carries an amount of Rs. 51,00,000/- for institution and Rs. 5,00,000/- for individual.

NDMA formulated the SOP and processed applications for the year 2018. To process it, NDMA prepared a web portal www.dmawards.ndma.gov.in for online registration and application. All the applications received till 7th January 2019 were processed by the Screening Committee constituted at NDMA for this purpose and report was submitted to Jury. The Jury shortlisted the names. Finally Hon'ble Prime Minister approved 8th Bn NDRF as the award winner for the year 2019 on 23/01/2019.

Awareness Generation

6.13 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.

6.14 The following awareness campaigns were carried out during 2018-19 (upto 31.03.2019)

Audio-Visual Campaigns

6.15 Doordarshan/All India Radio/Digital Cinema /Private FM Radio - Audio-Video spots on natural disasters such as earthquake, flood, urban flood, landslide, heat wave, lightning 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. Details of the campaigns are as below:-

Sl No.	Campaign/Title of spots	Language	States/Area where campaign run	Telecast medium	Period
1	Flood 1. Amma 2. Main Taiyar Hoon 3. Anekta main ekta (03Spots)	Hindi, Assamese, Bengali, Gujarati, Bhojpuri, Kannada, Kashmiri, Konkani, Marathi, Oriya, Tamil, Telugu, English (not for telecast)	A.P, Arunachal Pradesh, Assam, Bihar, Delhi NCT, Gujarat, Haryana, H.P, J&K, Jharkhand, Karnataka, Kerala, MP, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, TN, Tripura, Uttarakhand, U.P, W.B	DD AIR	14/6 to 20/6/18 29/6 to 5/7/2018
2	Urban Flood 1. Sehri badh se bachav (30 secs) 1. Before flood 2. During flood 3. After flood Hindi and English (60 seconds)		All Urban Agglomeration above population 10 lakh preferably following cities:- Chennai, Hyderabad, Bhubaneshwar, Bangalore	DD AIR Digital Cinema (NFDC) FM Radio (NFDC)	31/7 to 6/8/18 23/6 to 29/6/18 29/6 to 5/7/18 29/6 to 5/7/18
3	Lightning 60 Second (Spots)	Hindi /English	Channels/Regional Kendras of Prasar Bharti Doordarshan Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Uttar Pradesh, Uttarakhand NE States Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura Coastal states/UTs Andhra Pradesh, Gujarat. Goa, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, West Bengal UTs A&N Islands, Daman & Diu, Dadra & Nagar Haveli, Lakshdweep, Puduchery	DD	15/6/18 to 21/6/2018 7 days

4	<p>Heat Wave (09 Spots)</p> <ol style="list-style-type: none"> 1. Heat Can kill 2. First aid (before the ambulance arrives) 3. General summer precautions (to avoid heat stroke) 5. Heat predictions (importance of heat warning systems) 6. Heat effects on Indoor/Outdoor workers/ slum dwellers 7. Heat effects on new born and infants 8. Heat effects on animals/ birds 9. Small acts of kindness 	Hindi, English	<ol style="list-style-type: none"> 1.Andhra Pradesh 2.Bihar 3.Chhattisgarh 4.Delhi/NCT 5.Gujarat 6.Jharkhand 7.Karnataka 8.Madhya Pradesh 9.Maharashtra 10,Odisha 11.Rajasthan 12.Telangana 13.Uttar Pradesh 14.West Bengal 	DD AIR Digital Cinema (NFDC)	16/4 to25/4/18 Bonus Telecast 5/4 to 14/4/18 29/5 to 7/6/18
5.	<p>Cyclone (02 Spots)</p> <ol style="list-style-type: none"> 1. Machuara 2. Ghar phir ban jayega 	Hindi, Bengali, Oriya, Telugu, Marathi, Gujarati, Tamil, Assamese, Kannada, Malayalam	<ol style="list-style-type: none"> 1.A & N Islands. 2.Andhra Pradesh 3.D & N Haveli 4.Daman & Diu 5.Goa 6.Gujarat 7.Karnataka 8.Kerala 9.Maharashtra 10.Odisha 11.Puducherry 12.Tamil Nadu 13.West Bengal 	DD AIR Digital Cinema (NFDC) Digital Cinema (DAVP)	20/5 to3/6/18 (Bonus Telecast) 10/10/18 to 16/10/18 (NE Monsoon) 1.01/6/18 to 15/6/18 2.11/10 to17/10/18 (NE Monsoon) 09/6/18 to 18/6/18 19/10/18 to 25/10/18

6.	Flood (North East Monsoon) 60 Seconds Spot10 Days	Hindi, English	Channels/Regional Kendras of Prasar Bharti Doordarshan(RLSS- Bangalore, Bhubneshwar,Chennai & Vijayawada	DD (Prasar Bharti)	02/11/18 to 11/11/2018
7.	Landslide 1. Hamari Galti 2. Geologist 3. Postman	Hindi, Assamese, Manipuri, Khasi, Garo, Nepali & Mizo	West Bengal, ACP, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttarakhand, Maharashtra, J&K, HP, Goa, Tamil Nadu, Kerala, Karnataka	DD AIR Digital Cinema (NFDC) Private FM Radio (NFDC)	21/7 to27/7/18 25/7/18 to 31/7/18 28/7/18 to 03/8/18 28/7/18 to 03/8/18
8.	Cyclone Pabuk (06 Spots) (60 Seconds	Hindi, English	A & N Islands.	AIR Primary Channel (Port Blair station) & Regional News (Port Blair)	05/01/19 to 7/01/2019 (03 days)
9.	Urban Flood (60 Seconds)	Hindi /English	Channels/Regional Kendras of Prasar Bharti AIR, TN Karnataka, Odisha & AP	(Prasar Bharti) AIR	03/11/18 to 12/11/2018
10.	Flood (North East Monsoon) (60 Seconds)	Hindi /English	Channels/Regional Kendras of Prasar Bharti AIR , TN, Karnataka, Odisha & AP /Telangana	(Prasar Bharti) AIR	03/11/18 to 12/11/2018
11.	Earthquake	Hindi/ English	Regional Kendras of Doordarshan, Prasar Bharati	DD/ Prasar Bharati	14.12.2019 to 28.02.2019 (15 Days)

Print Campaigns

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

- i) Awareness generation material for HEAT WAVE was published for heat wave-prone areas

in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages on 25/05/2018 (Half-page) for states viz. Andhra Pradesh, Bihar, Chhattisgarh, Delhi NCT, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Telangana, Uttar Pradesh & West Bengal.



Are you prepared for the HEAT WAVE?

TAKE THE FOLLOWING PRECAUTIONS

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

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ii) Awareness generation material for FLOOD was published on 20/06/2018 (half-page) (for especially flood affected areas) in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi NCT, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh & West Bengal.



Be Smart Be Prepared!

BEFORE FLOODS

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

DURING FLOODS

- Don't enter 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
- 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 02/08/2018 (quarter-page) in landslide-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Himachal Pradesh, Jammu & Kashmir, Sikkim, Arunachal Pradesh, Nagaland, Mizoram, Uttarakhand & Meghalaya.



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 landslip warnings
Move away from landslide path or downstream valleys quickly



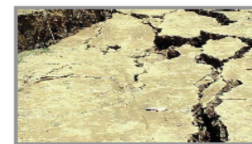
Keep yourself updated
Listen to radio, watch TV, read newspapers for information



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 10/10/2018 (half-page) in cyclone-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. A&N Islands, Andhra Pradesh, Dadar & Nagar Haveli, Daman & Diu, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Tamil Nadu & West Bengal.



Do's and Don'ts

1. BEFORE CYCLONE

- ⇒ 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

Fishermen Should

- ⇒ Keep a radio set with extra batteries handy
- ⇒ Keep boats/rafts tied up in a safe place
- ⇒ Don't venture out in the sea

2. DURING AND AFTER CYCLONE

A) If Indoors

- ⇒ 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

B) If Outdoors

- ⇒ 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 LIGHTNING was published on 07/06/2018 (half-page) in lightning-prone areas in three types of newspapers viz., big, medium and small in the following languages - English, Hindi and regional languages for states viz. Jharkhand, Bihar, Chhattisgarh, Madhya Pradesh, Uttar Pradesh, Uttarakhand, Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Daman & Diu, Puducherry, Andaman & Nicobar Islands and Lakshadweep Islands.



What will you do ? when lightning strikes

When you are Indoors

-  Unplug all electrical equipment before the storm arrives. Don't use corded telephones
- Stay away from window and doors and stay off verandas 
-  Don't touch plumbing and metal pipes. Do not use running water

When you are Outdoors

-  Don't take shelter near/under trees. Spread out; don't stand in a crowd
- Get inside a home, building. Stay away from structures with tin roofs/ metal sheeting 
-  Don't use metallic objects; stay away from power/telephone lines
- Get out of water - pools, lakes, small boats on water bodies 
-  If caught under open sky, crouch. Don't lie down or place your hands on the ground
- Stay put if you are inside a car/bus/ covered vehicle 

What to do after a Lightning Strikes

-  Administer CPR (Cardio Pulmonary Resuscitation), if needed. Seek medical attention immediately.

 **Be Smart
Be Prepared !**


National Disaster Management Authority
 Government of India 

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Observance of 14th Formation Day of NDMA

6.17 The 14th Formation Day of NDMA was observed on 27th November, 2018 at The Ashok Hotel, New Delhi. Shri Kiren Rijiju, Union Minister of State for Home Affairs, graced the occasion as the Chief Guest. Speaking on this year's theme of "Early Warning for Disasters", Shri Rijiju said that half the battle against the disasters would be won by increasing disaster awareness and improving early warning systems.



6.18 In the backdrop of some recent incidents where fishermen were caught unawares despite early warning, issues specific to dissemination of warnings to fishermen at deep sea was discussed in great detail. The functioning of various technological tools such as the NAVIC satellite constellation,

which generates alerts for the fishermen in their regional language, was discussed.

6.19 Issues in early warning for lightning and thunderstorm, State and district level early warning action plans, the role and participation of communities and media in early warning dissemination were also discussed.

6.20 Stakeholders also discussed the roadmap, their roles and key challenges in issuing

timely and accurate early warning and its dissemination to all relevant stakeholders, including the vulnerable communities.

6.21 Delivering the valedictory address, Dr. P. K. Mishra, Additional Principal Secretary to Prime Minister, highlighted the need for

early warning system during a disaster. He also emphasised upon the need to ensure last-mile connectivity.

- 6.22 On the occasion, a manual for training masons on Hazard-resistant Construction and a study report on Gujarat Floods of 2017 were also released.

Social Media Campaigns

- 6.24. Awareness campaigns were started on social media to spread the messages related to prevention, mitigation and preparedness. These social media campaigns comprised Do's and Don'ts pertaining to heat wave, flood, cold



NDMA E-Newsletter and blog

- 6.23. A digital magazine and an official blog, both named "Aapda Samvaad", were used for informing the stakeholders about major activities of NDMA, SDMAs, success stories on DRR, expert interviews, etc. The magazine is regularly published and widely shared with various stakeholders, including editors of major 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.

wave, urban flood, earthquake, CBRN emergencies, first aid, stress management, hospitalsafety, gasleakagesafety, lightning, fire safety and cyclone. Hash tags such as # heatwavesafety, # heatwaveawareness, # earthquakesafety, # floodsafety, # urbanflood, # lightningsafety, # coldwave, # nuclearemergencies, # Homesafety, # chemicalemergencies, #cyclonesafety, and #firesafety, etc. were used. These hash tags helped NDMA's social media channels gain greater online audience engagement.

NDMA is running 24X7 campaigns on heatwave, coldwave, landslide, earthquake, avalanche, CBRN emergencies, floods, frost bite, basic first aid, hospital

management, stress management, fire safety, home safety, smog etc. The main aim of these campaigns is to generate awareness amongst masses. These campaigns run by NDMA includes do's and don'ts of disasters promoted through pictorial templates. It is also running miscellaneous campaigns which involves updating links of news related to disaster management, NDMA blog and Aapda Samvaad (E-Magazine). With such a large follower base on Twitter 1,02,000 and Facebook 2,52,099, NDMA's updates on disaster awareness are shared widely on social media platforms. 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 armed forces and NDRF and relief and rehabilitation is carried accordingly.

Twitter Report

6.25 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, 2018: 66,155
- Followers as on March 31, 2019: 1,02,000
- Number of followers increased: 35,845

Face book Report

- Followers as on March 31, 2018: 2,43,405
- Followers as on March 31, 2019: 2,52,099
- Number of followers increased: 8,694

6.26. Special Social Media Campaigns

- News on Natural and Manmade Disasters

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

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

- Followers

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

- WhatsApp Group

Relevant information and news related to disasters are shared with a group with administrators and experts.

- Other activities

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

CHAPTER 7

ADMINISTRATION AND FINANCE

General Administration

NDMA Secretariat

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

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

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

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

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

Mitigation Division

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

Operations and Communication Division

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

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

Administration and Coordination Division

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

activities involve extensive interface with the Ministries/ Departments and States. This division also provides administrative and logistic support to the Members and the staff of the NDMA at all levels. The total sanctioned staff in this division is 22, comprising one Additional Secretary, one Director, two Under Secretaries, one Assistant Director (OL), two Section Officer and 15 support staff.

Finance and Accounts Division

7.8 The Finance and Accounts Division deals with the work relating to maintenance of accounts, preparation of budget, financial scrutiny of proposals, etc. This division also monitors the progress of expenditure and advises NDMA on all matters falling within its delegated financial power, 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 NDMA.

Preparation and Monitoring of budget of NDMA

7.9 The accounts of NDMA are maintained by

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

Finance and Budget:

Budget Estimate, Revised Estimate & Expenditure under ODMP, NCRMP and Est. Charges for the period April 2018 and March 2019 are as follows :

(Rs. in Thousands)

Name of the project	B.E 18-19	R.E 18-19	Expenditure up to 31.03.2019
National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	6039400	3030300	3026819
Other Disaster Management Projects - (ODMP)	355900	310800	264901
Est. Charges	321200	309000	286871*

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 to 30.11.2018) 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 to 30.11.2018)
2.	Dr. Pradeep Kumar, Secretary (In-charge) /Additional Secretary (Admn.) & Project Director (Since 10.12.2018) Additional Secretary (Admn.) & Project Director (Since 05.03.2018) Additional Secretary & Project Director (Since 01.08.2017)
3.	Sh. Ravinesh Kumar, Financial Advisor (Since 10.10.2017)
4.	Dr. V. Thiruppugazh, Joint Secretary & Advisor (Since 07.09.2015 to 02.07.2016) and (Since 03.01.2017)
5.	Sh. Anil Kumar Sanghi, Joint Secretary (Since 03.12.2013 to 03.12.2018)
6.	Brig Ajay Gangwar, Advisor (Ops. & Comn. (Since 01.11.2017)
7.	Ms. Sryesi Chaudhuri, Director (Since 08.12.2015)
8.	Lt. Col Rahul Devrani, Joint Advisor (Since 21.08.2017)
9.	Shri Dharendra Singh Sindhu, Joint Advisor (Since 24.06.2013 to 23.06.2018)
10.	Dr. Pavan Kumar Singh, Joint Advisor (Since 6.7.2018) SRO (Since 23.05.2008 to 5.7.2018)
11.	Shri Bhupinder Singh, Director (Since 27.09.2018) Dy. Secretary (Since 25.02.2013)
12.	Shri Yogeshwar Lal, Director (Since 01.07.2016) Dy. Secretary (Since 07.07.2014 to 30.06.2016)
13.	Shri Anurag Rana, Joint Advisor (Since 19.10.2016)
14.	Shri Pushkar Sahay, Joint Advisor (Since 08.02.2017)
15.	Shri Vijay Singh Nemiwal, Joint Advisor (Since 31.05.2017)
16.	Col Amit Khosla, Joint Advisor (Since 13.11.2017)
17.	Sh Partha Kansabanik, Under Secretary (Since 18.08.2011)
18.	Sh Amal Sarkar, Under Secretary (Since 14.11.2012)

19.	Sh Turam Bari, Under Secretary (Since 01.01.2013)
20.	Sh M. A. Prabhakaran, Assistant Financial Advisor (Since 15.09.2014)
21.	Sh Sunil Singh Rawat, Under Secretary (Since 30.03.2015)
22.	Sh Pankaj Kumar, Under Secretary (Since 06.04.2015)
23.	Shri Ramesh Kumar Mishra, Under Secretary (Since 28.03.2014)
24.	Shri Rajendra Kumar Bandhu, Under Secretary (Since 19.02.2016 to 31.03.2019)
25.	Shri Mohan Lal Sharma, Under Secretary (Since 16.09.2016)
26.	Shri A Sachidanandan, Under Secretary (Since 01.01.2019)
27.	Shri Hausuanthang Guite, Under Secretary (Since 01.01.2019 to 28.02.219)
28.	Ms. Amrapaali 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, Duty Officer (Since 13.02.2017)
33.	Dr. S. K. Jena, Sr. Research Officer (Since 01.08.2008)
34.	Sh Nawal Prakash, Sr. Research Officer (Since 22.05.2009)
35.	Dr. Monika Gupta, Sr. Research Officer (Since 24.07.2013 to 23.07.2018)

