



ANNUAL REPORT 2015-16



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

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Abbreviations

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

Chapter-1

Introduction

Vulnerability Profile

1.1 India, due to its unique geo-climatic and socio-economic conditions, has been vulnerable in varying degrees, to floods, droughts, cyclones, tsunamis, earthquakes, urban flooding, landslides, avalanches and forest fires. Out of 36 States and Union Territories (UTs) in the country, 27 are disaster prone. 58.6% of landmass is prone to earthquakes of moderate to very high intensity; 12% of land is prone to floods and river erosion; out of 7,516 km. of coast line, 5,700 km. is prone to cyclones and tsunamis; 68% of the cultivable land is vulnerable to drought and hilly areas are at risk from landslides and avalanches; 15% of landmass is prone to landslides and 5,161 urban local bodies are prone to urban flooding. Fire incidents, industrial accidents and other manmade disasters involving chemical, biological and radioactive materials are additional hazards, which have highlighted 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

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 and National Disaster Response Force (NDRF), arrangements for relief materials and essential commodities including medical stores, restoration of critical infrastructure facilities including communication network and such other assistance as may be required by the affected States and UTs to deal with the situation effectively.

The Government has brought about a change in the approach to disaster management from a relief-centric to a holistic and integrated one; covering the entire gamut of disaster management encompassing prevention, mitigation, preparedness, response, relief, reconstruction and rehabilitation. The approach is based on the conviction that development cannot be sustainable unless disaster mitigation is inbuilt within the development process.

1.3 The Government of India (GoI), in recognition of the importance of Disaster Management (DM) as a national priority, had set up a High Powered Committee (HPC) in August 1999 and also 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. It was, after the Indian Ocean Tsunami that the Gol took a defining step in the legislative history of the country by creating the National Disaster Management Authority (NDMA) headed by the Prime Minister to spearhead and implement a holistic and integrated approach to management of disasters in India.

The Government of India 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. The Ministry of Home Affairs (MHA) had constituted a Task Force to study the existing Acts and the global best practices so as to review the DM Act, 2005. The Task Force submitted its report in March 2013 which is under consideration of the Government.

Constitution of NDMA

1.4 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 and the Authority was notified on 27 September, 2006 under the provisions of the Disaster Management Act, 2005.

Composition of NDMA

1.5 NDMA is headed by the Prime Minister of India who is the Chairperson of the Authority and is supported by one Member Secretary and three Other Members. Details on the composition of NDMA is placed at Annexure I.

The current Members of the Authority are as mentioned below:

1.	Shri R K Jain	Member Secretary (till 30.11.2015)
2.	Shri R K Jain	Member (Since 01.12.2015)
3.	Lt. Gen (Retd.) N C Marwah, PVSM, AVSM	Member (Since 30.12.2014)
4.	Dr. D N Sharma	Member (Since 19.01.2015)
5.	Shri Kamal Kishore	Member (Since 16.02.2015)

1.6 At National level, NDMA has the responsibility of inter alia, laying down policies on disaster management and guidelines to be followed by different Ministries/Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or mitigation of its effects in their development plans and projects. It also lays down guidelines to be followed by the State Authorities in drawing up State Plans and take such measures for prevention of disasters or mitigation or preparedness and capacity building for dealing with the threatening disaster situation or disaster as it may consider necessary.

NDMA Secretariat

1.7 The Secretariat is headed by a Secretary/ Member 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 expertise of specialists is available on contractual basis. The detailed organization structure of the NDMA Secretariat is contained in a separate Chapter on 'Administration and Finance'. List of Officers is placed at Annexure II.

Chapter-2

Functions, Objectives and Landmark Events

Functions of NDMA

2.1 NDMA 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 disaster management
- (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 (NCCM).

2.3 NDMA shall, however, formulate guidelines, facilitate training and preparedness activities in respect of CBRN emergencies. Cross cutting themes like medical preparedness, psycho-social care and trauma, community based disaster preparedness, information & communication technology, training, preparedness, 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 fail-safe 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 reflects 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 As per DM Act, 2005 the National Disaster Management Plan shall be prepared by the National Executive Committee (NEC) based on the DM framework articulated in the National Policy on Disaster Management 2009 and in consultation with the State Governments and expert bodies or organizations in field of disaster management. The draft was revisited by the Members of NDMA in light of Sendai

Framework for Disaster Risk Reduction 2015-2030.

National Disaster Management Guidelines

3.3 In order to translate the objectives into plans, the NDMA adopted a mission-mode approach on a number of initiatives in collaboration with various institutions, administrative, academic, scientific and technical at the national, state and local levels. The central ministries, departments and States, have also been involved in evolving the guidelines besides other stakeholders. These guidelines; based on specific disasters and themes (such as capacity development and public awareness) provide the basis of preparation of plans.

3.4 Following guidelines and reports have been released during the previous years by the NDMA:

List of National Disaster Management Guidelines Issued by NDMA

Sl. No.	Description
1.	Earthquakes
2.	Tsunamis
3.	Cyclones
4.	Flood
5.	Urban Flooding
6.	Drought
7.	Landslide
8.	Nuclear and Radiological Emergencies
9.	Chemical Disaster (Industrial)
10.	Chemical(Terrorism) Disaster

11.	Medical Preparedness and Mass Casualty Management
12.	Biological Disaster
13.	Psycho-Social Support
14.	Formulation of State DM Plans
15.	Incident Response System
16.	National Disaster Management Information and Communication System
17.	Scaling, Type of Equipment and Training of Fire Services.
18.	Seismic Retrofitting of Deficient Buildings and Structures.
19.	National Guidelines on School Safety Policy
20.	National Guidelines on Hospital Safety
21.	National Guidelines on Minimum Standards of Relief

List of other Reports

Sl. No.	Description
1.	Revamping of Civil Defence
2.	NIDM's Functioning
3.	Pandemic Preparedness Beyond Health
4.	Strengthening of safety and security for transportation of POL tankers
5.	Threats to Municipal Water Supply and Water Reservoirs
6.	Management of Dead in the Aftermath of Disaster
7.	Training Regime for Disaster Response
8.	Hand Book for Training and Capacity Building of Civil Defence and Sister Organizations: Part I & II

Guidelines and other Reports released during the Year 2015-16

National Guidelines on School Safety Policy

3.5 The National Guidelines on School Safety Policy, released in February 2016, have been formulated with a vision to ensure that all school children across the country remain safe from any kind of disaster risk as they access their right to education.

National Guidelines on Hospital Safety

3.6 The National Guidelines on Hospital Safety, released in February 2016, have been developed with the vision that all hospitals in India will be structurally and functionally safer

from disasters, such that risk to human life and infrastructure are minimized.

Guidelines and Reports under Preparation

Formulation of guidelines for preparation of Disaster Management Plans for Museums in India

3.7 A Committee was constituted in August 2015 for framing the guidelines for disaster preparedness in Museums. The Committee consists of representatives from the Ministry of Culture, Govt. of India, Nehru Memorial Museum and Library, New Delhi, Archeological Survey of India, New Delhi, Victoria Memorial Hall, Kolkata and experts in the field of museums.

3.8 NDMA has also drafted the guidelines on 'Community Based Disaster Management' and 'Role of Non-Governmental Organizations (NGOs) in Disaster Management'. These guidelines were uploaded on the NDMA website for inviting suggestions/ comments/ feedbacks from the general public and stakeholders.

Guidelines on Boat Tragedies

3.9 A Core Group was constituted by NDMA under the Chairmanship of Secretary NDMA and concerned State Governments for the formulation of Guidelines on Boat Tragedies. The Guidelines are under finalization.

Studies conducted by NDMA

3.10 NDMA has also conducted studies on 'Development of Probabilistic Seismic Hazard Map of India', 'Brahmaputra River Erosion and its Control', 'Geotechnical/ Geophysical Investigations for Seismic Micro-zonation studies of Urban Centres in India' and 'Probabilistic Seismic Hazard Analysis of Indian Land Mass' which are available in public domain.

National Disaster Management Plan (NDMP)

3.11 The National Executive Committee (NEC) in its 15th Meeting held on 21.10.2013 under the chairmanship of the Home Secretary, had cleared the draft NDMP which was restructured to integrate with the Sendai Framework of Action declared in March 2015, during the 3rd World Conference on Disaster Risk Reduction in Sendai, Japan.

Formulation of State Disaster Management Plans (SDMPs)

3.12 As on 31.03.2016, the status of preparation of State Disaster Management Plans (SDMPs) by the States/UTs is as follows :

- 34 States/ UTs have prepared their SDMPs and shared with NDMA.
- UT of Chandigarh has prepared its draft SDMP and informed that the

same would be shared with NDMA after approval by SDMA.

- State of Telangana is in the process of preparation of SDMP.

Review of State Disaster Management Plans (SDMPs) of States/UTs

3.13 During 2015-16 (up-to 31.01.2016), State Disaster Management Plans (SDMPs) of 9 States/ UTs were discussed and comments of NDMA communicated for their up-dation during the annual review. These States/ UTs are Assam, Bihar, Delhi, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Odisha and Rajasthan.

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

3.14 National Disaster Management Authority is implementing the Centrally Sponsored Scheme on "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.

3.15 The scheme provides for financial support to SDMAs and DDMAs as follows :

A. State Disaster Management Authorities (SDMAs)

- (i) Hiring of 2/3 Human Resource (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 DDMA's in the States / Uts.

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

3.16 As on 31.03.2016, 25 State Governments and 5 UT Governments signed Memorandum of Understanding for implementation of the Scheme during 2015-16. Funds were transferred to all these 25 States and 4 UTs as per the details given below :

- (I) Details of funds transferred to States :

Sl No.	Name of States/UTs	Amount transferred / authorized for expenditure (Rupees in lakh)
1.	Andhra Pradesh	35.0
2.	Arunachal Pradesh	36.4
3.	Assam	61.4
4.	Chhattisgarh	40.8
5.	Goa	14.4
6.	Gujarat	57.0
7.	Haryana	45.2
8.	Himachal Pradesh	32.0
9.	Jammu & Kashmir	52.6
10.	Jharkhand	54.0
11.	Karnataka	65.8
12.	Kerala	39.4
13.	Maharashtra	74.6
14.	Manipur	27.6
15.	Meghalaya:	23.2
16.	Mizoram	23.2
17.	Nagaland	27.6
18.	Odisha	65.8
19.	Punjab	25.5
20.	Rajasthan	50.1
21.	Sikkim	18.8
22.	Telangana	30.6
23.	Tripura	18.8
24.	Uttarakhand	32.0
25.	West Bengal	48.2
	Total	1000.0

(ii) Details of funds authorized to UTs :

Sl No.	Name of UTs	Amount authorized for expenditure (Rupees in lacs)
1.	Chandigarh	10.0
2.	Dadra and Nagar Haveli	10.0
3.	Daman and Diu	14.4
4.	Lakshadweep	10.0

Disaster Management Plans of Ministries/ Departments of Government of India

3.17 For assistance of the Ministries/ Departments of the Govt. of India in preparation of their Disaster Management Plans (DMP), NDMA formulated a 'Suggested Structure for Disaster Management Plan-Departments/ Ministries in the Gol' which is available on NDMA's web site www.ndma.gov.in under the link- Policy and Plan - Central Ministries/ Departments DM Plan.

3.18 Preparation of DMPs by the Ministries/

Departments of the Government of India as per section 37 of the DM Act, is being pursued. Meetings to discuss the Disaster Preparedness Plans of 54 Ministries/ Departments were held in five batches (July 2014, August 2014, March 2015, May 2015 and July 2015).

3.19 As on 31.01.2016, Ministries/ Departments of (i) Railways, (ii) Petroleum & Natural Gas, (iii) Heavy Industries (iv) Steel and (v) Animal Husbandry, Dairying & Fisheries have prepared their DM Plan.

Policy Guidelines for use of NDMA's logo during a Workshop/Conference/ Programme etc. by an outside organization

3.20 A policy framework for considering requests for use of NDMA's logo during a Workshop/Conference/ Programme etc. from an organization which has not sought any financial support from NDMA, was issued in December 2015.

Chapter-4

Disaster Risk Mitigation Projects

National Cyclone Risk Mitigation Project (Phase I)

4.1 National Cyclone Risk Mitigation Project (NCRMP) - 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. A Project Management Unit (PMU) created 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 warning dissemination systems, build cyclone risk mitigation infrastructure like multi-purpose cyclone shelters, approach roads/bridges to habitations to reduce the risk and vulnerabilities of the affected population, construction of saline embankments to protect coastal areas and agricultural lands from salinity ingress and sea water inundation and capacity building in multi-hazard risk management.

4.2 The project has **four Components** as described below:

Component	Description	Outlay (in Rs. crore)
A	Early Warning and Dissemination System (EWDS) for coastal areas and community capacity building	72.75
B	Construction of Cyclone Risk Mitigation Infrastructure like - Multi-purpose Cyclone Shelters (MPCS); - Evacuation Roads and Routes; - Linking and Missing Bridges; and - Coastal 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 engaged for suggesting suitable technology etc. for developing Early Warning Dissemination

System (EWDS) to ensure Last Mile Connectivity in pre/during/post disaster period, at a cost of Rs. 2.52 crores. An expenditure of Rs.1.33 crores has been incurred to date. Govt. of Odisha floated the RFP for EWDS in November 2015. The Technical Bids opened in February.2016 are under evaluation by Government of Andhra Pradesh.

Component B

4.4 This component comprises construction of infrastructure for Cyclone Risk Mitigation like Multi-Purpose Cyclone Shelters (MPCS), Approach Roads to shelters and habitations, Bridges, Saline Embankments. Out of a total of 292 MPCSs, 224 are completed, 64 are under

execution and 4 under bidding action; out of 780 kms of roads, 703.48 km have been completed and remaining 76.6 km are under progress; out of 23 Bridges, 20 have been completed and remaining 3 are under execution; work on 5 Saline Embankments has been completed and remaining 9 are under progress.



Cyclone Shelter at Palmanpeta, Visakhapatnam District, Andhra Pradesh



Approach Road to Cyclone Shelter in Losari of Bhimavaram Mandal, West Goda vari District, Andhra Pradesh



Puligedda Bridge, Vijayanagaram Dist, Andhra Pradesh



Kona Saline Embankment, Krishna District, Andhra Pradesh



Bitumen (BT) Road in Matikhola, Ganjam District, Odisha



Cement Concrete (CC) Road, Panchubisa, Odisha



Rajnagar, Gopalpur Saline Embankment Balasore District, Odisha

Component C

4.5 This Component consists of undertaking following studies :

- (a) The **Coastal Hazard, Risk and Vulnerability Assessment Study** is being carried out by Knowledge Partner M/s RMSI Pvt. Ltd. Out of a total of 13 deliverables, 03 stand accomplished. The 4th, 5th & 6th deliverables (Hazard, Vulnerability Datasets & Risk Reports respectively) have since been accomplished during the quarter ending December 2015. The 7th deliverable (Composite Risk Atlas) is under scrutiny. An expenditure of Rs. 1.23 crores has been incurred till date.
- (b) The study on Preparing Long Term Training & Capacity Building Strategy for Disaster Risk Reduction in India was awarded by National Institute of Disaster Management (NIDM) to M/s SEEDS Technical Services. All the deliverables under this Study have been completed. Policy Guidelines on National Training Policy, Training & Capacity Building Programme and Accreditation process in India, Draft Media Management Policy & Campaign and Establishment of Centre of Excellence are required to be taken forward. Detailed Operational Plan for roll out of 'Training of Trainers' modules, to be implemented under Phase-II of the Project, is being prepared by NIDM.
- (c) A study on Post Disaster Needs Assessment (PDNA) has been awarded by NIDM to Asian Disaster Preparedness Centre (ADPC), Thailand at a cost of Rs.3.40 crores in January 2014 for a period of 18 months with an objective to evolve standardized PDNA tools relevant to India and revamp the entire system of

PDNA in the country. Out of a total of 12 deliverables, 06 have been achieved and the remaining are under scrutiny.

Financial Management

4.6 Against a total release of Rs.1232.15 crores for the Project, Rs. 1064.78 crores share have been utilized .

NCRMP (Additional Financing-AF)

4.7 The infrastructure created under NCRMP-I was utilized in Cyclones Phailin and Hudhud (which struck A.P and Odisha in 2013/2014 respectively) and helped in timely evacuation of people and sheltering them in MPCs, thus, minimizing death toll. Gaps were, however, noticed in the cyclone risk mitigation infrastructure. To address these gaps, NCRMP (Additional Financing) was formulated. Govt. of India approved Additional Financing in July, 2015 with an outlay of Rs.835 crores which includes Rs.645 crores credit from the World Bank and the remaining Rs.189.50 crores as State share under Component 'B'.

4.8 Out of a total of 246 **Cyclone Shelters** to be constructed, 23 shelters have been completed and 139 shelters are under execution and remaining ones are under bidding. Out of a total of 204.79 km **Roads**, 23 km have been completed, 172 km are under execution and remaining are under bidding. Out of 12 **Bridges**, 06 are under execution and remaining are at Detailed Project Report (DPR) stage. An amount of Rs.366.72 crores has been released under AF while an expenditure of approximately Rs.218 crores has been incurred.

NCRMP Phase-II

4.9 NCRMP-II includes the States of West Bengal, Gujarat, Maharashtra, Karnataka, Kerala and Goa. Govt. of India approved Phase-II of NCRMP with an outlay of Rs.2361.25 crores. The World Bank funding is an Adaptable

Programme Loan with an International Development Association (IDA) credit amount of Rs.1881.10 crores and the remaining amount of Rs.480.15 crores is being contributed by the State Governments of West Bengal, Gujarat, Maharashtra, Karnataka, Kerala and Goa (Under Component-B). Underground cabling has been included under this component.

4.10 Gujarat has awarded the works of 30 Cyclone Shelters and 70 kms of Roads out of a total of 112 Cyclone Shelters and 170 km of Roads respectively. West Bengal has awarded the works of all 150 Cyclone Shelters. The remaining States of Goa, Karnataka, Kerala and Maharashtra are in the process of finalization of sites, environmental clearances, DPR etc. An amount of 147.98 crores(GOI share) has been released to States of Gujarat, Karnataka, Kerala, Maharashtra and West Bengal under NCRMP-II.

Initiatives by Mitigation Division, NDMA

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

National Earthquake Risk Mitigation (Preparatory phase)

4.12 National Earthquake Risk Mitigation (Preparatory phase) has been approved as a Centrally Sponsored Plan Scheme with an outlay of Rs.24.87 crores. The major components of the project are as under:

- i) Techno-legal Regime which involves adoption and up-dation of Techno - legal Regime in concerned Cities/States.

- ii) Institutional strengthening which involves faculty resource survey and engaging engineering resource institutes in building a pool of master /trainers.
- iii) Capacity Building of practicing architects, engineers and masons in earthquake resistant construction.
- iv) Public Awareness & Sensitization at National level and in all vulnerable States.

4.13 The project is planned to be implemented by NDMA in coordination with the State Governments/UTs / other institutions in 21 States/UTs which fall under seismic zones IV & V.

4.14 The Key Outcomes of the project are:

- i) Increased awareness of the key stakeholders on the need for adoption of model building bye-laws and earthquake resistant construction and planning standards.
- ii) Pursuance for adoption of model building bye-laws at the city and state levels in all targeted 21 States/UTs in the seismic Zone IV & V.
- iii) Development of Retrofitting Guidelines.
- iv) Promotion of earthquake resistant construction practices.
- v) Training of Trainers programme for 150 faculty members/teachers.
- vi) 5 day refresher course for 450 trainers.
- vii) 5 day Capacity building programmes for 750 civil engineers, 1050 architects and 1500 masons in targeted States/UTs.
- viii) Focussed earthquake awareness campaigns in targeted States/ UTs.

4.15 National Steering Committee (NSC) under the Chairmanship of Secretary, NDMA has been constituted. Since the inception of the National Steering Committee (NSC) several meetings have been held to discuss implementation strategy of the project. As per the recommendations of the NSC meeting held on 11/08/2014, SFC document has been modified and forwarded to MHA in Feb. 2015 for concurrence of revised cost of 15.97 crores from 24.87 crores and extension of time period for two years.

Other Disaster Management Projects

4.16 Other Disaster Management Projects/ Studies include scientific studies and schemes currently being undertaken which are briefly summarized below:

Preparation of Upgraded Earthquake Hazard Maps:-

4.17 The project envisages preparation of upgraded Earthquake Hazard Maps for the Country / State/ Districts/ Sub-divisions at cost of Rs. 76.83 lakhs. The project is being carried out by Building Material Technology Promotion Council (BMTPC). BMTPC has prepared Upgraded Hazard Earthquake draft Maps / Atlases which have been reviewed by the Expert Group in May, 2015. The process for printing the Maps and Atlases is under progress and likely to be completed by April 2016.

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, it shall be useful in preparing DPRs to be taken up under the Smart Cities' Projects and various projects under the Housing for All (Urban) Mission of Pradhan Mantri Awas Yojana (PMAY) 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.

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

4.18 Soil piping is a recently noticed phenomenon in the high lands of Kerala. The purpose of this project is to study this phenomenon and suggest mitigation measures. The scheme is under progress through CESS, Thiruvananthapuram and Dept. of Revenue, Govt. of Kerala with part financial assistance from NDMA. A tripartite agreement was signed between the Centre for Earth Science Studies (CESS) and mid-term evaluation of the project was done by IIPA in February, 2015. Out of the total project cost (Contribution of Kerala Govt. Rs.37,38,000/- and NDMA- Rs.49,73,100/-), an amount of Rs. 46.16 lakhs has been released to CESS. Out of the amount, Rs.44.01 Lakhs was spent on the project and the balance amount of Rs. 214880 was returned to NDMA and the same was deposited in Govt. Account.

M 8.7 Shillong 1987 Earthquake Scenario: North East Multi-State Preparedness Campaign

4.19 A scientific study has been undertaken by NDMA for development of M 8.7 Shillong 1897

Earthquake Scenario to assess the vulnerability of the North Eastern Region covering all the eight NE States to understand the impact of a big earthquake in the region and to facilitate capacity building and Multi-State preparedness for such an incident through CSIR-North East Institute of Science and Technology (NEIST), Jorhat and other institutions.

4.20 The Project envisages the following major activities to be implemented in 8 NE States

- a) Scenario Development
- b) Mega Mock Exercise
- c) Sensitization of School Children
- d) Awareness Generation
- e) RVS Training

4.21 The total cost of the project is Rs. 620.36 lakhs. NDMA signed an MoU with CSIR-NEIST for implementation of activities of the Project in November 2013. All the activities of the project have been completed, submission of final report is expected shortly.

The project will be 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 as reflected in the relevant disaster management plans of the states.

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

4.22 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 MoUs with M/s. Engineering Projects (India) Limited (EPIL), New Delhi, for construction of 35 MPCs, and M/s. Hindustan

Steel Works Limited (HSCL), Kolkata, for construction of 15 MPCs.

4.23 HSCL has completed 15 Shelters and 22 Shelters have been completed by EPIL. Construction of shelters by EPIL has been delayed due to various reasons such as inaccessible reverine sites, change of sites by Government of West Bengal, change of contractors by EPIL etc. EPIL has been tasked to complete the remaining 13 shelters in phased manner by December 2016.



Cyclone Shelters at Kaushangra, North 24 Parganas District under PMNRF



Cyclone Shelters at Purba Mukundapur, East Medinipur District under PMNRF

Scheme on preparedness to handle radiological hazards through Mobile Radiation Detection System (MRDS) in States/UTs

4.24 NDMA launched scheme as Pilot Project for prevention and detection of any accident of malicious act involving radioactive materials. The project cost is Rs.697 lakhs. An MoU has

been signed between NDMA and BARC for procurement of instruments in August 2015 with time line for Training of Trainers (ToT) and procurement in 2 years. The standard operating procedure for use and maintenance of equipment by State Police has been finalized in NDMA in consultation with all stakeholders. The draft Memorandum of Understanding (MoU) has been sent to concerned States/UTs for their consideration and further finalization. Out of 35 States, MoU with 9 States has been signed.

Interaction with BIS on Earthquake Resilient Codes

4.25 With the initiative taken by NDMA, BIS has undertaken revision of all earthquake related Codes which are under various stages of finalization. In addition, code on additional subjects viz. Performance Based design, Seismic Retrofitting of Structures-Masonry, Seismic Design and detailing of New Structures-Steel, Post earthquake damage assessment of Bridges, Water tanks, Pipelines, Communication towers and coastal structures are also being addressed.

Earthquake Resilient Model District Program (ERMDP)

4.26 In the wake of the earthquake that hit Nepal and some of Indian states on 25th April 2015 as well as regular occurrences of moderate to high intensity aftershocks. the concept of the 'Earthquake Resilient Model District Programme' (ERMDP) was discussed with representatives from the States lying in the seismic zone IV and V such as Uttarakhand, Bihar, Tripura, Meghalaya, Nagaland, Assam, J & K, Sikkim, Arunachal Pradesh and Himachal Pradesh in June 2015.

4.27 Other stakeholders from academic institutes (IITs, IIIT, NITs, CEPT & SPA), scientific organizations (NGRI & CSIR), CPWD, DOT, CWC,

Municipal Corporations, BIS, Ministries of Urban Development, Health & Family Welfare, Power, Dept. of Telecommunications, Drinking Water and Sanitation also participated.

4.28 The aim of the project is to implement NDMA guidelines on "Management of Earthquakes" in one of the selected seismic-prone cities /districts as a model. Experience gained from this can be further used for the replication of region specific activities for earthquake safety. The project proposal of ERMDP was sent to Chief Secretaries of 11 States Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Assam, Sikkim, Mizoram, Meghalaya, Manipur, Arunachal Pradesh, Tripura and Nagaland to nominate at least one seismic prone city/district lying in zone V/IV to participate in the proposed project. Response from states of Himachal Pradesh, Uttarakhand, Assam, Mizoram, Tripura & Manipur has since been received.

4.29 An Expert Committee under Director- IIT Jodhpur has been constituted in December 2015 to take programme forward.

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

4.30 Financial assistance under Prime Minister's National Relief Fund (PMNRF) is being extended to Lakshadweep for construction of one evacuation cum community centre.

Umbrella Pilot Scheme for Landslide Risk Mitigation Scheme

4.31 As part of the 12th Plan, the scheme was envisaged to provide central assistance to vulnerable States to take up few pilot projects in each State and build up their capacity to take up other projects. It was decided to develop a template for preparation of individual site specific Detailed Project Reports (DPRs). The DPR template has been circulated to concerned

State Govts. / UTs and other stakeholders/institutes. These DPRs have been taken up for Technical Evaluation through a Technical Evaluation Committee (TEC) constituted by NDMA in March 2016.

Formulation of National Landslide Risk Management Strategy

4.32 A Task Force of experts for was constituted for formulation of National Landslide Risk Management Strategy in March 2016. The six major components identified in the concept paper are as follows :

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

Preparation of Detailed Project Report (DPR) for development of Cartographic Base for India

4.33 The work of preparation of DPR for development of Cartographic Base for India was awarded to National Atlas and Thematic Mapping Organization (NATMO), Kolkata at the required scale with specific Contour intervals. The draft documents on Technology for preparation of MAPs on the Scales 1:10,000 and 1:2000 were submitted by NATMO and reviewed by NDMA. The reviewed documents have been referred to a group of 6 expert organizations of Govt. of India and thereafter the document will be finalized.

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

4.34 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 objective of the proposal is to help disaster responders at National, State, District and Block level with hazard/disaster related databases. The estimated cost of the project is Rs. 3.30 crores. The duration of the project is 24 months. The implementation work has been initiated.

National Disaster Management Services (NDMS) Pilot Project for 120 locations

4.35 NDMA has taken up a project regarding creation of a V-SAT based National Disaster Management Services (NDMS). It covers 120 locations comprising MHA, NDMA, NDRF Headquarters, 36 State capitals and 81 vulnerable districts to provide communication network, capacity development in emergencies by setting up of satellite based communication network using V-SAT, HF, INMAR-SAT etc.

4.36 In the wake of Nepal Earthquake, National Helpline No. 011-1078 was established in the NDMA on 24 X 7 basis, which is manned by Civil Defence officials deployed along with NDMA staff.

4.37 NDMA Website was upgraded to include/add features like IMD Weather Warning Archive Created Web Services, Tamil Nadu Flood Helpline Number Page, Emergency Contact Number Page created during the Disaster, NDMA Publications Link etc.

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 the stakeholders. This process comprises of awareness generation, education, training, Research and Development (R&D) etc. It further addresses putting in place appropriate institutional framework, management systems and allocation of resources for efficient prevention and handling of disasters.

5.2 The approach to capacity development includes:

- According priority to training for developing community based Disaster Management (DM) systems for their specific needs in view of the regional diversities and multi-hazard vulnerabilities.
- Conceptualization of community based Disaster Management 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.

National School Safety Programme (NSSP)

5.3 The “National School Safety Programme (NSSP)-A Demonstration Project” implemented by National Disaster Management Authority (NDMA) in partnership with the State / UT Governments has been successfully implemented in 8600 schools in 43 districts spread over 22 States/UTs of the country falling in seismic zone IV & V with following features :

- The project entailed preparation of Teachers' Training Module on School Disaster Preparedness and standard IEC Material on school safety and risk reduction, especially for children.
- Teachers, School staff, officials of District Administration, community members including parents and children were sensitized on different aspects of safety and disaster preparedness. Teachers were trained as master trainers in each of the project districts.
- School disaster management plans were formulated and mock drills were conducted.

- Non- structural measures and demonstrative structural retrofitting were undertaken.
- Following the result-oriented experience of the pilot project, some of the states have up-scaled the initiative extending it to other districts in their respective jurisdiction.

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

5.4 NDMA in collaboration with Centre for Disaster Management, NIAR and LBSNAA Mussoorie has undertaken a pilot project for capacity building of IAS/ Central Services officers at the Centre for Disaster Management at LBSNAA for providing basic foundation training courses with regular updates in Refresher and Orientation Programmes for IAS and All India Services Officers at LBSNAA. The objective is to ensure that all officers who are likely to be posted as District Collectors receive a minimum level of training in Disaster Management. For senior officers, awareness about policy perspective on DRR is the focus. The project cost is Rs.2.16 crores for 4 years i.e from financial year 2013 to 2017.

Strengthening Capacities for Advanced Trauma Life Support in India

5.5 In the recent past, NDMA has successfully implemented a Pilot Project on strengthening capacities of the medical and paramedical fraternity in advanced trauma life support for 3 States (Assam, Andhra Pradesh and Bihar). Based on the successful completion of the pilot project, the said project has been further up-scaled to be implemented in 10 more multi-hazard prone States of India namely Himachal Pradesh, Jharkhand, Jammu & Kashmir,

Maharashtra, Odisha, Sikkim, Rajasthan, Tamilnadu, Uttar Pradesh and NCT of Delhi. The project aims to develop a dedicated team of doctors, nurses and paramedics for Trauma Life Support in these States. The total project outlay is of Rs.4.328 crores and will be implemented in 31 months.

Sustainable Reduction in Disaster Risk in 10 Multi-Hazard Prone Districts in 5 States of India

5.6 The project aims to strengthen community and local self-governments' preparedness and response in 10 most multi-hazard vulnerable districts, 2 each in 5 identified states (Uttarakhand, Assam, Bihar, Himachal Pradesh and Jammu & Kashmir). The total cost of the project is Rs.6.074 crores spread over a period of 2 years commencing 2016. Some of outcomes envisaged under the project include comprehensive disaster risk reduction /recovery plan for each district; awareness and publicity campaigns throughout the selected district; preparation of training modules in community based disaster management; formation of disaster management teams at district levels; training of Trainers/Stakeholders on CBDM and conduct of mock drills in these selected districts.

Trainings on CBRN Emergencies

5.7 Two Sensitization Courses on 'Preparedness to respond to CBRN emergencies' were conducted for the Parliament House Complex Security Staff in the month of February and September 2015 at NDMA Bhawan.

National Consultation and Advocacy Workshop on Post Disaster Needs Assessment (PDNA) for India (under the National Cyclone Risk Mitigation Project)

5.8 A National Consultation and Advocacy Workshop on Post Disaster Needs Assessment (PDNA) for India under the National Cyclone Risk Mitigation Project was organized at India

International Centre, New Delhi, from 18-22 May, 2015, to present the draft PDNA Handbook for India as the key output of the study and seek feedback and approval. The ADPC team facilitated the consultation and advocacy workshop in close consultation with the Project Implementation Unit. The Workshop was attended by 43 participants from various states representing various sectors.

Disaster Risk Management in Museums

5.9 Disaster Management Plan (DMP) is very important for any museum. It makes those who are involved in the management of museums aware of the various disasters possible in a museum, prevention procedures, training in disaster management, and post-disaster procedures for museum objects. In this context, the Indian Museum and Victoria Memorial Hall jointly organized a two day disaster management preparedness workshop between 29 February-01 March 2016 in Kolkata in collaboration with NDMA on “*Disaster Risk Management in Museums*”. The objective of the workshop was to train the curators, security personnel, administration and other stakeholders responsible for upkeep of museum; in preparation of DMP.

South Asian Annual Disaster Management Exercise (SAADMEx) & Regional Workshop on Disaster Risk Reduction

5.10 The Government of India hosted the first “South Asian Annual Disaster Management Exercise” (SAADMEx-2015) from 23rd to 26th November 2015 in the National Capital Region/Delhi to provide a platform for strengthening regional disaster response mechanism amongst the SAARC countries. The exercise witnessed the participation of delegations and rescue teams from each of the eight SAARC Nations (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri

Lanka). The exercise was conducted by the NDRF in the National Capital Region. On the first day, during the table top sessions, different kinds of disaster situations were simulated and individual as well as joint response measures were discussed. On the second day, response for Collapsed Structure Search and Rescue (CSSR) was carried out at Ghaziabad to demonstrate the CSSR capabilities of participating nations which was followed by a demonstration on Chemical Emergency Response at Greater Noida on the third day. On the last day, debriefing and After Action Review (AAR) was conducted to document important lessons learnt which would assist the member countries to augment current and joint levels of disaster preparedness, response and coordination.

5.11 After four days of intensive interaction through tabletop and joint simulation exercises during the SAADMEx, all the eight SAARC member countries got together to discuss and deliberate upon the best practices on disaster risk reduction on 27th November, 2015. This Regional Workshop was hosted by the Government of India. The workshop had technical sessions where issues pertaining to best practices on disaster risk reduction and strengthening of regional disaster response in the backdrop of Sendai Framework were deliberated in detail by member countries.

Training of Trainers (ToT)

5.12 A two days ToT Programme for NDRF officers on conduct of Mock Exercise & IRS in the State / Districts was held at NDMA from 22-23 April, 2015. A total of 180 participants from the battalions of NDRF attended the programme.

Training of the ANOs (NCC), NYKS, Civil Defence and Home Guards

5.13 In order to re-enforce the concept of imparting disaster management training to NCC cadets on regular basis, NDMA has started

training of ANOs (NCC), NYKS, Civil Defence and Home Guards with the help of NDRF Bns. at various locations of NDRF. The first training was conducted from 15 to 17 December, 2015 and 190 persons were trained. The second training capsule was held from 28 to 30 January, 2016. A total of 120 persons attended the said programme.

Preparation of Draft Blue Print for setting up of New SAARC Disaster Management Centre

5.14 A Draft Blue Print for setting up of SAARC

Disaster Management Centre was prepared in consultation with Executive Director, National Institute of Disaster Management and sent to Ministry of External Affairs for necessary action. This Blue Print was further considered in the 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 and would be set up in a phased manner.

Chapter-6

Mock Exercises/ Drills & Awareness Generation

Introduction

6.1 Recognizing that awareness is the corner stone of proactive approach to disaster management and community preparedness, NDMA has launched a number of initiatives in this regard. As an ongoing programme, mock exercise/ drills are being conducted regularly to generate awareness and identify the gaps in planning and resources at the district/ enterprise levels. Full use of electronic and print media is being made to sensitize the communities about disaster risks and vulnerabilities. Interviews, articles and press releases are being issued to centre-stage the awareness generation initiatives. Mock Exercises are one of the most important initiatives which the NDMA has undertaken to facilitate the State Governments and District Administration in reviewing the effectiveness of their Disaster Management Plans for both natural and man-made disasters and assess the response capabilities along with creating public awareness. These exercises are conducted in the most vulnerable districts and industries on the recommendations of the State Governments.

Mock Exercises

6.2 The aim of the mock exercises 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, find gaps in the resources, manpower, equipment,

communication and systems. It also empowers the vulnerable groups to face disasters. A total of 32 Mock Exercises were conducted on various scenarios like earthquake, flood, cyclone, chemical and industrial hazards from April 2015 to March 2016. Since 2006, a total of 516 Mock Exercises have been conducted by NDMA across the country.

6.3 These exercises are conducted in a well-planned and comprehensive manner by adopting a step-by-step approach. In the initial stage, an orientation-cum-coordination conference is held to highlight the roles and responsibilities of the various stakeholders. 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. At the end of this phase, the lessons that emerged are shared with all the participants and sufficient time is given for the participants to hone their responses and train their subordinates before the actual conduct of the mock exercise. The exercise is conducted on a simulated scenario and is progressed keeping in view the responses of the various participants. A number of observers are also detailed to monitor the exercise. Apart from the participants, the spectators from the community and stakeholders are also invited to attend the mock exercise. After the mock exercise, 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 State and District Administration and also to the Management Cadre of various industries for taking necessary actions for improvement.

6.4 Conduct of mock exercises has gone a long way in creating a culture of preparedness at the grassroot level. There has been a significant participation of the community as well as the students in most of these exercises. The District Administration, the Corporate Sector and the other first responders have shown tremendous enthusiasm for participation at these exercises. Most of these exercises have been attended by the elected representatives of the people and senior level functionaries at the State level. These exercises have also been widely covered by the local print and electronic media, thus spreading awareness amongst a large number of people.

Awareness Campaigns

6.5 In its endeavor to spread awareness amongst the masses, Public Relations & Awareness Generation (PR&AG) Division, National Disaster Management Authority undertakes various public awareness campaigns through electronic and print media. These awareness campaigns are being implemented through various modes like TV, Radio, Print media, Exhibition etc. The awareness campaigns are centered on disseminating awareness among the masses with the two prime objectives:

- Preparing citizens for any impending disasters (earthquake, cyclone, floods, landslides etc.)
- Spreading awareness on various activities of NDMA.

6.6 The following disaster management

awareness campaigns were carried out during the Year 2015-16.

Audio-Visual Awareness Campaigns

6.7 Awareness campaigns consisting of audio-video spots on do's and don'ts during natural disasters such as earthquake, flood, urban flooding, landslide and cyclone were telecasted / broadcasted on Doordarshan (National Network and Regional Kendras of Doordarshan), Lok Sabha TV, All India Radio, F.M. Radio Channels. In addition, flood campaign was also carried out through 713 digital cinemas in the flood prone areas.

Print Campaign

6.8 Print media was utilized for awareness generation through release of advertisements in various newspapers. Advertisements were released for creating awareness on flood preparedness in 11 States. An advertisement on the occasion of 11th Formation Day of NDMA on 28th September, 2015 was released in Delhi. An advertisement on earthquake risk preparedness was published on the occasion of National Disaster Risk Reduction Day on 29th October, 2015 in English and Hindi newspapers (Delhi Edition) as well as one newspaper of each capital city of the States (in regional languages).

Observance of 11th Formation Day of NDMA

6.9 The 11th Formation Day of National Disaster Management Authority (NDMA) was observed on 28th September, 2015 in Vigyan Bhawan, New Delhi. NDMA was founded on 28th September, 2005 as an apex body for mainstreaming disaster management in the overall governance paradigm of the country.

6.10 NDMA took stock of the activities and initiatives undertaken and held discussions to chart out a road map for future.

6.11 Shri Kiren Rijiju, Hon'ble Minister of State for Home Affairs inaugurated the event and appreciated the various initiatives undertaken by NDMA in the areas of disaster management and reiterated the Government's commitment for making India disaster resilient.



The Hon'ble Minister also released the Training Manual on “How to Conduct Emergency Management Exercises” on this occasion. This manual will help the State Governments and other stakeholders to conduct Emergency Management Exercises in a logical manner for timely response.

6.12 The inaugural session was followed by technical sessions covering four important themes:-Cyclone, Earthquake, Flood and Landslide. In each of the sessions, a lead presentation was made by NDMA, followed by presentations from State Government officials



and experts. In the session on “Cyclone Risk Mitigation”, presentations were made by the representatives from State Governments of Odisha and Andhra Pradesh and the IMD.

Representatives from State Governments of Gujarat, Sikkim and Ministry of Earth Sciences made presentations on “Earthquake Risk Mitigation”. In the session on “Flood Risk Mitigation” State Governments of Assam and Bihar, Central Water Commission (CWC) and IIT, Kanpur made presentations. In the session on Landslides, Representatives from Uttarakhand and West Bengal and Geological Survey of India made presentations. These presentations were followed by question and answer sessions and discussions.

6.13 The day long deliberations, concluded with a summing up presentation and valedictory address by Additional Principal Secretary to the Hon'ble Prime Minister. NDMA also launched the Quarterly Newsletter “Samvad” for informing and educating various stakeholders engaged in the field of disaster management.

6.14 The discussion and deliberations led to identification of key action points and future projects for long term disaster risk reduction, such as National Earthquake Risk Mitigation Project and National Flood Risk Mitigation Project. Deliberations also highlighted the need for redundancy in communication systems, early warning and last mile connectivity for saving lives and reducing losses.

Participation by NDMA at the 35th India International Trade Fair, 2015 (IITF)

6.15 NDMA participated at the 35th India International Trade Fair, 2015 from 14th to 27th November, 2015 at Pragati Maidan, New Delhi to disseminate awareness on different kinds of disasters among general public, students and various stakeholders regarding by putting up display panels and kiosks and a shake table for earthquake. The objective was to sensitize the citizens and create necessary awareness on the activities of the three organizations -NDMA, NDRF and NIDM that are engaged in the task of disaster management.

6.16 Additional Principal Secretary to Hon'ble Prime Minister, inaugurated the NDMA stall on 14th November, 2015. Posters on Do's and Don'ts of various disasters and NDMA Guidelines were displayed. Pamphlets on earthquake awareness were distributed amongst the visitors. Quiz competitions and painting



competitions were also organized during the Fair amongst school children. NIDM displayed panels on their activities and NDRF displayed search & rescue equipment.



Conduct of Table Top Exercise for stakeholders of Central Ministries/ Departments for Effective Disaster Response:

6.17 Two table top exercises and Incident

Response System (IRS) trainings were conducted involving Nodal Departments / Ministries of the Central Government for effective multi agency coordination at national level on 28th May 2015 and 16 October, 2015. The principle of Incident Response System was discussed for effective resource management, setting up of unified command for multi-agency coordination and clarification of roles and responsibilities of all stakeholders for awareness generation in their departments.

Disaster Management Awareness Training

6.18 One of the recommendations of the National Policy Approach Paper (prepared by NDMA) is to integrate NCC and NYKS along with Civil Defence (CD) for disaster management. The DM awareness training was given to NCC Cadets at their camp locations all over the country under the supervision of NDMA. Approx 40,000 NCC Cadets were sensitized. This training is given through State Disaster Management Authority, Civil Defence and Fire Services.

Assessing Monsoon Situation

6.19 Fifteen weekly meetings were organized at NDMA to review the Monsoon situation (June to Sep 15) in the country. Resident Commissioners / representatives of the affected States attended the meetings and were briefed by officials of IMD and CWC. NDRF deployment was reviewed and necessary instructions were issued by NDMA to deal with the situation.

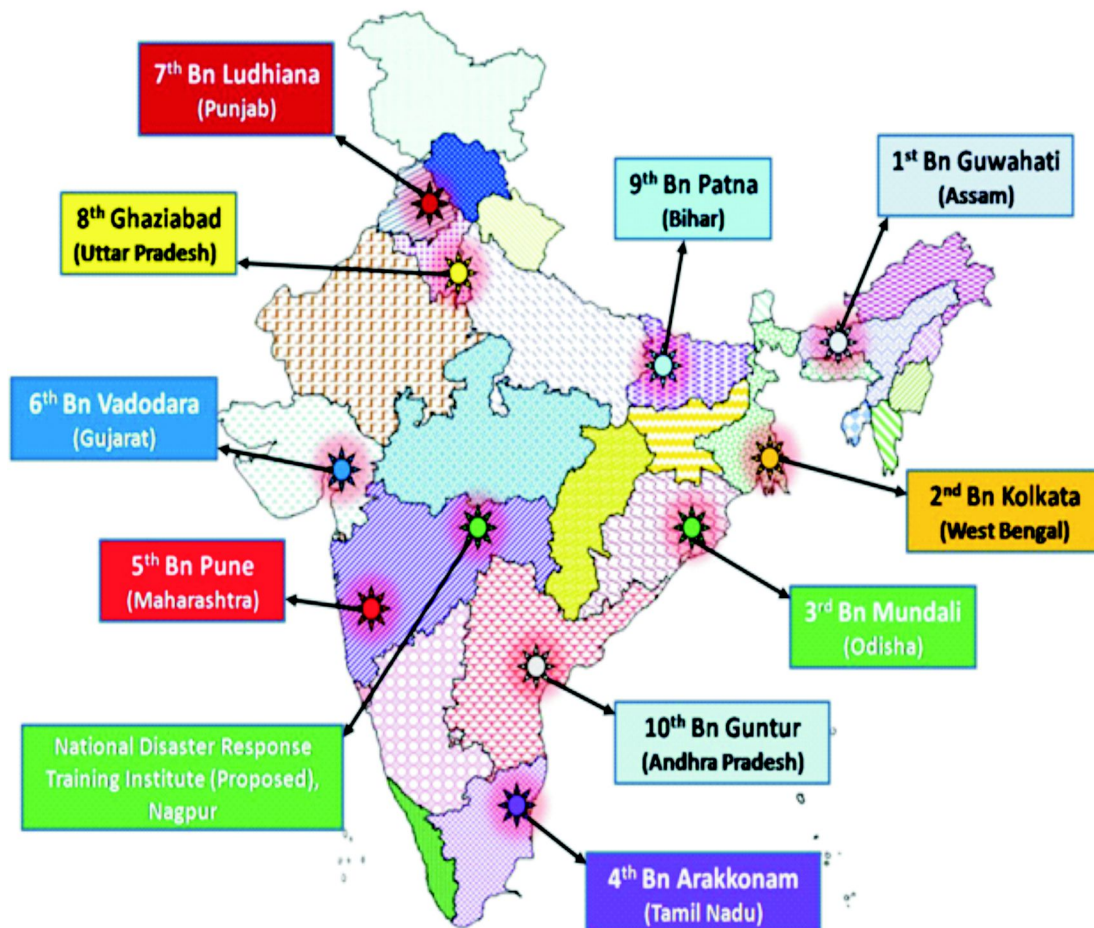
Chapter-7

National Disaster Response Force: Strengthening Emergency Response

National Disaster Response Force

7.1 The National Disaster Response Force (NDRF), constituted under the provisions of Sections 44 and 45 of the DM Act 2005, has established itself as one of the most visible and vibrant faces of the NDMA. Ten Bns. of NDRF are located at ten different locations in the country based on the vulnerability profile to cut down

response time for their deployment. During the current year (2015-16), suitable location is being explored for two more Bns. of NDRF as approved by the Central Govt. The Govt. of Uttarakhand has in-principle agreed to provide land at Haridwar for 11th NDRF Bn. 12th Bn is proposed to be located in North East region. Locations of present ten Bns of NDRF are as reflected below:



7.2 The DM Act, 2005 has made statutory provisions for constitution of NDRF for the purpose of specialized response to natural and man-made disasters. According to Section 45 of

the Act, the NDRF has to function under the general superintendence, direction and control of the NDMA and under command and supervision of Director General, NDRF. In line

with the vision enshrined in the Section 44(i) of the Act, the NDRF is gradually emerging as the most visible and vibrant multi-disciplinary, multi-skilled, high-tech force of the NDMA capable of dealing with all types of natural and man-made disasters.

Vision

7.3 The DM Act, 2005 envisages a paradigm shift from the erstwhile response centric approach to a proactive, holistic and integrated management of disasters with emphasis on prevention, mitigation and preparedness. This national vision inter alia, aims at inculcating a culture of preparedness among all stakeholders. NDRF has proved its importance in achieving this vision by conducting highly skilled rescue and relief operations, regular and intensive training and re-training, capacity building & familiarization exercises within the area of responsibility of respective NDRF Bns, carrying out mock drills and joint exercises with the various stakeholders.

Role of NDRF

- Specialized response during disasters
- Proactive deployment during impending disaster situations
- Acquire and continually upgrade its own training and skills
- Liaison, Reconnaissance, Rehearsals and Mock Drills
- Impart basic and operational level training to State Response Forces (Police), Civil Defence and Home Guards
- Training of State Police and help in

raising of State Disaster Response Force(SDRF)

Vis-à-vis Community

- ❖ Community Capacity Building Programme
- ❖ Public Awareness Campaign
- ❖ Exhibitions : Posters, Pamphlets, etc. Training of village volunteers & other stakeholders

Organization

7.4 NDRF was initially constituted with eight battalions (two each from the BSF, CRPF, CISF and ITBP), 2 more Bns were included in 2011-12; and 2 more in 2013-14. Today the Force has acquired the unique distinction of being the “Single Largest Dedicated Disaster Response Force in the World”.

7.5 Each battalion has 18 self-contained specialist search and rescue teams of 44 personnel each including engineers, technicians, electricians, dog squads and medical personnel/paramedics. The total strength of each battalion is 1,149. All the battalions are trained and equipped as per International standards to respond to all natural disasters including earthquake, floods, cyclone, landslides etc. and also CBRN emergencies.

7.6 Further, as per recommendations of Committee of Secretaries (CoS) in November, 2011 regarding locating NDRF teams/ coys at 20 far-flung inaccessible locations and sensitive metro cities of the country keeping in view vulnerability profile of the region, efforts are being undertaken to identify suitable land for locating NDRF teams/ coys. The status of deployment of NDRF teams/ coys is as follows :

NDRF Bns	Teams/ Coys	Status
NDRF Bn Guwahati	Aizawl (Mizoram)	Govt. of Mizoram has been requested to provide suitable land
	Itanagar (Arunachal Pradesh)	Govt. of Arunachal Pradesh has been requested to provide suitable land
NDRF Bn Kolkata	Gangtok (Sikkim)	Govt. of Sikkim has been requested to provide suitable land
	Siliguri (West Bengal)	Land acquisition of 1 acre at Paribahannagar, Matigara is under process
	Kolkata (West Bengal) CBRN Team	State Govt. has proposed 0.94 acres of land at Mauza Mondalganthy, District 24 Parganas (N), Kolkata. Details on the cost of land is awaited from State Govt.
NDRF Bn Mundali	Baleshwar (Odisha)	State Govt. has proposed built-up infrastructure at Baleshwar. Suitability of the same is being explored.
NDRF Bn Arakkonam	Port Blair (Andaman & Nicobar)	State Govt. has agreed to provide free of cost accommodation at IRB. Team is being positioned.
	Chennai (Tamil Nadu) CBRN Team	State Govt. has offered space on rental basis. Team will be deployed after lease deed.
NDRF Bn Pune	Bangalore (Karnataka)	2 acres of land acquired at Bangalore. After construction of permanent/ semi-permanent structure, team will be deployed
	Mumbai (Maharashtra)	State Govt. has offered space at Borivalli and Mankhurd. After assessing suitability, team will be deployed there. At present, 3 teams are deployed temporarily at Andheri Sports Complex.
NDRF Bn Gandhinagar	Gandhinagar (Gujarat)	State Govt. has proposed land (approx 6 acres) at Degam
	Barmer (Rajasthan)	State Govt. has been requested to provide suitable land. Temporarily the team is

		deployed at Nareli, Kishangarh.
NDRF Bn Bhatinda	Srinagar (J&K)	State Govt . is yet to provide land.
	Kangra (Himachal Pradesh)	Matter of allotment of land is under consideration of State Govt.
NDRF Bn Ghaziabad	Lucknow (Uttar Pradesh)	State Govt .has been requested to provide suitable land.
	Delhi (CBRN Team)	Payment for land has been made to DDA. Possession yet to be taken.
NDRF Bn Patna	Varanasi (Uttar Pradesh)	NDMA as per views of State Govt.requested MHA to change location from Varanasi to Gorakhpur. State Govt. has been requested for providing land.
	Supaul (Bihar)	State Govt. has proposed to provide 2 acres of land. Final proposal is awaited from the State Govt.
NDRF Bn Guntur	Hyderabad (Andhra Pradesh)	Land allotment is under process, Temporarily, one team is located at Rangareddy.
	Vishakhapatnam	State Govt. is yet to provide land.

Clearance of Landslide Blockage of River Phuktal in Zanskar Sub-Division, J & K

7.7 In January 15, River Phuktal, a tributary of River Indus, was blocked due to a major landslide. The landslide led to the creation of an artificial lake. There was potential danger of reservoir breaching, leading to flash floods. The possible disaster could have caused grave danger with respect to life and livelihood of the local population. NDMA constituted an Expert Team of technical personnel drawn from BRO, NHPC, CIMFR, CWC, SASE, SOI, NDMA, Army Engineer Regiment, Indian Air Force and State Administration to inspect the situation and suggest remedial measures. Braving the difficult terrain and extreme climatic conditions, the

Expert Team was able to create a 100 metres long and 2 metres wide channel which resulted in the controlled release of substantial amount of impounded water into the river downstream. To monitor the level of water in the river downstream, an Automatic Water Level Recorder (AWLR) was installed at Phuktal Gompa, approx. 18 Km. downstream the blockage. Post Phuktal intervention, NDMA in consultation with representatives from hill States, CWC and other departments has issued Standard Operating Procedure (SOP) on 'Averting Threats Emanating from Landslides on Dams/ Rivers in Mountainous Regions' to the States of North East, J&K, Himachal Pradesh, Uttarakhand and concerned Ministries / Depts. of Gol.

Operation MAITRI - Nepal Earthquake 2015

7.8 Following the Himalayan Earthquake Tragedy in Nepal during April 2015 which resulted into colossal loss of lives and infrastructure; NDMA coordinated deployment of NDRF, monitored Rescue & Relief Operations and dispatch of relief supplies over Rs. 386 crores by GOI (Central Ministries/ Depts., States & NGOs) to Nepal and to affected States of India. NDMA also mobilized the expert teams to provide technical guidance and oversight as summarized below :

- Team of 5 Structural Engineering Experts from IITs & Central Building Research Institute (CBRI) to provide technical advice for damage assessment of buildings and structural safety measures (9th May - 14th May 2015)
- Team of 4 disaster management specialists for technical guidance and support for Post Disaster Needs Assessment (PDNA) and formulation of framework for recovery (16th May - 30th June 2015)
- Team of 4 Experts from ASI, BRO, PGCIL & IIT Madras to be part of sectoral teams for PDNA with respect to damages to buildings and critical infrastructure in Nepal (25th May - 7th June 2015)
- 2 Experts from NBCC to provide technical guidance on demolition of unsafe buildings (28th May - 30th May 2015)
- Team of Experts comprising one each from GSI, ISRO, SASE-DRDO, CWC, IMD and Wadia Institute of Himalayan Geology for technical guidance on vulnerability assessment for landslides and floods (3rd - 7th June-2015)

7.9 National Disaster Response Force (NDRF) deployed its 16 USAR teams (03 teams of 08Bn, 04 teams of 07 Bn, 03 teams of 08 Bn, 03 teams of 02 Bn and 03 teams of 09 Bn) comprising more than 700 rescuers along with 18 dogs trained in



USAR operation with latest gadgets at various earthquake hit areas of Nepal on the directions of the Government of India. The teams were deployed to different areas in the Kathmandu district and commenced USAR operations at once at Balkhu, Kopan, Gongbhu, Tanhu Hospital, Balaju, Basundra, Gongbhu, Maharjganj, Brijeshwari, Shobha Bhagawati Bridge, KV Army area, Tilganga, Sondara, White Gumba, Shankhu, PM residence area, Balaju bypass and Kathmandu to assist the Nepalese Authority in “Humanitarian Assistance and Disaster Relief” (HADR) work. SAR operations continued from 25th April, 2015 to 4th May, 2015.



7.10 NDRF rescued 11 injured persons and retrieved 133 dead bodies from the rubble. The teams also organized 06 medical camps and attended to 1219 persons. NDRF was instrumental in assisting the MHA and the NDMA in dispatching 1176.571 tonnes of relief material donated by various agencies to quake affected people of Nepal via rail/ road / air route.

7.11 Apart from saving precious lives and

helping in ameliorating the human sufferings, NDRF teams recovered valuable items and handed over them to Nepal Authorities.

7.12 The effect of Nepal earthquake was also felt across the northern parts of India, with very strong tremors being experienced in the areas bordering Nepal in the states of Bihar and UP resulting in collapse of buildings. The earthquake also shattered the communication setup in these areas. NDRF mobilized its 4 teams on 25.04.2015 to Supaul, Motihari, Darbanga and Gopalganj in Bihar upon directions from MHA for immediate response. One team was sent to Gorakhpur in UP.

7.13 On 26.04.2015, the team deployed at Motihari was further diverted to Raxaul (Bihar). The Teams deployed in Bihar conducted rescue and evacuation operations in Raxaul and shifted 180 patients from damaged buildings/ wards to safe buildings in Darbhanga Medical College and Hospital. Team deployed at Raxaul, East Champaran, helped the State Govt. in shifting 409 persons from Nepal to Relief Centre at Hajarimal High School, Raxaul.

Floods in Gujarat

7.14 Seventeen teams of NDRF (06 teams from 05 Bn, 02 teams from 07 Bn & 09 teams from 06 Bn) comprising approx. 600 rescuers were mobilized on 28.07.2015 in connection with flood situation in various parts of Gujarat. Teams were deployed at Suigam, DeesaHarara, Thered, Bhabhar, Deodhar, Dhanera and Palanpur in districts Banaskantha and Patan. Nine districts of Gujarat were affected by floods of which four districts namely Banaskantha, Patan, Kutch and Mehsana were severely affected. In these four districts, 1296 villages were affected; of which 313 were severely affected.

7.15 Teams conducted rescue and relief operations and rescued 1430 marooned persons to safer places, recovered 04 dead bodies,

distributed 06 qtls. of relief material, 1, 27,898 water & food packets. 445 people were administered necessary medicines for various ailments by the medical teams. On 02.08.2015, teams of NDRF recovered 200 gram Gold, 05Kg Silver and cash amounting to Rs 2 lakhs. Teams also assisted local administration in disposing of carcasses of 268 animals lying strewn in the area after the flood waters receded.

Floods in Rajasthan

7.16 Eight teams of NDRF comprising 296 rescuers were mobilized from 06 Bn NDRF on 28.07.2015. During the flood rescue operations, NDRF retrieved 05 dead bodies. Teams distributed 17 qtls. of relief material, 20 tarpaulins, and 2435 water & food packets. Teams also distributed medicines to 432 patients. The NDRF teams rescued 582 people.

Assisting the Government of Tamil Nadu (Chennai Floods) in Rescue and Relief efforts:

7.17 Chennai was hit by one of the worst floods during December 2015. Most of the localities were underwater affecting subways, hospitals, roads and lifeline infrastructures. A Joint Advisor was deputed from NDMA to assist the State Government in coordinating Relief and Rescue efforts at Chennai while a team of other senior officers at NDMA was monitoring and coordinating Inter-Ministerial efforts from Delhi.



7.18 On getting a request for assistance by the State Government, NDRF rushed its teams immediately to Chennai. 50 teams of NDRF comprising 1715 rescuers along with 194 boats, 1571 life jackets, 1071 life buoys, 40 diving sets, 100 divers and other flood rescue equipment were deployed in Tamil Nadu and Puducherry w.e.f. 01.12.2015 to 16.12.2015. Commandant 4 Bn NDRF played a very instrumental role in ensuring effective coordination and cooperation with all stakeholders during the flood operations.



7.19 The teams conducted rescue and relief operations at various districts in Tamil Nadu and Puducherry i.e. Tiruvallur, Kanchipuram, Cuddalore, Nagapatinam, Tirunelveli, Vellore,

Tuticorin and Chennai districts apart from Karaikal (Puducherry). NDRF evacuated 22,450 people trapped in various flood affected areas. Teams retrieved 13 dead bodies in various rescue operations during the period.

7.20 NDRF teams were instrumental in distribution of relief material to the marooned flood victims as the population in the flood affected region was short of food and drinking water supplies. In all, the teams distributed 241904-food packets, 210372 water Pkts., 22186 milk packets, 2800 kg-Atta, 5150 kg- Rice, 56,965 Clothes & Blankets, and 16030-Misc items.

7.21 NDRF medical teams organized medical camps and provided medical assistance to 359 persons. Apart from ameliorating the human sufferings, the NDRF teams were actively engaged in rescue of animals trapped in the flood zones. Teams evacuated 30 livestock from the area.

7.22 In addition to the above, NDRF carried out search and rescue operations in various flood incidents and rescued/retrieved injured/dead victims as per the details given in Table 1.

Table 1 - Achievements of NDRF in Floods Rescue Disaster Response

S. No.	Place	People Rescued live/ injured	Dead bodies recovered
1	Assam	2791	03
2	Gujarat	2362	19
3	Rajasthan	978	09
4	West Bengal	506	03
5	Jammu & Kashmir	96	
6	Madhya Pradesh	04	
7	Tamil Nadu	27444	17
8	Andhra Pradesh	14871	02
	TOTAL	49052	53

Vivekananda Flyover Collapse in Kolkata

7.23 On 31st March, 2016 at about 1317 hrs, a part of under construction segment of Vivekananda flyover near Girish Park in Kolkata, (WB) collapsed. As the road stretch passes through a densely populated area and the construction work was continuing right beside the busy road intersection, many vehicles crossing under this bridge came under the falling debris and got trapped underneath. Consequently, a few people were reported to have died.

7.24 Two teams of NDRF, stationed at Rajarhat, Kolkata were rushed to the incident site. These two teams were followed by 8 more teams of 2nd Bn NDRF comprising of 352 rescuers carried out search and rescue with specialized equipment meant for Collapsed Structure Search and Rescue (CSSR) operations. SAR dogs and life detectors were swung into action to locate the victims as the priority was to evacuate the live victims.



7.25 One doctor and 08 nursing assistants along with other required medical aids were also deployed to provide medical first response to the victims. Beside, one technical team comprising one Assistant Engineer and 08 Junior Engineers was also deployed for providing technical assistance for speedy and safe clearance of debris. Unit Commandant personally led the operations. NDRF teams retrieved 10 dead bodies in the operation which lasted more than 72 hours.

Achievements of NDRF in other Collapsed Structure Search & Rescue Operations

7.26 In addition to above, NDRF responded to carry out search and rescue operations in various collapsed structure incidents and rescued/retrieved injured/dead victims as per the details given in Table 2.



Table 2 -Achievements of NDRF in Collapsed Structure Search & Rescue Operations

S. No.	Place	People Rescued live/ injured	Dead bodies recovered
01	Maharashtra	17	21
02	Delhi		05
03	Tamil Nadu	01	02
04	Telangana	01	
05	Himachal Pradesh	02	
	Total	21	28

Cyclone 'Komen'- West Bengal

7.27 Seven teams of NDRF (02 teams of 2nd Bn NDRF & 03 teams of 4th Bn NDRF) comprising more than 700 rescuers along with 80 boats and other necessary equipment, were deployed at Siliguri, Darjeeling, South 24 Parganas, East Medinipur, North 24 Parganas, Murshidabad, Bardhaman, Hooghly, West Medinipur, Bir bhum, Howrah and Nadia districts in West Bengal during the month



Rescue Operations related with Drowning Incidents

of July-Aug, 2015. During this deployment the teams carried out a number of rescue operations and evacuated 2,291 people in addition to distributing 82.7 Qtls. dry ration, 11300 water pouches, 500 tarpaulin, 500 packets of medicines, 05 cartons of Candle and Match box and other relief material.

7.28 NDRF teams responded to various drowning incidents which occurred across the country. The details are given in Table 3.



Table 3 - Achievements of NDRF in Rescue Operations related with Drowning Incidents

S. No.	State	People Rescued live/ injured	Dead bodies recovered
1	Himachal Pradesh	-	07
2	Maharashtra	-	07
3	Andhra Pradesh	-	08
4	Karnataka	-	07
5	Bihar	05	05
6	Assam	-	06
7	Uttar Pradesh	03	06
8	Uttarakhand	-	07

S. No.	State	People Rescued live/ injured	Dead bodies recovered
9	Tamil Nadu	-	10
10	Telangana	03	-
11	Arunachal Pradesh	-	01
12	Rajasthan	-	01
	Total	11	65

Landslides in Manipur

7.29 On 01.08.2015, on the request of assistance from Secretary(R&DM), Govt. of Manipur, one NDRF team along with 02 dogs was airlifted from Guwahati airbase to Imphal airbase further to Joupaiabol helipad, Dist.-Chandel for search and rescue operations at village Loumol, Dist.-Chandel, Manipur where 20 villagers were missing after a landslide hit the village. The ferocity of the incident could be gauged from the fact that as the entire village was wiped off into the rubble. Another team was also mobilized for reaching the incident site by

road. An intensive search operation was carried out for the missing persons by NDRF. The NDRF team retrieved 04 dead bodies on 02.08.2015.

NDRF Academy

7.30 A landmark decision was taken by MHA for creation of a dedicated training centre for NDRF. MHA approved the establishment of NDRF Academy at Nagpur, which started functioning from 18.06.2015 under the aegis of DG NDRF. The advance courses for NDRF personnel are being conducted in the Academy by an expert team of instructors selected from all NDRF Bns.

7.31 Following is the list of courses conducted successfully at NDRF academy Nagpur:

S. No.	Name of Course	Duration of Course	No. of participants
1	ToT in MFR/CSSR	07/09/15 to 28/09/15	24
2	ToT in MFR/CSSR	05/10/15 to 26/10/15	24
3	ToT in MFR/CSSR for SDRF personnel	04/01/16 to 06/02/16	37

Community Awareness & Preparedness

7.32 NDRF Bns. have been assigned the task to conduct 3 days training programme on community awareness during Familiarization Exercises (Famex). The Bns. train/demonstrate

disaster preparedness actions and carry out data mapping during the Famex at the community level. Famex programme conducted by NDRF Bns in their respective areas of responsibilities during 2015-16 are given in Table 4.

Table 4 - Familiarization Exercises by NDRF Bns

S. No.	NDRF Bn	Number of FAMEX/ CAP/CBP	People Benefitted
1	1 st Bn	285	67112
2	2 nd Bn	25	25340
3	3 rd Bn	46	69494
4	4 TH Bn	25	7052
5	5 th Bn	83	83333
6	6 th Bn	20	1635
7	7 th Bn	130	72043
8	8 th Bn	20	34597
9	9 th Bn	109	67516
10	11 th Bn	35	10245
11	12 th Bn	01	226
	Total	720	438593

Mega-Mock Drill on Radiological Emergency**(a) Kolkata**

7.33 NDRF conducted its first ever mock drill on Radiological Emergency in the country as a lead agency at Netaji Subhash Chandra Bose International Airport, Kolkata on 1-2 Aug, 2015 wherein various stakeholders including Saha Institute of Nuclear Physics, NDRF, Airport authorities, CISF, District Administration, Air India personnel, police, fire services, hospitals and others participated.

7.34 The table top exercise was held on 1st August 2015 in which each stakeholder presented their respective disaster management plan and responded to the simulated disaster situations at the meeting. The exercise helped test their respective DM plans *vis a vis* the plans of other agencies. This

Exercise presented a very good opportunity to all the stakeholders to synchronize their plans so as to optimize the efficacy of any such response. It was followed by the Mock Exercise held on 2nd August 2015 where response by each agency was tested and fine-tuned physically on ground.

(b) Karnataka

7.35 AERB, DAE, NDRF, Airport Authorities of Bengaluru Airport, CISF, District Administration, Air India, Police, Fire Services, Hospitals and other stakeholders participated in the mock exercise at Kempagowda International Airport Bengaluru (Karnataka) on 09th & 10th January 2016. A total of 70 participants from various agencies participated in the table top exercise on 09th January 2016 followed by the Mock Exercise on 10th January, 2016. This exercise was a new learning experience and involvement of

DAE for expert guidance and support helped the stakeholders address the procedural shortcomings while tackling radiological situations at the public venues having high footfall.

(c) Maharashtra

7.36 The mock exercise on radiological emergencies at Mumbai Airport on 19th & 20th March, 2016 was conducted, in which all the stakeholders from Crisis Management Group, Department of Atomic Energy, BARC, Dept. of Relief & Rehabilitation, Govt. of Maharashtra, CISF, MIAL, GVK, Fire Department, Mumbai Police, Civil Defence, Disaster Management Cell of Mumbai and other agencies participated. The table top exercise on 19th March, 2016 helped each agency in evaluating their respective DM plans vis a vis the plans of other agencies and synchronize their plans with others so as to optimize the efficacy of any such response. It was followed by the mock exercise on 20th March, 2016.



7.37 The exercise helped the stakeholders in reviewing and rehearsing their respective roles in case of any emergency of this nature at the international airport. It also helped test the systems, bring out the loopholes in the disaster response mechanism and addressing them in close coordination with the experts from all the agencies concerned.

Mega- Mock Drill on Tsunami

7.38 As part of an exercise to check and

review the preparedness of the States on the East Coast of India to meet the Tsunami threat, the Ministry of Home Affairs, Government of India issued directions to National Disaster Response Force (NDRF) to conduct a Tsunami Mock Exercise on September 26, 2015 in the States of Andhra Pradesh, Odisha, Tamil Nadu, Puducherry and West Bengal.



7.39 NDRF was designated as the lead agency to conduct the mock drill and Indian National Centre for Ocean Information Services (INCOIS), Hyderabad, was given the responsibility to conduct a preparatory workshop on the tsunami exercise to be followed by similar preparatory workshops at State levels. The preparatory workshop was conducted by INCOIS on 26th August, 2015 in Hyderabad in which NDRF officials and DM officials from participating States alongwith officials from Indian Navy and Coast Guard participated. As a culmination of deliberations at such meetings, 09 places in Andhra Pradesh, 06 in Odisha, 01 in Puducherry, 01 in Tamil Nadu and 03 in West Bengal were selected to hold the Tsunami Mock Exercise on 26th September, 2015 by the participating States.

7.40 NDRF, as a lead agency, actively participated in the deliberations held at INCOIS, Hyderabad.

Kerala Tsunami Mock Exercise

7.41 Another mock exercise on tsunami was

organised on 10-11 March, 2016 at Thiruvananthapuram and Alappuzha districts in Kerala. 1,200 persons from various stakeholder agencies including revenue, transport, health, PWD, Police Department, Fire Department, Air Force, Army, Coast Guard, NSS students and other voluntary organisations participated.

7.42 The exercise was held to test the DM plans of all the agencies, to fine-tune the coordination among all the agencies and to practice and rehearse the response mechanism to any such disaster situation in an efficient

manner utilising all the available resources optimally.

Training of SDRFs

7.43 Carrying on with its resolve and commitment for Capacity Building Endeavors, NDRF Bns. are also mandated to impart training to SDRF personnel of States/UTs in disaster response so as to enhance the disaster response capability of the country. Each Battalion has been entrusted with the responsibility to train SDRF personnel - in MFR, CSSR, CBRN, Flood and Mountain Rescue Operations

Table 5 - Training of SDRFs

S. No.	State	2015	2016
1	Andhra Pradesh		60
2	Arunachal Pradesh	56	
3	Bihar	290	
4	Haryana	171	
5	Madhya Pradesh	150	
6	Mizoram	25	
7	Punjab	79	
8	Rajasthan	198	93
9	Sikkim	60	
10	Tamil Nadu	50	
11	Telangana	72	
12	Uttarakhand	70	49
13	West Bengal	50	
GRAND TOTAL		1271	202

NDRF Raising Day

7.44 On the eve of 11th Raising Day, one day national workshop on “Strengthening National Response Capabilities” was organized by NDRF on 7th March 2016 at Vigyan Bhavan, New Delhi. Dignitaries from various diverse fields in DM participated in the workshop and shared their views on effective disaster response in the country, localizing preparedness at community level to strengthen national capability especially with respect to preparedness for trauma care and CBRN emergencies.

7.45 Shri. Kiren Rijiju, Hon'ble Minister of State (Home), graced the occasion as chief guest in the closing ceremony. Additional Principal Secretary to the Prime Minister, delivered the key note address at the inaugural session.

NDRF Training

7.46 Training plays an essential role in enhancing the efficiency and expertise of the responders. NDRF personnel undergo variety of trainings where emphasis is given on gaining basic knowledge with respect to disaster response; refreshing the skills acquired as well as to raise the expertise level to cope up with the technological advancements related to DM.

Battalion's Annual Training

7.47 The strength of a Battalion of NDRF is 1149 personnel which is drawn on deputation from Central Armed Police Forces (CAPF), with a policy of 20 % annual changeover. In order to achieve the operational proficiency, the

following training objectives are followed in spirit:

- a) Imparting the basic knowledge of the mechanics of disaster response and its various facets and further enhancing professional knowledge and skills of newly inducted personnel in NDRF by following the training regime religiously. Annual training calendar has been formulated for all NDRF Bns. (includes promoting better understanding of professional requirements especially developing outstanding physical fitness of own, apart from care and maintenance of equipment.



- b) Developing adequate ToTs and MoTs to act as resource persons for continued training cycle apart from dealing with any eventuality during disaster response.
- c) Bringing about right attitudinal orientation in the disaster responders which should emphasize upon improving the humanitarian behavioral approach.

Chapter-8

Administration And Finance

General Administration

NDMA Secretariat

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

Policies, Plans, Capacity Building and Awareness 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 8 support staff.

8.3 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 national level in conjunction with the Ministries and the States pertaining to Hazards namely Cyclones, Earthquake, Floods, Landslides and Emergency Communications 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 5 support staff.

Operations and Communication Division

8.5 NDMA, as the Apex Body, needs to be always 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 critical activity, NDMA has an Operations Centre to provide round the clock disaster specific information and data input facility and also guide 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. 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 19, comprising one Advisor (JS level), three Joint Advisors (Director level), four Assistant Advisors (US level), two Duty Officers (US level) and 7 support staff.

Administration and Coordination Division

8.7 This Division is responsible for all aspects of Administration and Coordination. Its activities involve providing extensive interface with the Ministries/ Departments and States. This Division also provides administrative and logistic support to the Members and the staff of the NDMA at all levels. The total sanctioned staff in this Division is 22, comprising one JS, one Director, two US 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 progress of expenditure and advises NDMA on all matters falling within its delegated financial power, etc. The total sanctioned staff in this Division is 8, comprising one Financial

Advisor (JS Level), one Director, one Asstt. Financial Advisor (US Level), one Section Officer, two Asst. Section Officers (ASO) and 2 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 2015 to March 2016

(Rs. in Thousands)

Name of the project	B.E 15-16	Expenditure upto 31.03.2016
National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	6340000	6287811
Other Disaster Management Projects - (ODMP)	294100	212828

NDMA- Budget Allocation & Expenditure (Non-Plan) for the period April 2015 to March 2016

(Rs. in Thousands)

Object Code	Object Head	BE 2015-16	Exp. upto 31.3.2016
04.01.01	Salaries	90000	70013
04.01.02	Wages	20	0
04.01.03	Overtime Allowances	10	0
04.01.06	Medical Treatment	5000	1187
04.01.11	Domestic Travel Expenses	20000	4390
04.01.12	Foreign Travel Expenses	2500	1879
04.01.13	Office Expenses	50000	55178
04.01.14	Rent, Rates & Taxes	10	0
04.01.16	Publication	7000	1397
04.01.20	Other Administrative Expenses	7330	13003
04.01.21	Supplies & Materials	10	0
04.01.24	P.O.L	50	0
04.01.26	Advertising & Publicity	80000	53167
04.01.27	Minor Works	5000	2708
04.01.28	Professional Services	26000	12879
04.01.50	Other Charges	500	0
4.99	<i>Information Technology</i>		
04.99.13	Office Expenses	7500	7500
	Total	300930	223301

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

Composition of NDMA

Present Composition

1.	Hon'ble Prime Minister of India	Chairperson
2.	Shri R K Jain	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 (Since 28.9.2005 to 27.9.2010)
2.	Shri M Shashidhar Reddy	Vice Chairperson (Since 16.12.2010 to 16.06.2014) Member (Since 11.10.2010 to 16.12.2010) Member (Since 05.10.2005 to 04.10.2010)
3.	Lt. Gen. (Dr.) J R Bhardwaj	Member (Since 28.09.2005 to 27.09.2010)
4.	Dr. Mohan Kanda	Member (Since 05.10.2005 to 04.10.2010)
5.	Prof. N Vinod Chandra Menon	Member (Since 28.09.2005 to 27.09.2010)
6.	Smt. P Jyoti Rao	Member (Since 14.08.2006 to 13.08.2011)
7.	Shri K M Singh	Member (Since 14.12.2011 to 11.07.2014) Member (Since 28.09.2005 to 27.09.2010)
8.	Shri B Bhattacharjee	Member (Since 15.12.2011 to 11.07.2014) Member (Since 21.08.2006 to 20.08.2011)
9.	Shri J K Sinha	Member (Since 04.06.2012 to 11.07.2014) Member (Since 18.04.2007 to 17.04.2012)
10.	Shri T Nandakumar	Member (Since 8.10.2010 to 28.2.2014)
11.	Shri V K Duggal	Member (Since 22.06.2012 to 23.12.2013)
12.	Maj. Gen. J K Bansal	Member (Since 6.10.2010 to 11.07.2014)
13.	Dr. Muzaffar Ahmad	Member (Since 10.12.2010 to 03.01.2015)
14.	Dr. Harsh K Gupta	Member (Since 23.12.2011 to 11.07.2014)
15.	Dr. K Saleem Ali	Member (Since 03.03.2014 to 19.06.2014)
16.	Sh. K N Shrivastava	Member (Since 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.	Smt. Neelkamal Darbari, Joint Secretary (Since 01.07.2013 to 31.08.2015)
4.	Shri B. Pradhan, Joint Secretary (Since 07.08.2015)
5.	Dr. V. Thirupugazh, Joint Secretary & Advisor (Since 07.09.2015)
6.	Sh. Anil Kumar Sanghi, Joint Secretary (Since 03.12.2013)
7.	Maj Gen Anurag Gupta, Advisor (Ops. & Comn. (Since 19.01.2015 to 30.09.2016)
8.	Sh R.K. Singh, Director (Since 05.07.2012 to 01.01.2016)
9.	Ms. Sryesi Chaudhuri, Director (Since 08.12.2015)
10.	Smt. Madhulika Gupta, Joint Advisor (Since 01.09.2010 to 31.10.2015)
11.	Sh. B S Agarwal, Joint Advisor (Since 25.04.2011 to 31.07.2015)
12.	Sh. Vinay Kajla, Joint Advisor (Since 31.08.2012 to 10.11.2016)
13.	Shri S K Singh, Director (Since 23.07.2012)
14.	Shri Dharendra Singh Sindhu, Joint Advisor (Since 26.06.2013)
15.	Col. Nadeem Arshad, Joint Advisor (Since 20.08.2013 to 01.06.2016)
16.	Col. Ranbir Singh, Joint Advisor (Since 11.08.2014)
17.	Shri S N Singh, Joint Advisor (Since 23.01.2015)
18.	Shri Bhupinder Singh, Dy. Secretary (Since 25.02.2013)
19.	Shri Yogeshwar Lal, Dy. Secretary (Since 07.07.2014)
20.	Shri J.C. Babu, Assistant Advisor (Since 03.10.2008)
21.	Sh Partha Kansabanik, Under Secretary (Since 18.08.2011)
22.	Sh Amal Sarkar, Under Secretary (Since 14.11.2012)
23.	Sh Turam Bari, Under Secretary (01.01.2013)
24.	Sh M A Prabhakaran, Assistant Financial Advisor (Since 15.09.2014)
25.	Sh Sunil Singh Rawat, Under Secretary (Since 30.03.2015)
26.	Sh Pankaj Kumar, Under Secretary (Since 06.04.2015)
27.	Shri Ramesh Kumar Mishra, Under Secretary (Since 28.03.2014)
28.	Shri Rajendra Kumar Bandhu, Under Secretary (Since 19.02.2016)
29.	Ms. Amrapaali Panthi, Assistant Advisor (Since 03.06.2013)
30.	Dr. Pavan Kumar Singh, Sr. Research Officer (Since 23.05.2008)
31.	Dr. S K Jena, Sr. Research Officer (Since 01.08.2008)
32.	Sh Nawal Prakash, Sr. Research Officer (Since 22.05.2009)
33.	Dr. A K Sinha, Sr. Research Officer (Since 22.10.2010 to 21.10.2015)
34.	Dr. Monika Gupta, Sr. Research Officer (Since 24.07.2013)

