



# ANNUAL REPORT

## 2010-2011



**NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)**

**Government of India**

**NDMA Bhawan, A1, Safdarjung Enclave**

**New Delhi-110 029.**

**National Disaster Management  
Authority  
Annual Report**

**2010-11**

# **National Disaster Management Authority Annual Report**

**2010-11**



National Disaster Management Authority  
Government of India

## Our Vision

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.



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# ABBREVIATIONS

<b>AERB</b>	Atomic Energy Regulatory Board
<b>AEC</b>	Atomic Energy Commission
<b>ARC</b>	Administrative Reforms Commission
<b>ARMVs</b>	Accident Relief Medical Vans
<b>ATI</b>	Administrative Training Institute
<b>AWP</b>	Annual Work Plan
<b>BIS</b>	Bureau of Indian Standards
<b>CBDRM</b>	Community Based Disaster Risk Management
<b>CBOs</b>	Community Based Organization
<b>CBRN</b>	Chemical, Biological, Radiological and Nuclear
<b>CCEA</b>	Cabinet Committee on Economic Affairs
<b>CD</b>	Civil Defence
<b>CDM</b>	Chemical Disaster Management
<b>CME</b>	College of Military Engineering
<b>CPMFs</b>	Central Para Military Forces
<b>CRF</b>	Calamity Relief Fund
<b>CSCs</b>	Community Service Centres
<b>CSSR</b>	Collapsed Structure Search and Rescue
<b>DM</b>	Disaster Management
<b>DPR</b>	Detailed Project Report
<b>DRDE</b>	Defence Research and Development Establishment
<b>DRDO</b>	Defence Research and Development Organization
<b>DRR</b>	Disaster Risk Reduction
<b>EFC</b>	Expenditure Finance Committee
<b>EOCs</b>	Emergency Operations Centres
<b>EoI</b>	Expression of Interest
<b>ERCs</b>	Emergency Response Centres
<b>EW</b>	Early Warning
<b>FICCI</b>	Federation of Indian Chambers of Commerce and Industry
<b>GIS</b>	Geographic Information System
<b>GoI</b>	Government of India
<b>GSDMA</b>	Gujarat State Disaster Management Authority
<b>HAZCHEM</b>	Hazardous Chemical
<b>HPC</b>	High Powered Committee
<b>IAN</b>	Integrated Ambulance Network
<b>ICP</b>	Incident Command Post
<b>ICS</b>	Incident Command System
<b>IEC</b>	Information, Education and Communication
<b>IGNOU</b>	Indira Gandhi National Open University
<b>IMC</b>	Inter Ministerial Committee

<b>IMD</b>	India Meteorological Department
<b>INSARAG</b>	International Search and Rescue Advisory Group
<b>INTACH</b>	Indian National Trust for Art and Cultural Heritage
<b>IT</b>	Information Technology
<b>IRS</b>	Incident Response System
<b>IRT</b>	Incident Response Team
<b>MAH</b>	Major Accident Hazard
<b>MFR</b>	Medical First Responder
<b>MHA</b>	Ministry of Home Affairs
<b>MoD</b>	Ministry of Defence
<b>MoHRD</b>	Ministry of Human Resource Development
<b>MoU</b>	Memorandum of Understanding
<b>MPMCM</b>	Medical Preparedness and Mass Casualty Management
<b>NCCF</b>	National Calamity Contingency Fund
<b>NCCM</b>	National Crisis Management Committee
<b>NCRMP</b>	National Cyclone Risk Mitigation Project
<b>NDCN</b>	National Disaster Communication Network
<b>NDMA</b>	National Disaster Management Authority
<b>NDRF</b>	National Disaster Response Force
<b>NDCI</b>	National Disaster Communication Infrastructure
<b>NEC</b>	National Executive Committee
<b>NERMP</b>	National Earthquake Risk Mitigation Project
<b>NFRMP</b>	National Flood Risk Mitigation Project
<b>NGOs</b>	Non Governmental Organizations
<b>NIDM</b>	National Institute of Disaster Management
<b>NLRMP</b>	National Landslide Risk Mitigation Project
<b>NSA</b>	National Security Advisor
<b>OFC</b>	Optical Fiber Cable
<b>PIB</b>	Public Investment Board
<b>PPP</b>	Public Private Partnership
<b>PRIs</b>	Panchayati Raj Institutions
<b>PSSMHS</b>	Psycho-Social Support and Mental Health Services
<b>PTSD</b>	Post-Traumatic Stress Disorder
<b>R&amp;D</b>	Research and Development
<b>RFP</b>	Request for Proposal
<b>S&amp;T</b>	Science and Technology
<b>SDMA</b>	State Disaster Management Authority
<b>SDRF</b>	State Disaster Response Force
<b>SRO</b>	Senior Research Officer
<b>TNA</b>	Training Need Analysis
<b>ULBs</b>	Urban Local Bodies
<b>UMHP</b>	Urban Mental Health Programme
<b>USAID</b>	United States Agency for International Development
<b>UTs</b>	Union Territories
<b>WG</b>	Working Group



## 1

## INTRODUCTION

**Vulnerability Profile**

1.1 India is vulnerable, in varying degrees, to a large number of disasters. More than 58.6 per cent of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12%) of its land is prone to floods and river erosion; close to 5,700 kms, out of the 7,516 kms long coastline is prone to cyclones and tsunamis; 68% of its cultivable area is vulnerable to droughts; and, its hilly areas are at risk from landslides and avalanches. Moreover, India is also vulnerable to Chemical, Biological, Radiological and Nuclear (CBRN) emergencies and other man-made disasters. The Radiological accident at Mayapuri, New Delhi and Cloud Burst at Leh during 2010-11 were the grim reminders of the vulnerabilities of the country to such disasters.

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

**Genesis of NDMA**

1.3 The 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. However, after the Indian Ocean Tsunami, the GoI took a defining

step in the legislative history of the country, through an Act of Parliament, by creating the National Disaster Management Authority (NDMA), headed by the Prime Minister, to spearhead and implement a holistic and integrated approach to DM in India.

**Constitution of NDMA**

1.4 NDMA was constituted on 30<sup>th</sup> May 2005 by an executive order of the GoI. Subsequently, the Disaster Management Act, 2005 was enacted on 23<sup>rd</sup> December 2005 and the National Disaster Management Authority was notified on 27<sup>th</sup> September 2006.

**Composition of NDMA**

1.5 The NDMA is headed by the Hon'ble Prime Minister Dr. Manmohan Singh and the Vice Chairman of the NDMA is Shri M Shashidhar Reddy, MLA along with six other Members. The Vice Chairperson of the Authority has the status of Union Cabinet Minister and the Members of the Authority have the status of Union Ministers of State.

1.6 The current Members of the NDMA and the date on which they assumed their charges are :

- a) Smt P Jyoti Rao, Member – 14 August 2006.
- b) Shri B Bhattacharjee, Member – 21 August 2006.
- c) Shri J K Sinha, Member – 18 April 2007.
- d) Maj Gen (Dr) J K Bansal – 06 October 2010.
- e) Shri T Nandakumar – 08 October 2010.
- f) Dr. Muzaffar Ahmad – 10 December 2010.



1.7 Shri M Shashidhar Reddy completed his five years tenure as Member of the NDMA on 04<sup>th</sup> October 2010 and was nominated as Member of the NDMA on 06<sup>th</sup> October 2010. He was elevated as the Vice Chairman of the NDMA on 16<sup>th</sup> December 2010.

1.8 During the period under report, NDMA completed its five year and the Vice Chairman and other Members also completed their tenure as under:

- a) Gen N C Vij, PVSM, UYSM, AVSM (Retd.), Vice Chairman – 27 September 2010.
- b) Lt Gen (Dr.) J R Bhardwaj, PVSM, AVSM, VSM, PHS (Retd.), Member – 27 September 2010.
- c) Shri K M Singh, Member – 27 September 2010.
- d) Prof N Vinod Chandra Menon, Member – 27 September 2010.
- e) Dr. Mohan Kanda, Member – 04 October 2010.
- f) Shri M Shashidhar Reddy, MLA, Member – 04 October 2010.

### Overview

1.9 During the last five years NDMA has been able to establish an institutional mechanism for disaster Management at the National level to usher in a paradigm shift from relief centric to holistic approach laying greater emphasis on prevention, preparedness and mitigation. One of

the important achievements of NDMA has been release of many guidelines covering disaster specific, thematic and cross cutting issues. The approach of NDMA has been of transition from linear and incremental improvements to regime of structural reforms and systemic changes. NDMA has functioned more as a facilitator rather than being an authority extending its support to other stakeholders to create an enabling environment for strengthening resilience in the country. The NDMA has also provided much needed impetus to establish National Disaster Response Force as a truly specialist force for disaster response and has accorded highest priority to ensure that it is trained and equipped as per international standards.

### Responsibilities of Members of NDMA

1.10 Disaster specific domains have been assigned to the Members of the NDMA on the basis of their expertise in the subject. Vice Chairman and Members of the NDMA are supported by subject Specialists and Senior Research Officers to perform their functions. These domains are:

S. No.	Name of the Member	Domains	Additional domain of subjects
1.	Shri B. Bhattacharjee	Nuclear, Radiological, Forecasting, Early Warning and Communications, GIS & IT, Microzonation, Global Warming and Climate Change.	-
2.	Smt. P. Jyoti Rao	Community Preparedness (CBDM), Education Curricula and Minimum Standards of Relief.	-
3.	Shri J. K. Sinha	Civil Defence, Fire Services, Incident Command System, NCC, NSS, NYKS, Mock Drills/ Exercises.	NDRF, Awareness Generation (Media) and Corporate.
4.	Maj. Gen. (Dr.) J. K. Bansal (Retd)	CBRN (Terrorism aspects) and Psycho-Social Care.	-
5.	Shri T Nandkumar	National Policy & Plans, Floods, Avalanches & Landslides, Drought and Disaster Risk Reduction Project.	Risk Transfer (Insurance)
6.	Dr. Muzaffar Ahmad	Chemical – Industrial disasters and Medical Preparedness.	Earthquakes and Tsunami

### NDMA Secretariat

1.11 The organizational structure of the NDMA was approved by the Union Cabinet in May 2008. The Secretariat is headed by a Secretary with five Joint Secretaries/ Advisors including one Financial Advisor. There are ten Joint Advisors (Director level) and fourteen Assistant Advisors (Under Secretary level) along with supporting staff. Disaster management being a specialized subject, it has also been ensured that expertise of Specialists is available for short duration on contractual basis. The organization is also supported by a number of Senior Research Officers (SROs). The details of the organization of the NDMA Secretariat is provided in a separate Chapter on 'Administration and Finance'.

### Advisory Committee of the NDMA

1.12 In exercise of the powers conferred by Sub-section (1) of Section 7 of the Disaster Management Act, 2005, the NDMA constituted the Advisory Committee with the followings as Members:

1. Ms. Kumud Bansal, IAS (Retd.).

2. Ms. Sushma Chaudhary, IAS (Retd.).
3. Prof. S. K. Dube, Director, Indian Institute of Technology, Kharagpur.
4. Prof. Harsh Gupta, Former Director, National Geophysical Research Institute, Hyderabad.
5. Shri Sanjoy Hazarika, Managing Trustee, Centre for North East Studies and Policy Research.
6. Dr. P. K. Iyengar, Former Chairman, Atomic Energy Commission.
7. Lt. Gen. Davinder Kumar, PVSM, VSM BAR (Retd.).
8. Shri Alok Mukhopadhyay, Chief Executive, Voluntary Health Association of India (VHAI).
9. Dr. R. K. Pachauri, Director General, The Energy & Resources Institute (TERI).
10. Shri R. S. Prasad, Former Chairman, Central Water Commission.
11. Dr. D.R. Sikka, Former Director, Indian Institute of Tropical Meteorology.
12. Lt. Gen. V. K. Sood, PVSM, AVSM (Retd.), Former Vice Chief of Army Staff.



# 2

## FUNCTIONS AND OBJECTIVES

### Functions of NDMA

2.1 NDMA, as the Apex Body for DM in India, has responsibility of laying down the policies, plans and guidelines for ensuring timely and effective response to disasters. Its statutory functions include the responsibility to:

- (a) lay down policies on DM;
- (b) approve the national plan and the plans prepared by the ministries / departments of the GoI 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 different ministries / departments of the GoI 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, 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.

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 of the NDMA 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 Objectives of the 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.



# 3

## LANDMARK EVENTS

### Introduction

3.1 The activities of the NDMA which drew national and international attention are given in the succeeding paragraphs. These particularly pertain to the response to disasters during the year, achievements of the NDMA and visits of the various dignitaries.

### Unprecedented Disaster at Leh

3.2 Leh is a cold desert with the very low average annual rainfall of only 90 mm (3½ inches) and temperature ranging from -28 °C (-18.4°F) in winter to 33 °C (91.4°F) in summer. It is situated at the height of 11,562 ft above sea level. On the night of 5-6 August 2010, there



Hon'ble Prime Minister alongwith Union Health Minister & Hon'ble Chief Minister, J&K is interacting with local public

was an unprecedented cloud burst over Leh and surrounding areas which led to flash floods. There was severe damage caused to buildings and public infrastructure in the area, hundreds of people were rendered homeless and nearly 257 precious lives were lost. NDMA dispatched 45 NDRF personnel to Leh who efficiently coordinated the tasks of receiving relief supplies and handing over to the district authority.

3.3 After the initial phase of rescue and relief work was over, Hon'ble Prime Minister visited Leh on 17 August 2010 to meet the local people and review the situation. Taking stock of the



Shri M. Shashidhar Reddy, Vice Chairman, NDMA during handing over the Pre-fab Shelters

urgent requirement of shelters he directed the NDMA to provide prefabricated shelters for the displaced people. Construction of 16 prefabricated shelters was undertaken and completed in a record time in spite of adverse weather conditions. Upon completion Vice Chairman along with Dr. Muzaffar Ahmad, Member NDMA visited Leh and formally handed over these shelters on 23 December 2010 to the Chairman & Chief Executive Councilor, Ladakh Autonomous Hill Development Council. Representatives of the State Administration, Councilors from various Blocks, the local people of Leh and surrounding areas who were present



Shri M. Shashidhar Reddy, Vice Chairman, NDMA inspecting one of the constructed Pre-fab Shelters

at the handing over ceremony appreciated the efforts and role played by the NDMA. Besides these shelters, the Government of India

undertook construction of another 400 hundred houses for the disaster victims.

### Locations of Shelters Constructed by NDMA

Sr No.	Location	Size
1.	Govt Girls High School, Leh	40'x10'x 3nos
2.	Govt Boys School, Leh	40'x10'x 3nos
3.	Solar Colony-Part I	E-Dome (Oval Shape) -1
4.	Solar Colony-Part II	E-Dome (Oval Shape)-1
5.	Shey	E-Dome 1 No
6.	Spituk (Palam)	E-Dome 1 No
7.	Phyang	(a) 40'x10' - 1No (b) 60'x 24' - 1 No
8.	Taru	60'x 24' - 1 No
9.	Ney	60'x24' - 1 No
10.	Basgo	40'x10' - 2 Nos
	<b>Total</b>	<b>16 nos.</b>

#### **Mayapuri Incident**

3.4 In April 2010 the locality of Mayapuri was affected by a serious radiological accident where one person died of radiation exposure and numbers of others were victims of the same. NDMA took an active part to help provide the required medical support to the victims and decontamination of the affected area. A High Powered Committee to consider the prevention and mitigation of such accidents was constituted under the Chairmanship of Member NDMA which recommended the ways and means to prevent radiological emergencies in public domain. These recommendations were discussed and accepted by the Committee of Secretaries on 18 October 2010. Some of the important recommendations are:

- (i) Strengthening of Inspection clause for import of scrap.
- (ii) Installation of radiation detectors at the locations of dealers of scrap material.
- (iii) Prevention of illegal trafficking of

radiation sources in / out of the country.

- (iv) Installation of radiation monitors at 12 major sea ports. Similar monitors to be installed at air ports and border posts.
- (v) Atomic Energy Regulatory Board (AERB) to make inventory of all radioactive sources in the country.
- (vi) AERB to establish 5 Regional Centres of Regulatory Control.
- (vii) Establishment of Additional Emergency Response Centres (AERCs)/ Mobile Radiation Detection System in 1,000 Police Stations covering 35 Cities (having population of more than 10 Lakhs) – Proposal 'in principle' approved by MHA (Cost Rs. 6.3 crore).
- (viii) Training of all 10 NDRF Bns to handle CBRN Emergencies – proposal for training 06 remaining Bns has been sent to the MHA (Cost Rs. 64.87 Crore).



- (ix) Detailed SOP for Trigger Mechanism as per NDMA document.
- (x) Setting up of additional 500 Indian Environmental Monitoring Network (IERMON) Stations by BARC during 12<sup>th</sup> Five Year Plan.

### **Psycho-Social Support to Victims of Mangalore Air Accident**

3.5 Mangalore bound Air India Express flight from Dubai crashed on 22 May 2010 at the Mangalore airport leading to the death of 158 passengers with six survivors. This was one of the worst air disasters in Indian aviation history. It was devastating for the survivors and families of the victims, with severe psycho-social impact on them.

3.6 National Disaster Management Authority (NDMA) had issued National Guidelines on Psycho-social Support and Mental Health Care which recognizes the importance of providing psycho-social support to the survivors and families of the victims of disaster. NDMA in collaboration with National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore took up an initiative to provide psycho-social care and trauma support to the victims of this air crash. The project was fully funded by the NDMA and was supervised by the Senior Specialist under the guidance of Lt. Gen. (Dr) J.R. Bhardwaj, former Member NDMA. NIMHANS provided technical expertise. They were supported by the faculty and students of Roshni Nilaya School of Social Work, Mangalore and St. Joseph's College, Pilathara, Kannur, who carried out the work at the field level. The district administrations in both Karnataka and Kerala and Air India also provided support to the team for implementing this project.

### **CBRN Security during Commonwealth Games (CWG)**

3.7 NDMA was tasked to plan and provide CBRN Security for the Commonwealth Games. This task was ably performed by the NDMA,

under the guidance of Shri K.M. Singh, Hon'ble Member, NDMA and Maj Gen (Dr.) J.K. Bansal, Senior Specialist, NDMA. A total of 32 NDRF Teams with the state-of-art CBRN equipments including 24x7 surveillance system and HAZMAT Vehicles were deployed during the games. The CBRN Security was integrated into the overall security matrix at all the venues including Games Village, Hotel Ashoka and Hotel Samrat. Five teams of NDRF were also kept in reserve for any unforeseen eventuality.

### **Visit of Delegation from Ladakh to NDMA on 12 January 2011**

3.8 A high level delegation consisting of elected Councilors of Ladakh Autonomous Hill Development Council (LAHDC) headed by Shri Regzin Spalbar, Chief Executive Councillor and Chairman LAHDC visited NDMA on 12 January 2011. Shri M. Shashidhar Reddy, Vice Chairman, NDMA assured the delegation from Ladakh that NDMA will do all that is necessary to facilitate the preparation of District Disaster Management Plan for Ladakh, for which a workshop would be organized very soon. He also assured that NDMA will make all efforts to impart Community Based Disaster Preparedness and awareness taking into account all possible disasters that the region is susceptible to. In order to build resilience in the community. Vice Chairman stressed that disaster management is not just the rescue and relief but dealing with all aspects of disaster management including prevention, mitigation, preparedness and long term rehabilitation and reconstruction.

3.9 Shri Reddy mentioned that Hon'ble Prime Minister has set up a Task Force which had also visited Ladakh recently. The delegation was in Delhi as a part of their visit to different parts of the country to sensitize about various issues including disaster management. Dr Muzaffar Ahmad, Member NDMA and Dr Parasuram, Director, Tata Institute of Social Science were also present.



3.10 The CEC and Chairman, Ladakh Autonomous Hill Development Council earlier thanked the Vice Chairman, NDMA for the efforts made by NDMA after the cloud burst disaster in Aug 2010 and for visiting Leh in the peak of winter to hand over 16 community shelters constructed by NDMA with Prime Minister's National Relief Fund on 23 December 2010.



**Signing of Agreement with World Bank on National Cyclone Risk Mitigation Project on 14 January 2011**

3.11 The first phase of NCRMP is being implemented in Andhra Pradesh and Orissa with an outlay of about Rs. 1497 crore (US \$ 319 Million) of which the World Bank assistance would be US \$ 255 Million. Government of India has approved the implementation of the Project as a Centrally Sponsored Scheme on 06 January 2011. The Financing and Project

Agreements relating to NCRMP were signed on 14 January 2011 by the Department of Economic Affairs, the World Bank and the States of Andhra Pradesh and Odisha. More than one million people living in the coastal areas of Andhra Pradesh and Odisha are set to be benefitted from this mitigation project.

3.12 World Bank Group President, Robert B. Zoellick, joined India's Hon'ble Finance Minister, Shri Pranab Mukherjee and Shri M. Shashidhar Reddy, Hon'ble Vice Chairman, NDMA to witness the signing of the US \$255 million agreement for phase one of the National Cyclone Risk Mitigation Project (I), to be implemented by the NDMA on 14 January 2011.

3.13 In the second phase, the States of Maharashtra, Kerala, West Bengal and Gujarat are proposed to be covered. Other States / UTs would be covered in the subsequent phases keeping in view the readiness of their investment proposals.

**NDRF Raising Day on 19 January 2011**

3.14 National Disaster Response Force (NDRF) celebrated its Raising Day on 19 January 2011 in the premises of Indian Institute of Technology, Delhi. NDRF also presented an energetic and live demonstration on rescue techniques in front of the acknowledging audience.

3.15 The Hon'ble Union Home Minister Shri P. Chidambaram graced the occasion as Chief



Shri M. Shashidhar Reddy, Vice Chairman, National Disaster Management Authority, with Hon'ble Union Home Minister Shri P Chidambaram during NDRF Raising Day on 19 January 2011



Guest and Shri M. Shashidhar Reddy, MLA, Hon'ble Vice Chairman, NDMA, who was the guest of honour at the occasion, commended the NDRF for rendering its dedicated services to the Nation. The occasion was made colorful with presence of a large number of school children. General N C Vij, former Vice Chairman NDMA and other former as well as serving Members, including Shri J K Sinha, IPS (Retd), who is looking after NDRF in NDMA, were also present. Shri M Shashidhar Reddy, Honb'le Vice Chairman, NDMA highlighted the role played by NDRF, since its inception, in search, rescue & relief operations during floods especially in the State(s) of Bihar, Odisha, Andhra Pradesh, Karnataka & Tamilnadu as well as during cloudburst in Leh (J&K).



Shri M. Shashidhar Reddy, Vice Chairman, National Disaster Management Authority, with Hon'ble Union Home Minister Shri P Chidambaram during NDRF Raising Day on 19 January 2011

3.16 Shri M Shashidhar Reddy, Hon'ble Vice Chairman NDMA also applauded the role played by the Force in Community Capacity building in the various vulnerable and disaster prone regions of the country. NDRF has so far trained more than nine lakh Community Volunteers, School Children, NCC, NSS and other Stakeholders and has been playing pivot role in capacity building for State Police by encouraging and assisting the State(s) to train their personnel of SDRF. Shri Reddy further gave an assurance to the NDRF officers & personnel to provide all necessary helps and assistance from NDMA and also from

Govt. of India to make the Force of International standard.

3.17 Shri P. Chidambaram, the Hon'ble Home Minister congratulated all ranks of the NDRF on their raising day celebration. He expressed his happiness that this multi-skilled high-tech elite force has provided prompt response in all kinds of disasters in the country. He noted that during the year 2010, not even a single time Army was requisitioned to assist the States in the eventuality of disasters. He further said that he is fully conscious of the odds and risks the NDRF personnel take in performance of their duties. He assured them that the Government is determined to equip the Force with latest state-of-the-Art technologies and train them in the best institutes both inside and outside the country. He expressed his confidence that in years to come this elite Force will scale phenomenal level of glorious excellence.

#### **Visit of Hon'ble Vice Chairman, NDMA to West Bengal, 27-28 January 2011**

3.18 NDMA is constructing 50 Multipurpose Cyclone Shelters in three cyclone prone coastal districts of West Bengal, namely, South 24 Parganas, 24 North Parganas and East Mednipur districts at an estimated cost of Rs. 138.65 Crore funded from the Prime Minister's National Relief Fund. This was indicated during the meeting of Shri M. Shashidhar Reddy, Vice Chairman NDMA with Shri Buddhdeb Bhattacharjee, Hon'ble Chief Minister of West Bengal at Kolkata on 28 January 2011.

3.19 NDMA has identified two PSUs to undertake the construction. Keeping in view the location of various sites and the local soil conditions, an amount of Rs 138.65 Crores was approved for the construction of 50 Cyclone Shelters. M/s. Engineering Projects (India) Limited, New Delhi has been assigned construction of 35 cyclone shelters; 20 in North 24 Parganas and 15 in Purba Medinipur and M/s. Hindustan Steelworks Construction Limited, Kolkata will construct 15 cyclone shelters in





Shri M. Shashidhar Reddy, MLA, Vice Chairman, National Disaster Management Authority, with Hon'ble Chief Minister of West Bengal Shri Buddhdeb Bhattacharjee during meeting on 28 January 2011

South 24 Parganas. NDMA has signed an MoU with them in November 2010. Hon'ble Vice Chairman, NDMA also informed that after the construction work is completed the buildings will be handed over to the West Bengal Government. Being Multipurpose Cyclone Shelters, these will be used for other purposes during normal times.

3.20 During the meeting, Hon'ble Vice Chairman, NDMA also informed the Hon'ble Chief Minister that Agreements for the National Cyclone Risk Mitigation Project were signed by officials of the World Bank and the Government of India and two States, namely, Andhra Pradesh and Odisha, where it is being implemented in the First Phase. Hon'ble Vice Chairman, NDMA requested the Hon'ble Chief Minister that the submission of Investment Proposals by West Bengal has to be expedited so that they could at least be included in the 2nd phase of the Project, along with the proposals from three other states – all of whom missed the much extended deadlines in the past. He reiterated that NDMA was very keen to see that West Bengal joins the Project as it is highly vulnerable to Cyclones.

3.21 Shri Buddhdeb Bhattacharjee welcomed the gesture of Hon'ble Prime Minister for sanctioning the construction of 50 Multipurpose Cyclone Shelters in West Bengal at a cost of Rs 138.65 Crores from Prime Minister's National Relief Fund. He also assured the Vice Chairman,

NDMA of full support of the State Government in ensuring early completion of the construction of these shelters. The Hon'ble Chief Minister also directed the State Government officials to ensure expeditious submission of Investment Proposals under NCRMP.

3.22 During this visit, Shri M. Shashidhar Reddy, Hon'ble Vice Chairman, NDMA also called on His Excellency the Governor of West Bengal Shri M. K. Narayanan.



Shri M. Shashidhar Reddy, MLA Hon'ble Vice Chairman, NDMA with His Excellency the Governor of West Bengal Shri M. K. Narayanan on 28 January 2011

### **NDRF Deployment in Japan**

3.23 Following the devastating earthquake, tsunami and nuclear leakage in Japan in March 2011; one team of NDRF consisting of 46 personnel equipped with the latest Search & Rescue and CBRN equipments was deployed internationally (for the first time) in Onagawa, Japan to assist the local authorities in relief and rehabilitation efforts. NDRF personnel working in sub zero temperature recovered 7 dead bodies and Japanese currency worth Fifty Million Yen. NDRF's painstaking work was widely praised by Japanese Government, people and the media.

### **US Ambassador to Nepal Visits NDMA**

3.24 US Ambassador to Nepal Mr. Scott Delisi along with officials from USAID visited National Disaster Management Authority on 18 March 2011 and held discussion with Vice Chairman, NDMA and officials of the NDMA.





Shri M Shashidhar Reddy, Hon'ble Vice Chairman, NDMA with Mr. Scott Delisi, US Ambassador to Nepal

Mr. Delisi complemented NDMA for all the works being undertaken by NDMA and NDRF. He was highly impressed with the guidelines so far released by the NDMA.

#### Visit of UN Under Secretary General to NDMA

3.25 During the first ever visit by an United Nations Under Secretary General for Humanitarian Affairs and Emergency Relief Coordinator to India, Ms. Valerie Amos along with other officials from Office for the Coordination of Humanitarian Affairs (OCHA) also visited NDMA on 31 March 2011 to call on Shri M Shashidhar Reddy, Hon'ble Vice Chairman, NDMA. She held a detailed discussion on global humanitarian issues and challenges with the Hon'ble Vice Chairman, Members and other Officials of the NDMA. India's extensive experience of disaster response and its increased role in regional cooperation

were also deliberated upon. Hon'ble Vice Chairman of NDMA stressed on the requirement for strengthening collaboration and partnership between the UN OCHA and the NDMA. Urgent need of INSARAG Certification for NDRF was highlighted by the NDMA.

3.26 Avenues for International Cooperation within disaster reduction and response and identification of mutual cooperation/ partnership between India and OCHA were also deliberated upon. Possibilities for arriving at a common framework for undertaking joint ventures in the domain of public awareness, advocacy and capacity building were also explored.

3.27 Ms. Amos showed keen interest on the Guidelines released so far by the NDMA and also praised the other initiatives of NDMA. She further stressed upon the need for knowledge and technology sharing and exchange of best practices.



Shri M Shashidhar Reddy, Vice Chairman, NDMA with Ms. Valerie Amos, UN Under Secretary General for Humanitarian Affairs and Emergency Relief Coordinator

# 4

## POLICY, PLANS AND GUIDELINES

### National Policy on Disaster Management

4.1 The National Policy on Disaster Management prepared by the NDMA portrays a paradigm shift from erstwhile 'Response-Centric' approach to the holistic management of disasters with emphasis on Prevention, and Preparedness Mitigation, The Policy document has been evolved in a participatory process taking on board the relevant suggestions and recommendations for it to be a truly defining document to project the disaster management as a national priority. Hon'ble Prime Minister released the National Policy on Disaster Management on 18 January 2010 during the Third NDMA Meeting.

### Highlights of the National Policy on Disaster Management

4.2 The National Policy on Disaster Management has endeavored to capture, in its essence, the vigorously enabling environment, which the body politic has put in place through an Act of Parliament that heralds the onset of a different approach in dealing with disasters that have, in the past taken a heavy toll of lives and properties and crippled the economic base of communities. It also illustrates realization of the fact that disasters not only cause a setback to economic and developmental growth, but also seriously affect the national security environment.

4.3 The central theme of this Policy document is the belief that a disaster resilient community, duly empowered by a newly created disaster management structure, working in cohesion multi-sectorally, will help realize the national vision. A holistic and integrated approach will be evolved towards disaster management with emphasis on building strategic partnerships at various levels. The themes underpinning the

National Policy on Disaster Management are:

- (i) Community based disaster management, including last mile integration of the policy, plans and execution.
- (ii) Capacity development in all spheres.
- (iii) Consolidation of past initiatives and best practices.
- (iv) Cooperation with agencies at National and International levels.
- (v) Multi-sectoral synergy.

4.4 This policy document also encompasses institutional, legal and financial arrangements; disaster prevention, mitigation and preparedness, techno-legal regime; response, relief and rehabilitation; reconstruction and recovery; capacity development; knowledge management and research & development. It also focuses on the areas where action is needed and the institutional mechanism through which such action can be channelized.

4.5 The National Policy on Disaster Management also aims to bring in transparency and accountability in all aspects of disaster management through involvement of community, community based organizations, Panchayati Raj Institutions (PRIs), local bodies and civil society. National Policy on Disaster Management provides the basic flammable on which the guidelines and plans at the National, State and District levels will be based.

### National Plan

4.6 Section 11 of DM Act, 2005 provides that, 'There shall be drawn up a plan for Disaster Management for the whole of the Country to be called National Plan. The National Plan shall be prepared by the National Executive Committee having regard to the National Policy and in



consultation with the State Governments and expert bodies or organizations in the field of Disaster Management to be approved by the National Authority'. After discussions within the NDMA and the NEC, it was decided that the National Plan would comprise of three volumes as under:

- **The National Response Plan** spanning all the Central Ministries/ Departments and related agencies covering all types of disasters would be prepared by the MHA. An Inter Ministerial Central Team has already been formed by the NEC in the MHA to prepare this Plan.
- **Mitigation and Preparedness Plan** to be prepared by the various Central Ministries and Departments and other agencies covering specific disasters.
- **The National Human Resource and Capacity Building Plan** are to be prepared by National Institute of Disaster Management, addressing the Training and Capacity Building needs of several sectoral/ thematic disciplines.

4.7 Guidelines and formats for formulation of these plans were deliberated upon in the NDMA and forwarded to the MHA, concerned Ministries/ Departments and the NIDM.

4.8 As a follow up, two meetings of Facilitation Committee for formulation of National Response Plan have been held on 14 January 2009 and 15 April 2009 under the Chairmanship of Secretary (Border Management) in MHA.

## State Disaster Management Authorities

4.9 The State Governments are in the process of setting up the State and District Disaster Management Authorities. The provisions of the DM Act, 2005 relevant to the States/ UTs have been in force w.e.f 01 August 2007. All 28 States and 7 Union Territories are reported to have constituted SDMAs as per the provisions of the DM Act, 2005. In some of the States constitution of the District Disaster Management Authorities have not been completed.

## State Disaster Management Plans

4.10 A Disaster Management Plan is required to be prepared by each State/ UT in terms of Section 23 of the Disaster Management Act, 2005. The State Plan shall be prepared by the State Executive Committee (SEC), having regard to the guidelines laid down by the NDMA, and after such consultation with local authorities, district authorities and the people's representatives as the SEC may deem fit. The State Plan shall be approved by the State Disaster Management Authority (SDMA). It shall be reviewed and updated annually. The NDMA issued the guidelines for preparation of State Disaster Management Plans in July 2007 in accordance with the Section 6 (2) (d) of the DM Act, 2005. Taking a proactive action, NDMA devised a "Scheme for Preparation of Disaster Management Plans" to provide financial support during financial year 2009-2010 to States/ UTs to enable them for preparation of their Disaster Management Plans indicated as below:

Category I (Assistance of Rs. 10,62,500/-)	Category II (Assistance of Rs. 8,62,500/-)
Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Karnataka, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Sikkim, Tamil Nadu, Uttarakhand, Haryana, Uttar Pradesh, West Bengal, Delhi, Andaman & Nicobar, Pudducherry	Chhattisgarh, Goa, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Tripura, Chandigarh, Daman & Diu, Dadra & Nagar Haveli, Lakshadweep

4.11 NDMA has been regularly following up with States/ UTs and has been offering advice through regular workshops, review meetings and video conferences on preparation of SDMPs. The States/ UTs are in different stages of preparation of plans.

4.12 A video-conference with all the States/UTs was held during March 23-25, 2011 to discuss some of the key issues focusing upon effective disaster management. Shri T. Nandakumar, Member, NDMA chaired the video-conference. This Conference was attended by Principal Secretary (Disaster Management) / Revenue from most of the States. Broadly the areas covered were:

- constitution of State Disaster Management Authority,
- preparation of the State Disaster Management Plans & District Disaster Management Plans,
- state of preparedness of the State / UT Administration for meeting and managing major disasters,
- details about utilization of 13<sup>th</sup> Finance Commission allocation,

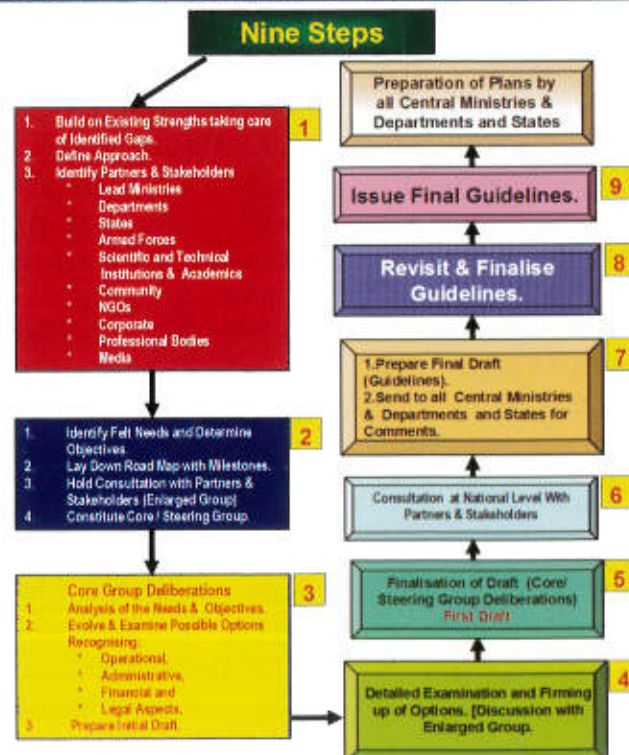
- constitution of State Disaster Response Force,
- Perspective Plan / Annual Plan preparation, and
- upgradation of Fire Services and Civil Defence.

### Guidelines

4.13 In order to translate the objectives into plans, the NDMA adopted a mission-mode approach involving a number of initiatives with the help of various institutions (administrative, academic, scientific and technical) operating at the national, state and local levels. As a policy, the central ministries, departments and states, have been involved in evolving the guidelines, besides all other stakeholders. These guidelines, based on specific disasters and themes (such as capacity development and public awareness) will provide the basis of preparation of plans. Preparation of each of these Guidelines took minimum 12 to 18 months, depending upon the complexity of the subject. The approach to formulation of guidelines comprised a 'nine-step' participatory and consultative process with stakeholders as shown in figure 4.1.

Figure 4.1

## PROCESS OF FORMULATION OF GUIDELINES





#### 4.14 The Process Comprises:

- A quick review of the studies conducted, disaster-wise, and actions / steps taken so far by various agencies, including the Central Ministries, States, Scientific and Technical Institutions etc.
- Identification of the residual agenda in terms of operational, administrative, financial and legal issues.
- Drawing up of a roadmap to the destination duly indicating milestones to facilitate easy monitoring.
- In terms of goals and objectives, screening down the destination to be attained, in short as well as long term, duly prioritized as vital, essential and desirable.
- Four important questions were to be answered: i.e. What is to be done?, How it is to be done?, Who will do it?, and By when?
- Putting in place an institutional mechanism that oversees the operationalization of this roadmap.

4.15 Following Guidelines and Reports have been released during the previous years by the NDMA –

- Guidelines for NIDM – 13 April 2006.
- Revamping of CD & Fire Services – December 2006.
- Earthquakes – 16 May 2007.
- Chemical (Industrial) Disasters – 28 May 2007.
- Formulation of State DM Plans – 16 August 2007.
- Medical Preparedness and Mass Casualty Management – 14 November 2007.
- Floods – 17 January 2008.
- Guidelines on Pandemic Preparedness Beyond Health – 22 April 2008.
- Cyclones – 24 April 2008.
- Biological Disasters – 22 August 2008.

- Nuclear and Radiological Emergencies (Unclassified, Part - I) – 24 February 2009.
- Landslides & Snow Avalanches – 23 June 2009.
- Chemical Terrorism Disasters – 04 August 2009.
- Psycho-Social and Mental Health Care – 20 January 2010.

#### Guidelines and other Reports Prepared and Released During 2010-11

4.16 Following Guidelines and Reports have been released during the period under report by the NDMA –

- Guidelines for Incident Response System – 21 July 2010.
- Management of the Dead in the aftermath of Disaster – 17 August 2010.
- Management of Tsunami – 03 September 2010.
- Management of Drought – 24 September 2010.
- Role of NGOs in Disaster Management – 24 September 2010.
- Management of Urban Flooding – 27 September 2010.

#### National Disaster Management Guidelines – Incident Response System

4.17 Incident Response System (IRS) is a mechanism which reduces ad-hocism in response. It incorporates all the tasks that may need to be performed during response. It identifies and pre-designates officers to perform various duties and get them trained in their roles. It is a flexible system and only those Sections / Branches may be activated in the team which are actually required to handle the disaster situation.

4.18 For swift disaster response and strengthening administrative mechanism in an organised way with effective community participation, Guidelines on Incident Response System was released by Hon'ble Union Home Minister Shri P. Chidambaram on 16 July 2010. The core group members, relief commissioners





Hon'ble Union Home Minister Shri P. Chidambaram, Vice Chairman Gen. N.C. Vij, Member NDMA Shri J.K. Sinha and Secretary Border Management Shri A.E. Ahmed at the release function

and media were invited. On the occasion of release function of IRS guidelines Hon'ble Union Home Minister Shri P. Chidambaram said that the IRS guidelines will help the grass root functionaries of the country to respond any kind and nature of disaster with an organised approach and therefore NDMA should ensure that the principles and features of these guidelines were implemented by all the vulnerable States at priority.

### Key Features of Incident Response System

#### 4.19

- **Management by Objectives** – In IRS the first step is to a) identify objectives, b) Select appropriate strategy, c) Carry out effective response.
- **Unity of Command and Chain of Command** – IRS provides a designated supervisor and a clear line of authority within the response set up.
- **Transfer of Command** – The process of transfer of Command in IRS ensures that a new Incident Commander immediately becomes aware of all the actions already taken and what more needs to be done.
- **Organizational Flexibility** – Only those components of the Incident Response Team (IRT) may be activated which are required for response.
- **Span of Control** – Span of control is vital for effective supervision. IRS clearly provides the number of organizational elements that should be placed under a supervisor, thus ensuring proper supervision and control.
- **Area Command** – Area Command provides for closer supervision in distant and isolated places.
- **Unified Command** – Unified Command in IRS provides a system for different agencies, having independent jurisdictional or functional responsibilities in the affected areas, to work under one command and proper utilization of the resources of all agencies without abdicating agency authority, responsibility or accountability.
- **Common Terminology** – The provision of common terminology in the IRS ensures clear identification of various hierarchical positions, resources and facilities. This helps in giving directions to the right responder and requisitioning and deployment of correct and required resources.
- **Accountability** – The clear cut chain of Command in the IRS ensures that any one individual or group do not have multiple supervisors and accountability is ensured.
- **Integrated Communications** – IRS provides assured communication set up and also the integration of communication networks of different agencies.
- **Resource Management** – Use of specific terminology for different resources in the IRS ensures effective requisitioning and their deployment.
- **Incident Action Plan** – The Incident



Action Plan for the day ensures focused response and helps in regularly reviewing progress and achievements of the response effort.

### **Report on Management of the Dead in the aftermath of Disasters**

4.20 India has been a victim of both natural and man-made disasters, the resulting in large number of human and animal deaths. Management of the dead, a major social responsibility of the community and the government, encompasses the process of correct handling of the deceased in the post-disaster period to minimize the physical, psycho-social, ethical, religious and cultural stresses foul by the surviving community. It is a difficult task performed by skilled professionals and unskilled first responders of variable capabilities. The aim of this document is to institutionalize standard procedures for the proper management of dead bodies and animal carcasses in the aftermath of disasters.

4.21 The essential tiers of the strategy on management of the dead are (i) Appropriate recovery, retrieval and storage of the dead bodies (ii) Positive identification of the deceased which is an essential requirement for proper disposal and financial compensation, property rights, inheritance and issues of remarriage (iii) Dignified disposal of the dead bodies, according to religious, cultural, ethnic and psycho-social needs of the affected community (iv) Proper information management which involves analysis of the data for identification of the dead, along with its prompt, correct and appropriate dissemination through the media.

4.22 The Report will be utilized by the following responders and service providers (i) All Disaster Management authorities and administrators at national, state and district levels (ii) Those concerned with handling, identification and disposal of the dead bodies including forensic, medical and other professionals involved in management of the

dead (iii) All other stakeholders connected directly or indirectly with management of the dead including the First Responders like Police, Fire Services, Civil Defence, NDRF and Paramilitary Forces (iv) NGOs and community at large, including media.

4.23 The Final draft of this Report was discussed by the extended Core Group in March 2010. This Report was released on 17 August 2010.

### **National Disaster Management Guidelines – Management of Tsunami**

4.24 The Indian Ocean Tsunami on 26 December 2004 which devastated the coastal communities in 14 countries, caused enormous loss of life and damage to property, assets and infrastructure in the coastal villages of Kerala, Tamil Nadu, Andhra Pradesh, Puducherry and the Andaman & Nicobar Islands. The tsunami risk and vulnerability which the coastal communities in India are exposed to, even by a distant high intensity earthquake in Indonesia, came as a shock and surprise to the unsuspecting public. The absence of an effective Tsunami Early Warning System (TEWS) and the last mile connectivity to disseminate alert and early warning messages to the coastal communities as well as the lack of public awareness and emergency response preparedness among various stakeholder groups made the tsunami response more difficult and challenging.

4.25 Both the east and west coasts of India and the island regions are likely to be affected by tsunamis from the five potential source regions, viz., the Andaman-Nicobar-Sumatra Island Arc, Indo-Burmese zone, Nascent Boundary (in the Central Indian Ocean), Chagos Archipelago and the Makran Subduction Zone.

4.26 These Guidelines have been prepared in recognition of the fact that even though tsunami is a low probability event, it is capable of resulting in enormous loss of lives, loss of property, assets and public infrastructure in the coastal areas. The efforts of preparing these





Shri Prithviraj Chavan, Hon'ble Minister of State (Independent Charge), Science & Technology, with Gen N.C. Vij, Vice Chairman, NDMA and Prof. N.V.C. Menon, Member, NDMA during release of National Disaster Management Guidelines - Management of Tsunami

guidelines was guided by Prof. N Vinod Chandra Menon, Member NDMA. The Guidelines on Management of Tsunami were released by Shri Prithviraj Chavan, Hon'ble Minister of State (Independent Charge), Science & Technology, Earth Sciences and MoS in the PMO, Personnel, Public Grievances and Pensions, and Parliamentary Affairs on 03 September 2010 at NDMA Bhawan.

4.27 Salient Points of National Disaster Management Guidelines – Management of Tsunami are as follows:

- Provides a shelf of comprehensive solutions for improving the vulnerability reduction of coastal areas like development of bio-shields like mangroves and shelter belt plantations, as well as addressing coastal pollution in a time-bound manner.
- Reviews India's state-of-the-art Tsunami Early Warning System for the issue of alert, watch and early warning messages and describes the mechanisms proposed for the wider dissemination of such messages to the coastal communities through last mile connectivity using redundant overlays.
- Outlines the strategies for strengthening public awareness on tsunami risk and vulnerability among the coastal communities.
- Chalks out the strategies for strengthening education, research and documentation for strengthening tsunami risk management, preparedness measures by academic and professional institutions.
- Highlights the need for understanding the traditional coping strategies and the indigenous traditional knowledge in dealing with natural disasters like tsunamis, while simultaneously stressing the deployment of modern technologies for dissemination of early warning to the disaster-prone communities.
- Emphasizes the need for preparation of Coastal Vulnerability Maps which incorporate the large scale coastal land use maps, tsunami wave run up height modeling and inundation distance based on coastal bathymetry, preparation of Digital Elevation Maps at appropriate locations, and creation of inundation scenarios using the above information.
- Highlights the need for augmenting the surveillance for the safety of critical early warning instrumentation in the Bay of Bengal and the Arabian Sea to ensure failsafe functioning of these critical instruments and their protection from vandalism by fishermen and mariners.
- Encourages the District Disaster Management Authorities to explore the inclusion of coastal protection measures to be eligible for schemes like National Rural Employment Guarantee Scheme, as they will meet the employment generation objective and provide the much needed protection to the fragile coastal areas.
- Provides guidance on design and construction of new structures as well as on strategies for protecting lifeline



and priority structures along the sea front.

- Proposes a robust mechanism for strengthening the post-tsunami response capacities of stakeholders.
- Centre-stages communities in the **Community Based Disaster Management**, with multiple stakeholders, including the Corporate Sector.
- Advocates for large scale social mobilization for creating trained personnel from the coastal communities for addressing multi-hazard situations.
- Provides for incorporation of tsunami related issues in Disaster Management Plans at the National, State and District levels and recommends the preparation of a specialized tsunami management plan.
- Bureau of Indian Standards (BIS) will ensure that the Draft Standards entitled “Criteria for Tsunami-Resistant Design of Structures” are finalized on priority and disseminated widely. BIS will also develop other necessary standards for the safety of natural habitats against tsunami and storm surge. BIS will also periodically review the standards and codes prepared by them and wherever necessary, ensure that these standards and codes are revised and updated regularly and placed in the public domain.

#### **National Disaster Management Guidelines – Management of Drought**

4.28 Drought is a slow onset natural hazard of complex physical and social process of wide-spread significance. Droughts in India occur both in high rainfall areas as well as regions with meager rainfall. Drought is no longer mere scarcity or absence of rainfall but also related to inefficient water resource management. An

analysis of incidence of drought over last two centuries in India does not show any increasing trend in the recent years, however, their severity appears to have increased. Unlike many other hazards, the impact of drought can be substantially reduced through mitigation and preparedness measures.

4.29 Though various expert committees and working groups headed by eminent persons have studied this hazard in the past and made useful recommendations and suggestions, however, many of these are yet to be implemented. The NDMA constituted an extended and core group of experts including representatives of Department of Agriculture and Cooperation, Indian Council of Agriculture Research and National Remote Sensing Centre along with other stakeholders with a view to bringing them together on a common platform for preparing the Guidelines on Management of Drought. These Guidelines have been prepared under the stewardship of Dr. Mohan Kanda, Member NDMA.

4.30 These guidelines place emphasis on risk management, rather than following the traditional approach of crisis management, where the emphasis is on reactive emergency response measures. Developing vulnerability profiles for regions, communities, population groups, and others will provide critical information on the vulnerability of regions and communities together with the causes. This information, when integrated into the planning process, can enhance the outcome of the process by identifying and prioritizing specific areas, where progress can be made in risk management.

4.31 NDMA constituted in August 2008, a Core Group on Drought Management. Ministry of Agriculture as the nodal agency assisted NDMA in the preparation of National Disaster Management Guidelines on Management of Drought. The guidelines has been prepared in consultation and close collaboration with Central Ministries and Departments concerned, Governments of all the drought-prone states,



academic institutions, NGOs, experts, etc., through meetings of the Extended/Core Group. Guidelines for Management of Drought were handed over to Secretary, Ministry of Agriculture on 24 September, 2010.

#### **Report on the Role of Non-Governmental Organizations in Disaster Management**

4.32 The National Disaster Management Report on the Role of Non-Governmental Organisations (NGOs) in Disaster Management has been formulated by NDMA in consultation with eminent humanitarian assistance practitioners, civil society representatives and senior administrators in the country. NGOs have contributed immensely in the development of our marginalised sections and backward areas through their selfless service. They have the flexibility to respond quickly and efficiently at the local level and are often the first organized group to reach the disaster site. Professional and innovative interventions of NGOs for disaster preparedness and mitigation at community level are now an increasing trend. In the paradigm shift in disaster management from post-disaster relief to pre-disaster preparedness, mitigation and improved emergency response capacities in the country, NGOs have more competitive advantages and flexibility of operations in fields like awareness generation, community level preparedness and capacity building of communities, while the Government agencies have their core competencies in formulating rules, procedures, and regulations for structural safety, synergising institutional commitments for disaster management and mainstreaming disaster risk reduction into development projects.

4.33 Recognizing the need of the hour, a National NGO Task Force on Disaster Management was established by the NDMA in 2006 and several meetings of this Task Force were held to discuss strategies for consolidating and clarifying the Role of NGOs in DM. After a National Workshop in January 2006, several Core Groups were set up by the NDMA to prepare the Draft National Disaster Management

Report on Role of NGOs in Disaster Management. These Reports were reviewed by various stakeholder groups. The Reports were also circulated to various Ministries and Departments of the Government of India and State Governments for their feedback. The feedback and suggestions from the stakeholders were reviewed and incorporated wherever necessary. Video conferences with the senior officials of the State Disaster Management Authorities, State Governments and Union Territories were also conducted with senior administrators to elicit their feedback and suggestions for improving the Reports.

4.34 The Report on the Role of NGOs in Disaster Management has been prepared to facilitate greater coordination between NGOs and Government institutions during various phases of the disaster management cycle, within the framework of the DM Act 2005. This Report has explored the scope, role and opportunities for NGOs to mainstream disaster risk reduction into their developmental activities.

#### **National Disaster Management Guidelines for the Management of Urban Floods**

4.35 Even though urban flooding has been experienced for decades in India, sufficient attention was not given to plan specific efforts to deal with it holistically. In the past any strategy on Flood Disaster Management largely focused on riverine floods affecting large tracts of rural areas.

4.36 Urban Flooding is significantly different from rural flooding as urbanization leads to built up catchments which increase the flood peaks by up to eight times and flood volumes up to six times. Consequently flooding occurs very quickly due to faster flow times, sometimes in a matter of minutes.

4.37 Urban areas are centres of economic activities with vital infrastructure which needs to be protected 24x7. In most of the cities, damage to vital infrastructure has a bearing not only locally but could even have global implications.



4.38 Urban areas are also densely populated and people living in vulnerable areas, both rich and poor, suffer due to flooding. It has sometimes resulted in loss of life, damage to property and disruptions in transport and power bringing life to a grinding halt causing untold misery and hardships. Even the secondary effects of subsequent epidemics and exposure to infection often takes further toll in terms of loss of livelihood, human suffering, and in extreme cases, loss of life. Therefore, management of urban flooding has to be accorded top priority.



Gen N.C. Vij, Vice Chairman, NDMA with Shri M. Shashidhar Reddy, Member NDMA during release of Guidelines on Management of Urban Flooding

4.39 There has been an increasing trend of Urban Flood disasters in India over the past several years. Almost every major city in India has been severely affected. Mumbai flood of July 2005 turned out to be eye opener. NDMA, for the first time in India, decided to address Urban Flooding as a separate disaster, de-linking it from riverine floods, which affect rural areas. The Guidelines on Management of Urban Flooding were released by Gen. N C Vij, Hon'ble Vice Chairman, NDMA on 27 September 2010.

#### Salient Action Points of Guidelines on Urban Flooding

4.40 Salient points of the Guidelines on Management of Urban Flooding are as follows:

- Ministry of Urban Development will be the Nodal Ministry for Urban Flooding.

- Establishment of the Urban Flooding Cell in MoUD, State Nodal Departments and ULBs.
- Establishing a Technical Umbrella for Urban Flood Forecasting and Warning both at the National Level and State/UT levels.
- IMD will establish a 'Local Network Cell'.
- Establishment of Local Network of Automatic Rainfall Gauges (ARGs) for Real-time Monitoring with a density of 1 in every 4 sq. km. in all 2309 Class I, II and III cities and towns.
- Strategic Expansion of Doppler Weather Radar Network in the country to cover all Urban Areas for enhanced Local-Scale Forecasting Capabilities with maximum possible lead time.
- IMD will develop a Protocol for Sub-Division of Urban Areas on the basis of Watershed and issue Rainfall Forecast on the Watershed-basis.
- Establishing Urban Flood Early Warning System.
- Catchment will be the Basis for Design of Storm Water Drainage System.
- Watershed will be the basis for all Urban Flooding Disaster Management Actions.
- All 2309 Class I, II and III cities and towns will be mapped on the GIS platform.
- Contour Mapping will be prepared at 0.2 - 0.5 m contour interval.
- Inventory of the existing solid waste disposal system will be prepared on a GIS platform.
- Future Storm Water Drainage Systems will be designed with a Runoff



## Awareness Campaigns

6.9 Creating awareness amongst the vulnerable section of population about the likely effects of disasters is one of the prime responsibilities of the NDMA. Aware community is a prepared community to face the challenges of disasters. In its endeavour to spread awareness NDMA launched a number of public awareness campaigns through electronic and print media. The focus was on building appropriate environment for DM and creating a high level of impact on the target audience.

6.10 These campaigns were run through radio and video spots on AIR, Doordarshan, Private TV Channels like General Entertainment Channels, News Channels and, Regional Channels, F.M. Radio channels through DAVP and NFDC. The details of campaigns run during the year under report are given in the succeeding paragraphs.

### 6.11 Earthquake Awareness Campaign:

- Awareness Campaign for one month from March to April, 2010 on Pvt. T.V. Channels and 20 days campaign from 17 March 2010 to 5 April 2010 on F. M. Radio Channels.
- Telecast of 4 video spots of duration 30 seconds titled "Salaah Se Salamati" "Saavdhan Hai Toh Jaan Hain" "Jhooko, Dhako, Pakdo" and "Tayari Mein Hai Samajdhari) in DD News, DD National and 19 Regional Kendras of Doordarshan from 17 May 2010 to 16 June 2010 (for 30 days).
- Broadcast of 4 audio spots of duration 30 seconds titled "Salaah Se Salamati" "Saavdhan Hai Toh Jaan Hain" "Jhooko, Dhako, Pakdo" and "Tayari Mein Hai Samajdhari) on FM Radio Channels w.e.f. 9 September 2010 to 23 September 2010 (for 15 days).
- Telecast of 2 video spots of duration of 30 seconds titled "Non-Structural

Safety" and "Jhooko, Dhako & Pakdo" during three ODI Series between India & New Zealand on 4 December 2010, 7 December 2010 and 10 December 2010.

- Broadcast of audio spot of duration 30 seconds titled "Salaah Se Salamati, Saavdhan Hai Toh Jaan Hai, Tayyari Mein Hai Samajdhari, Jhooko, Dhako, Pakdo and Non-Structural Safety" in Hindi & English on All India Radio Station during the ICC World Cup-2011 from 19 February 2011 to 2 April 2011.
- Telecast & Broadcast of audio-video spots of duration 30 second titled "Salaah Se Salamati, Saavdhan Hai Toh Jaan Hai, Tayyari Mein Hai Samajdhari, Jhooko, Dhako, Pakdo and Non-Structural Safety" on Pvt. T.V. Channels, F.M. Radio and Digital Cinemas through NFDC for 15 days.
- Telecast of video spots of duration 30 seconds titled "Tayyari Mein Hai Samajdhari, Jhooko, Dhako, Pakdo and Non-Structural Safety" on Lok Sabha T. V. during the Budget Session from 21 February 2011 to 23 March 2011 for one month.

### 6.12 Cyclone Awareness Campaign

- Telecast of 2 video spots of duration 30 seconds titled "Machhuara" and "Ghar Phir Ban Jayega" in 5 Regional Kendras of Doordarshan from 3 June 2010 to 10 July 2010 (for 30 days).
- Telecast of 2 video spots of duration 30 seconds titled "Machhuara" and "Ghar Phir Ban Jayega" on Lok Sabha T.V. during the winter session from 7 November 2010 to 7 December 2010.
- Telecast of 2 video spots of duration 30 seconds titled "Machhuara" and "Ghar Phir Ban Jayega" on Regional Kendras of Doordarshan for 15 days



from 17 December 2010 to 31 December 2010.

- Broadcast of 2 audio spots of duration 30 seconds titled "Machhuara" and "Ghar Phir Ban Jayega" on National News and Regional Kendras of All India Radio for 15 days from 17 December 2010 to 31 December 2010.

**6.13 Flood Awareness Campaign:**

- Telecast of 4 video spots of duration 30 seconds titled "Amma", "Main Tayyar Hoon", "Anekta Mein Ekta" and "NDRF in Action" in 7 Regional Kendras of Doordarshan from 3 June 2010 to 10 July 2010 (for 30 days).
- Telecast of 1 video spot of duration 30 seconds titled "NDRF in Action" during the Asia Cup ODIs Cricket Series on 19, 22 and 24 June 2010 on Doordarshan through NFDC.
- Telecast of 4 video spots of duration 30 seconds titled "Amma", "Main Tayyar Hoon", "Anekta Mein Ekta" and "NDRF in Action" on Pvt. TV Channels and FM Radio Channels from 20 July 2010 to 3 August 2010 (for 15 days) through NFDC.
- Telecast of 4 video spots of duration 30 seconds titled "Amma", "Main Tayyar Hoon", "Anekta Mein Ekta" and "NDRF in Action" on Lok Sabha TV from 26 July 2010 to 7 August 2010 (30 days) through NFDC.
- Telecast of 4 video spots of duration 30 seconds titled "Amma", "Main Tayyar Hoon", "Anekta Mein Ekta" and "NDRF in Action" on digital cinema through UFO and Real Image Theatres from 30 July 2010 to 3 August 2010 (for 10 days) through NFDC
- Telecast of 4 audio spots of duration 30 seconds titled "Amma", "Main Tayyar Hoon", "Anekta Mein Ekta" and "NDRF in Action" on AIR Radio

during two test matches and 5 ODIs Tri Cricket Series played in Sri Lanka from 26 July 2010 to 28 August 2010.

- Telecast of 2 video spots of duration 30 seconds titled "Anekta Mein Ekta" and "NDRF in Action" during the 5 ODI Tri Cricket Series in Sri Lanka from 10 August 2010 to 28 August 2010 on Ten Sports through DAVP.

**6.14 Urban Flooding Awareness Campaign**

- Telecast of 1 video spot of duration 30 seconds titled "Urban Flooding" in one Regional Kendra of Doordarshan from 3 June 2010 to 10 July 2010 (for 30 days).

**INDIA ON THE PATH OF DISASTER RESILIENCE**  
**NATIONAL DISASTER MANAGEMENT AUTHORITY**  
 GOVERNMENT OF INDIA






**Release of National Disaster Management Guidelines on MANAGEMENT OF URBAN FLOODING**  
 on 27<sup>th</sup> September, 2010 At 11:00 hrs. at NDMA Bhawan, Sarajwaj Enclave, New Delhi

**Causes of Urban Flooding and the Strategies to Deal with them are Different**  
**NDMA addresses Urban Flooding as a Separate Disaster**

**DESIGN OF URBAN WATER DRAINAGE SYSTEM**

Design of urban drainage system is a multi-disciplinary task involving civil engineering, urban planning, and environmental management. It involves the collection, conveyance, and disposal of rainwater and wastewater from urban areas.

**DISPOSAL OF SOLID WASTE**

Proper disposal of solid waste is essential for maintaining a clean and healthy urban environment. It involves the collection, transportation, and disposal of waste generated in urban areas.

**ENCROACHMENTS**

Encroachments on urban drainage systems can lead to blockages and flooding. It involves the illegal occupation of public spaces, such as roads and drains, by buildings, structures, or other structures.

**NDMA GUIDELINES**

- Urban Flooding
- Causes of Urban Flooding
- Management of Urban Flooding
- Prevention of Urban Flooding
- Response to Urban Flooding
- Recovery from Urban Flooding
- Urban Flooding Risk Assessment
- Urban Flooding Mitigation Measures
- Urban Flooding Preparedness
- Urban Flooding Response
- Urban Flooding Recovery

**LIST OF SOME KEY ACTION POINTS**

1. Identify all Urban Flooding hotspots in the city.
2. Conduct a detailed survey of all Urban Flooding hotspots.
3. Develop a detailed Urban Flooding Management Plan for each hotspot.
4. Implement the Urban Flooding Management Plan for each hotspot.
5. Monitor the progress of the Urban Flooding Management Plan for each hotspot.
6. Review the Urban Flooding Management Plan for each hotspot.
7. Update the Urban Flooding Management Plan for each hotspot.
8. Implement the updated Urban Flooding Management Plan for each hotspot.
9. Monitor the progress of the updated Urban Flooding Management Plan for each hotspot.
10. Review the updated Urban Flooding Management Plan for each hotspot.
11. Update the Urban Flooding Management Plan for each hotspot.
12. Implement the updated Urban Flooding Management Plan for each hotspot.
13. Monitor the progress of the updated Urban Flooding Management Plan for each hotspot.
14. Review the updated Urban Flooding Management Plan for each hotspot.
15. Update the Urban Flooding Management Plan for each hotspot.

**URBAN FLOODING MANAGEMENT**

Urban Flooding Management involves the implementation of measures to prevent, reduce, and respond to urban flooding. It includes the design, construction, and maintenance of urban drainage systems, as well as the implementation of measures to prevent encroachments and improve urban planning.

**AT THE NATIONAL LEVEL**

The National Disaster Management Authority (NDMA) is the central authority for disaster management in India. It is responsible for the formulation and implementation of national disaster management policies and plans.

**AT THE STATE LEVEL**

The State Disaster Management Authority (SDMA) is the state-level authority for disaster management. It is responsible for the formulation and implementation of state disaster management policies and plans.

**AT THE LOCAL LEVEL**

The Local Disaster Management Authority (LDMA) is the local-level authority for disaster management. It is responsible for the formulation and implementation of local disaster management policies and plans.

- Telecast of 1 video and audio spot duration 30 seconds titled "Urban Flooding" on Pvt. TV Channels and FM Radio from 16 July 2010 to 25 July 2010 (for 10 days) through NFDC.



- Telecast of 1 video and audio spot duration 30 seconds titled "Urban Flooding" on Pvt. TV Channels and FM Radio in Assam and Bihar States from 23 July 2010 to 1 August 2010 (for 10 days) through NFDC.

**6.15 Paradigm Shift Campaign**

- Telecast of 1 video spot duration 40 seconds titled "Paradigm Shift" on Doordarshan during the India-Australia ODI Series on 17, 20 and 24 October 2010.
- Telecast of video spot of duration 50 seconds titled "Paradigm Shift" on National Network and Regional Kendras of Doordarshan for 15 days from 23 December 2010 to 6 January 2011.
- Broadcast of audio spot of duration 30 second titled "Paradigm Shift" on National on National News and Regional Kendras of All India Radio for 15 days from 28 December 2010 to 11 January 2011.
- Broadcast of audio spot of duration 30 seconds titled "Paradigm Shift" on All India Radio Station during the ICC World Cup-2011 from 19 February 2011 to 2 April 2011.
- Telecast of video spot of duration 30 seconds titled "Paradigm Shift" on Lok Sabha T.V. during the Budget Session from 21 February 2011 to 23 March 2011 for one month.

**6.16 Print Media**

- Publishing of full page colour advertisement through DAVP in leading newspapers in India on the occasion of release of NDMA's guidelines on Incident Response System on 21 July 2010.
- Printing messages on Flood Disaster on Railway Reservation Tickets through

DAVP in East Coast Railways, Eastern Railway and East Central Railways for one month.

- Printing of 5,000 Posters and 10,000 leaflets on Flood (in Hindi) and Cyclone (in English) Disaster Management Awareness.
- Publishing of full page colour advertisement through DAVP in leading newspapers in India on the occasion of release of NDMA's guidelines on Tsunami on 3 September 2010.
- Publishing of full page colour advertisement through DAVP in leading newspapers in India on the occasion of release of NDMA's guidelines on Urban Flooding on 27 September 2010.
- Publishing of 1/4<sup>th</sup> page colour advertisement through DAVP in



leading newspapers in India on Flood Disaster Management on 11 September 2010.

- Publishing 4 page special focus feature of 'India on the Path of Disaster Resilience' in the October edition of Namaskaar, an inflight magazine of Air India.
- Publishing of 1/4<sup>th</sup> page colour advertisement through DAVP in leading newspapers in India on Earthquake Disaster Management on 13 October 2010.
- Publishing of 1 page colour advertisement on Earthquake Disaster Management in the October edition in Outlook, Frontline, Geo and Chauthi Duniya Magazines.
- Printing of 5,000 Posters and 10,000 leaflets on Earthquake Disaster Management Awareness in Hindi.
- Publishing Half page coloured advertisement on Cyclone Disaster Management Awareness Campaign in leading Newspapers in the country on 17 December 2010.
- Publishing Half page coloured advertisement on "Structural Safety" Awareness Campaign in leading Newspapers in the country on 20 December 2010.
- Publishing of 1 page colour advertisement on "Structural Safety" Awareness Campaign in the December edition in Outlook (English & Hindi), Frontline, Geo, Forward, and Down to Earth Magazines.
- Publishing Half page coloured advertisement on "Paradigm Shift" Awareness Campaign in leading Newspapers in the country on 22 December 2010.
- Printing of 34,000 posters on Cyclone

Disaster in six languages namely Telugu, Oriya, Marathi, Bengali, Tamil, Gujarati for campaign through Department of Posts.

- Display of posters on Cyclone Disaster Management through Department of Posts in the 22,290 post offices of 51 cyclone prone districts of the States / UTs namely Gujarat, Maharashtra, Odisha, Tamil Nadu, West Bengal, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep and Pondicherry w.e.f. 20 January 2011 for one month.
- Printing messages on Earthquake Disaster Management on (front side) 60 Lakh Railway Reservation Tickets through DAVP in Western, Central, Northern, Eastern, East Central & West Central Railways for one month.
- Qtr. Page colour advertisement on Structural Safety before, during and after an earthquake published on 23 March 2011 in 244 leading newspapers across the country.

### Biological Disasters and Bio Security Awareness

6.17 NDMA organized a National Workshop on 'Biosecurity Preparedness and Mitigation of Biological Disaster' on 2 February 2011 at NDMA Bhawan, New Delhi which was attended by senior government functionary, Medical



Shri M. Sashidhar Reddy, Vice Chairman NDMA speaking at the National Workshop on Biological Disaster



Professionals, Veterinarians, Agriculture Scientists, Biotechnologists, Disaster Managers, Security Officials, NGOs and Media.

6.18 The workshop was inaugurated by Shri M Shashidhar Reddy, Hon'ble Vice Chairman, NDMA. Inaugural session was presided over by Maj Gen (Dr) J K Bansal, VSM, Chikitsa Rattan (Retd), Member NDMA. The action points which emerged during this workshop were:

- Awareness Generation and sensitisation through Regional Outreach Seminars, Training Workshops, Table Top Exercises and Mock Drills.
- Institutionalisation of Regulatory (bio-safety & bio-security guidelines) & Security Oversight (intelligence, bio-threats assessment, detection and bio-forensic investigation) against bio-crime, intentional sabotage or an act of bioterrorism.
- Strengthening of existing bio-surveillance and augmentation of bio-containment laboratory capacity.
- Capacity building in Bio-safety & Bio-Security training of laboratory managers, researchers, scientists, medical responders and health providers.
- Capacity building for Emergency Medical Response (investigation labs, isolation wards, stocking of antiviral drugs and vaccines).

#### Exhibition & Stalls

6.19 NDMA participated in IITF 2010 at Pragati Maidan, New Delhi from 14 November to 27 November 2010 where the posters regarding various activities of the NDMA and NDRF were displayed. Printed information brochures were also distributed to the public during this period.



**NDMA Tableau during Republic Day Parade on 26 January 2011**

6.20 NDMA showcased its second tableau during the Republic Day Parade on 26 January 2011. This tableau depicted the preparedness of the NDRF towards the CBRN Emergencies. It was widely applauded.

#### NDRF Exhibition

6.21 To encourage the state government for establishment of SDRF and equip them with all required ultra modern technology, an exhibition was organised at Goa. His Excellency Governor of Goa, Shri (Dr.) S.S. Sidhu and Hon'ble Chief Minister of Goa, Shri Digamber Kamat were invited along with all Heads of line departments of Government of Goa to witness the function.



Shri J.K. Sinha, Member NDMA briefing, His Excellency Governor of Goa, Shri (Dr.) S.S. Sidhu and Hon'ble Chief Minister of Goa, Shri Digamber Kamat, about various equipments used by NDRF and the relevance of all these equipment for SDRF, Goa.



## 7

DISASTER RISK MITIGATION  
PROJECTS

7.1 In order to bring about a culture of preparedness in the country NDMA is engaged in conceptualization and implementation of a number of mitigation projects and studies. The process of formulation of the projects begins with fixing of the contours and brief framework of projects by NDMA in consultation with the Nodal Ministries, concerned Government agencies and State Governments. Detailed Project Reports (DPRs) are being formulated through multi-disciplinary teams describing all support systems like financial, technical and managerial resources and techno-legal regimes required. The execution of the projects will be entrusted to the various nodal agencies responsible for specific disasters and/ or thematic interventions. Periodic monitoring will be carried out through a multi-sectoral group consisting of representatives of the ministries, state governments and technical experts in the NDMA.

7.2 The following Mitigation Projects are being formulated/ administered by NDMA:

- i. National Cyclone Risk Mitigation Project (NCRMP)
- ii. National Earthquake Risk Mitigation Projects (NERMP)
- iii. National Flood Risk Mitigation Projects (NFRMP)
- iv. National Landslide Risk Mitigation Projects (NLRMP)

7.3 Other Disaster Management Projects include Projects/ studies such as:

1. Microzoning of major cities;
2. Development of Cartography Base in India.
3. Geo-Technical Investigation for Seismic Microzoning of Indian Landmass

4. Brahmaputra River Erosion Study
5. Typology of Buildings
6. Preparation of Upgraded earthquake Hazards Maps
7. Setting up of Mobile Radiation Detection Systems (MRDS)

7.4 NDMA has taken up the following projects for implementation:

#### **NATIONAL CYCLONE RISK MITIGATION PROJECT (NCRMP)**

7.5 The NCRMP has been drawn up with a view to address the Cyclone risks in the country. The main aim and objective of the Project is to strengthen the structural and non-structural cyclone mitigation efforts to reduce the cyclone risk and vulnerability in the coastal districts prone to cyclones and in building capacities for cyclone risk mitigation.

7.6 The Financing Agreement and Project Agreements relating to NCRMP were signed between the Department of Economic Affairs, World Bank and the State Governments of Andhra Pradesh and Odisha on 14 January 2011.

7.7 Government has approved the implementation of Phase-I of the Centrally Sponsored Scheme of NCRMP for Andhra Pradesh and Odisha at a cost of Rs. 1496.71 crore. The Scheme will be funded by the World Bank as an Adaptable Programme Loan with an International Development Association (IDA) credit amounting to Rs. 1198.44 crore. The remaining amount of Rs. 298.27 crore will be contributed by the State Governments of Andhra Pradesh and Odisha. The World Bank assistance would be routed through the budget of the MHA.

7.8 The Scheme will be implemented over a period of five years by NDMA in coordination



with the Governments of Andhra Pradesh and Odisha and the NIDM. The Project has four principal components namely:-

- A. Last Mile Connectivity (Rs. 72.75 crore))
- B. Structural and Non-Structural Measures (Rs. 1164 crore)
- C. Technical Assistance for Cyclone Hazard Risk Mitigation, Capacity Building and Knowledge Creation (Rs. 29.10 crore)
- D. Project Management and

Implementation Support (Rs. 95.06 crore)

- E. Unallocated and contingency @ 10% of overall cost (Rs. 135.80 crore)

7.9 Components A, C and D will be fully financed by the Central Government through World Bank assistance. The component-B will be financed by Central and State Governments in the ratio of 75:25.

7.10 The details of the Investment Proposals are as under:-

Particulars	Odisha		Andhra Pradesh	
	Number	Amount (Cr)	Number	Amount (Cr)
Cyclone Shelters	155	151.86	148	131.83
Construction of roads to cyclone shelters and/or habitations	190	210.52	478	293.4
Construction of bridges and strengthening of roads	-	-	25	122.73
Embankments / Coastal protection works	23	165	2	90.74
<b>Total</b>		<b>527.38</b>		<b>638.7</b>

7.11 The following amounts have been released to the Government of Andhra Pradesh and OSDMA in connection with implementation of various activities under NCRMP in 2010-11:

Andhra Pradesh	Rs. 8.57 crore
OSDMA	Rs. 9.50 crore
<b>Total</b>	<b>Rs. 18.07 crore</b>

7.12 The States of Gujarat, Kerala, Maharashtra and West Bengal are in the process of finalizing their Investment Proposals and are proposed to be included in Phase-II of NCRMP.

#### **National Earthquake Risk Mitigation Project (NERMP)**

7.13 NDMA proposes to implement NERMP in various parts of the country with special emphasis on States in seismic zone IV and V.

The objective of this project is to strengthen the structural and non-structural earthquake mitigation efforts and to reduce the earthquake risk and vulnerability in all States/UTs in the country particularly the high risk areas in Zone IV and V highly prone to earthquakes. This project would incorporate schemes/activities in accordance with Earthquake Management Guidelines prepared by NDMA. As per the draft DPR, the project will have following six components:

- (i) Techno-Legal Regime
- (ii) Institutional Strengthening
- (iii) Capacity Building
- (iv) Public Awareness
- (v) Retrofitting of Hospitals
- (vi) Project Management, Monitoring and Evaluation

7.14 The draft DPR for the Project and draft EFC Memo were sent to MHA, who desired that as a next step towards working on the Detailed Project Report (DPR), NDMA should organize a workshop inviting all the stakeholders namely State Governments, Technical Institutions, concerned Ministries, State Disaster Management Authorities etc. and the points raised above should be discussed and addressed. Based on the inputs and consensus arrived at in such workshop, the mitigation project should be recast/reconstructed and should accordingly be submitted for decision. Accordingly, a Workshop with all stakeholders was held in NDMA on 9 December 2010. Representatives of State Governments, IITs, NITs and various other institutions attended the Workshop. Based on the discussions in the Workshop, DPR is being further revised.

#### **National Flood Risk Mitigation Project (NFRMP)**

7.15 It is envisaged to prepare a DPR for the National Flood Risk Mitigation Project. Since floods are river basin specific in nature and, hence, the vulnerability is also different in different basins because of many factors. As such, it has not been feasible to have one large National Flood Risk Mitigation Project. Therefore, in order to avoid duplicity of work and to productively utilize the available resources, it is now envisaged that the NFRMP should be rechristened into Flood Risk Mitigation Projects (FRMP), covering state specific projects for “disaster prevention strategy, disaster mitigation and R&D in monitoring of floods including development of Early Warning System and Capacity Building initiatives.

#### **National Landslide Risk Mitigation Project (NLRMP)**

7.16 As Landslides are site specific in nature, and also, the vulnerability is different in different locations, it has not been considered feasible to have one large National Landslide Risk

Mitigation Project. Accordingly it is now envisaged that the NLRMP, which could not make much headway, be rechristened as the Landslide Risk Mitigation Projects (LRMP) comprising a number of site specific mitigation projects in various states in a phased manner.

#### **Other Disaster Management Projects (ODMP)**

7.17 NDMA has undertaken implementation of some Pilot projects and studies through various national institutions of repute e.g. Indian Institutes of Technology, Indian Institute of Science, Structural Engineering Research Centre etc. under Other Disaster Management Projects. Details of activities undertaken by the NDMA are as under:-

#### **National Disaster Communication Network Project**

7.18 NDCN will be network of networks created by leveraging existing communication network including NICNET, SWANs, POLNET and DMSNET etc, to provide connectivity to various Emergency Operation Centres (to be establish at National, State and District levels). NDCN provide the assured multi services such as audio, video, data and knowledge based information to meet the requirement of various stakeholders for proactive and holistic management of disaster during all phases of disaster. NDCN will establish separate satellite network of NDMA which will link NEOC, SEOCs, DEOCs and Mobile EOCs through VSAT Network/ INMARSAT Phones for providing fail-safe communication during disaster scenarios. DPR and EFC Memo are being referred to the MHA for approval. Estimated cost involved in this project is Rs 943 Cr. Projection of Rs 1000 Cr has been made to the MHA.

#### **National Disaster Management Information System (NDMIS)**

7.19 A project for implementation of Geographic Information System Platform, based



on NDMIS is being implemented by NDMA. The main objective of NDMIS is the generation of knowledge based information termed as VA&RA for pre-event scenario (essential for prioritization of resources for mitigation without any adhocism) and development of Decision Support System (DSS) for during (for faster, more effective and more efficient response through dynamic information in maps) and post disaster scenarios (to replace existing practice by voice, video and data). Estimated cost involved in this project is Rs 32 Crore. Project will use base data of NDEM, being executed by MHA.

#### **Development of Advance Forecasting Platform**

7.20 The basic objective of this project is to enhance the advance forecasting capabilities of India Meteorological Department (IMD) (with reduced error-band of land-fall and improved lead time along with Intensity of Cyclones). NDMA is working on customization and calibration of models for advance forecasting of Hydro-Meteorological Disasters in India. This involves running more than one global model along with regional models at various institutions in the country by a team of experts having appropriate domain knowledge. A working group of experts from IITs, IMD, C-MMACS and other institutes are working actively on this project.

7.21 One of the primary requirements for proactive and holistic management is an efficient forecast system that meets the minimum criteria in terms of lead time, resolution, precision etc. The scope and skill in operational forecasting of natural processes like flood, cyclone and other extreme weather events, especially in India, however, are still below desired level for proactive and effective disaster management. Improvement in skill in forecasting requires scientific and technological inputs of the highest level. Further, such a development effort would be only implemented by an agency engaged in day-to-day weather forecasting. There is, thus, an urgent need for the scientific and

technological community to make critical effort to achieve adequate operational forecasting skill for hydro meteorological disasters by networking the available knowledge, manpower and other resources of various Institutions and R&D communities.

7.22 The basic objective is to strengthen and enhance the forecasting capabilities of IMD in terms of lead and improved forecast skill. It is proposed to execute the project in two phase's viz. Phase-I and Phase-II. The Concept Note for the Project was furnished to MHA for "in-principle" approval. MHA has conveyed the comments of Ministry of Earth Sciences on the Concept Note. These are under consideration in NDMA.

#### **Development of Probabilistic Seismic Hazard Map of India (PSHA)**

7.23 Although, the geology and seismotectonics of different regions of India have been well documented, there is lack of information on ground motion data of strong earthquakes. Also, the present seismic zone map of India is based on observed damage patterns where the spatial and temporal uncertainties in the occurrence of earthquake are not included. NDMA therefore, in association with SERC, Chennai undertook a study on Development of Probabilistic Seismic Hazard Map of India (PSHA) for creation of a national database catalogue of earthquakes for seismic hazard analysis, which included, development/selection of strong motion attenuation relationships for six or seven different seismogenic regions of the country, and development of national PSHA map for PGA and Sa at Bedrock level on a grid of  $0.2^\circ \times 0.2^\circ$  for different return periods. This study coupled with the Geo-tech Investigations would cover the deficiencies in the existing database.

#### **Geo-Technical Investigation for Seismic Microzonation of Indian Land Mass**

7.24 As per the decision taken in the National Workshop on Seismic Microzonation of the Indian Land Mass held on 16.7.2008, Technical



Investigation, preparation of the Technical Document on Geo-Technical Investigation for Seismic Microzonation Studies in India has been undertaken by the Indian Institute of Science, Bangalore.

#### **Hazard Mapping, Vulnerability Analysis and Risk Assessment**

7.25 Vulnerability Analysis and Risk Assessment is to be carried out for all the hazards prone districts with respect to Earthquakes, Landslides, Cyclones, etc. However, for the coastal areas, for effective coastal zone management and planning, it is essential to carry out this analysis additionally for hydro-meteorological hazards. Also assessment and mapping of risk to physical assets are fundamental before devising any successful mitigation strategies or plans.

7.26 A working group of experts from IIT, Roorkee, IIT Mumbai, IMD, National Remote Sensing Centre, Central Building Research Institute and RMSI are actively working on this and the project is nearing completion.

#### **Digital Maps of India at Required Scales and Contour Intervals**

7.27 The Cartographic base at present available in the country is in the scale of 1:50,000 wherein for providing the crucial information for disaster management and mitigation, the maps are needed in a smaller scale, viz,

- i) 1:10,000 Scale (with 1.0 m contour intervals).
- ii) 1:2,000 Scale (with 0.5 m contour intervals).

7.28 These maps are needed for 312 hazard prone districts of the country. National Atlas & Thematic Mapping Organization (NATMO), Kolkata has been asked by the NDMA to prepare a DPR for this project.

#### **Preparation of Upgraded Earthquake Hazards Maps**

7.29 As recommended by the Working Committee of Experts (Geophysical-Hazards), a

project for upgrading Earthquake Hazards Maps in various parts of the country is envisaged to be undertaken through Building Material Technology Promotion Council (BMPTC).

#### **Development of Digital Elevation Models (DEMs) for Modeling Flood**

7.30 It is proposed to undertake study of selected river basins through reputed institutions besides developing Digital Elevation Models (DEMs) for development of Early Warning Systems for Floods. DEMs will be developed using stereo satellite data. The water level sensors and Automatic Rain Gauges would also be deployed at strategic locations for getting real time data for monitoring and modeling.

#### **Brahmaputra River Erosion Study**

7.31 Brahmaputra river erosion study was awarded to Water Resources Development Training Centre, IIT Roorkee to make study on the Spatial-temporal Erosion-induced River Bank line changes and to identify the highly vulnerable reaches of the river affected by erosion using multi-date and multi-spectral digital satellite images processed by image processing software to analyze the above changes and erosion vulnerability. The report has since been received and forwarded to all concerned stakeholders for comments.

#### **Typology of Buildings**

7.32 The proposal for preparation of catalogue of different building types in various parts of India and development of vulnerability functions for a number of different types appearing in the building catalogues has been submitted by IIT Mumbai led group of five different nodal institutions in different parts of the country viz, (1) IIT Roorkee-North Zone, (2) IIT Kharagpur-East Zone, (3) IIT Guwahti-North East Region, (4) IIT Bombay-West Zone, and (5) IIT Madras-South Zone.

#### **Mobile Radiation Detection Systems (MRDS)**

7.33 With increasing incidents of terrorism, threat scenario from possible Radiological



Dispersion Device (RDD) explosions is assuming the dimensions of serious concern. Even though RDDs are not devices of mass-destruction, these are weapons of mass-disruption with high potential for creating panic and psychological impact in addition to the associated problems of contaminating large number of people, area and the vicinity. NDMA as part of its programme on national level preparedness to Cope with Radiological Emergency, has decided to equip the surveillance vehicles of nearly 880 police stations in more than 50 Capital and metro /other major cities of the country and some sea ports, airports and border check posts with simple monitoring instruments and personal protective gear. The project called Mobile Radiation Detection Systems (MRDS) has been conceived to this effect. Under the MRDS Project, the police vans of identified police stations in identified cities will be equipped with radiation detection equipments.

#### Setting up of Emergency Response Centres

7.34 In addition to MRDS, NDMA also proposed to open nearly 100 Emergency Response Centres (ERCs) in various parts of the country. These ERCs will have adequate monitors, protective equipments and communication facility. They will have trained first responders and should be in a position to mobilize Quick Reaction Teams (QRTs) in short time. They will be able to assist the bomb squad in diffusing the RDDs. They should be able to search/locate the orphan sources. Major public events like Kumbha Mela, sports events or places of mass gatherings are to be ensured of radiological safety and security by the nearby

ERCs. Establishment of each ERC will need a budget of Rs. 50 lakhs. NDMA intend to establish 100 such ERCs in different parts of the country. In addition, it is envisaged to have 12 ERCs at NDRF locations.

#### School Safety Programme (Demonstration Project)

7.35 To promote the culture of safety in schools, a National Programme is contemplated to be launched as a Pilot Project in the year 2011. The aim of this project is to provide a safe learning environment for the children. The Pilot Project will be implemented in all the districts falling in earthquake zones IV and V as well as the vulnerable coastal districts of India. Building upon the lessons learnt during this Pilot Project a full-fledged safety programme will be launched subsequently nation-wide under the Ministry of Human Resource Development (MoHRD).

7.36 This programme includes basic components of promoting awareness and education activities, demonstrating disaster risk management, training and capacity building and assessing vulnerability and taking mitigation option. Various initiatives under the programme have been taken at National level as well State levels. However, concerted and holistic approach needs to be planned to ensure the safety of school going children at the national level. Planning Commission have given their "in-principle" approval for National School Safety Programme at an estimated cost of Rs. 48.47 crore to be implemented during 2010-11 to 2011-12 and have offered certain comments. The proposal is being revised accordingly in the light of comments of Planning Commission.

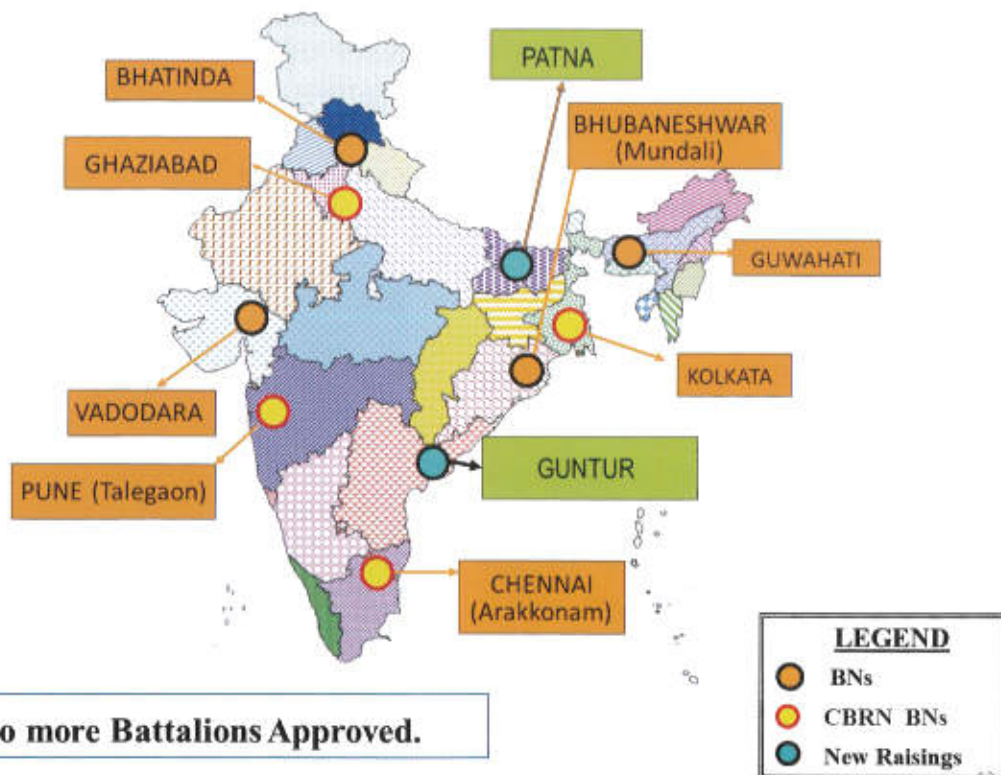
## 8

# NATIONAL DISASTER RESPONSE FORCE: STRENGTHENING EMERGENCY RESPONSE

8.1 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 force of the NDMA. Eight NDRF battalions are located at eight different locations

in the country based on the vulnerability profile to cut down the response time for their deployment. In 2010-11, two more battalions of NDRF are being raised/ equipped and shall be based at Bihta (near Patna) in Bihar and at Guntur in Andhra Pradesh (Fig 8.1).

## Locations



### Role & Tasks of NDRF

8.2

- Specialised 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).

**Vis-à-vis Community-** All NDRF Bns are actively engaged in various:

- Community Capacity Building Programmes.
- Public Awareness Campaigns.
- Exhibitions : Posters, Pamphlets, literatures.



- Training of village volunteers & other stakeholder.
- Training of State Police and help in raising of SDRF.

### Organization

8.3 Each NDRF battalion has 18 self-contained specialist search and rescue teams of 44 personnel including engineers, technicians, electricians, dog squads and medical/paramedics. The total strength of each battalion is 1,149. All the battalions are equipped and trained to deal with all natural disasters such as floods, cyclone, earthquake, landslides etc and also Chemical, Biological, Radiological & Nuclear (CBRN) disasters.

8.4 In pursuance of the requests of Chief Ministers of Bihar and Andhra Pradesh and subsequent initiatives of the NDMA, the Cabinet has approved two more NDRF Bns to be located at Patna (Bihar) and Vijayawada (Andhra Pradesh). Bihar Govt has provided 74 acres of land for raising NDRF Bn at Bihta near Patna. Similar request has also been made to Andhra Pradesh Govt for land during 2010-11.

### Disaster Response

8.5 Over the years, the NDRF with highly swift rescue operations proved its efficacy during the floods in Bihar, Odisha and Assam. Additionally, the Community Capacity Building Programmes carried out by NDRF in different States brought it face to face with the masses and a distinct recognition of a disaster response team has emerged. NDRF has not only become the most visible face of NDMA but has also acquired the image of being a truly specialist response force to deal with any natural disaster and CBRN emergency. The response time of this force has been reduced to the barest minimum on account of the concept of 'proactive' availability of this Force to the States and also the concept of pre-positioning the force in threatening disaster scenario.

8.6 The NDRF is being increasingly

requisitioned by the States for rescue and relief operations in floods, cyclones, landslides, building collapses, train accidents and Chemical leakage etc. During 2010-11, NDRF has been deployed on 85 occasions in different States/UTs wherein it has saved/ rescued more than 8,000 people and retrieved 104 dead bodies. Some of the major response operations undertaken by NDRF are as below:

#### Train Accident at Jhargram, West Bengal

8.7 On intervening night of May 27-28, 2010 Mumbai bound Gyaneshwari express first derailed and then collided with a Goods Train at Jhargram, West Bengal. Director, Railway Safety and Principle Secretary, Disaster Management, Govt of West Bengal requisitioned for deployment of NDRF. Immediately, 182 personnel of NDRF were dispatched by road and by air along with 06 search dogs and SAR equipments for rescue and relief operations.



NDRF Personnel rescuing trapped passengers of Gyaneshwari Express at Jhargram, West Bengal

Following meticulously planned rescue operation the NDRF personnel saved 02 live persons from the badly crushed train coaches and retrieved 76 dead bodies of the victims.

#### Cyclone LAILA

8.8 On receipt of the cyclonic warning from IMD on May 18, 2010 and subsequent request from Commissioner and Principal Secretary, Disaster Management, Govt of Andhra Pradesh four coys of NDRF moved to cyclone affected Vishakhapatnam, Vijayawada, Machhalipatanam,





NDRF Personnel rescuing marooned villagers during cyclone Laila

Guntur, Prakasham & Nellore districts of Andhra Pradesh.

8.9 Total 438 NDRF personnel along with CSSR and flood rescue equipments (including 64 inflatable boats) reached affected areas and carried out extensive rescue & relief operations. NDRF personnel saved 1,268 precious human lives with assiduous professional competence.

#### Flood Rescue Operation in Guwahati, Assam

8.10 Cyclonic storm accompanied by heavy rains on April 20, 2010 resulted in heavy floods in Guwahati. On requisition of ADC Kamrup, two teams (43 personnel) of NDRF Bn Guwahati along with 08 inflatable boats and other life saving equipments reached the flood affected areas and started rescue & relief operations. NDRF personnel rescued about 300 marooned people and shifted them to safer places.

#### Radiation Exposure at Mayapuri, Delhi



NDRF Personnel detecting radiation at Mayapuri, New Delhi

8.11 On 8 April 2010 radiation exposure started from some unknown radioactive material (later identified as Cobalt-60) in scrap market of Mayapuri, Delhi and eight contaminated persons got hospitalized. CBRN personnel of NDRF Bn Greater Noida along with personnel of BARC/AERB located Cobalt-60, the radioactive source, from the piles of scrap. The identified source of exposure was later disposed off thereby reducing contamination of the area.

#### Floods in Haryana

8.12 On requisition of the State Administration, five teams of NDRF Bn Greater Noida along with 52 inflatable boats and other flood rescue equipments were deployed in low lying flood affected areas of Kurukshetra, Ambala, Kaithal, Sirsa and Fatehabad districts of Haryana during



Rescuing Flood affected people in Assam



Rescuing marooned villages in Haryana



the period July 08–Aug 05, 2010. NDRF personnel rescued / evacuated 1,327 people from the flood affected areas and shifted them to safer places. The NDRF personnel also provided first aid to the needy people and assisted the local administration in distribution of relief materials to flood victims.

### Deployment during CWG 2010

8.13 NDRF provided complete CBRN security to Common Wealth Games, Delhi in 2010.



During Commonwealth Games

NDRF's CBRN security was integrated into the overall security matrix at all the venues including Games village, Games Flagship, Hotel Ashok and Samrat. A total of 32 NDRF teams with state of the art CBRN equipments including 24x7 surveillance system, HAZMAT vehicle and surveillance vehicle were deployed during the



Neutralizing chlorine cylinders at Mumbai

games. Also 5 teams of NDRF were kept reserve to respond to any CBRN emergency.

### Neutralisation of Chlorine Cylinders at MPT Mumbai

8.14 On July 14, 2010 Chlorine gas leakage started at Mumbai Port Trust and subsequently on the request of Municipal Corporation of Greater Mumbai, one team (49 personnel) of NDRF Bn Pune reached the incident site and started neutralization operation. In the operation, NDRF team successfully neutralized 183 cylinder of Chlorine gas and 654 cylinder of other gases like Titanium tetra chloride, Acetylene, Hydrogen Chloride Methane, Ethylene, Inert gases, Oxygen, Carbon-di-oxide, Neon, Compressed air etc.

### Rescue & Relief Operations during Leh Cloudburst

8.15 Following the cloud-burst and subsequent devastation in Leh, one team (45 personnel) of NDRF Bn Greater Noida were airlifted from Delhi to Leh on Aug 07, 2010. The NDRF



During rescue operations at Leh

personnel were deployed at the affected areas for rescue and relief operations. The NDRF also efficiently coordinated the task of receiving the relief supplies at Leh airport sent by the NDMA and handing over to the district authorities. Sh Rahul Gandhi, General Secretary, Indian National Congress and the local administration



highly appreciated the work done by the NDRF team.

### Flood Rescue Operations in Bihar

8.16 NDRF conducted flood rescue and relief operations in flood affected Saharsa, Muzaffarpur, Gopalganj, Chapra, Siwan, and Khagria district of Bihar during Aug-Sep 2010. NDRF personnel saved lives of 2,035 flood marooned people during their rescue operations in these districts.



Rescue operation during Bihar Floods

### Flood Rescue Operations in Uttarakhand

8.17 Flood rescue trained personnel of NDRF Bn Greater Noida & Bhatinda jointly conducted flood rescue operations in Moradabad, Farukhabad & Rampur districts of Uttar Pradesh and Hrishikesh & Haridwar of Uttarakhand in Sep 2010. NDRF personnel saved 2,874 human lives during their rescue operations in both the States.

### Rescue Operation during Boat Collapse at South 24 Pargana, West Bengal



Flood rescue operation in Uttarakhand

8.18 Following the news of boat capsized (carrying passengers) and subsequent requisition by the district administration, one team (46 personnel) of NDRF Bn Kolkata including deep divers along with 05 inflatable boats and other water rescue equipments reached the incident site in South 24 Pargana district of West Bengal and carried intensive search and rescue operations during the period Oct 30 to Nov 05, 2010. NDRF personnel recovered 83 dead bodies of the victims.

### CBRN Coverage to Parliament by NDMA during visit of US President

8.19 During the address of H.E. Barack Obama, President of United States, to the Parliament on Nov 08, 2010; NDMA provided the CBRN cover to Parliament by deploying 22 CBRN emergency trained NDRF personnel equipped with all the sophisticated CBRN equipments including Sensors of various types, Handheld Surveillance devices, Vehicle Mounted Surveillance Equipments etc. to carry out real-time tests to detect any radiation, chemical or nuclear leakage. HAZMAT vans and medical/paramedical personnel capable of handling CBRN emergency were also deployed at the Parliament. This was the first time that such a cover has been provided to any head of the State in the country.

### NDMA's response to 5-storeyed building collapse in East Delhi

8.20 On getting information about the collapse of a building in Laxmi Nagar on Nov 14, 2010, NDMA detailed two NDRF teams (79 personnel) consisting of paramedics, engineers, technicians and dog squads to the site of the building collapse. NDRF personnel equipped with State of the Art equipments immediately started search and rescue operation at the collapsed building site that was continued round the clock for 04 days till Nov 18, 2010. The operation was monitored by senior officials of the NDMA. The NDRF personnel were able to rescue 08 persons trapped under the debris of the collapsed building. It also extricated 24 dead bodies.



### Deployment of NDRF Team in Japan for Relief & Rescue Activities

8.21 On the request of Government of Japan to the Government of India, NDMA kept one NDRF team in readiness from 14 March 2011 to be sent to Japan for search, rescue and relief in the wake of the earthquake followed by Tsunami that devastated various parts of Japan on 11 March 2011.

8.22 On 25th March 2011, NDRF team consisting 46 personnel, headed by Contingent Commander Shri Alok Avasthy, left for Tokyo, Japan by an Air India flight. The team was deployed in the town of Onagawa, Rifu-Cho which was 365 kms north of Tokyo for duration of approximately 10-12 days and was located at Miyagi Prefecture Sports Complex in Tohoku region on Honshu Island. The NDRF team assisted the local authorities of the town in relief and rehabilitation activities.



Shri M Shashidhar Reddy, Vice Chairman, NDMA with Shri J K Sinha, Member, NDMA on the occasion of departure of NDRF Team to Japan

8.23 Speaking to the NDRF team stationed at Greater Noida before their departure, Shri M. Shashidhar Reddy, Hon'ble Vice Chairman, NDMA said that the Country is proud of the role played by NDRF over the last few years during disasters in different parts of the country. Shri Reddy expressed his confidence that the team will do exemplary work and bring laurels for the Country. Shri J.K. Sinha, Member, NDMA incharge of NDRF and Shri Rajeev, DG, NDRF were also present on this occasion.



Display of search & rescue Equipments during Exhibition

### Community Capacity Building and Public Awareness Programmes

8.24 Awareness and preparedness campaigns are one of the key components of NDMA's proactive approach on Disaster Management. Since community is the first responder in any disaster situation, proper sensitisation of people about the precautions and preventive actions to be taken in case of any calamity can drastically reduce the loss of life and damage to property. Thus, one of the most important tasks of NDRF is to continuously engage themselves in the Community Capacity Building and Public Awareness programmes in a big way which includes training of people (the first responders)



Training teachers of Pune University

and concerned government officials at different levels in the areas with high vulnerability. More than 7 lakh community volunteers and other stakeholders have been trained by NDRF in





Training Village Volunteers in making Banana Raft

different parts of the country till March 2011.

8.25 A pilot project on Community Capacity Building and Public Awareness on floods, earthquakes and other natural disasters was organised by the NDRF teams in 14 high vulnerable districts (Sitamarhi, Shivhar, Muzaffarpur, Saharsa, Katihar, Supaul, Madhepura, Samastipur, Bhagalpur, Begusarai and Khagaria) of Bihar during April-May, 2010. A large number of village volunteers and SDMA officials were trained by the NDRF.

#### Capacity Building in North-East

8.26 Keeping in view the vulnerability and multi-hazard profile of North-Eastern States, regular community awareness and preparedness programme are being organized at district level by the NDMA with help of the State & District Authorities. During such programmes, members of Panchayati Raj Institutions, Youth organizations, NSS, NCC, the village volunteers and school children are made aware of disaster



TOT Course for State Police Personnel

response techniques using both conventional and innovative methods. In last two years, NDMA has conducted 274 such programmes and in 2010-11, about 21,938 volunteers and other stakeholders have been trained by the NDRF in North Eastern States with techniques of response and also Do's & Dont's for various disasters. Sufficient number of pamphlets, leaflets are distributed as part of Community Awareness Programme.

8.27 Fourteen major workshop & seminar with exhibition and demonstrations were conducted during last two years in North-East States. A large number of Govt. officials, Members of Panchayati Raj Institution, Non-Govt. organizations and other Stakeholders actively participated in these programmes. Major workshops/exhibitions were organized at the State capital of Arunachal Pradesh, Mizoram, Meghalaya and Tripura, The Hon'ble Chief Minister(s) and His Excellencies, the Governor(s) of the State(s) not only graced the occasion but also deliberated during the discussion in the programme. The Disaster Preparedness roadmap for NE States based on experience and feed back of these workshops is as below:

#### Disaster Preparedness – Roadmap for NE States

##### 8.28

1. State Governments will train SDRF in their Police Training Centers.
2. The training programme for SDRF would be of 04 weeks based on the syllabus prepared by NDMA.
3. The Master Trainers of NDRF and the trainers of State Police successfully qualified in ToT courses organised by NDMA would constitute the resource team for the training of SDRF.
4. State Government may identify one of the Police Training Centers (PTC)



as nodal center for DM related training for its SDRF.

5. Additionally, 06 days capsule training in Disaster Response based on the syllabus prepared by NDMA will be provided to Police constables during their basic training.
6. The State Government will procure training equipment for disaster response. NDMA will help States by providing details and specifications for the same.
7. NDRF will organize district and block level training/ capacity building programmes jointly in association with State officials. There would be a coordinator from State Government in every district for such trainings.
8. On request of the State Governments, NDMA may assist in furnishing the details of agencies involved in preparation of DPR for retrofitting of lifeline buildings such as Hospitals, Schools, Govt Buildings etc.
9. The NDMA officials / experts will visit States twice a year to review the progress of above said programmes.

## Training

### DM Training to SDRF Personnel, Mizoram



Providing training to Mizoram State Armed Police Personnel

8.29 NDRF Bn Guwahati organised Disaster Management Training at CTI Sesawang, Mizoram during the period May 24 to June 19, 2010. About 50 personnel of Mizoram State Armed Police personnel participated in the training programme. NDRF provided training on various rescue techniques including Medical First Response (MFR), Collapsed Structure Search & Rescue (CSSR), Rope Rescue, Flood Rescue, victim search and location techniques, shoring of unstable structures, handling of rescue equipments etc.

### Flood Water Rescue for Karnataka Police

8.30 NDRF Bn Pune organised flood water rescue training for Bagalkote (Karnataka) Police during the period May 17-23, 2010 at the NDRF Bn Pune location. 12 personnel of Bagalkote



Flood Water Rescue Training for Bagalkote (Karnataka) Police at Pune

police participated and successfully completed the training.

### Flood & Earthquake Rescue Training

8.31 A six days residential training programme on flood & earthquake rescue was conducted for 100 officials through Pimpri Chinchwad Municipal Corporation (PCMC), Pune, Maharashtra during the period May 24-29, 2010 at NDRF Bn Pune location. Officials of Mumbai Fire, Security, Police etc participated in the training programme.

### CBRN Training for Mumbai Police

8.32 A four week Basic Course on first





responders in CBRN emergency training was conducted for Mumbai Police during the period April 19 to May 15, 2010 at NDRF Bn Pune location. Forty five (45) personnel of Mumbai Police participated and successfully completed the training programme.

#### Training of State Disaster Response Force (SDRF)

8.33 In pursuance of the decision taken in the Annual DGP Conference in 2006, NDMA has



been encouraging the states to have its own State Disaster Response Force (SDRF) by training some of the personnel of their existing Armed Police Bn in Disaster Response. To facilitate this, NDMA has been organizing Training of Trainer (ToT) courses for the State Police and has been also making available the trainers of NDRF to assist the States in training of SDRF. NDMA has organized 10 (ten) such ToT courses and trained 206 State Police personnel from 24 States/ UTs of the country since year 2007.

#### 'ToT'\* Courses Organised by NDMA for State Police Personnel (SDRF)

S. No.	Date of Course	Location	No. of Successful Participants
		2007-08	
1	Feb 05-April 06, 2007	FSTI, NISA Hyderabad	24
2	Nov 05 – Dec 29, 2007	FSTI, NISA Hyderabad	18
		<b>Sub Total</b>	<b>42</b>
		2008-09	
3	Nov 24, 2008 – Jan 16, 2009	FSTI, NISA Hyderabad	16
4	March 02 – March 14, 2009	Changsari, Guwahati (ToT Refresher course)	10
5	Jan 12 – Feb 27, 2009	CTC-II Coimbatore	17
		<b>Sub Total</b>	<b>43</b>
		2009-10	
6	Sep 05 – Nov 13, 2009	FSTI, NISA Hyderabad	23
7	Feb 08 – March 20, 2010	CTC-II Coimbatore	25
		<b>Sub Total</b>	<b>48</b>
		2010-11	
8	July 19 – Sep 03, 2010	FSTI, NISA Hyderabad	30
9	Oct 04 – Nov 20, 2010	FSTI, NISA Hyderabad	20
10	Sep 17 – Nov 02, 2010	BIDR BSF Tekanpur	23
		<b>Sub Total</b>	<b>73</b>
		<b>Grand Total</b>	<b>206</b>



8.34 Basic training in Disaster Response is also organised by NDRF Bns in their respective area of responsibilities for State Police Personnel. Training module includes class-room lectures, demonstrations & practical sessions on Medical First Response, Collapsed Structure Search & Rescue, CBRN Response, techniques of rope rescue etc. NDRF has trained 855 State Police personnel in various trainings till December 2010.

### International Training/ Courses

#### ASSISTEX 3, Tunis, Tunisia

8.35 Eighteen NDRF personnel participated in the Third OPCW (Organisation for Prohibition of Chemical weapons) Exercise on the Delivery of Assistance (ASSISTEX 3) held at Tunis Tunisia during the period 11-15 October 2010. The exercise was intended to provide a framework for evaluating the level of preparedness of the OPCW to deliver assistance



as well as the level of preparedness of States Parties and their assistance related assets in case of use or threat of use of chemical weapons.

8.36 The scenario for this multilateral exercise focused on the OPCW's response to a request for assistance by a State Party that has been threatened and attacked with chemical weapons. Participants included specialised teams from the OPCW Technical Secretariat, the UN Office for the Coordination of Humanitarian Affairs (UN OCHA), and 11 OPCW States Parties - Denmark, France, India, Italy, Libya, South Africa, Spain, Switzerland, Tunisia, Turkey and United Kingdom.



#### Dogs Search Training by SDC under INSWIT Programme

8.37 Under Indo-Swiss Collaboration for Training (INSWIT), the canine search training was organised by Swiss experts at BTC Bhanu, Chandigarh in May and November 2010. 35 dog handlers and 25 dogs from different NDRF Bns



attended this training. Purpose of the training was to enhance and update the disaster response skills of NDRF personnel.

#### The Regional SPRINT ToT, Bangkok, Thailand

8.38 UNFPA Asia Pacific and Regional office (APRO) and the International Planned Parenthood Federation (IPPF) jointly organised a regional SPRINT (Sexual and Reproductive Health Programme in Crisis and Post Crisis) 'Training of Trainers' programme during the period 25-29 October 2010 in Bangkok, Thailand. One Doctor of NDRF participated in this training programme.

#### Mock Exercises

8.39 During 2010-11, NDRF Bns conducted 21





mock exercises on Chemical (Industrial) Disasters, Urban Flooding, Cyclones, Earthquake simulation, Train accidents etc with different stakeholders in various parts of country. During the mock exercises NDRF personnel demonstrated search & rescue (SAR) operations, Medical First Response (MFR), methods of rescue of trapped victims on triage in a mass casualty scenario, victim search & location techniques in a collapsed structure, decontamination operations etc.

### Incident Response System (IRS)

8.40 The management of response in disaster requires performance of a large number of duties by the existing administrative set-up, civil society and its various institutions. The activities involved in response management would depend on the nature and type of disaster. It had been seen that in times of disaster, lack of resources is not so much a problem as is the lack of coordination between various agencies and an absence of role clarity of various stakeholders. If the response is planned and the stakeholders are trained, there will be no scope for ad-hoc measures and the response will be much more smooth and effective. The idea is to pre-designate officers to perform various duties and get them trained in their respective roles.

8.41 The Government of India, realizing the importance of this aspect, had decided to adopt the ICS in collaboration with the USAID in 2003. The experience over the past years in implementing this system established the need of indigenizing the system, meaning thereby, to align it to our administrative set up and the provisions of the DM Act, 2005. During the period under review, apart from the regional workshops for preparation of the guidelines, a

large number of workshops and simulation exercises were carried out to propagate the principles of IRS being conceptualized to be in harmony with our administrative set up.

### Functions of Incident Response Team (IRT)

8.42 The IRTs are pre-designated at State, District, Sub-Division and Tehsil/ Block levels. The Chief Secretaries and the District Magistrates are the Responsible Officers at the State and District Levels, who will delegate responsibilities to the Incident Commander, who in turn will manage the incident through the IRTs under them at their respective levels. In case of early warning, the Responsible Officer will activate the IRTs. In case a disaster occurs without any warning the local IRT will respond and contact Responsible Officer for further support, if required.

### Coordination of Response amongst National, State and District Levels

8.43 In major disasters swift and proper coordination amongst the district, state and the central government are of utmost importance. The IRS clearly spells out how it will be ensured among the NDMA, National Crisis Management Committee, headed by the Cabinet Secretary, National Executive Committee headed by the Home Secretary, State Disaster Management Authority, State Executive Committee headed by the Chief Secretary and the District Disaster Management Authority headed by the District magistrate.

8.44 Response to any disaster necessarily has to be carried out by the District and State machinery. Central Government will provide necessary assistance by way of specialized Response Force (NDRF) and other necessary resources. Coordination at the Centre will be ensured by the NDMA/ NCMC/ NEC. Similarly in the State by the SDMA/ SEC and at the District level by the DDMA.

### Community Participation and their Involvement in Response

8.45 The community is always the first responder. Outside help comes but only later. The Guidelines on the Incident Response System have taken care to integrate them in the response



mechanism. The resources, skills and capacities at the village, ward and Gram Panchayat levels are to be organized, trained and employed in response.

### Emergency Operation Centre (EOC)

8.46 EOC is the location where stock is taken of the emerging situation. It assists the Responsible Officer in mobilizing the respective line department's resources, manpower and expertise along with appropriate delegated authority for the on-scene IRTs. It is equipped with fail-safe communication and decision support system.

### Facilities for Disaster Response in IRS

8.47 **Incident Command Post (ICP)** – The ICP is the location at which the primary command functions are performed. The IC will be located at the ICP. There will only be one ICP for each incident. It should be equipped with a proper communication system for command and control.

8.48 **Staging Area (SA)** – The SA is an area where resources are collected and kept ready for deployment for field operations. These may include things like food, vehicles, other equipment and material. The SA will be established at a suitable location near the affected site for immediate, effective and quick deployment of resources.

8.49 **Incident Base** – All primary services for responders and support for victims are located at the Incident Base. It is from here that the final deployments for on-site activities are made.

8.50 **Camps** – Camps are temporary locations within the general incident area which are equipped and staffed to provide rest, food, drinking water and sanitary services to the responders. Camps may be in place for several days and they may be moved depending upon incident needs.

8.51 **Relief Camp (RC)** – All support services to the affected communities are provided in the Relief Camps (RCs). They will be established as per demands of the situation.

8.52 **Helibase/ Helipad** – A Helibase is the main location for parking, fueling and carrying out the maintenance of the Helicopters. It may also be used for loading and un-loading of relief materials. Helipads are temporary locations in the incident area where Helicopters can safely land and take off. Helipads are established and used for operations only like loading and unloading of personnel, equipment and relief materials and rescue activities etc.

### IRS Sensitization program

8.53 To ensure the implementation of IRS guidelines in all the vulnerable states, NDMA had implemented a sensitization program in 9 vulnerable States; Uttarakhand, Andhra Pradesh, Nagaland, Lakshdweep, Odisha, Bihar, Goa, Tamil Nadu and Assam. The objective of the sensitization program is to generate awareness among administrative key players of the State and District administration about the features and principles of IRS Guidelines for its smooth implementation.



His Excellency Governor of Goa Shri (Dr.) S.S. Sidhu, Hon'ble Chief Minister of Goa, Shri Digamber Kamat, Shri J.K. Sinha, Hon'ble Member NDMA, Chief Secretary of Goa Shri Sanjay Srivastav and District magistrate Shri G.P. Naik inaugurating the state level sensitization program.



# 9

## ADMINISTRATION AND FINANCE

### General Administration

#### NDMA Secretariat

9.1 The NDMA Secretariat comprises of 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 Division.

#### Policies, Plans, Capacity Building and Awareness Division

9.2 This 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.

9.3 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 an awareness generation campaign involving both electronic and print media, besides involvement of the community and other stakeholders at the grassroots level.

#### Mitigation Division

9.4 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 disaster themes like Cyclones, Earthquakes, Floods, Landslides and failsafe Communication and IT plan etc. It also guides and commissions specialized studies and projects like Micro-zonation, Vulnerability Analysis, etc. It also supervises and monitors the design and implementation of the mitigation projects to be undertaken by the Ministries themselves. The total sanctioned staff in this Division is 10, comprising one Advisor (JS level), two Joint Advisors (Director Level), two Assistant Advisors (US level) and 5 support staff.

#### Operations and Communications Division

9.5 NDMA, as the Apex Body, needs to be always in a state of readiness to tender advice to the Government on disaster situations for which it must remain fully apprised of the latest information. For this critical activity NDMA have 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 and ensures that all new built environments are disaster resilient.

9.6 It also has the task of maintaining a dedicated and continually operational state-of-the-art communications system. The key components of the Communication and IT Wing are Communications and IT network and DM Information System with special reference to Knowledge Management and Data Fusion with emphasis on GIS based applications. The total sanctioned staff in this Division is 17, comprising one Advisor (JS level), three Joint Advisors (Director level), four Assistant Advisors (US level), two Duty Officers (US level) and 7 support staff.



### Administration and Coordination Division

9.7 This Division is responsible for all aspects of Administration and Coordination. Its activities involve extensive interface with the Ministries/Departments and States. This Division also provides administrative and logistic support to the Members and the staff of the NDMA at all levels. The total sanctioned staff in this Division is 22, comprising one JS, one Director, two USs and 18 support staff.

### Finance and Accounts Division

9.8 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 powers, etc. The total sanctioned staff in this Division is 8, comprising one Financial Advisor (JS level), one Director, one Assistant FA (US level) and 5 support staff. Details of its functions and responsibilities are:

- Preparation of budget of the NDMA.
- Maintenance of departmental accounts in accordance with the requirements under General Financial Rules (GFRs).

- Watch and review the progress of expenditure against sanctioned grants through maintenance of control registers.
- 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.
- Settlement of audit objections, Inspection Reports, Draft Audit paragraphs etc.
- Ensure prompt action on Audit Reports, Reports of Public Accounts Committee (PAC) and Estimates Committee.
- Ensure timely submission of periodical reports and returns.

### Finance and Budget

9.9 In the Demands for Grants of Ministry of Home Affairs (MHA), NDMA has been classified under Grant No. 54 – Other Expenditure of MHA. The classification of Budget heads is as under:

Grant No – 54	Other Expenditure of MHA
<b>(A) Revenue (Non-Plan)</b>	
Major Head (2245)	– Relief on account of Natural Calamities.
Sub-Major Head (80)	– General.
Minor Head (102)	– Management of natural disasters, contingency plans in disaster prone areas.
Sub-Head (04)	– National Disaster Management Authority.
<b>(B) Capital Section (Non-Plan)</b>	
Major Head (4250)	– Capital outlay on other Social Services.
Minor Head (101)	– Natural Calamities.
Sub-Head (03)	– National Disaster Management Authority.
<b>(C) Revenue (Plan)</b>	
A separate sub-head has been allotted for each project of NDMA as shown below:-	
02	– National Earthquake Risk

03	– Mitigation Project (NERMP). – National Landslide Risk Mitigation Project (NLRMP).
04	– National Disaster Communication Network (NDCN).
05	– Other Disaster Management Projects.
06	– National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance.
07	– National Flood Disaster Management
14	– National Disaster Response Force

### Fund Allocation and Utilization

9.10 During the period under report (2010-11) the Budget Allocation (BE) for NDMA was a total amount of Rs. 190.42 Cr., out of which Rs. 141 Cr. was meant for Plan Schemes/ Projects of the Organization and Rs. 49.42 Cr were allotted against Non-Plan Budget.

9.11 The actual expenditure against the BE/RE of Rs 49.42 Cr/ 30.95 Cr (Non-Plan) was Rs. 23.39 Cr.

9.12 A substantial portion of expenditure under

Non-Plan is incurred under the following object heads:-

- Salaries.
- Domestic Travel Expenses (DTE).
- Office Expenses (OE).
- Other Administrative Expenses (OAE).
- Advertising & Publicity (A&P).
- Professional Services (PS).

9.13 Funds allocation and expenditure during 2010-11 under the above mentioned Non-Plan heads are shown below:

### Fund Allocation and Expenditure in Non-Plan Heads (2010-11) (Rs. in Lakh)

Sl. No.	Object Head	Allocation	Expenditure
1.	Salary	699.80	625.99
2.	Domestic Travel Expenses	300.00	220.35
3.	Office Expenses	500.00	351.58
4.	Other Administrative Expenses	500.00	72.11
5.	Advertising & Publicity	1900.00	894.36
6.	Professional Services	200.00	82.90



9.14 Total amount of Rs. 141 cr. allotted in BE 2010-11 for preparation of Detailed Project Reports (DPRs) had been distributed as follows for various Plan projects of NDMA:-

	<b>Allocation</b>
(i) National Earthquake Risk Mitigation Project (NERMP)	- Rs. 5 cr.
(ii) National Landslide Risk Mitigation Project (NLRMP)	- Rs. 2 cr.
(iii) National Disaster Communication Network (NDCN)	- Rs. 2 cr.
(iv) National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	- Rs. 100 cr.
(v) Other Disaster Management Projects	- Rs. 39 cr.
(vi) National Flood Disaster Management	- Rs. 2 cr.
<b>Total</b>	<b>- Rs. 150 cr.</b>

9.15 Due to slow progress on finalization of DPRs, the BE allocations of Rs 141 Cr were reduced to Rs. 40.30 Cr in RE 2010-11. Against these allocations, the total expenditure under Plan heads was only Rs. 20.39 Cr in respect of various projects.

#### **Audit Paras**

9.16 There were 5 audit paras in the C&AG Audit Report for the year ending 31 March 2008. All the 5 audit paras were replied and sent to DM Division, MHA for vetting from C&AG. No audit para is pending for the year ended 31 March 2008. Since we have not received any observations on ATNs, it appears that the above paras stand settled.

9.17 There are three audit paras in the audit report for the year ending 31 March 2009 received from C&AG. The same were finalized and sent to MHA for vetting and sending to C&AG for further processing. Further action is awaited.

9.18 There are two audit paras and two Draft Audit Paras for the year ended 31st March 2010. Necessary ATNs in respect of audit paras and reply to one draft para have already been sent to MHA (DM Division) for their vetting and onward transmission to C&AG for their further remarks. As regards the pending draft audit para, the reply is being complied and will be sent to C&AG shortly.

# ANNEXURE-I

## Composition of NDMA

### Present Composition

1.	Dr. Manmohan Singh, Prime Minister of India	Chairperson
2.	Shri M Shashidhar Reddy	Vice-Chairperson (Since 16.12.2010)
3.	Shri B Bhattacharjee	Member (Since 21.8.2006)
4.	Smt. P. JyotiRao	Member (Since 14.8.2006)
5.	Shri J K Sinha	Member (Since 18.4.2007)
6.	Maj. Gen. J. K. Bansal, VSM, Chikitsa Rattan (Retd.)	Member (Since 6.10.2010)
7.	Shri T Nandakumar	Member (Since 8.10.2010)
8.	Dr. Muzaffar Ahmad	Member (Since 10.12.2010)

### Founding Members

1.	Gen N C Vij (27.9.2010)	Vice Chairman (since 28.9.2005 to 27.9.2010)
2.	Lt. Gen. (Dr.) J. R. Bhardwaj, PVSM, AVSM	Member (Since 28.9.2005 to 27.9.2010)
3.	Dr. Mohan Kanda	Member (Since 5.10.2005 to 4.10.2010)
4.	Prof. N. Vinod Chandra Menon	Member (Since 28.9.2005 to 27.9.2010)
5.	Shri M Shashidhar Reddy (Since 11.10.2010 to 16.12.2010)	Member (Since 5.10.2005 to 4.10.2010)
6.	Shri K M Singh	Member (Since 28.9.2005 to 27.9.2010)

Shri M Shashidhar Reddy completed his five years tenure on 04 October 2010 and was nominated as Member of the NDMA on 06 October 2010. He assumed the charge of the office of Member, NDMA on 11th October 2010. He was subsequently elevated as the Vice Chairman of the NDMA on 16 December 2010.



## ANNEXURE-II

### List of Senior Officers of the NDMA

- |     |   |                                  |
|-----|---|----------------------------------|
| 1.  | Dr. Noor Mohammed, Secretary                  | (Since 1.2.2011)                 |
| 2.  | Shri A.B. Prasad, Secretary                   | (Since 24.07.2009 to 31.12.2010) |
| 3.  | Shri Sunil Kumar Kohli, Financial Advisor     | (Since 01.08.2008)               |
| 4.  | Shri Amit Jha, Joint Secretary                | (Since 27.02.2009)               |
| 5.  | Smt. Sujata Saunik, Joint Secretary           | (Since 18.12.2009)               |
| 6.  | Shri P. K. Tripathi, Joint Secretary          | (Since 6.10.2010)                |
| 7.  | Dr. G.S.G. Ayyangar, Advisor                  | (Since 18.08.2008 to 18.8.2010)  |
| 8.  | Shri A.R. Sule, Director                      | (Since 31.3.2006)                |
| 9.  | Shri R.K. Singh, Joint Advisor                | (Since 20.02.2009)               |
| 10. | Shri S.S. Yadav, Joint Advisor                | (Since 22.05.2009)               |
| 11. | Col. Shashi Bhushan, Joint Advisor            | (Since 31.8.2010)                |
| 12. | Col. B B Singh, Joint Advisor                 | (Since 14.1.2011)                |
| 13. | Shri Prem Kumar, Director                     | (Since 23.02.2009 to 28.2.2011)  |
| 14. | Dr. C.V. Dharma Rao, Joint Advisor            | (Since 20.03.2009 to 2.8.2010)   |
| 15. | Shri P. Thakur, Assistant Advisor             | (Since .0.05.2008)               |
| 16. | Shri J.C. Babu, Assistant Advisor             | (Since 03.10.2008)               |
| 17. | Shri S.K. Prasad, Assistant Advisor           | (Since 01.10.2008)               |
| 18. | Shri A.K. Jain, Assistant Advisor             | (Since 03.11.2008)               |
| 19. | Shri Budh Ram, Assistant Financial Advisor    | (Since 31.12.2008)               |
| 20. | Smt. Vijaylakshmi Bhardwaj, Assistant Advisor | (Since 19.01.2009)               |
| 21. | Shri R.K. Chopra, Under Secretary             | (Since 14.11.2006 to 3.4.2011)   |

## 1

## APPENDIX RELATED TO NDRF

## OPS ACHIEVEMENTS DURING THE PERIOD UNDER REPORT

SI No	Location and Number of NDRF Bns	Name of State/ District with Place of Deployment	Specific nature Purpose of Deployment (Name of Incident/ Calamity)	Duration of Deployment	Total number of Teams/ Strength (Total Personnel Deployed)	Kind of NDRF Equipment (viz Boats, Vehicles and Dog Squads etc.) carried by the teams for rescue/ relief operation	Quantify achievement in brief	Remarks
1	1st Bn NDRF	Kharghuli, under Lotasil Police Station, Guwahati	Landslide Rescue Operation	23 March 2011	One Team GO – 01 SOs – 05, ORs – 40, Total 46, Dogs – 02	Rescue equipment	Team retrieved 05 Dead bodies and 01 alive victim	
2	2nd BN	Dumdum Airport	For monitoring of radiation effected persons who has arrived from Japan	17 March 2011 to 22 March 2011	One Team GO – 01, SOs – 02, ORs – 28 Total – 31	NBC Equipment	Checked 8914 Persons with CBRN equipment noting unusual	
3	4th Bn NDRF	Chennai Airport	For monitoring radiation effected persons who has arrived from Japan	17 March 2011 to 22 March 2011	One Team GO – 01, SOs – 07, ORs – 23 Total – 31	NBC Equipment	Checked 585 Passengers with CBRN equipment noting unusual	
4	4th Bn NDRF	Karuvarakkundu Panchayat, District Mallappuram (Kerala)	Missing of one child in pond	30 March 2011	Sub Team GO – 01, SOs – 02, ORs – 08, Total – 11	Rescue Equipment	Team retrieved 01 dead body.	
5	5th Bn NDRF	Pimpalgaon Joga Dam, Pune (Maharashtra)	Search and Rescue Operations, 04 Students of OTUR Engineering College who were drowned in Pimpalgaon Joga Dam, Village – Koalvadi, Tehsil – Junnar, District Pune	14 February 2011 to 15 February 2011	01 Team, GO – 01, SOs – 03, ORs – 34, Total – 38	04 Inflatable Boats and other SAR equipment	Team retrieved 04 dead bodies	



Sl No	Location and Number of NDRF Bns	Name of State/ District with Place of Deployment	Specific nature Purpose of Deployment (Name of Incident/ Calamity)	Duration of Deployment	Total number of Teams/ Strength (Total Personnel Deployed)	Kind of NDRF Equipment (viz Boats, Vehicles and Dog Squads etc.) carried by the teams for rescue/ relief operation	Quantify achievement in brief	Remarks
6	8th Bn NDRF	Connaught Place, New Delhi	Search & Rescue Operation	09 February 2011	One Team, GO – 02, SOs – 03, ORs – 37, Total – 42	Rescue equipments	Information received by 8th Bn NDRF from SDM Parliament Street that a building has collapsed in Connaught Place, New Delhi. Team left for Incident Site and carried out SAR Operations and with the help of Life Detector and Cannines in a collapsed building. No alive victim was found. SAR Operation called off	
7	8th Bn NDRF	Delhi	Cricket World Cup	24 February 2011, 28 February 2011, 07 March 2011 and 09 March 2011	02 Teams, GO – 01, SOs – 06, ORs – 72, Total – 79	Medical First Response/ Collapsed Structure Search & Rescue and CBRN Equipment	-----	
8	8th Bn NDRF	IGI Airport, New Delhi	For Monitoring of radiation effected persons who has arrived from Japan	17 March 2011	GO – 01, SOs – 03, ORs – 28, Total – 32	NBC Equipment	Checked 712 Passengers with CBRN Equipment noting unusual	
9	8th Bn NDRF	IGI Airport, New Delhi	For Monitoring of radiation effected persons who has arrived from Japan	19 March 2011	SOs – 03, ORs – 31, Total – 34	NBC Equipment	Checked 727 Passengers with CBRN Equipment noting unusual	
10	8th Bn NDRF	IGI Airport, New Delhi	For Monitoring of radiation effected persons who has arrived from Japan	20 March 2011	SOs – 02, ORs – 18, Total – 20	NBC Equipment	Checked 758 Passengers with CBRN Equipment noting unusual	

Sl No	Location and Number of NDRF Bns	Name of State/ District with Place of Deployment	Specific nature Purpose of Deployment (Name of Incident/ Calamity)	Duration of Deployment	Total number of Teams/ Strength (Total Personnel Deployed)	Kind of NDRF Equipment (viz Boats, Vehicles and Dog Squads etc.) carried by the teams for rescue/ relief operation	Quantify achievement in brief	Remarks
11	8th Bn NDRF	Rifu Cho, Japan	Relief and Rescue Operation	27 March to 07 April 2011	01 Team, GOs – 04, Sos – 06, ORs – 36, Total – 46, Under Command of Shri Alok Avasthy, Commandant 5th Bn NDRF	CBRN Equipment	Team Managed to extricate 07 bodies from the rubble more than two weeks after the disaster struck the area. Absence of any heavy equipment at the disposal of the team. The Team recovered & handed over cash worth Fifty Million Yen to the Authorities apart from the valuables.	
12	9th Bn NDRF	Kahalgaon, Pirpainti Block, District Bhagalpur (Bihar)	Boat Tragedy occurred in the River Ganga	27 February to 01 March 2011	SO – 01, ORs – 24 including 06 Deep Divers, Total – 25	04 Boats, 02 Deep Diving set and other SAR Equipments	Recovered 01 missing dead body on 28 February 2011.	

### DETAILS OF WORKSHOP DURING THE PERIOD UNDER REPORT

Sl No.	Subject of Meeting	Date of Meeting	Venue / Place
1.	National Workshop on Bio-Security & mitigation of Biological Disaster	02 February 2011	Conference Hall, NDMA Bhawan
2.	National Conference on Earthquake Risk Mitigation Strategy in the North East	24-25 February 2011	Administrative Staff College, Guwahati

### DETAILS OF SEMINAR DURING THE PERIOD UNDER REPORT

Sl No.	Subject of Meeting	Date of Meeting	Venue / Place
1.	11th International NBCC Seminar	09-11 February 2011	Training Centre, National Security Guard, Manesar, Gurgaon (Haryana)
2.	Seminar on 'Dimensions of Intelligence Gathering in LWE Scenario'	04-05 February 2011	Sardar Vallabhbhai Patel National Police Academy, Hyderabad



## DETAILS OF MEETING DURING THE PERIOD UNDER REPORT

SI No.	Subject of Meeting	Date of Meeting	Venue / Place
1.	Discuss Various NDRF Issues	02 February 2011	NDMA Bhawan
2.	Table Top Exercise on Chemical (Industrial) Disaster in South West District, New Delhi	09 February 2011	5 Sham Nath Marg, Delhi
3.	Meeting on preparation and execution of DM Plan	08 February 2011	14 Darya Ganj, Delhi
4.	Equipments supplied by M/s BEL & ECIL for the CWG - 2010	09 February 2011	Conference Hall, 3rd Floor, NDMA Bhawan
5.	Disaster Response Solution, Training of Paramedics and other Emergency Response Products	14 February 2011	Conference Hall, 3rd Floor, NDMA Bhawan
6.	Technical Specification Committee for the CBRN Medical Management Centre	21 February 2011	Conference Room, DRDE Gwalior
7.	National Data Sharing and Accessibility Policy	19 January 2011	Room No. 12, MHA, North Block, New Delhi
8.	Technical Specification Committee on the CBRN Management Centre	21 March 2011	Room No. 439-A, Nirman Bhawan, New Delhi

## DETAILS OF EXHIBITION DURING THE PERIOD UNDER REPORT

SI No.	Subject of Meeting	Date of Meeting	Venue / Place
1.	Mass Awareness Generation Campaign on Disaster Management	27 January to 02 February 2011	DC Office Complex, Nand Nagri, Delhi
2.	Disaster Management	17 February to 19 February 2011	Dehradun
3.	2nd National Exhibition & Conference on Science Tech/ Agritech/ Energy/ Commerce & Industry	19 February to 2 February 2011	Muzzaffarpur, Bihar
4.	Disaster Management Equipment	07 January to 09 January 2011	Maharashtra Police Academy, Nashik, Maharashtra