



ANNUAL REPORT 2016-17



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 and Rescue
SDRF	State Disaster Response Force
UTs	Union Territories

CHAPTER - 1

INTRODUCTION

Vulnerability Profile

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

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

Genesis of NDMA

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

(prevention, mitigation, preparedness, response, relief, reconstruction and rehabilitation). The approach is based on the conviction that development cannot be sustainable unless disaster mitigation is built in the development process.

- 1.5 The Government of India (Gol), recognising the importance of Disaster Management (DM) as a national priority, had set up a High Powered Committee (HPC) in August 1999 and a National Committee on Disaster Management in 2001 after the Gujarat Earthquake to make recommendations on the preparation of DM Plans and to suggest effective mitigation mechanisms. However, after the Indian Ocean Tsunami of 2004, the Gol took a defining step in the legislative history of the country, through an Act of Parliament, by creating the National Disaster Management Authority (NDMA) to spearhead and implement a holistic and integrated approach to DM in India.
- 1.6 The Government of India has enacted the Disaster Management Act, 2005 to provide for the effective management of disasters and for matters connected

therewith or incidental thereto. It lays down the institutional mechanism for drawing up and monitoring the implementation of the disaster management plans, ensuring measures by various wings of the Government for prevention and mitigation of the effects of disasters and prompt response to any disaster situation.

Constitution of NDMA

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

Composition of NDMA

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

1.	Shri R. K. Jain, IAS (Retd.)	Member (Since 01.12.2015)
2.	Lt. Gen. (Retd.) N. C. Marwah, PVSM, AVSM	Member (Since 30.12.2014)
3.	Dr. D. N. Sharma	Member (Since 19.01.2015)
4.	Shri Kamal Kishore	Member (Since 16.02.2015)

- 1.9 At the national level, NDMA has the responsibility, inter alia, of laying down policies on disaster management and issuing guidelines to be followed by different Ministries/Departments of the Government of India for the purpose of integrating Disaster Risk Reduction (DRR) measures in their development plans

and projects. It also lays down guidelines to be followed by the States in drawing up their respective State DM Plans and taking measures for preventing disasters or mitigating its impact as well as building capacity for dealing with any disaster as it may consider necessary.

NDMA Secretariat

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

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

CHAPTER - 2

FUNCTIONS AND OBJECTIVES

Functions of NDMA

2.1 NDMA, as the apex body for 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 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 the Union Home Secretary, cleared the draft NDMP and forwarded the same through Ministry of Home Affairs (MHA) for the approval of NDMA. After wide consultation with stakeholders, the draft NDMP was restructured and revised in alignment with the Sendai Framework for Disaster Risk Reduction (SFDRR), which was adopted at the third UN World Conference in Sendai, Japan in March 2015. The National Disaster Management Plan (NDMP) was released on 01.06.2016 by the Hon'ble Prime Minister. The same is also available on NDMA's website www.ndma.gov.in under the link Policy and Plan - National DM Plan.

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, States and all other stakeholders have been involved in evolving these guidelines. These guidelines, based on specific disasters and themes (such as capacity development and public awareness) provide the basis for preparation of plans. Preparation of these Guidelines takes a minimum of 12 to 18 months, depending upon the complexity of the subject. The approach comprises a 'nine-step' participatory and consultative process with stakeholders as shown in figure 3.1.

3.4 The process of preparation of guidelines comprises the following:

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

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

Process of Preparation of Guidelines

NINE STEPS

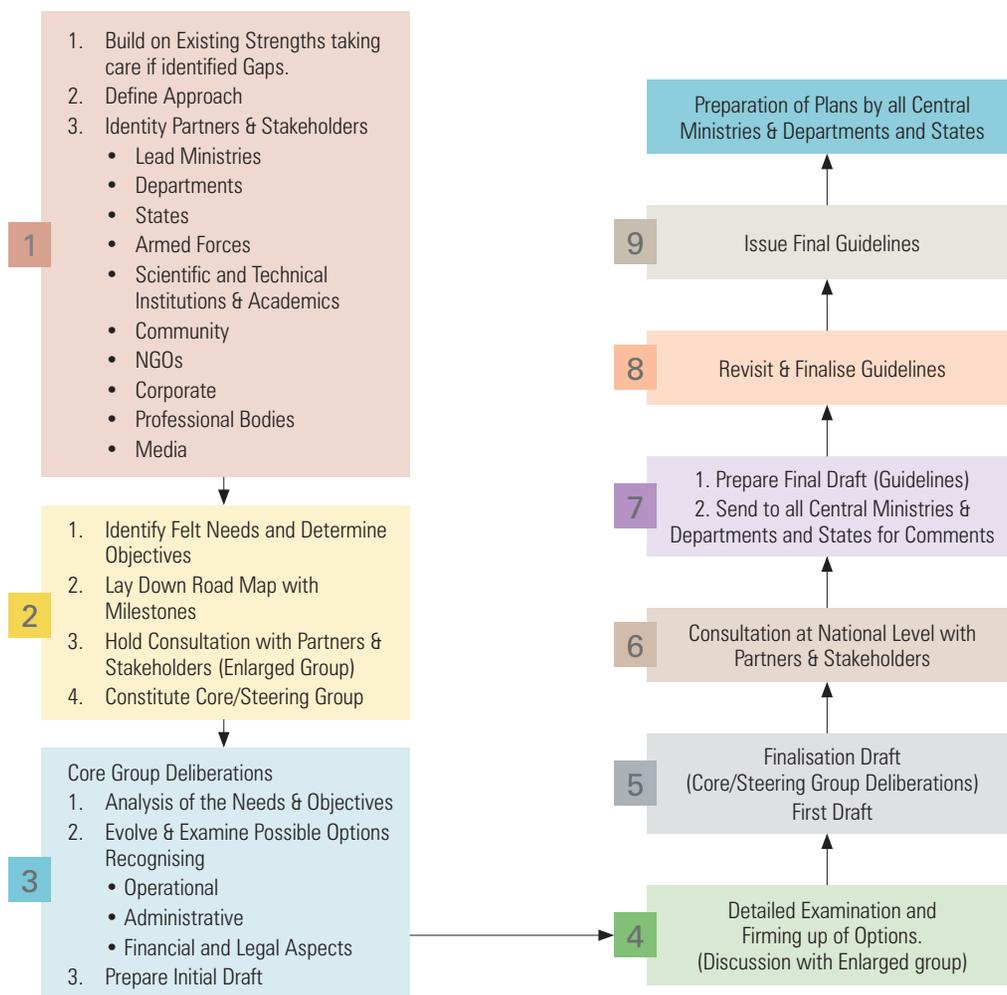


Figure 3.1

3.5 Following guidelines and reports have been released during the previous years by the NDMA -
List of National Disaster Management Guidelines Issued by NDMA

S.No.	National Disaster Management Guidelines on	Month and year of preparation/ release
1.	Management of Earthquake	April 2007
2.	Management of Chemical (Industrial) Disasters	April 2007
3.	Preparation of State Disaster Management Plans	July 2007
4.	Management of Medical Preparedness and Mass Casualty Management	October 2007
5.	Management of Floods	January 2008
6.	Management of Cyclones	April 2008
7.	Management of Biological Disasters	July 2008
8.	Management of Nuclear and Radiological Emergencies	February 2009
9.	Management of Landslides and Snow Avalanches	June 2009
10.	Management of Chemical (Terrorism) Disaster	June 2009
11.	Psycho-social Support and Mental Health Services in Disasters	December 2009
12.	Incident Response System	July 2010
13.	Management of Tsunami	August 2010
14.	Management of Urban Flooding	September 2010
15.	Management of Drought	September 2010
16.	Role of NGOs in Disaster Management	September 2010
17.	National Disaster Management Information and Communication System	February 2012
18.	Scaling, Type of Equipment and Training of Fire Services	April 2012
19.	Seismic Retrofitting of Deficient Buildings and Structures	June 2014
20.	School Safety Policy	February 2016
21.	Hospital Safety	February 2016
22.	Minimum Standards for Shelter, Food, Water, Sanitation and Medical Cover in Relief Camps	February 2016

List of other Reports

S. No.	Description
1.	Revamping of Civil Defence
2.	NIDM's Functioning
3.	Strengthening of Safety and Security for Transportation of POL Tankers
4.	Threats to Municipal Water Supply and Water Reservoirs
5.	Management of Dead in the Aftermath of Disaster
6.	Training Regime for Disaster Response
7.	Hand Book for Training and Capacity Building of Civil Defence and Sister Organizations: Part I & II
8.	Managing Crowds at Events and Places of Mass Gathering
9.	Concise Framework for Preparation of Management Plan for Events/Venues of Mass Gathering
10.	Compendium of Relevant Acts/Laws/Rules/Regulations/Notifications on Disaster Management
11.	Model Framework of District Disaster Management Plan (DDMP) and Explanatory Notes for Preparation of DDMP
12.	Cyclone Hudhud - Strategies and Lessons for Preparing Better & Strengthening Risk Resilience in Coastal Regions of India
13.	Training Manual : How to Conduct Emergency Management Exercise
14.	Guidelines on ensuring Disaster Resilient Construction of Buildings and Infrastructure
15.	Pilot Project on Capacity Building for Advanced Trauma Life Support in India
16.	Capacity Building in DM for Govt. Officials & Representative of Panchayati Raj Institutions & Urban Local Bodies at District Level

Guidelines and other Reports Released During the Year 2016-17

3.6 National Disaster Management Guidelines on "Preparation of Action Plan - Prevention and Mitigation of Heat Wave" was prepared and released in April 2016.

Guidelines and Reports under Preparation

Guidelines for Disaster Management Plan by Museums in India

3.7 A Committee was constituted on 13.08.2015 under the chairmanship of Shri Kamal Kishore, Member, NDMA for framing guidelines for disaster preparedness in museums. The Committee consists of representatives from Ministry of Culture, Govt. of India; Nehru Memorial Museum and Library, New Delhi; Archeological Survey of India, New Delhi; Victoria Memorial Hall, Kolkata and subject experts.

The guidelines will offer a framework for all museums in India, whether centrally controlled or through State Governments or under non-government boards or private individuals and institutions. These guidelines will serve as a template for museums to develop their own disaster risk management plans and strategies through risk assessment, risk reduction measures, emergency response measures and planning for post-disaster recovery. The objective is to enable museum professionals to incorporate disaster management within the overall operation of all aspects of a museum.

- 3.8 Three meetings of the Committee were held on 07.09.2015, 04.12.2015 and 09.02.2016. A Workshop on Disaster Risk Preparedness Plan for Museums was also held on 4 - 5 April, 2016 jointly by the National Museum Institute and NDMA.
- 3.9 Based on the discussions held in three Meetings and the Workshop, a draft Disaster Management Plan for Museums was prepared and circulated to all the members of the Committee. Thereafter, a meeting of the Committee was held on 19.01.2017. A Workshop was also held at Salar Jung Museum, Hyderabad during 9 - 10 February, 2017 in order to raise awareness and carry out an exercise in capacity building as well as to test the implementation of the draft guidelines.

National Disaster Management Guidelines for risk management of cultural heritage sites and precincts

- 3.10 A Core Group was constituted under the Chairmanship of Shri R. K. Jain, Member, NDMA and co-chairmanship of Shri

Kamal Kishore, Member, NDMA on 03.08.2016 for preparation of National Disaster Management Guidelines on Risk Management of Centrally Protected Monuments and Heritage Precincts. The Core Group consists of representatives from National Monuments Authority, Central Public Works Department, Delhi Fire Services, School of Planning and Architecture, Archaeological Survey of India, Ministry of Culture, National Institute of Disaster Management, Indian Institute of Technology, Madras, Indira Gandhi National Centre of Arts and other stakeholders. The vision of these guidelines is to ensure that sites of cultural significance are safe and secure spaces for people who engage with them and for the heritage values they embody that contribute to their value as cultural institutions and markers of local, regional, national or global identity.

- 3.11 A meeting of the Core Group was held on 08.11.2016. It was, inter alia, decided to prepare the draft guidelines and circulate the same to the members of the Core Group for discussion in the next meeting. The draft Guidelines are being finalized.

Guidelines on Boat Safety

- 3.12 On the direction of the MHA, a Core Group was constituted by NDMA under the Chairmanship of the Secretary, NDMA, for formulation of Guidelines on Boat Safety. The Core Group, in turn, constituted five specialist working groups to assist the Core Group in the formulation of the guidelines. After obtaining the final versions of the recommendations of the working groups, the final report in the draft form was prepared. It was circulated among the Members of NDMA and their comments

were deliberated upon in a meeting of the Core Group. The final document is being finalized in close consultation with the five Working Groups. Comments received from the Working Groups are also being incorporated in the revised version. The guidelines are at the final stages of formulation.

Roadmap for combating the emergent threats of urban flooding in the cities of India

3.13 An Expert Group was constituted on 17th March, 2016 under the Chairmanship of Shri Kamal Kishore, Member, NDMA, with representatives from all the stakeholders for preparing a roadmap for combating the emergent threats of urban flooding in the cities of India. The Expert Group has been mandated to focus on the following key areas:

- Drainage related issues.
- Solid waste management.
- Urban Planning.
- Urban flood early warning systems - real time communication.
- Climate change and urban flood issues.

3.14 The Expert Group will suggest/ frame the roadmap for the following three time frames:

- Short term - 2020 : Four Years.
- Medium term - 2025 : Ten Years.
- Long term - 2030 : Fifteen Years

3.15 Four meetings of the Expert Group were held on 12.04.2016, 13.05.2016, 06.06.2016 and 13.02.2017 respectively.

3.16 On the suggestions of the Expert Group

on urban flood mitigation in its second meeting, a ten-point advisory for immediate attention on urban flood preparedness and mitigation was forwarded to all the flood-prone States/ UTs in May, 2016. This advisory was meant to enable concerned Departments and agencies to chalk out immediate preparedness and response measures to address emerging threats due to floods.

3.17 Based on the discussions held in the meetings of the Expert Group, the Ministry of Urban Development has prepared a draft Standing Operating Procedure (SOP) on Urban Flooding.

Home Owners Guide for Earthquake and Cyclone Safety

3.18 A Memorandum of Understanding (MoU) was signed with the Indian Institute of Technology (IIT), Jodhpur, on 11.08.2016 for preparation of an illustrated Home Owner's Guide for Earthquake and Cyclone Safety. This may facilitate a person to build/buy earthquake and cyclone resistant houses/flats/buildings. The guide shall be developed for both aspects i.e. structural and non-structural safety and will be semi-graphical in nature for easy understanding. The guide will be in different forms i.e. booklet, online version, audio-video CDs/ DVDs. It will be finalized and made available to public in 2017-18.

Guidelines on 'Community Based Disaster Management', and 'Role of NGOs in Disaster Management'

3.19 NDMA has also drafted the guidelines on 'Community Based Disaster Management'

and 'Role of NGOs in Disaster Management'. These guidelines have been uploaded on the NDMA website for inviting suggestions/comments/feedbacks from the general public and stakeholders.

Masons Certification Programme

3.20 An Expert Group was constituted for the implementation of a training programme for masons. The purpose of the training programme is to impart skills to the masons to build earthquake-resistant structures. The work pertaining to the preparation of training module and curriculum is underway in partnership with UNNATI, an NGO.

Calendar of activities for mitigating the effects of natural and man-made hazards

3.21 India is home to almost all kinds of natural and man-made hazards. Most of the natural hazards except earthquake and earthquake-induced landslides are seasonal. Effective preparedness would help in mitigating the impacts of these hazards and prevent them from turning into potential disasters. Keeping this in mind, a calendar of activities along with Disaster Preparedness Matrix for every type of disaster has been prepared for taking necessary mitigative measures beforehand by all the stakeholders. The same has been sent to all Ministries and States/UTs.

Suggestive Advisory on Do's and Don'ts for Cold Wave

3.22 A suggestive advisory on Do's and Don'ts for Cold Wave was sent to the States/UTs likely to be affected as per the prediction

of Indian Meteorological Department in January, 2017. They had been advised to take necessary mitigative measures and carry out extensive information, communication and education to generate awareness among public to avoid cold wave related adverse impacts. They have also been advised to use social media extensively for awareness generation in addition to print and electronic media. The advisory has also been uploaded on the website of NDMA.

Working Group for preparation of a model for logistics and supply chain in disaster management

3.23 A Working Group was constituted in February, 2017 under the Chairmanship of Shri R. K. Jain, Member, NDMA and co-chairmanship of other Members of NDMA with other stakeholders as members of the Group. The Working Group shall study different logistics and supply chain models used by the private sector as well as other countries in order to prepare a model suitable in the Indian context so that it can be used for humanitarian assistance during disasters. The first meeting of the Working Group was held on 08.03.2017.

Core Committee for preparation of NDMA guidelines on disability inclusive disaster risk reduction

3.24 A Core Committee was constituted in February, 2017 under the chairmanship of Shri R. K. Jain, Member, NDMA, with other stakeholders as members of the Committee for preparing the National Disaster Management Guidelines on Disability Inclusive Disaster Risk Reduction

for persons with disabilities. The guidelines shall help the authorities concerned to reduce the risks to the persons with disabilities from natural and man-made disasters. The Committee shall, inter alia, suggest the main principles of Disaster Risk Management (DRM) for persons with disabilities and a methodology to assess disaster risks faced by the persons with disabilities from natural and man-made disasters. The first meeting of the Committee was held on 15.03.2017.

Studies conducted by NDMA

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

Formulation of State Disaster Management Plans (SDMPs)

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

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

Disaster Management Plan of Ministries/ Departments of Government of India

3.27 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 Govt' and circulated the same to all concerned. This is available on NDMA's website www.ndma.gov.in under the link Policy and Plan - Central Ministries/ Departments DM Plan.

3.28 The matter regarding preparation of DMPs 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 letters.

3.29 As on 31.03.2017, Ministries/Departments of (i) Department of Animal Husbandry, Dairying & Fisheries, (ii) Ministry of Railways, (iii) Ministry of Women & Child Development, (iv) Ministry of Petroleum & Natural Gas, (v) Ministry of Power, (vi) Ministry of Steel, (vii) Ministry of Mines, (viii) Department of Heavy Industries, (ix) Department of School Education and Literacy, (x) Ministry of Civil Aviation, (xi) Department of Atomic Energy, (xii) Department of Agriculture Research & Education, (xiii) Ministry of Food Processing Industries, (xiv) Department of AYUSH and (xv) Department of Justice have submitted their DM Plans.

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

3.30 National Disaster Management Authority is implementing the Centrally Sponsored Scheme "Strengthening of State Disaster

Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs)" at a cost of Rs. 42.50 crores during 2015-16 and 2016-17 (Rs.21.26 crores for Financial Year 2015-16 and Rs.21.24 crores for 2016-17) for 36 SDMAs and 256 DDMAs.

3.31 The scheme provides, inter alia, for financial support to SDMAs and DDMAs as per the following details:

A. State Disaster Management Authorities (SDMAs)

(i) Hiring of two-three Human Resources (HR) professionals @ Rs.50,000/- per month for Disaster Management.

(ii) Administrative Cost for advertisement, equipment, domestic travel and

contingency @ Rs. 4.00 Lakh per financial year.

B. District Disaster Management Authorities (DDMAs)

(i) Hiring of one HR professional @ Rs.40,000/- per month for each of the selected DDMAs in the States/UTs.

(ii) Administrative cost for advertisement, equipment, domestic travel and contingency @ Rs. 2.00 lakh per financial year for each of the selected DDMAs in the States/UTs.

3.32 As on 31.03.2017, 27 States and six UTs have signed Memorandums of Understanding (MoU) for implementation of the Scheme in their States/UTs. The details of amount released to them are as under:

Financial Year	No. of States / UTs to whom fund released	Total amount released
2015-16	29 (25 States and 4 UTs)	1044.40 lakh
2016-17	10 (6 States and 4 UTs)	475.66321 lakh
	Total	1520.06321 lakh

National Workshop on preparation of Heat Wave Action Plan risk reduction through sharing of best practices

3.33 National Disaster Management Authority (NDMA) in 2016 formulated and released "National Guidelines for preparation of Action Plan-Prevention and Management of Heat-Wave". The Authority, in collaboration with Government of Telangana also organized a two-day National Workshop on preparation of Heat Wave Action Plan Risk Reduction through sharing of best practices at Hyderabad on 22-23 February 2017. The overall goal of the Workshop was to guide States in the operationalizing of heat action plans in their respective

states. Five Technical sessions chaired by Member(s), NDMA, were conducted during the workshop :

- Heat Wave Action Plan Risk Reduction
- Experience sharing of Heat prone states and implementation of mitigation measures
- Early Warning and Forecasting Heat Wave
- Effective governance tools for increased resilience to heat wave and monitoring, and
- Review and updation of Heat Action Plan

With an increasing trend of heat wave in India over the past several years, these Action Plans will provide an insight into the heat-related illness and the necessary mitigative and response actions to be undertaken.

Expert Committee for preparation of National Guidelines on Temporary Shelters for victims of Disasters

3.34 An Expert Committee has been constituted on 15.03.2017 under the Chairmanship of Shri R. K. Jain, Member, NDMA for preparation of National Guidelines on Temporary Shelters for Victims of Disasters.

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. 1,496.71 crores 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 is due for completion on 31.03.2018.

Project Components

4.2 The project has four Components as mentioned below:

Component	Description	Outlay (Rs. in Crore)
A	Early Warning and Dissemination System (EWDS)	72.75
B	Construction of Cyclone Risk Mitigation Infrastructure viz. - Multi-purpose Cyclone Shelters (MPCSs); - Evacuation Roads ; - Bridges; and - Saline Embankments.	1164.00
C	Technical assistance for Cyclone Hazard Risk Mitigation, capacity building and knowledge creation.	29.10
D	Project Management and Implementation Support.	95.06
	Un-allocated Contingencies.	135.80
	Total	1496.71

Implementation Status

Component A

4.3 M/s. Telecommunications Consultants India Ltd. (TCIL), a Public Sector Undertaking of Government of India, is the knowledge partner for suggesting technology for developing Early Warning Dissemination System (EWDS) to ensure last mile connectivity in pre/during/post cyclone period. Andhra Pradesh has awarded the contract for EWDS to M/s Larsen & Toubro at a cost of Rs.82 crores and the installation is likely to be completed by September, 2017. Odisha has also awarded the contract at a cost of Rs. 66 crores to M/s Larsen & Toubro and installation is likely to be completed by July, 2017.



MPCS, East Godavari District

Component B

4.4 **Andhra Pradesh:** Component-B comprises construction of requisite infrastructure for cyclone risk mitigation such as Multi-Purpose Cyclone Shelters (MPCSs), approach roads to shelters and habitations, bridges and saline embankments. Out of a total of 138 MPCS, 122 MPCS have been completed; out of 584 Kms. roads, 581 Kms. have been completed; out of 23 bridges, 21 have been completed; work on remaining sites/ 29.9 Kms. of saline embankments is under progress.

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



Connecting Road, Vishakhapatnam District



Bridge, East Godavari District



Kona Saline Embankment, Krishna District

- 4.5 **Odisha:** Out of a total of 154 MPCs, 153 MPCs have been completed; out of 218 Kms. roads, 211 Kms have been completed and 57.77 Kms. saline embankments have been completed.

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



MPCS



Connecting CC Road



Connecting BT Road



Saline Embankment

Component C

- 4.6 The Coastal Hazard, Risk and Vulnerability Assessment has been carried out by knowledge partner M/s RMSI Pvt. Ltd. All 13 deliverables have been accomplished. The web-based Composite Risk Atlas (CRA) has been prepared and shared with all coastal States/UTs and is available online.
- 4.7 The study on 'Preparing Long Term Training and Capacity Building' Strategy for Disaster Risk Reduction in India, awarded by National Institute of Disaster Management (NIDM) to M/s. SEEDS Technical Services, stands completed. NIDM has submitted the Operational Plan to NDMA under which NIDM initially conducted five Training of Trainers (ToT) courses at the national level from January to March, 2017 for all States. This will be followed by running training courses in the States as per their requirements.
- 4.8 The study on 'Post Disaster Needs Assessment (PDNA)' was undertaken with an objective to evolve standardized PDNA tools relevant to India and revamp the entire

system of PDNA in the country. NIDM is in the process of finalizing PDNA tools relevant to India and also a web portal.

Financial Management

- 4.9 An amount of Rs.1326 Cr. has been released under the Project with an expenditure of Rs. 1266 Cr. as on 31.03.2017.

Additional Financing (AF) under NCRMP Phase-I

- 4.10 Government of India has approved additional financing under Phase-I in July, 2015 for the Andhra Pradesh and Odisha with a cost of Rs. 835 crores to fill up the infrastructure gaps noticed while managing cyclone Phailin in October 2013. The revised Outlay for Phase-I of NCRMP (including Additional Financing) now stands at Rs.2331.71 crores with closure by 31.03.2018.

Physical Progress and Achievements

- 4.11 **Andhra Pradesh:** Component-B comprises

construction of requisite infrastructure for Cyclone Risk Mitigation such as Multi-Purpose Cyclone Shelters, roads and bridges. All 84 MPCS of AF are under execution. Out of 119.79 Kms. roads, 105.34 Kms. have been completed and out of 12 bridges, 10 are under execution and 02 have been completed.

- 4.12 **Odisha:** Out of 162 MPCS, 89 have been completed and out of 170 Kms. of roads, 138 Kms. have been completed. The remaining works are under execution.
- 4.13 An amount of Rs. 577 crores has been released under Additional Financing with an expenditure of Rs. 406 crores has been incurred as on 31.03.2017.

NCRMP Phase-II

- 4.14 Government of India has also approved Phase-II of NCRMP in July, 2015 for five years up to March, 2020. The outlay of NCRMP-II covering the States of Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal is of Rs.2361.25 crores. The World Bank assistance amounts to Rs.1881.10 crores. The remaining amount of Rs. 480.15 crores is being contributed by the State Governments of Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal. The sub-component of underground cabling has been included under NCRMP Phase-II (Under Component-B).

Physical Progress and Achievements

Sl. No.	Component	Gujarat			West Bengal		
		Total to be constructed	Awarded	Completed	Total to be constructed	Awarded	Completed
1.	Cyclone Shelters (Nos.)	128	30	--	150	139	--
2.	Roads (Kms.)	170	100	70	--	--	--

- 4.15 Goa, Karnataka, Kerala and Maharashtra are in the process of finalization of sites, environment clearance, DPR etc.
- 4.16 An amount of Rs. 619 crores has been released to Gujarat, Goa, Karnataka, Kerala, Maharashtra and West Bengal with an expenditure incurred to the tune of Rs.397 crores.

Initiatives by Mitigation Division, NDMA

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

Preparation of Upgraded Earthquake Hazard Maps / Atlases

4.18 The NDMA through Building Materials & Technology Promotion Council (BMTPC) has prepared Upgraded Earthquake Hazard Maps and Atlases for the country upto the district level with sub-district boundary indicating State/district boundary with name, earthquake zones, epicentre of past earthquakes of magnitude of 5 and above, major faults and water bodies. The BMTPC has executed the project with inputs from various institutions/organizations and NDMA. The project was awarded to BMTPC on June, 2012 at a cost of Rs 76.83 lakhs and completed in April, 2016. Maps and Atlases with the specifications have been printed.

Uses of Maps and Atlases:

- Land Use Zoning and better habitat planning
- Useful for leaders and policy makers, engineers, architects, disaster management professionals, etc.
- Formulation of public & financial Policies dealing with DM and Emergency Planning

- An aid for setting up techno-legal framework.
- Useful for insurance agencies
- At the Sub-district level shall be useful in preparing DPRs to be taken up under the Smart Cities Project and various other projects under the Housing for All (Urban) Mission of Pradhan Mantri Awas Yojana, etc.
- The concerned authorities may identify the districts requiring priority action in future planning, formulating integrated mitigating policies covering awareness, education and training, preventive and preparedness measures, improvement in warning systems.

4.19 Maps and Atlases were distributed to all States/UTs, Central Ministries/ Departments during July, 2016 with the direction to further distribute among the subordinate offices within the State/UT at their discretion.

4.20 The outputs from the project will be useful for NDMA, NIDM, committees working on earthquake mitigation, architects and engineers, insurance agencies, people involved in land use planning and in various aspects of public and financial policies dealing with multi-State earthquake disaster preparedness and emergency planning and management.

M 8.7 Shillong 1897 Earthquake Scenario: NE Multi-State Preparedness Campaign

4.21 NDMA in collaboration with CSIR-NEIST Jorhat has undertaken a project titled M 8.7 Shillong 1897 Earthquake Scenario: NE Multi-State Preparedness Campaign

to provide a scientific understanding of the consequences of a high-intensity earthquake in North Eastern States. This was undertaken at the multi-State level to create awareness, sensitization of stakeholders, RVS training and capacity building in eight States.

- 4.22 The Project at a cost of Rs 620.36 lakhs was awarded to CSIR-NEIST on 15th November, 2013. The Project envisages five major activities (i) Scenario Development, (ii) Mega Mock Exercise, (iii) School Children Sensitization, (iv) Awareness Generation and (v) RVS Training to be implemented in eight NE States, including Sikkim. All the activities of the project have been completed and final report has been submitted to NDMA. NDMA has examined the report and accepted it.
- 4.23 Independent evaluation of Impact Assessment of the project was entrusted to IIPA at a cost of Rs.6.00 lakhs. IIPA submitted the report and it has been accepted by NDMA. In its report, IIPA has mentioned that the project is extremely beneficial in generating awareness amongst the stakeholders about an earthquake of high magnitude in all the eight NE states. The loss to life and property can be minimized by incorporating the knowledge developed in this project in the relevant disaster management plans of the States. All major stakeholder groups, leaders and policy makers, engineers and architects, disaster management professionals, and people at large will benefit from the knowledge developed during the project.

Research Project on soil piping in the highlands and foothills of Kerala to avoid the disaster

4.24 Soil piping is a recently noticed phenomenon

in Kerala. It is a sub-surface soil erosion process which is dangerous since it takes place beneath the soil. The purpose of this project is to study this phenomenon and suggest mitigation measures.

- 4.25 The project was implemented through Centre for Earth Science and Studies (CESS), Thiruvananthapuram and Department of Revenue, Kerala Government with part financial assistance from NDMA. The Project has been closed in the extended time line on 30 May, 2016. Final report and utilization certificate have been received.
- 4.26 The study found that the Kaolinite clay with gibbsite containing exchangeable sodium is prime target for soil erosion. Chemical amelioration and water management are the best options for controlling or mitigating soil piping. The study has recommended that soil piping be declared as a State-specific hazard in Kerala. The study also has long term positive implications to assess the gravity of soil piping phenomena in India. A similar study may be undertaken for other parts of the country to assess the situation across the country. The mitigation measures that were adopted in the soil piping study on a pilot basis :
- Chemical Amelioration and dewatering are found to be the appropriate methods for controlling soil piping.
 - Application of Lime and Gypsum to neutralize the dispersive nature of the soil is a good method to slow down the process of soil piping.
 - For immediate results, it is better to adopt dewatering techniques such as construction of subsurface barriers to divert the flow, construction of surface drains to divert the surface flow and

reduce the infiltration, seal all the water intake features in the affected slope.

Construction of Multipurpose Cyclone Shelters (MPCSs)

4.27 The cyclone shelter is primarily designed to shelter people, sometimes even cattle, during cyclones. However, the shelter is utilised as a multipurpose community facility all through the year so as to avoid deterioration of the building during non-cyclone periods. Therefore, the design consideration keeps in mind its use for multiple purposes such as school, ration shop, community centre, teaching centre, temporary godown or a public utility building. This ensures that it is well maintained at all times and, consequently, is available to people during a cyclone and other activities. It also generates income for its maintenance.

Construction of cyclone shelters in West Bengal

4.28 A total of 50 cyclone shelters are being constructed in North 24 Parganas, South 24 Parganas and Purba Medinipur districts of West Bengal at an estimated cost of Rs. 138.65 crores. NDMA has signed MOU with M/s. Engineering Projects (India) Limited, New Delhi, for construction of 35 MPCSs, and M/s. Hindustan Steel Works Limited, Kolkata, for construction of 15 MPCSs. M/s. Hindustan Steel Works Limited, Kolkata has constructed all cyclone shelters and handed over the same to the local authorities of South 24 Parganas district. So far, 43 shelters have been completed and handed over to the local state authorities.

EPIL plans to complete the construction of the remaining seven shelters in 2017.



Cyclone Shelters at Kaushangra, North 24 Parganas District under PMNRF



Cyclone Shelters at Purba Mukundapur, East Medinipur District under PMNRF

Construction of one Evacuation cum Community Centre at Minicoy Island of Lakshadweep

4.29 A proposal was received from UT Administration of Lakshadweep for construction of one Multipurpose Evacuation-cum-community Centre at Minicoy island at an estimated cost of Rs. 3,09,63,600/-. The approval of the Competent Authority was accorded in February 2016. An MOU between NDMA

and UT Admn. of Lakshadweep has been signed. To assess the technical adequacy of design and drawing of the shelter, a meeting of the Technical Advisory Committee (TAC) with experts drawn from IIT-Kharagpur and Structural Engineering Research Centre (SERC), Chennai, was held on 17.08.2016. The final design, vetted by a third party, has been accepted by TAC members and the approval has been communicated by NDMA to Lakshadweep Administration. CPWD has requested for revising the estimates for an amount of Rs.3,36,99,200/-. The justification for the same, however, is awaited. The project has a timeline of 24 months i.e. 17.07.2018.



Bird's eye view of proposed multipurpose Evacuation cum Community Centre at Minicoy Island of Lakshadweep

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

4.30 NDMA has taken an initiative on Earthquake Disaster Risk Index (EDRI) for 50 important cities and one district in Seismic Zone IV & V areas. After due consultation with various experts and stakeholders, the work has been awarded to International Institute of Information Technology (IIIT), Hyderabad, at a cost of Rs.45.87 lakhs with a completion period of 18 months. After

three consultative meetings of Project Steering/Technical Committee, a list of 50 cities and one district has been finalized and parameters/weightage for working out the index has been prepared. A meeting with the concerned district authorities of identified cities/district has also been held on 14 December, 2016 at NDMA. Requisite information received from concerned cities/districts are being provided to IIIT, Hyderabad. Stage 1 and 2 of the project have been completed. Accordingly, 70% of the project cost has been released to IIIT Hyderabad in two installments. Field visit of Bhuj in Gujarat to sensitize the State/Dist. offices regarding EDRI has already been conducted in March, 2017.

4.31 This kind of indexing will be helpful for the administrative bodies in comparing the overall risk across large number of cities or region and also in prioritization of cities to implement appropriate disaster mitigation measures.

Mobile Radiation Detection System (MRDS)

4.32 A pilot project empowering police personnel on management of radiological emergency in public domain has been initiated by NDMA. Incidents arising due to orphan sources, transport incidents involving radio isotopes, malicious acts involving RDD, etc. can be effectively managed by effectively utilizing the system. This will also be a deterrent against any trafficking of radioactive materials. The project involves equipping the police patrol with Go-NoGo radiation detectors, radiation measuring instruments and safety kits and training of the police personnel. The project was sanctioned in December, 2014 at an

estimated cost of Rs 6.97 Crores with a timeline of five years.

4.33 Training of the police and NDRF personnel is planned to be carried out in collaboration with Department of Atomic Energy (DAE) in two tiers. In the first tier, under eight batches of ToT programme, detailed training will be imparted to selected participants from police and NDRF who in turn will train other personnel from States/UTs. Details of ToT programme conducted are as under:

- 1st ToT conducted at NDRF 5th Bn, Pune with 39 participants during 16-28 May 2016.



Training programme on Mobile Radiation Detection System

- 2nd ToT conducted at NDRF 2nd BN, Haringhata, Kolkata with 44 Participants during 14-27 September 2016.
- The 3rd ToT conducted at NDRF 4th Bn Arakonam, Chennai during 9-21 Jan. 2017.
- The 4th ToT was conducted at NDRF 3rd Bn Mundali, Bhubaneswar during 6-18 Feb. 2017.

4.34 Procurement of the instruments and Personal Protection Equipment (PPE) is being carried out by BARC. Procurement of PPE at a cost of Rs. 39 lakhs is finalised and purchase of instruments with a cost of Rs. 4.3 crores is in advance stage of processing.



Umbrella Pilot Scheme for Landslide Risk Mitigation - Landslide Risk Mitigation Scheme (LRMS)

4.35 As part of the 12th Plan, a scheme was envisaged to provide central assistance to vulnerable States in the form of pilot projects in each State to build their capacity to take up landslide mitigation projects. The States were requested to prepare the Detailed Project Report (DPR). In this

regard, a State-level meeting was convened at NDMA on 19th December, 2014.

4.36 Further, a template for preparing DPR was formulated in consultation with expert institutions and circulated to all vulnerable States/UTs. So far, 15 DPRs with a total cost estimate of Rs. 107.99 crores have been received from Assam, Mizoram, Nagaland, Uttarakhand, Sikkim, Himachal Pradesh and Goa. These DPRs have been

taken up for Technical Evaluation through a Technical Evaluation Committee (TEC). Four meetings of the TEC for DPRs of Sikkim, Mizoram, Nagaland, Goa and Uttarakhand have been held and scope of modification required has been communicated to the respective States for submission of updated DPR. The DPRs submitted by Uttarakhand are recommended by TEC for approval and a consolidated SFC note will be prepared for approval of the Competent Authority.

Formulation of National Landslide Risk Management Strategy

4.37 NDMA has constituted a Task Force of experts for formulation of National Land-slide Risk Management Strategy. The NLRMS has been planned through six independent sub-groups. The overall strategy shall be finalized by Group of Head of sub-groups. The six major components of sub-groups are as under:

- Generation of User-Friendly Landslide Hazard Maps
- Development of Landslide Monitoring and Early Warning System (EWS)
- Awareness Programmes
- Capacity Building and Training of stakeholders
- Preparation of Mountain Zone Regulations and Policies
- Stabilization and Mitigation of Landslides and Creation of Special Purpose Vehicle (SPV) for Landslide Management

4.38 A total of eight meetings of these six sub-groups have been held till date and the work is under progress.

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 conceptualized a project named "Establishment of GIS Server and creation of Geo-Database in NDMA". The Project envisages establishment of a GIS lab within NDMA equipped with necessary hardware and software to start working with several layers and maintain a database for disaster management. The project was sanctioned at a cost of Rs 3.30 crores in January, 2016 with a project duration of 24 months. So far, Rs 1.93 crores has been spent. As part of the project implementation, the following actions have been completed:

- Most of hardware and all software has been installed and the system has been made operational.
- Communications with Nodal Agencies and stakeholders for completing integration of data.
- Creation of Data Inventory and Calibration of Data.
- Integration of received Data Layers and modification of Geo-database in NDMA GIS Server.
- Calibrating and validating of all the received data from various sources.
- Development of an Android Application for the first responder.

- Creation of Application and Customization Tool for better assessment of Disaster Scenario.

Earthquake Resilient Model District Program (ERMDP)

4.40 The aim of the project is to implement NDMA guidelines on "Management of earthquakes" in a selected seismic prone city/district and to make it a model earthquake resilient district/town. Extending this further to all highly vulnerable districts in future shall mean enhanced earthquake resilience. The proposed project contains various activities on three aspects of earthquake disaster management cycle i.e. Mitigation, Rehabilitation and Reconstruction.

4.41 The Proposal, which was received from six States of Himachal Pradesh, Uttarakhand, Assam, Mizoram, Tripura & Manipur, was evaluated by an Expert Committee under Prof. CVR Murty, Director IIT Jodhpur. West Tripura District was shortlisted for a site visit. The expert committee visited the chosen district in January, 2016 and interacted with all stakeholders for selecting the city/district for the programme.

4.42 NDMA now has included two more districts viz., Bareilly (Uttar Pradesh) and Uttarkashi (Uttarakhand) for this programme. Revised proposals from Tripura as well as proposals from Uttarkashi and Bareilly have also been received.

4.43 A meeting was held on 6th January, 2017 to discuss the proposals in detail with Prof. Murty. Shortcomings in the proposals have been conveyed to West Tripura and Uttarkashi for rectification and

re-submission. On receipt, a consolidated project proposal shall be formulated.

Mock Exercise on Management of Radiological Emergency in airports

4.44 An incident leading to radiological scare occurred at the IGI airport, Delhi on the 29th May, 2015. In order to avoid recurrence of such incidents, regular mock exercises were conducted in major airports as per the directives of MHA. A mock exercise was conducted in Delhi airport on 21 August, 2016.

National Disaster Management Services (NDMS)

4.45 NDMA has taken up a project regarding creation of a satellite based National Disaster Management Communication Network. The revised NDMS Project was approved on 7th January 2016 at an estimated cost of Rs. 19.54 Cr. The Project is being implemented at 120 locations as a pilot project, as per the following details:

- National Level - 03 (MHA, NDMA & NDRF HQ)
- States/UTs - 36 (All State Capitals and/UT Administration HQs)
- Selected Vulnerable Districts - 81

4.46 The aim of the project is to provide failsafe communication by facilitating voice calls between EOCs of Disaster affected districts, respective State HQs, MHA, NDMA and NDRF HQ and disaster sites through Satellite/HF Radio in case of failure of terrestrial network.

4.47 The NDMS Pilot Project is being implemented by BSNL w.e.f. 9th February, 2016. The project is to be completed in two years. As on date, MoU have been signed with 35 States/UTs out of a total of 36.

4.48 As on date, BSNL has delivered VSAT at 69 locations out of which 58 VSATs have

been installed. Similarly, PC/ UPS delivered 120, ATA installed and tested 48. As a part of MoU, an advance of 40% i.e. Rs 6.38 Cr. has been paid to BSNL. BSNL has submitted the fund utilization certificate for Rs 2.30 Crores.

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.

2nd Meeting of BRICS Ministers for Disaster Management at Udaipur, Rajasthan

5.3 The Government of India hosted the 2nd Meeting of the BRICS Ministers for Disaster Management on 22nd - 23rd August 2016 in Udaipur, Rajasthan. The meeting identified specific approaches and good practices for mainstreaming disaster risk reduction in development; improvement of forecasting and early warning systems and management of emerging disaster risks in the face of a changing climate. The Ministerial Meeting adopted a political declaration called the "Udaipur Declaration" and a roadmap for implementation of the Joint Action Plan agreed at St. Petersburg, Russia in April, 2016 for collaboration among the institutions of BRICS countries on the identified areas of cooperation. One of the major outcomes of the Udaipur Declaration is setting up of a Joint Task

Force on Disaster Risk Management (DRM) by the BRICS countries.

Aapda Mitra - Scheme for training community volunteers

5.4 The NDMA approved a centrally sponsored scheme in August 2016 which is focused on training 6,000 community volunteers in disaster response in 30 most flood-prone districts (200 volunteers per district) of 25 States. The duration of implementation of the scheme is 24 months. It aims to provide the community volunteers with the skills that they would need to respond to their community's immediate needs in the aftermath of a disaster thereby enabling them to undertake basic relief and rescue tasks during emergency situations such as floods, flash-floods and urban flooding. Under the scheme, standardized training modules will be developed at the national level and training institutions will be identified at the State level which will impart training to the selected volunteers from the project districts. The MoU has been signed with 20 Project States/UT so far. Funds have been released to 14 Project States amounting to Rs. 3.63 crores.

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

5.5 The project aims to strengthen community and local self government's preparedness and response in 10 most multi-hazard vulnerable districts, two each in five identified States (Assam, Bihar, Himachal Pradesh, Jammu & Kashmir and Uttarakhand). The first installment of funds to the tune of Rs. 39,63,200/- (40% of total cost of the project) has

been released to each of the four project States namely, Assam, Bihar, Himachal Pradesh and Uttarakhand between September and December 2016 to initiate implementation of the scheme at the local level.

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

5.6 The project is aimed at imparting training on DM to about 3,800 officers of the Indian Administrative Services (IAS) and other Central Services during 2013-17 at the cost of Rs 216.48 lakhs at the Lal Bahadur Shastri National Academy of Administration. A total of 3,504 officers have been trained till December 2016.

National School Safety Programme (NSSP)

5.7 The National School Safety Programme (NSSP), a Centrally Sponsored Demonstrative Project of the GoI, with a total cost outlay of Rs.48.47 crores, is being implemented by NDMA in partnership with the State/UT Governments. The project is covering 200 schools in each of the selected 43 districts (a total of 8,600 schools) spread over 22 States/UTs falling in seismic zone IV & V with an aim to sensitize children and the school community on disaster preparedness and safety measures. Five States and a UT have completed all the project deliverables and rest of the project States and UTs are at different stages of completion of project activities. The duration of the project has been extended upto 31.03.2017 without any additional financial support.

Activities for flood relief from PMNRF in Jammu and Kashmir (J&K)

5.8 NDMA had been assigned the task of coordinating the relief activities under PM National Relief Fund (PMNRF) to the State Government of J&K with respect to the 2014 floods. Till date Rs. 595,97,64,149/- have been credited directly through Direct Benefit Transfer (DBT) facility to the bank accounts of around 2,06,732 beneficiaries whose houses were damaged during the floods. This completes the task of DBT to the beneficiaries to whom assistance from PMNRF was to be given. Therefore, Rs. 2.25 crores have been returned to PMNRF. NDMA has also monitored the procurement and commissioning of 217 line items and 1278 equipments valued at Rs. 15.72 crores through the fund.

Training imparted by NDMA on CBRN Emergencies

5.9 As per a request from the Parliament House Training Unit, two sensitization courses on 'Preparedness to respond to CBRN emergencies' were conducted for the Parliament House Complex Security Staff from 12.02.2016 to 14.02.2016 and 23.05.2016 to 27.05.2016 at NDMA Bhawan.

NDMA-Civil Society Dialogue

5.10 NDMA organized a brainstorming session on 7th June, 2016 at NDMA Bhawan with representatives of various International and national Non-governmental and Community Based Organizations in India to take forward the DRR agenda. The

meeting was attended by more than 30 civil society representatives. The prospects and priorities for strengthening public and civil society engagement in respect of DRR initiatives were deliberated during the session.

Capacity development of doctors and nurses in trauma life support

5.11 The NDMA has implemented a Pilot Project on strengthening capacities of the medical and paramedical fraternity in advanced trauma life support for three States (Assam, Andhra Pradesh and Bihar). The Project aimed to develop a dedicated team of doctors, nurses and paramedics for Trauma Life Support in these States. Batches of doctors and nurses from Uttar Pradesh, Himachal Pradesh and Maharashtra have received training under the up-scaled project in the year 2016-17.

Official Visits

5.12

- A Nepalese delegation from the Parliamentary Committee for Development, Parliament of Nepal, visited NDMA on 8th July 2016. This was followed by the visit of the Hon'ble Deputy Prime Minister of Nepal to NDMA on 19th August 2016.
- Shri B. Pradhan, Joint Secretary, NDMA, attended the first Joint Steering Group (JSG) meeting at Berlin, Germany from 14th to 15th July 2016 for deliberations to strengthen mutual cooperation on disaster management between the two countries.

- Ms. Mamta Kundra, Project Director, NCRMP, attended the Conference of World Bank –“Understanding Risk 2016 Forum” from 16th to 20th May 2016 in Venice, Italy, which was focussed on new technologies in DM.
- Shri Dharendra Singh Sindhu, Joint Advisor, NDMA attended 2nd Phase of Disaster Response Exercise and Exchange Programme (DREE) 2016 held in Bangladesh from 3rd to 6th October 2016.
- Lt. Gen N.C Marwah, Member, NDMA, participated at the Meeting of the World Bank Global Facility for Disaster Reduction and Recovery (GFDRR) on 21st February 2017 in Brussels as well as UNISDR Donor Meeting on 23rd February, 2017 in Geneva.
- Shri Kamal Kishore, Member, NDMA, attended 2nd meeting of the Advisory Working Group (20 June, 2016) and ISDR Asia Partnership (IAP)meeting on 21-22 June, 2016 at Bangkok, Thailand.
- Shri Kamal Kishore, Member, NDMA, attended the 3rd and final session of Open Ended Inter-government Expert Working Group (OIEWG) on terminology and indicators relating to DRR from 14-18 November, 2016 at Geneva.

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.

Mock Exercises

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



Figure 1 Coordination Conference



Figure 2 Table Top Exercise

by adopting a step-by-step approach. Initially, an orientation-cum-coordination conference is held to highlight the roles and responsibilities of the various stakeholders.

- 6.4 In the next phase, a Table Top Exercise is carried out to elicit the responses of the participants on simulated scenarios. These scenarios are painted to cover the entire gamut of the disaster management cycle and exercise all the ESF. At the end of this phase, the lessons that emerge are shared with all the participants and sufficient time is given to them for honing their responses and training their subordinates

before the actual mock exercise. The exercise is conducted on a simulated scenario. Incident Response System (IRS) is used as a response mechanism- EOCs are activated, Staging areas and Incident Command posts are established, wireless and Satellite phones are used in case of communication breakdown and composite Task Forces are created to respond as per requirement. These exercises enhance the ability to respond faster, better and in an organized manner during the response and recovery phase.



Figure 3 EOC Observers



Figure 4 EOC Planning Phase

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

observers are asked to give their feedback. The gaps identified during these exercises are communicated to the stakeholders for taking necessary actions for improvement.



Figure 5 Staging Area



Figure 6 CBRN Search & Rescue Operations

6.6 Mock exercises have helped in creating a culture of preparedness at the grassroot level. Representatives of the community as well as students participate in large numbers in most of these exercises. The District Administration, the Corporate Sector and other First Responders have shown tremendous enthusiasm. The Armed Forces, NDRF, SDRF, local police, Fire & Emergency Services, Medical

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



Figure 7 Casualty Evacuation



Figure 8 Hospital Surge Capacity

6.7 A list of mock exercises conducted under supervision of NDMA during 2016-17 is as follows :

S.No.	Date	Type of Disaster	Place and State
1.	04 to 26.04. 2016	Incident Response System (IRS)	7 Vulnerable Districts of Uttarakhand.
2.	17 to 19 .05.2016	ME on Earthquake (EQ) (Distt. Level)	Faridabad (Haryana)
3.	07 to 12.06.2016	Incident Response System (IRS)	7 Vulnerable Districts of Tripura.
4.	08 to 10 .06.2016	ME on Flood (Distt. Level)	Ambala (Haryana)
5.	13 to 16.06.2016	ME on Earthquake (State Level)	Agartala (Tripura)
6.	23 to 28.06.2016	ME related to preparation for Sh. Amarnath Yatra-2016	Baltal & Pahalgam (J&K)
7.	17 to 24.11.2016	ME on Earthquake Disasters (State Level)	Shimla (H.P)
8.	20 to 22.02.2017	ME on Earthquake Disasters (State Level)	Uttarakhand
9.	07 to 10.03.2017	ME on Tsunami / Cyclone (State Level)	Puducherry

6.8 Since 2006, a total of 554 Mock Exercises including three Multi-State Mega Mock Exercises and five State-level Mock

Exercises covering all districts have been conducted.



Figure 9 & 10 Hot wash and debriefing session with State officials and on video conference with district HQs

New Scheme/Project on Mock Exercises :

6.9 In order to ensure that all the State Governments are equipped to handle disasters effectively, NDMA launched a new scheme to provide financial support to all States/UTs (29 States, 7 UTs and 683 Districts) on 26.05.2016 under which a grant of Rs.1 Lakh per District/State HQ was allotted for conduct of ME during 2016-17. A total of Rs. 4.19 crores was released against demands received from States/UTs under the scheme till March 31, 2017. This scheme has now been extended upto March 31, 2018.

Awareness Generation

6.10 In its endeavour to spread awareness amongst the masses, Public Relations & Awareness Generation (PR&AG) Division, National Disaster Management Authority (NDMA), launches various public awareness initiatives through electronic and print media. The focus is on building an appropriate environment for disaster management by reaching out to the

masses. These awareness campaigns are being implemented through various modes like TV, Radio, Print media, Exhibitions, etc. The awareness campaigns have two prime objectives:

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

6.11 The following awareness campaigns were carried out during 2016-17:

Audio-Visual Campaigns

6.12 Doordarshan - Audio-Video spots on natural disasters such as earthquake, flood, urban flood, landslide and cyclone were telecast/ broadcast on Doordarshan (National Network and Regional Kendras of Doordarshan). Multiple spots of 30 seconds each on each disaster were run on a shuffling basis for 15 days in their respective disaster-prone regions. Details of the campaigns are as below:-

Campaign	Spot	Title of Spots in 30 sec.	Language	States where run	Telecast period
Earthquake	05	<ol style="list-style-type: none"> 1. Salaah Se Salamati 2. Jhuko Dhako Pakdo 3. Savdhan Hai To Jaan Hai, 4. Taiyari Main Hain Samajdhari 5. Non-Structural 	Hindi, English, Gujarati, Assamese, Bengali, Marathi, Nepali, Khasi, Mizo, Manipuri, Oriya	Earthquake prone zones IV & V in the States viz. J&K, H.P., Punjab, Delhi, Chandigarh, Haryana, Uttarakhand, Rajasthan, U.P., Bihar, Arunachal Pradesh, Manipur, Assam, Mizoram, Nagaland, Tripura, Meghalaya and West Bengal	01/10 to 15/10

Flood	04	<ol style="list-style-type: none"> 1. Amma, 2. Main Taiyar Hoon 3. Aneka Main Ekta 4. NDRF in action 	Hindi, English, Assamese, Bengali, Gujarati, Bhojpuri, Kannada, Kashmiri, Konkani, Marathi, Oriya, Tamil, Telugu	Gujarat, H.P., Bihar, U.P., Punjab, Haryana, Uttarakhand Rajasthan, M.P., Maharashtra, Kerala, Chennai, West Bengal, Bangalore, Assam, Daman & Diu and Lakshadweep	06/7 to 20/07
Cyclone	02	<ol style="list-style-type: none"> 1. Machhuara 2. Ghar Phir Ban Jayega 	Hindi, English, Bengali, Oriya, Telugu, Marathi, Gujarati, Tamil, Assamese, Kannada, Malayalam	Odisha, Chennai, A.P., Kerala, Karnataka, Andaman & Nicobar, Puducherry and Gujarat	16/9 to 30/09
Landslide	03	<ol style="list-style-type: none"> 1. Hamari Galti 2. Geologist 3. Postman 	Hindi, Assamese, Manipuri, Khasi, Garo, Nepali, Mizo	J&K, H.P., Uttarakhand, NER States, Sikkim and Andaman & Nicobar	11/8 to 25/08
Urban Flooding	02	<ol style="list-style-type: none"> 1. Urban Flooding 2. Shehri Badh Se Bachav 	Hindi, English, Tamil, Telugu, Marathi, Oriya, Gujarati, Bengali, Assamese, Kannada, Malayalam	J&K, Uttarakhand, Punjab, Assam, Arunachal Pradesh, Tamil Nadu, Karnataka, Rajasthan, Bihar, Delhi, Gujarat, U.P., Kerala and Maharashtra	01/8 to 15/08

All India Radio - Audio spots on natural disasters such as earthquake, flood, urban flood, and landslide were telecast/broadcast on All India Radio. Multiple spots of 30 seconds each on

each disaster were run on a shuffling for 15 days in their respective areas of disaster. Details of the campaigns are as below:-

Campaign	Spot	Title of Spots in 30 sec.	Language	States where run	Period of running
Earthquake	05	1. Salaah Se Salamati 2. Jhuko Dhako Pakdo 3. Savdhan Hai To Jaan Ha, 4. Taiyari Main Hain Samajdhari 5. Non-Structural	Hindi, English, Gujarati, Assamese, Bengali, Marathi, Nepali, Khasi, Mizo, Manipuri, Oriya	Earthquake prone zones IV & V in the States viz. J&K, H.P., Punjab, Delhi, Chandigarh, Haryana, Uttarakhand, Rajasthan, U.P., Bihar, Arunachal Pradesh, Manipur, Assam Mizoram, Nagaland, Tripura, Meghalaya and West Bengal	19/9 to 03/10
Flood	04	1. Amma 2. Main Taiyar Hoon 3. Anekta Main Ekta 4. NDRF in action	Hindi, English, Assamese, Bengali, Gujarati, Bhojpuri, Kannada, Kashmiri, Konkani, Marathi, Oriya, Tamil, Telugu	Andhra Pradesh, Assam, Gujarat, Bihar, Haryana, Himachal Pradesh, J&K, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura Uttarakhand, U.P., Delhi and West Bengal	1/09 to 15/09 2/08 to 16/8 24/9 to 08/10
Landslide	03	1. Hamari Galti 2. Geologist 3. Postman	Hindi, Assamese, Manipuri, Khasi, Garo, Nepali, Mizo	J&K, H.P., Uttarakhand, NE States, Sikkim and Andaman & Nicobar	29/7 to 12/08
Urban Flooding	02	1. Urban Flooding 2. Shehri Badh Se Bachav	Hindi, English, Tamil, Telugu, Marathi,	J&K, Uttarakhand, Punjab, Assam, Arunachal Pradesh,	29/7 to 12/08

Observance of 12th Formation Day of NDMA

6.14 The 12th Formation Day of NDMA was observed on 28.09.2016 in Vigyan Bhawan, New Delhi. Shri Hansraj Gangaram Ahir, Hon'ble Minister of State for Home Affairs, graced the occasion as the Chief Guest. Shri Ahir reiterated the Government's commitment to the vision of a safer, stronger and resilient India.



6.15 The inaugural session was followed by three Technical Sessions –

- i) National Disaster Management Plan (NDMP) and its follow-up action,
- ii) Sharing of Best Practices and Innovative Technologies for Disaster Preparedness
- iii) Curtain Raiser for Asian Ministerial Conference on Disaster Risk Reduction, 2016.

6.16 The inaugural session marked the release of a special edition of NDMA's newsletter 'SAMVAD' by the Hon'ble Minister of State for Home Affairs. The Hon'ble Minister made a mention of the launch of India's first National Disaster Management Plan (NDMP) on 1st June, 2016 by the Hon'ble

Prime Minister. The NDMP is aligned to the Sendai Framework for Disaster Risk Reduction (SFDRR).



6.17 Speaking on the occasion, Dr. P.K. Mishra, Additional Principal Secretary to Prime Minister, emphasized upon the need to “work towards stopping the creation of new risks, reducing existing risks, and strengthening the response and recovery capacities to manage the aftermath when disasters do happen.”

6.18 The States shared their best practices during the second Technical Session. The interactive session generated active participation.



Earthquake campaign in Delhi & NCR

6.19 Awareness campaigns on earthquakes, centered on spreading awareness among

the masses and preparing them for any impending earthquake, are being implemented through various modes like TV, Radio, Print media and Exhibitions, etc. regularly for many years now.

In the current financial year, i.e. 2016-17, an intensive Earthquake awareness programme was run in Delhi-NCR area through audio-video/audio spots in Doordarshan, AIR and leading news channels. A total of five spots of 30 seconds each were run on a shuffling basis for 15 days in October-November, 2016.

As a part of this campaign, these spots were run before the show started and during interval on a shuffling basis in October-November, 2016 in 211 theaters for one month.

The campaign was also undertaken during the same period in the Delhi Metro through its panels. The campaign highlighted the Do's and Don'ts for before, during and after earthquake scenarios.

I am prepared are you ?

What to do before an earthquake ?

You must have Available

 First Aid Kit	 Torches with extra batteries	 Bottled/Fresh/Boiled & Nonperishable Food	 Thick Ropes & Cords	 Radio with Batteries	 Fire Extinguisher
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What to do during an earthquake

 DROP !	 COVER !	 HOLD ON !	 DON'T PANIC ! CALM DOWN <small>Try to stay as calm as possible</small>	 INSIDE <small>Stay away from furniture, windows and lamps</small>	 OUTSIDE <small>Stay away from buildings, walls and power poles</small>
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What to do after an earthquake

 Use the stairs	 Do not use Elevators	 Do not enter Damaged Buildings	 Be alert to the possible aftershocks that might occur	 Do not use phone for calls as it may reduce battery life USE SMS when ever you may	 Pay attention only to information from the authorities
--	--	--	--	--	--

Issued in public interest by: **National Disaster Management Authority** Govt. of India

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Asian Ministerial Conference on Disaster Risk Reduction 2016
New Delhi, India

Vigyan Bhawan
New Delhi, India
03-05 November 2016

Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR)

6.20 NDMA facilitated in organising of AMCDRR 2016, which was held from 3 to 5 November, 2016 at Vigyan Bhawan in New Delhi. The Conference, organized by the Ministry of Home Affairs, Government of India, in collaboration with the United Nations International Strategy for Disaster Reduction (UNISDR) was attended by representatives from more than 50 Asian and Pacific countries. Hon'ble Prime Minister Shri Narendra Modi, who inaugurated the Conference, outlined a 10-point agenda for Disaster Risk Reduction (DRR) which addressed a whole range of issues concerning Disaster Risk Reduction. The closing day of the Conference marked the commemoration of the first World Tsunami Awareness Day, which was aimed at spreading awareness about the dangers of tsunami and the importance of early warning systems in mitigating its impact. The Conference adopted the New Delhi Declaration and the Asian Regional Plan for Implementation of the Sendai Framework thus paving the way towards the implementation and monitoring of the Sendai Framework in the Asian region.

NDMA organized an exhibition on Disaster Risk Reduction with a thematic focus on 'Make in India' in which more than 100 PSUs, Foreign Governments, UN Bodies, private organisations, etc. participated. NDMA also worked closely with UNISDR in organising a short films festival which played entries from across Asia under three categories: Positive Human Impact of DRR, DRR for Development and Adapting to Climate Change.

Activities in the print and electronic media during October-November, 2016 revolved around AMCDRR 2016. Curtain raiser events at prestigious academic institutions in Delhi and TV discussions around DRR were organised in the run-up to the Conference.

- Press Releases were issued regularly before and during the Conference. Editorials, interviews were also published prior to AMCDRR.
- Short films, one each on urban floods and cyclones, and a film showcasing India's efforts towards Disaster Risk Reduction (DRR) were produced for generating awareness on subjects related to disasters.
- Press releases were also issued for regular meetings and workshops organized at NDMA.

National Painting Competition for school children in AMCDRR, 2016



6.21 A National Painting Competition for school children of age group 10-14 years was organized. The competition was organized in two phases - at the State/UT level and

at National level. The first three winners of the State-level competitions were invited to participate in the on-the-spot competition held on 3rd November, 2016 at AMCDRR, 2016 during the inaugural day. Hon'ble Prime Minister Shri Narendra Modi also graced the occasion and visited the event area. He also interacted with students and boosted the morale of participants.

The theme of the competition was '**Aapda, Vikas aur Hum**' (Disaster, Progress and

We). The competition's theme was related to Disaster Risk Reduction and aimed at making children more aware and making them realize the need and importance of putting simple and effective measures to keep their environment safer and healthier. In this competition, a total of 47 students participated from 17 States/UTs. NDMA has also brought out a Table Calendar for 2017 containing these paintings made by the children.



NDMA Stall at the 36th India International Trade Fair, 2016



Pragati Maidan, New Delhi, to disseminate awareness among general public, students and various stakeholders regarding different kinds of disasters by putting up panels and kiosks for earthquake.



6.22 NDMA participated at the 36th India International Trade Fair, 2016 from 14th to 27th November, 2016 at Hall No. 12, ITPO,

6.23 Dr. P.K. Mishra, Additional Principal Secretary to Hon'ble Prime Minister, inaugurated the NDMA pavilion on 14th November, 2016. Creatives, printed material and videos were used to showcase efforts towards making communities disaster risk resilient during the fair.

6.24 Live demonstration of NDMA's Geographical Information System (GIS) for Disaster Management and National Disaster Management Services (NDMS) was done throughout the fair's duration.

A social media desk to spread awareness about the use of social media for disaster management was also set up.



6.25 A collage of 47 paintings which were made by school children during the National Painting Competition in AMCDRR, 2016, was exhibited. It became the selfie-point of the stall.



Live demonstration of life saving techniques by National Disaster Response Force (NDRF) was the highlight during the fair. National Institute of Disaster Management (NIDM) also used the platform to engage children via fun games, quizzes, etc. on disasters.



Social Media Campaigns

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

Twitter Report

6.27 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.

- Number of Tweets Published in a Day: **24**
- Number of People Coming to NDMA's Twitter Page every Day: **9,255 visitors**
- Number of Impressions (Reach of Tweets): **6,06,000**
- Followers as on May 1, 2016: **9,000**
- Followers as on March 31, 2017: **35,900**
- Number of followers increased: **26,900**

Facebook Report

6.28

- Number of Posts Published in a Day: **8**
- Total Reach of Facebook posts every Week: **40,000**
- Total Reach of Facebook posts every Month: **1,60,000**
- Followers as on May 2, 2016: **1,00,000**
- Followers as on March 31, 2017: **1,89,435**
- Number of followers increased: **89,435**

Special Social Media Campaigns

6.29

▪ NDMA Asks Campaign

People were asked questions on various disaster-related issues to generate interest in areas related to Disaster Risk Reduction and increase their awareness levels. People responded to the campaign with great enthusiasm. For instance, many tips on mitigating the impact of 'heat wave' were received in response to an #NDMAAsks question.

▪ News on Natural And Manmade Disasters

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

▪ Ask NDMA Campaign

An expert on a particular disaster was called in to answer 'Live' the questions asked by the public on NDMA's Twitter Handle. The date and time for the episode were decided beforehand and publicised on NDMA's social media accounts to generate interest about the subject amongst the masses.

▪ AMCDRR

Aggressive promotions of AMCDRR were done starting at least a month before the start of the Conference.

Live sessions of curtain raiser events organized during AMCDRR were broadcast on social media through live video broadcasting option. Also, during the event, live tweeting and Facebook updates on the various sessions were done.

- **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.

- **Other activities**

Awareness generation is also being done on other social media platforms such as on Instagram and Pinterest. Special Campaigns on IITF, AMCDRR-Curtain Raiser Event, AMCDRR, Formation Day etc. were also carried out.

Stress Management

After Disaster

Engage in healthy conversations to enhance victims' ability to cope with excessive stress. Help them understand the importance of healthy meals and well-balanced diet devoid of alcohol and drugs



[http://www.ndma.gov.in/](http://www.ndma.gov.in)

NDMAIndia

6.30 The Draft Blueprint for setting up of SAARC Disaster Management Centre was prepared in consultation with National Institute of Disaster Management and sent to Ministry of External Affairs for necessary action. This Blueprint was further considered in Expert Group Meeting of Member States and approved. The work of SAARC Disaster Management Centre would comprise five programming pillars including capacity development & knowledge management. It would be set up in a phased manner.

CHAPTER - 7

STRENGTHENING EMERGENCY RESPONSE

Operationalisation of NDMA Control Room

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

State Disaster Response Force (SDRF) Training of Trainers (ToT) in Disaster Response

7.2 Training of SDRF is an ongoing activity undertaken by NDMA. ToT for 110 SDRF personnel of various States had been planned at a cost of Rs.15,13,380/-. As part of the Plan, four ToT Courses in Disaster Response were conducted from 28.03.2016 - 07.05.2016, 11.07.2016 - 20.08.2016, 14.09.2016 - 27.10.2016 and 03.02.2017 - 05.04.2017 at North Eastern Police Academy (NEPA), Shillong; Border

Institute of Disaster Response (BIDR), BSF Academy Tekanpur, Gwalior; Central Training College, CRPF Coimbatore and NITSDR, BTC ITBP, Bhanu, Chandigarh. A total of 156 SDRF personnel were trained.

Disaster Management Training for Associated NCC Officers (ANOs), Civil Defence, Nehru Yuva Kendra Sangathan (NYKS) etc.

7.3 Civil Defence personnel, NYKS volunteers and NCC (ANOs) play a vital role in the context of Community Based Disaster Management. NDMA has initiated an orientation training on Disaster Management for them since 2015. These programmes have been planned at all the 12 locations of NDRF battalions, where one training programme per quarter is being conducted. During the current Financial Year, four training capsules were conducted in May (24.05.2016 - 26.05.2016), September (28.09.2016 - 30.09.2016), December (27.12.2016 - 29.12.2016) and February (22.02.2017 - 24.02.2017) wherein 270, 312, 251 and 213 personnel were trained, respectively.

Assessing Monsoon Situation

7.4 Weekly meetings were chaired by Shri R. K. Jain, Member, NDMA, to review the Pre-Monsoon and Post-Monsoon situation

(April to September, 2016) in the country. Resident Commissioner/Representatives of the flood prone/affected States attended the meetings and were briefed by officials of IMD, CWC, NDRF and Ministry of Urban Development. The NDRF deployment was reviewed regularly and necessary instructions to deal with the situation were given.

Coordinated relief and rescue activities during major disasters

7.5

- NDMA participated in an expert group for formulation of action plan for mitigation of landslide dam over River Kanaka in Sikkim in August, 2016.
- Cyclone “VARDHAH” (06.12.2016 to 13.12.2016) - About 13,578 persons were evacuated/rescued in Andhra Pradesh and Tamil Nadu. A total of 1,775 stranded tourists in Havelock and Neil Islands (Andaman & Nicobar Islands) were evacuated. NDMA kept a regular watch on evacuation and rescue operations. NDMA’s social media channels played a major role in dissemination of information before, during and after the cyclone.
- Coordinated dispatch of relief aid to Fiji (Cyclone), Sri Lanka (Flood) and Ecuador (Earthquake).

CHAPTER - 8

ADMINISTRATION AND FINANCE

General Administration

NDMA Secretariat

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

Policies, Plans and Awareness Generation Division

8.2 The division deals with all matters pertaining to the formulation of policies, guidelines and approval of plans of all the Central Ministries/Departments as well as capacity building and awareness in all the States. Mainstreaming disaster management in development plans is also an important task of this division. The total sanctioned staff in this division is 15, comprising one Advisor (JS level), three Joint Advisors (Director Level), three Assistant Advisors (US level) and eight support staff.

8.3 Awareness Generation and Capacity Building, which is a major subject to be

dealt with by the NDMA, is another task of this division. This division has taken up the task to lead this effort and ensure that the culture of preparedness is inculcated at all levels. It also handles conceptualization and execution of awareness generation campaigns involving both electronic and print media, besides involvement of the community and other stakeholders at the grassroots level.

Mitigation Division

8.4 The responsibilities of this division are to take up Risk Mitigation Projects at the national level in conjunction with the Ministries of the Central Government and the States (pertaining to disasters like cyclones, earthquake, floods, landslides and failsafe Communication and IT plan etc.). It also guides and commissions specialized studies and projects like Micro-Zonation, Vulnerability Analysis, etc. It also supervises and monitors the design and implementation of the mitigation projects to be undertaken by the Ministries themselves. The total sanctioned staff in this division is 10, comprising one Advisor (JS level), two Joint Advisors (Director level), two Assistant Advisors (US level) and five support staff.

Operations and Communication Division

8.5 NDMA needs to be in a state of readiness to render advice to the Government on disaster situations for which it must remain fully apprised of the latest information. For this, NDMA has an Operations Centre which provides round the clock disaster specific information and data inputs and guides the effort during the subsequent stages of response. This division is also closely involved with the tasks relating to Rehabilitation and Recovery.

8.6 It also has the task of maintaining a dedicated and continually operational state-of-the-art communications network. The key components of the Communication and IT Wing are Communications and IT network and DM Information System with special reference to Knowledge Management and Data Fusion with emphasis on GIS based applications. The total sanctioned staff in this division is 17, comprising one Advisor (JS level), three Joint Advisors (Director level), four Assistant Advisors (US level), two Duty Officers (US level) and seven support staff.

Administration, Coordination, Capacity Building and Training Division

8.7 This division is responsible for all aspects of Administration and Coordination. Its activities involve extensive interface with the Ministries/ Departments and States. This division also provides administrative and logistic support to the Members and the staff of the NDMA at all levels. Capacity Building and Training is another important

work of this Division. It undertakes various activities and projects towards capacity building and training. The total sanctioned staff in this division is 22, comprising one JS, one Director, two Under Secretaries and 18 support staff.

Finance and Accounts Division

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

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

Preparation and Monitoring of budget of NDMA

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

Finance and Budget:

NDMA- Budget Allocation & Expenditure (Plan) for the period April 2016 to Jan 2017

(Rs. in Thousands)

Name of the project	B.E 16-17	R.E 16-17	Expenditure up to 31.01.2017
National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	6419200	6343300	5298398
Other Disaster Management Projects - (ODMP)	359700	177000	101905

NDMA- Budget Allocation & Expenditure (Non-Plan) for the period April 2016 to Jan 2017

(Rs. in Thousands)

Non-Plan MH 2245	BE 2016-17	R.E 2016-17	Exp. up to 31.01.2017
Total:	309100	239900	183634

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

Annexure - I

COMPOSITION OF NDMA

Present Composition

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

Former Members

1.	Gen. N. C. Vij	Vice-Chairperson (28.9.2005 to 27.9.2010)
2.	Shri M. Shashidhar Reddy	Vice Chairperson (16.12.2010 to 16.06.2014) Member (11.10.2010 to 16.12.2010) Member (05.10.2005 to 04.10.2010)
3.	Lt. Gen. (Dr.) J. R. Bhardwaj	Member (28.09.2005 to 27.09.2010)
4.	Dr. Mohan Kanda	Member (05.10.2005 to 04.10.2010)
5.	Prof. N. Vinod Chandra Menon	Member (28.09.2005 to 27.09.2010)
6.	Smt. P. Jyoti Rao	Member (14.08.2006 to 13.08.2011)
7.	Shri K. M. Singh	Member (14.12.2011 to 11.07.2014) Member (28.09.2005 to 27.09.2010)

8.	Shri B. Bhattacharjee	Member (15.12.2011 to 11.07.2014) Member (21.08.2006 to 20.08.2011)
9.	Shri J. K. Sinha	Member (04.06.2012 to 11.07.2014) Member (18.04.2007 to 17.04.2012)
10	Shri T. Nandakumar	Member (8.10.2010 to 28.2.2014)
11	Shri V. K. Duggal	Member (22.06.2012 to 23.12.2013)
12	Maj. Gen. J. K. Bansal	Member (6.10.2010 to 11.07.2014)
13	Muzaffar Ahmad	Member (10.12.2010 to 03.01.2015)
14	Dr. Harsh K. Gupta	Member (23.12.2011 to 11.07.2014)
15	Dr. K. Saleem Ali	Member (03.03.2014 to 19.06.2014)
16	Sh. K. N. Shrivastava	Member (03.03.2014 to 11.07.2014)

Annexure - II

LIST OF SENIOR OFFICERS OF THE NDMA

1.	Shri R. K. Jain, Secretary (Since 04.10.2014 to 22.02.2015) Member Secretary (Since 23.02.2015 to 30.11.2015) Member (Since 1.12.2015)
2.	Smt. Aastha Saxena Khatwani, Financial Advisor (Since 01.01.2015)
3.	Shri B. Pradhan, Joint Secretary (Since 07.08.2015)
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)
6.	Maj. Gen. Anurag Gupta, Advisor (Ops. & Comn. (Since 19.01.2015 to 30.09.2016)
7.	Ms. Sryesi Chaudhuri, Director (Since 08.12.2015)
8.	Sh. Vinay Kajla, Joint Advisor (Since 31.08.2012 to 10.11.2016)
9.	Shri S. K. Singh, Director (Since 23.07.2012 to 31.03.2017)
10.	Shri Dharendra Singh Sindhu, Joint Advisor (Since 26.06.2013)
11.	Col. Nadeem Arshad, Joint Advisor (Since 20.08.2013 to 01.06.2016)
12.	Col. Ranbir Singh, Joint Advisor (Since 11.08.2014)
13.	Shri S. N. Singh, Joint Advisor (Since 23.01.2015 to 2.1.2017)
14.	Shri Bhupinder Singh, Dy. Secretary (Since 25.02.2013)
15.	Shri Yogeshwar Lal, Dy. Secretary (Since 07.07.2014 to 30.06.2016) Director (Since 01.07.2016)
16.	Lt. Col. Vikrant Lakhnupal, Joint Advisor (Since 20.06.2016 to 05.08.2016)
17.	Shri Anurag Rana, Joint Advisor (Since 19.10.2016)

18.	Shri Pushkar Sahay, Joint Advisor (Since 08.02.2017)
19.	Shri J. C. Babu, Assistant Advisor (Since 03.10.2008 to 22.09.2016)
20.	Sh Partha Kansabanik, Under Secretary (Since 18.08.2011)
21.	Sh Amal Sarkar, Under Secretary (Since 14.11.2012)
22.	Sh Turam Bari, Under Secretary (Since 01.01.2013)
23.	Sh M. A. Prabhakaran, Assistant Financial Advisor (Since 15.09.2014)
24.	Sh Sunil Singh Rawat, Under Secretary (Since 30.03.2015)
25.	Sh Pankaj Kumar, Under Secretary (Since 06.04.2015)
26.	Shri Ramesh Kumar Mishra, Under Secretary (Since 28.03.2014)
27.	Shri Rajendra Kumar Bandhu, Under Secretary (Since 19.02.2016)
28.	Shri Mohan Lal Sharma, Under Secretary (Since 16.09.2016)
29.	Ms. Amrapaali Panthi, Assistant Advisor (Since 03.06.2013)
30.	Shri Naveen Kumar, Assistant Advisor (Since 22.07.2016)
31.	Shri Kamal Kishore Rao, Assistant Advisor (Since 29.09.2016)
32.	Shri Deepak Ahlawat, Duty Officer (Since 30.01.2017)
33.	Shri Susheel Kumar, Duty Officer (Since 13.01.2017)
34.	Dr. Pavan Kumar Singh, Sr. Research Officer (Since 23.05.2008)
35.	Dr. S. K. Jena, Sr. Research Officer (Since 01.08.2008)
36.	Sh Nawal Prakash, Sr. Research Officer (Since 22.05.2009)
37.	Dr. Monika Gupta, Sr. Research Officer (Since 24.07.2013)