



# ANNUAL REPORT

2008-09



NATIONAL DISASTER MANAGEMENT AUTHORITY  
GOVERNMENT OF INDIA

**National Disaster Management  
Authority  
Annual Report**

**2008-09**

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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>CBDRM</b>	Community Based Disaster Risk Management
<b>CBOs</b>	Community Based Organizations
<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>	Common 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>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>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>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>PRI</b> s	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>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

### Introduction

1.1 India is vulnerable, in varying degrees, to a large number of disasters. More than 28.2% of its geographical area is prone to earthquakes of high to very high intensity (falling into zones IV and V); 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. Vulnerability to Chemical, Biological, Radiological and Nuclear (CBRN) emergencies and other man-made disasters has also increased manifold in the recent past.

1.2 Disaster risks in India are further compounded by increasing vulnerabilities related to changing demographic and socio-economic conditions, unplanned urbanization, development within high-risk zones, environmental degradation, climate change, geological hazards, epidemics and pandemics. Clearly, all these contribute to a situation where disasters seriously threaten India's economy, its population and sustainable development.

### Genesis of NDMA

1.3 The 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 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 December 2005 and the National Disaster Management Authority was notified on 27 September 2006 under the provisions of the Disaster Management Act, 2005.

### 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 Gen. N. C. Vij, PVSM, UYSM, AVSM (Retd.) along with eight 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 During the First Meeting of the NDMA it was resolved that the Union Ministers of Home, Finance, Agriculture and Deputy Chairman of the Planning Commission would be permanent invitees to the NDMA meetings to facilitate greater synergy and decision-making.

S. No.	Name of the Member	Domains	States & UTs
1.	Lt. Gen. (Dr.) J. R. Bhardwaj, PVSM, AVSM, VSM, PHS (Retd)	Chemical and Biological Disasters, Medical Preparedness and Psycho-Social Care.	Uttar Pradesh, Uttarakhand, Haryana, Chandigarh.
2.	Shri B. Bhattacharjee	Nuclear, Radiological, Forecasting, Early Warning and Communications, GIS & IT, Microzonation, Global Warming and Climate Change.	Rajasthan, Punjab, Dadra & Nagar Haveli.
3.	Dr. Mohan Kanda	National Policy and Plans, Floods, Avalanches & Landslides and Drought.	West Bengal, Maharashtra, Sikkim.
4.	Prof. N. Vinod Chandra Menon	Earthquakes, Tsunami, and NGOs.	Tamil Nadu, Kerala, Puducherry, A & N Islands.
5.	Smt. P. Jyoti Rao	Community Preparedness (CBDM), Education Curricula and Minimum Standards of Relief.	Madhya Pradesh, Karnataka, Lakshadweep.
6.	Shri M. S. Reddy	Cyclones, Urban Flooding, Risk Transfer (Insurance) and Micro Financing.	Andhra Pradesh, Orissa, Goa, Daman & Diu.
7.	Shri K. M. Singh	NDRF, Awareness Generation (Media).	Bihar, N. E. States Jammu & Kashmir.
8.	Shri J. K. Sinha	Civil Defence, Fire Services, NCC, NSS, NYKS, Incident Command System, Public Private Partnership and Training-Mock/ Table Top Exercises.	Gujarat, Himachal Pradesh, Delhi, Chhattisgarh, Jharkhand.



### Responsibilities of Members of NDMA

1.7 The disaster specific domains as well as States and Union Territories (UTs) have been assigned to the Members of the NDMA on the basis of their expertise in the subject.

### NDMA Secretariat

1.8 The NDMA Secretariat is a lean and professional Information Technology (IT) enabled structure. In keeping with the management imperatives, most of the functions of routine nature have been outsourced. 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 being a specialized subject, it has also been ensured that expertise of Specialists is available on contractual basis. The organization is also supported by a number of Senior Research Officers. Details of the officers posted in the NDMA are given at Annexure II.

### Advisory Committee of the NDMA

1.9 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:

- (i) Ms. Kumud Bansal, IAS (Retd.).
- (ii) Ms. Sushma Chaudhary, IAS (Retd.).

- (iii) Prof. S. K. Dube, Director, Indian Institute of Technology, Kharagpur.
- (iv) Prof. Harsh Gupta, Former Director, National Geophysical Research Institute, Hyderabad.
- (v) Shri Sanjoy Hazarika, Managing Trustee, Centre for North East Studies and Policy Research.
- (vi) Dr. P. K. Iyengar, Former Chairman, Atomic Energy Commission.
- (vii) Lt. Gen. Davinder Kumar, PVSM, VSM BAR (Retd.).
- (viii) Shri Alok Mukhopadhyay, Chief Executive, Voluntary Health Association of India (VHAI).
- (ix) Dr. R. K. Pachauri, Director General, The Energy & Resources Institute (TERI).
- (x) Shri R. S. Prasad, Former Chairman, Central Water Commission.
- (xi) Dr. D. R. Sikka, Former Director, Indian Institute of Tropical Meteorology.
- (xii) Lt. Gen. V. K. Sood, PVSM, AVSM (Retd.), Former Vice Chief of Army Staff.

1.10 The constitution of the Advisory Committee was notified on 14 June, 2007. The term of the Advisory Committee is two years from the date of publication of the notification.

# 2

## FUNCTIONS AND OBJECTIVES

### Functions of NDMA

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

- (a) lay down policies on DM;
- (b) approve the national plan and the plans prepared by the ministries/ departments of the 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 The 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, i.e., National Crisis Management Committee (NCMC).

2.3 NDMA shall, however, formulate guidelines, facilitate training and preparedness activities in respect of CBRN emergencies. Cross cutting themes like medical preparedness,

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 the vision is:

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

#### Objectives of NDMA

2.5 The objectives of the NDMA are:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>(a) Promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education.</li> <li>(b) Encouraging mitigation measures based on technology, traditional wisdom and environmental sustainability.</li> <li>(c) Mainstreaming disaster management into the developmental planning process.</li> </ul> | <ul style="list-style-type: none"> <li>(d) Establishing institutional and techno-legal frameworks to create an enabling regulatory environment and a compliance regime.</li> <li>(e) Ensuring efficient mechanism for identification, assessment and monitoring of disaster risks.</li> <li>(f) Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communication with information technology support.</li> <li>(g) Ensuring efficient response and relief with a caring approach towards the</li> </ul> |
|--|---|

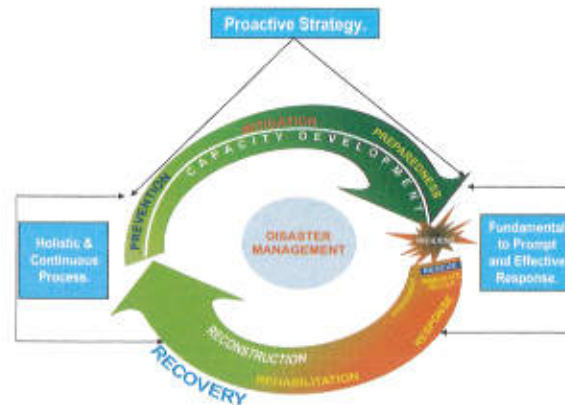
needs of the vulnerable sections of the society.

- (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.

### Paradigm Shift in Disaster Management

2.6 The DM continuum comprises six elements; the pre-disaster phase includes prevention, mitigation and preparedness, while the post-disaster phase includes response, rehabilitation, reconstruction and recovery.

### DISASTER MANAGEMENT CONTINUUM



2.7 At the national level, there will be a paradigm shift, from the erstwhile relief-centric response to a proactive prevention, mitigation and preparedness-driven approach. These efforts will conserve developmental gains and also minimise losses of life, livelihood and property.

# 3

## OVERVIEW

### Major Initiatives

3.1 During the period under review, the NDMA has taken the following initiatives for disaster resilience:

- (a) Formulation of National Policy on Disaster Management.
- (b) Preparation of Guidelines.
- (c) Capacity Development and Preparedness Initiatives.
- (d) Mitigation Projects.
- (e) Operationalization of NDRF for Strengthening Emergency Response.
- (f) Awareness Campaigns.
- (g) Mock Exercises.

### Policy, Plans and Guidelines

3.2 The National Policy on Disaster Management has been drafted after a protracted process of consultations with various stakeholders and the Ministry of Home Affairs (MHA). The final draft is with the MHA for approval by the Union Cabinet. It has also been decided in consultation with the MHA that the National Plan will be formulated in three parts: (i) the National Response Plan to be prepared by the National Executive Committee

(NEC), (ii) the National Mitigation Plan to be prepared by the respective ministries and (iii) the National Capacity Building and Human Resources Development Plan to be prepared by the NIDM.

3.3 During the period 2008-09 NDMA released three disaster specific and thematic guidelines viz., (i) National Disaster Management Guidelines on Management of Cyclones, (ii) National Disaster Management Guidelines on Management of Biological Disasters and (iii) National Disaster Management Guidelines on Nuclear and Radiological Emergencies (Unclassified - Part - I). NDMA also convened several workshops on the Management of Chemical (Terrorism), Psycho-Social Support and Mental Health services, Urban Flooding, Landslides & Snow Avalanches and Minimum Standards of Relief. Core Group of experts for each of the subject was set up to assist NDMA in the preparation of the guidelines for the effective management of these disasters. Meetings of these Core Groups on different types of disasters were held to identify the critical gaps in the management of these disasters and to work out strategies for improving the effectiveness of disaster preparedness, mitigation and emergency response.



### Capacity Development and Preparedness Initiatives

3.4 A number of programmes have been initiated for enhancing preparedness for disaster management which includes Medical Preparedness, Revamping of Civil Defence (CD) and Fire Services, Community Based Disaster Management (CBDM) and Public Private Partnership (PPP). In addition to these measures, programmes also have been initiated for enhancing the early warning and preparedness measures in the country by taking a number of scientific and technological initiatives.

### Mitigation Projects

3.5 To give due emphasis to the paradigm shift in DM, NDMA has initiated a number of mitigation projects. The National Cyclone Risk Mitigation Project (NCRMP) in partnership with the World Bank is in the advance stages of implementation, covering 13 cyclone-prone States/ UTs. Other projects which are in the various stages of planning are the National Earthquake Risk Mitigation Project (NERMP), the creation of National Disaster Mitigation Reserves (NDRM), National Disaster Communication Network (NDCN), Pilot Project for School Safety, Medical Preparedness and Mass Casualty Management, National Flood Risk Mitigation Project (NFRMP), National Landslide Risk Mitigation Project (NLRMP) etc. Studies have also been initiated on Microzonation, Risk Assessment and Vulnerability Analysis.

### National Disaster Response Force

3.6 In August-September 2008 Bihar experienced unprecedented floods in River Kosi. The NDRF, a force constituted under the provisions of Section 44 and 45 of the DM act, 2005, stood up to the challenge of this National Calamity of enormous magnitude and excelled in the rescue and relief operations saving thousands of precious lives. Apart from providing specialized response during disasters, NDRF assisted in community training and preparedness, also imparting basic and operational level training to State Disaster Response Forces (SDRFs), Police and other first responders during the year 2008-09. NDRF teams were also proactively deployed during impending disaster situation in this period.

### Awareness Campaigns

3.7 Awareness and preparedness campaigns are key components of proactive approach on DM. Three focused campaigns on Earthquakes, Cyclones and Floods were carried out on the electronic and print media at the national as well as regional level. These campaigns have generated a lot of awareness amongst the community and other stakeholders. Besides these campaigns, NDMA also exhibited an illustrative tableau during the Republic Day Parade 2009.

### Mock Exercises

3.8 To inculcate a culture of preparedness amongst the Government functionaries, industries, other stakeholders and to reach out to the community, a number of Table Top and

Mock Exercises have been conducted throughout the country on various types of disasters - earthquakes, cyclones, floods, fire and chemical (industrial) disasters etc. These mock exercises have been very well received and evinced large scale participation at the grass root level. Critical gaps in preparedness and response have been identified for remedial actions by the stakeholders. This has also helped to sensitize the stakeholders about their role, enhancing coordination and synergizing various Emergency Support Functions.

#### **Discussion with Eminent Persons/ Institutions**

3.9 During the period under this Report, discussion with several eminent persons/ institutions were held by the Vice Chairman and Members of the NDMA.

- i. Vice Chairman and Members NDMA along with Senior Officials of NDMA held discussion with Civil Defence Advisory Committee on 02 April 2008.
- ii. Vice Chairman, NDMA held a meeting with Dr. (Mrs.) Syeda Hameed, Member, Planning Commission on 11 April 2008.
- iii. Vice Chairman, NDMA met Shri Somnath Chatterjee, Hon'ble Speaker, Lok Sabha on 15 May 2008.
- iv. Vice Chairman and Members, NDMA held discussion with Members of 13<sup>th</sup> Finance Commission on 19 May 2008.
- v. Shri Nitish Mishra, Hon'ble Minister of Disaster Management, Government of Bihar called on the Vice Chairman and Members of NDMA on 19 May 2008.
- vi. Vice Chairman and Members of NDMA met Shri Montek Singh Ahluwalia, Deputy Chairman, Planning Commission on 22 May 2008.
- vii. Dr. Kathleen Cravero of United Nations Development Programme, met the Vice Chairman and Members of NDMA on 22 May 2008.
- viii. Delegation of World bank called on the Vice Chairman and Members of NDMA on 02 June 2008.
- ix. Mr. Peter Ophoff, Head, International Federation of Red Cross and Red Crescent Societies met the Vice Chairman and Members of NDMA on 03 July 2008.
- x. Mr. Stojanovic of UNICEF visited NDMA on 03 July 2008 and interacted with Members and Specialists of NDMA.
- xi. Mr. R K Tyagi, CMD, Pawan Hans Helicopters Ltd. called on the Vice Chairman and Members of NDMA on 29 August 2008.
- xii. Vice Chairman and Members, NDMA discussed the Kosi floods situation with Shri Nitish Kumar, Hon'ble Chief Minister, Bihar on 01 September 2008 in Patna.

- xiii. NDMA meeting with Hon'ble Prime Minister regarding Kosi Floods on 12 September 2008.
- xiv. Vice Chairman, NDMA held discussion with Shri Pranab Mukherjee, the then Hon'ble Defence Minister on 05 November 2008.
- xv. Mr. A K Ratwani, CMD, EPIL met the Vice Chairman and Members of the NDMA on 07 November 2008.
- xvi. Vice Chairman, NDMA held discussion with Shri Shivraj V Patil, the then Hon'ble Home Minister on 14 November 2008.



# 4

## POLICY, PLANS AND GUIDELINES

### Preparation of 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, Preparedness and 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.

4.2 The initial Policy document was extensively deliberated upon in a National Consultation held at Dr. MCR HRD Institute, Hyderabad and subsequently a number of consultations have been carried out with a large number of stakeholders. This Policy document has also been discussed threadbare at the MHA a number of times and all the suggestions have been incorporated in the final document. The final draft of the Policy is now under circulation to the States and Central Ministries/ Departments before the same is brought before the Union Cabinet for approval.

### National Plan

4.3 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 NEC 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".

4.4 After discussions with the MHA it was decided that the comprehensive National Plan will comprise of three Plans comprising of:

- (a) The National Response Plan: Spanning all the Central Ministries/ Departments and related agencies covering all types of disasters. An Inter Ministerial Central Team formed by the NEC in the MHA will prepare this Plan.
- (b) Mitigation and Preparedness Plans: To be prepared by the various Central Ministries/ Departments and other agencies covering different disasters specifically.
- (c) The National Human Resource and Capacity Building Plan: To be prepared by the NIDM, addressing the training and capacity building needs of several sectoral/ thematic disciplines.

4.5 Formulation of the National Plan was deliberated upon in detail at the NDMA and after due consideration, a suggested outline for all the three plans was evolved. Formats for the National Response Plan and the National Mitigation and Preparedness Plan were forwarded to the MHA on 10 July and 27 August 2008 respectively. The suggested format for preparation of National Plan for Capacity Building and Human Resource Development was sent to the NIDM on 08 September 2008.

### Guidelines

4.6 In order to translate the objectives into plans, the NDMA has adopted a mission-mode approach for evolving disaster specific and thematic guidelines 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 and Departments and States, have been involved in evolving the guidelines, besides all other stakeholders. Preparation of these guidelines takes minimum 18 to 24 months, depending upon the complexity of the subject. The approach to formulation of guidelines has comprised a 'nine-step' participatory and consultative process as shown in figure 4.1.

4.7 Following guidelines 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.

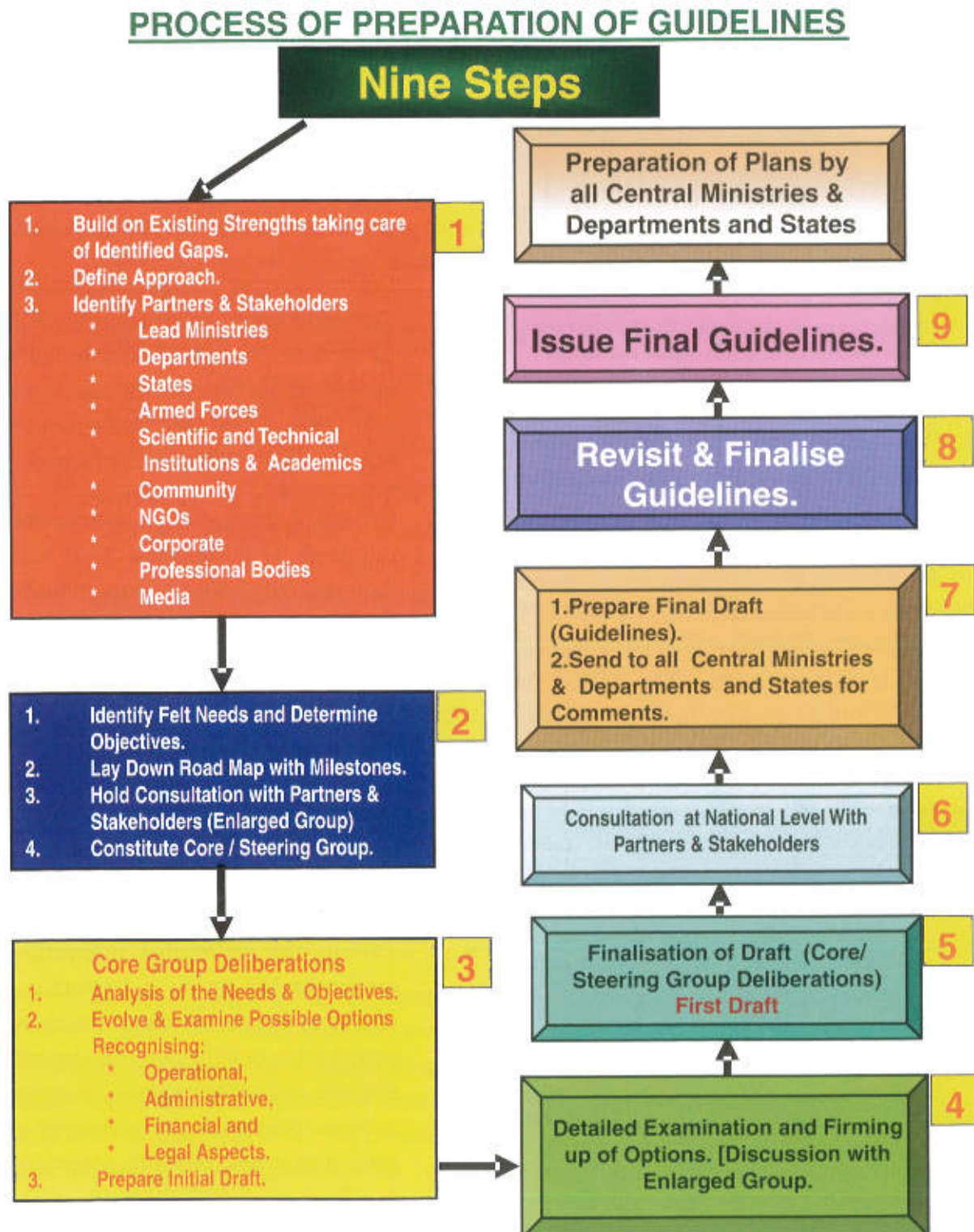
### Guidelines Prepared and Released During 2008-09

#### National Disaster Management Guidelines - Management of Cyclones

4.8 The National Guidelines for the Management of Cyclones have been formulated after a 'nine step' process taking on board completely various Central Ministries, Departments, States and UTs. The process also included wide consultations with scientific and technical institutions, academics, technocrats and humanitarian organizations. The draft guidelines document was circulated to all the Ministries/ Departments and the States/ UTs for their feedback. All workable suggestions have been incorporated. These guidelines call for a participatory approach involving all stakeholder groups to strengthen the national vision of moving towards a more proactive pre-disaster preparedness and mitigation-centric approach. These contain all the details that are required by planners and implementers and will help in the preparation of plans by the Central Ministries/ Departments and the States/ UTs.



Figure 4.1





Guidelines on Management of Cyclones released by Shri Kapil Sibal, Hon'ble Minister of Science & Technology and Earth Sciences along with Gen N C Vij, PVSM, UYSM, AVSM (Retd.), Vice Chairman, NDMA and Shri M Shashidhar Reddy, Member, NDMA

4.9 National Disaster Management Guidelines on Management of Cyclones were released by Shri Kapil Sibal, Hon'ble Minister of Science & Technology and Earth Sciences on 24 April 2008. Subsequently, these Guidelines were also launched by Dr. Y. S. Rajasekhara Reddy, Hon'ble Chief Minister of Andhra Pradesh in Hyderabad on 24 September 2008 in order to sensitize the State functionaries.



Dr. Y. S. Rajasekhara Reddy, Chief Minister of Andhra Pradesh launching Cyclones Guidelines at Hyderabad along with Gen N C Vij, PVSM, UYSM, AVSM (Retd.), Vice Chairman, NDMA and Shri M Shashidhar Reddy, Member, NDMA

### Highlights of Guidelines on Cyclones

4.10 Following are the key areas addressed by these Guidelines:

- i. Establishing a state-of-the-art Cyclone Early Warning System (EWS) involving observations, predictions, warnings and user friendly advisories.
- ii. Commissioning of 'National Disaster Communication Infrastructure' (NDCI) to provide dedicated and failsafe communications to the National, State and District Disaster Management Authorities and Officials concerned.
- iii. Expanding the warning dissemination outreach by introducing 'Last Mile Connectivity' which will include providing public address system along the entire coastline, using VHF technology. This will be done along with putting in place all other options currently in vogue internationally.
- iv. Implementing the National Cyclone Risk Mitigation Project in all the 13 Coastal States and UTs.
- v. Taking up structural mitigation measures like improving structural strengthening of lifeline infrastructure; construction of multi-purpose cyclone shelters and cattle mounds, ensuring cyclone resistant design standards in rural and urban housing schemes, building all-weather road links, bridges, culverts and saline embankments etc.



- vi. Management of coastal zones to include mapping and delineation of coastal wetlands, patches of mangroves and shelterbelts and identification of potential zones for expanding bio-shield spread based on remote sensing tools.
- vii. Setting up of an exclusive eco-system monitoring network to study the impact of climate change.
- viii. Establishing a comprehensive 'Cyclone Disaster Management Information System' (CDMIS) covering all phases of Disaster Management.
- ix. Setting up of a 'National Cyclone Disaster Management Institute' (NCDMI) in one of the coastal states to address all issues related to cyclone risks.
- x. Commissioning of "Aircraft Probing of Cyclone (APC) Facility" to fill critical observational data gaps and significantly reduce the margin of error in predicting cyclone track, intensity and landfall.

#### **National Disaster Management Guidelines - Management of Biological Disasters**

4.11 In recent years, biological disasters including bioterrorism have assumed serious dimensions as these pose a greater threat to health, environment and national security. The risks and vulnerabilities of our food chain and agricultural sector to agro-terrorism, which involves the deliberate introduction of plant or animal pathogens with the intent of undermining socio-economic stability, are

increasingly being viewed as a potential economic threat. The spectre of pandemics engulfing our subcontinent and beyond poses new challenges to the skills and capacities of the government and society. Consequently, the formulation of the national guidelines on the entire gamut of biological disasters has been one of our key thrust areas with a view to build our resilience to respond effectively to such emerging threats.

4.12 The intent of these guidelines is to develop a holistic, coordinated, proactive and technology driven strategy for management of biological disasters through a culture of prevention, mitigation and preparedness to generate a prompt and effective response in the event of an emergency. The document contains comprehensive guidelines for preparedness activities, bio-safety and bio-security measures, capacity development, specialized health care and laboratory facilities, strengthening of the existing legislative/regulatory framework, mental health support, response, rehabilitation and recovery, etc. It specifically lays down the approach for implementation of the guidelines by the central ministries/ departments, states, districts and other stakeholders, in a time bound manner.

4.13 The guidelines were released by Shri Shivraj V Patil, Hon'ble Minister of Home on 22 August, 2008 in the presence of more than 350 dignitaries at Defence Research and Development Organization (DRDO) Bhawan, New Delhi. These guidelines will help various stakeholders in formulation of the action plan for Biological Disaster Management. The nodal Ministry will continue to be responsible for making the plan at the National level.



Shri Shivraj V Patil, Hon'ble Minister of Home with Gen. N. C. Vij, Vice Chairman and Lt. Gen. (Dr.) J R Bhardwaj, Member, NDMA during the Release of Guidelines on Management of Biological Disasters on 22 August 2008

### Highlights of Guidelines on Management of Biological Disaster

4.14 Following are the key areas addressed by these guidelines:

- i. Formulation of legislative framework based on 'all hazard' approach at the Centre/States/District/ Local levels.
- ii. Strengthening of preventive measures like Integrated Disease Surveillance Programme (IDSP), intelligence information gathering and sharing on need-to-know basis, pharmaceutical and non pharmaceutical interventions.
- iii. Hospital disaster management plans delineating provisions for emergency medical and public health response, crisis expansion of beds, trained Medical First Responders/Quick Response Medical Teams supported by medical and other logistics will be developed.
- iv. Establishment of Emergency Operation Centres (EOCs) with

specialized facilities including adequate personal protective gears, mobile diagnostic laboratories, vaccine & antibiotics, essential medicines and specialized teams from National Disaster Response Force (NDRF) and State Disaster Response Forces (SDRF).

- v. Critical infrastructure development includes specialized facilities like mobile hospitals at strategic locations, blood banks, bio-safety laboratories, network of diagnostic, public health and DNA identification laboratories and mortuary facilities at state/district/ local levels based on Public Private Partnership model.
- vi. Development of new Research and Development models and early detection facilities by adoption of global best practices suitably adapted and modified for indigenous conditions.
- vii. Development of multi-sector Pandemic Preparedness Plans at national level and institution of mechanism for regional cooperation and methodologies for ensuring business continuity and essential services.
- viii. Enhancement of international cooperation and coordination for development of human resources, training & education, standardized documentation procedures and Research & Development (R&D) for Bio-safety, Bio-security and counter bio-risk measures.



- ix. Risk and Vulnerability Assessment, Capacity Development and Management of Livestock during Biological Disasters.
- x. Preparedness, control and management of Agro-terrorism.

### **Guidelines on Management of Nuclear and Radiological Emergencies Part -I (Unclassified)**

4.15 The Guidelines on Management of Nuclear and Radiological Emergencies assume great importance in our context, as our country has extensive and varied programmes for peaceful uses of nuclear energy. Even while we have an enviable and impeccable record of safety and virtually fail-safe arrangements in all our nuclear establishments, the possibility, however, remote it may be, of human error, systems failure, sabotage, earthquake and terrorist attacks leading to the release of radioactive matter in the public domain, cannot be entirely ruled out. Through these guidelines, we aim to further strengthen our existing emergency management framework and generate public awareness, which will go a long way in allaying misapprehensions, if any, amongst the public.

4.16 In these guidelines, maximum emphasis has been laid on the prevention of nuclear and radiological emergencies, along with a detailed consideration of all other elements of the disaster management continuum. In this context, there may be two types of emergencies which will be of greatest concern to us. These can possibly arise as a result of (i) possible malfunctioning in the nuclear fuel cycle and (ii) detonation of a

Radiological Dispersal Device (or dirty bomb) by gaining unauthorized access to radioactive materials that are routinely used in hospitals, research facilities, industrial and construction sites. Owing to the highly complex and specialized nature of nuclear and radiological emergencies, the National Guidelines have been prepared and a consensus arrived on various technical and operational issues after a series of wide consultations and elaborate discussions amongst experts. These have included experts/ officials from various units of the Department of Atomic Energy (DAE), Atomic Energy Regulatory Board (AERB), DRDO, National Technical Research Organization (NTRO) and other stakeholders.

4.17 The guidelines on management of Nuclear and Radiological Emergencies duly vetted by the DAE, AERB, DRDO and large number of experts were released on 24 February 2009 by Shri M. K. Narayanan, National Security Advisor (NSA), in presence of Chairman, Atomic Energy Commission (AEC) and other dignitaries.



Shri M K Narayanan, National Security Advisor, Shri Anil Kakodkar, Chairman, Atomic Energy Commission with Gen. N. C. Vij, Vice Chairman and Shri B Bhattacharjee, Member, NDMA during the Release of Guidelines on Management of Nuclear and Radiological Emergencies on 24 February 2009



### Highlights of Guidelines on Management of Nuclear and Radiological Emergencies Part-I (Unclassified)

4.18 Following are the key structural and non-structural measures for Nuclear and Radiological Emergencies:

- i. Four specially trained and equipped battalions of the National Disaster Response Force are being operationalized for emergency response.
- ii. Armed Forces will be deployed to counter any major nuclear accident.
- iii. Emergency Response Centres (ERCs), to handle nuclear/ radiological emergencies, will be established to cover all metros and the other vulnerable areas in the country for all cities with a population of 20 lakh or more. This cover will be progressively extended to other cities.
- iv. At local level ERCs, based on mobile monitoring vans, will be set up by the Police in all major cities. These personnel will be suitably trained.
- v. Medical professionals are to be trained to work in radiation environment and to treat radiation injuries. The Medical Facilities are to be upgraded, including the creation of a model CBRN research and treatment centre at tertiary level.
- vi. A reliable and dedicated communication system with adequate redundancy is to be established in the

country to handle all types of emergencies.

- vii. Regulatory authority must ensure that necessary knowledge-base does exist and expertise is available with the private industry, whose participation for nuclear power generation is expected to grow in foreseeable future.
- viii. Knowledge and awareness level of the community in the immediate vicinity of nuclear facilities will be developed on priority.
- ix. The District Collector of the affected area will be responsible for handling the off-site nuclear emergency response himself/ herself.

### Guidelines under Formulation

#### Preparation of National Disaster Management Guidelines - Management of Chemical (Terrorism) Disasters

4.19 The draft National Guidelines on Chemical (Terrorism) were formulated by the Core Group by holding six meetings during the year 2007-08. The final draft was circulated to the Ministries/ Departments, States, various other Authorities and Institutions concerned. This being a complex subject, the process of consultation was carried out throughout 2008-09. All the recommendations made were then analyzed and included in the final document. A presentation on this document was made by Lt. Gen. (Dr.) J R Bhardwaj, AVSM, VSM, PHS (Retd.), Member, NDMA to the Vice Chairman and Members of NDMA for their suggestions and approval of the draft. The guidelines are under finalization and will be released shortly.

### **Preparation of National Disaster Management Guidelines - Psychosocial Support and Mental Health Services**

4.20 During the formulation of the Medical Preparedness and Mass Casualty Management, it was felt that a separate Guidelines on Psycho-Social Support and Mental Health Services be prepared as it is an important subject for mitigation during disasters. Accordingly, a National Conference was held on 22-23 January 2007 for Psycho-Social Support and Mental Health Services. A number of deliberations of the Core Group were held to discuss the various aspects and the draft guidelines were prepared. Nationwide consultations with the large number of experts on the subject were held over the period April to October 2008. The suggestions and recommendations made during these consultations have been evaluated and the final draft of these guidelines is under preparation.

### **Preparation of National Disaster Management Guidelines - Minimum Standards of Relief for Food, Water, Medical Cover and Sanitation during Disasters and Disposal of Dead**

4.21 A "National Conference on Minimum Standards of Relief for Food, Drinking Water, Medical Cover and Sanitation during Disaster" was held on 26-27 February 2008 chaired by Lt. Gen. (Dr.) J R Bhardwaj, AVSM, VSM, PHS (Retd.), Member, NDMA. Consequent to this conference, NDMA constituted a core group for preparing "National Guidelines on Minimum Standards of Food, Drinking Water, Medical Cover and Sanitation for Disaster Relief". First

meeting of Core Group and Steering Committee was held on 11 April 2008. During this meeting outline of the guidelines were sketched out and a road map prepared. This was followed by another meeting on 22 May 2008 where it was decided that separate guidelines for each of the issues, i.e., food, water, sanitation and disposal of dead should be prepared.

4.22 Preparation of these guidelines was pursued with due involvement of all the experts and stakeholders during the meetings in June and August 2008. A separate Core Group was constituted to discuss the issues related to preservation and disposal of the dead. These issues were once again deliberated upon in a meeting on 28 November 2008.

4.23 A review meeting for preparation of these guidelines was held during 12-14 January 2009. The draft guidelines for all these issues relating to Minimum Standards of Relief for Food, Water, Medical Cover and Sanitation during Disasters and Disposal of Dead are under preparation.

### **Preparation of National Disaster Management Guidelines - Landslides & Snow Avalanches**

4.24 A core group was constituted by NDMA in August 2006 to prepare Guidelines on Landslides & Snow Avalanches. Geological Survey of India as the nodal agency is assisting NDMA in the preparation of National Disaster Management Guidelines on Landslides & Snow Avalanches. The draft guidelines for landslides management has been prepared in consultation and close collaboration with



Central Ministries and Departments concerned, Governments of all the landslide-prone States, academic institutions, Non-Governmental Organizations (NGOs), experts, etc., through meetings of the Extended Core Group, Core Group and Review Committee. Participants in these deliberations included the Secretaries in charge of Disaster Management in the States of West Bengal, Uttarakhand and Mizoram. Representatives of Institutes/Organizations involved in landslides management like National Remote Sensing Agency, Wadia Institute of Himalayan Geology, Govind Ballabh Pant Institute of Himalayan Environment and Development, National Centre for Medium Range Weather Forecasting, Snow and Avalanche Studies Establishment, Survey of India, Geological Survey of India and Border Roads Organization were also invited to these deliberations. The representatives of MHA and NIDM had also participated in these meetings.

4.25 A video-conference with the representatives of landslide-prone States of Andhra Pradesh, Arunachal Pradesh, Assam, Himachal Pradesh, J&K, Karnataka, Kerala, Maharashtra, Manipur, Mizoram, Meghalaya, Nagaland, Puducherry, Sikkim, Tamil Nadu, Tripura, Uttarakhand and West Bengal, was also convened on 16-17 September 2008. Valuable suggestions and recommendations from all the stakeholders were included in the draft guidelines and these have been circulated to all Central Ministries/Departments and other stakeholders on 09 March 2009 for their comments/ observations.

### **Preparation of National Disaster Management Guidelines - Drought**

4.26 A Conference was organized on 12 August 2008 at Dr. MCR HRD Institute of Andhra Pradesh, Hyderabad, to initiate the process of preparation of Guidelines for the Management of Drought, thereafter; NDMA organized a National Workshop on 14 March 2009 to discuss issues raised in the initial conference. This Workshop included participants from Central Ministries/ Departments and State Departments concerned, prominent NGOs, Corporate Sector, Community Based Organizations (CBOs), Panchayati Raj Institutions (PRIs), Insurance Company and progressive farmers. Meanwhile the Core Group and the Extended Group has been constituted and Joint Secretary, Department of Agriculture & Cooperation, New Delhi, has been nominated as the Convenor of the Group. Further action to develop the guidelines is underway.

### **Preparation of National Guidelines on Incident Command System**

4.27 Consequent to the decision taken for preparation of the National Guidelines on Incident Command System (ICS) to adapt this to the Indian context, a Core Group was constituted with a number of experts on the subject which held its first meeting on 09 October 2007. During the year 2007-08 various discussions were held involving a large number of stakeholders and the draft guidelines were prepared. These draft guidelines were then circulated amongst the various institutions and their comments/ suggestions were evaluated and incorporated in the draft.



4.28 During the period under this Report four Regional Consultation Workshops were conducted at; (i) HCM Rajasthan Institute of Public Administration (RIPA), Jaipur, Rajasthan; (ii) Assam Administrative Staff College, Guwahati, Assam; (iii) Dr. MCR HRD Institute, Hyderabad, Andhra Pradesh; and (iv) Goa Institute of Rural Development, Goa. These workshops were organized to identify and address various issues involved for adaptation of ICS in the backdrop of the Disaster Management Act, 2005 and existing Indian Administrative structure. The details of States which participated in these consultations are given below:

#### Core Group Meeting

4.29 On 14 and 15 March 2009, a core group meeting was organized to discuss

various suggestions received from four regional consultation workshops and the final draft incorporating these suggestions is under preparation.

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

4.30 An extensive work has been carried out during this period for preparation of National Guidelines on Management of Urban Floods. A brain storming session on 'Urban Flooding Environmental Impact Assessment (EIA) for New Urban Developments' was held at Andhra Pradesh Pollution Control Board, Hyderabad on 26 May 2008. The meeting of Sub Group on Structural Design and Drainage Systems for the preparation of these guidelines was convened on 30 May 2008 at

#### List of States participated in the consultation workshops

Sl. No.	Place	Date	States Participated
1.	HCM RIPA, Jaipur, Rajasthan	26 August 2008	Delhi, Haryana, UP, Punjab, Himachal Pradesh, J&K, Uttarakhand, Chandigarh and Rajasthan
2.	Assam Administrative Staff College, Guwahati, Assam	17 October 2008	Assam, Tripura, Mizoram, Manipur, Nagaland, Meghalaya, Jharkhand, Bihar, West Bengal, Arunachal Pradesh and Sikkim
3.	Dr. MCR HRD Institute of Andhra Pradesh, Hyderabad, AP	22 October 2008	Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Pondicherry, Lakshadweep and A & N Islands
4.	GIRDA, Goa	04 November 2008	Chhattisgarh, Daman & Diu, Dadra & Nagar Haveli, Gujarat, Madhya Pradesh, Maharashtra and Orissa

Indian Institute of Sciences, Bengaluru. Another Sub Group meeting on Science and Technology Tools was held on 09 June 2008 at NDMA, New Delhi. These meetings were followed by review meetings held on 10 June and 27 August 2008. Subsequently, presentations were made by Survey of India and Indian Road Congress on issues of Urban Flooding on 10 September 2008 and 26 September 2008 respectively. A Core Group meeting on Management of Urban Flooding was then held on 17 November 2008 to review the inputs for preparation of the guidelines. To study the phenomenon of Urban Flooding, Shri M Shashidhar Reddy, Member, NDMA also visited Chennai, Ahmedabad, Guwahati, Cochin and Kolkata.

4.31 A three-day Indo-US Workshop on 'Urban Flood Disaster Management Challenges: Administrative, Technical and Scientific Issues' was organized jointly by the NDMA and the United States Agency for International Development (USAID) from 7-9 January 2009 at Dr. MCR HRD Institute, Hyderabad, as a part of the agreement between the Government of India and United States of America on Disaster Management. The Indo-US workshop was a learning experience for both sides, enabling both the Indian and US experts to share their expertise and experiences on issues specific to urban flooding. However, American practices relevant to the National Guidelines on Management of Urban Flooding have been identified and are being taken up for inclusion in the guidelines on Urban Flooding. Subsequently, a Core Group meeting on Management of Urban Flooding was held at NDMA Bhawan, New Delhi on 10 February

2009 to discuss the inputs provided by the American experts.

#### **Preparation of National Disaster Management Guidelines for the Management of Tsunami**

4.32 For preparation of the Guidelines on Management of Tsunami, NDMA convened a National Workshop at New Delhi which was chaired by Prof. N Vinod Chandra Menon, Member, NDMA. This workshop was attended by Tsunami Management Experts from Government of India, State Governments, Academics and Professionals. A Core Group of experts was constituted and several meetings were held to formulate the Guidelines for the Management of Tsunami.

4.33 In this context a "National Conference on Habitat Development - Post Tsunami Reconstruction Perspective" was organized by United Nations Development Programme (UNDP) and United Nations Team for Tsunami Recovery and Support (UNTRS) in Chennai on 30 September 2008 with the participation of senior administrators from the Governments of Tamil Nadu, Kerala, Andhra Pradesh, Puducherry, Andaman & Nicobar Administration, MHA and some lead NGOs. The issues raised in this conference are being analyzed and the final draft of the Guidelines for Management of Tsunami is under preparation.

#### **Preparation of National Disaster Management Guidelines on the Role of Non-Governmental Organizations in Disaster Management**

4.34 A National Workshop on the Role of NGOs in Disaster Management was organized



at New Delhi. A National NGO Task Force for Disaster Management and a Core Group of Experts was constituted to prepare the National Disaster Management Guidelines on the Role of NGOs in Disaster Management. Several meetings of the Core Group have been held and the preparation of these Guidelines is under progress.

#### **Preparation of National Disaster Management Guidelines for Post-Disaster Reconstruction**

4.35 After the Regional Workshop on Owner-Driven Reconstruction at Gandhidham and the National Workshop on Owner-Driven Reconstruction at New Delhi, for preparing the National Disaster Management Guidelines on Post-Disaster Reconstruction, several Core Group meetings have been held and the guidelines are under preparation.

4.36 On 20 January 2009, Prof N Vinod Chandra Menon, Member, NDMA, delivered the valedictory speech in the 'National Workshop on Owner-Driven Reconstruction' organized by NDMA, UNDP, BMTPC, other stakeholders and Asian Coalition for Housing Rights at the India Habitat Centre, New Delhi.

#### **Preparation of National Disaster Management Guidelines for the Protection of Cultural Heritage from Disasters**

4.37 A Core Group of Experts including eminent Conservation Architects, Indian Institute of Technology (IIT) Professors, representatives of Archaeological Survey of India (ASI), the Indian National Trust for Art and Cultural Heritage (INTACH) and senior administrators was constituted to prepare the National Disaster Management Guidelines for the Protection of Cultural Heritage from Disasters. Several meetings of the Core Group have been held and the Guidelines are under preparation.

4.38 On 05 January 2009, Prof N Vinod Chandra Menon, Member, NDMA, inaugurated the Workshop on 'Risk Preparedness for Disasters in Urban Cultural Sites' at the Kamla Raheja Vidyaniidhi Institute for Architecture, Mumbai.

#### **Preparation of National Guidelines on National Disaster Communication Network**

4.39 A number of Core Group meetings and consultations with experts have been held during this period on the subject and final draft on the guidelines is under preparation.



# 5

## DISASTER PREPAREDNESS AND COMMUNITY AWARENESS

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### Medical Preparedness and Mass Casualty Management

5.1 India's unique geo-climatic conditions make it vulnerable to natural disasters like floods, drought, cyclones, earthquakes, and outbreak of diseases leading to a sizable number of human casualties. The Super Cyclone in Orissa in October 1999 caused more than 9,000 deaths; the Bhuj earthquake in January 2001 resulted in 14,000 deaths; while the Tsunami in December 2004 left behind 15,000 dead in India. The Bhopal Gas Tragedy of 1984 accounted for more than 15,000 deaths over a period of more than two decades. The above events underline the mass casualty potential of natural and man-made disasters. The increased vulnerability to man-made disasters due to industrialization and probability of terrorist attacks using 'dirty bombs' and/ or chemical bombs underscores the need to adopt a multi-disciplinary and multi-sectoral approach for preparedness, prevention, mitigation strategies and to develop capacities to improve response.

5.2 NDMA has taken concerted steps to enhance the preparedness in this all important domain in partnership with Ministry of Health & Family Welfare and the State Governments. Some of the projects like improving the Ambulance Services in the States,

upgradation of Bio-Safety Laboratories and creation of Trauma Centres are in the offing. To create awareness amongst the various stakeholders mock exercises have also been conducted on Hospital Preparedness and Mass Casualty Management.

### International Workshop on Pandemic Preparedness beyond Health

5.3 A workshop on Pandemic Preparedness beyond Health was conducted by the NDMA in partnership with the United Nations Disaster Management Team (UNDMT) on 21-22 April 2008. A large number of experts and delegates from UNDMT, Pandemic Influenza Contingency (PIC) team, Office for the Coordination of Humanitarian Affairs (OCHA), Geneva and OCHA Regional Officer for Asia Pacific (OCHAROAP) participated in the workshop. In addition to these delegates, a large number of members from the medical fraternity of the country and the Government Officials also attended this workshop. During this workshop, many important issues for Pandemic Preparedness were discussed. This workshop was a great learning experience. Subsequent to this workshop a document incorporating the measures on Pandemic Preparedness beyond Health was prepared by the NDMA and the UNDMT and was given a wide circulation.

### **Workshop/ Training Programme on Medical Preparedness for Emergency Medical Response to CBRN Casualty**

5.4 NDMA in collaboration with Defence Research and Development Establishment (DRDE), Gwalior, College of Military Engineering (CME), Pune, Bhabha Atomic Research Centre (BARC), Mumbai, conducted a training course for Medical Officers of National Capital Territory (NCT) of Delhi on 15 September 2008 at Gwalior, Madhya Pradesh. During this course along with theoretical lectures, comprehensive practical training and hands on demonstration was imparted on protection, detection, decontamination and use of auto injectors. Number of training courses are being planned to train the doctors and NDRF personnel for mass casualty management arising out of this threat.

### **Co-participation of NDMA in awareness programmes/ conferences of other organizations**

5.5 NDMA co-organized "TRAUMA - 2008" International Conference, CME cum Live Workshop & Inaugural Conference of the Indian Society for Trauma and Acute Care (ISTAC) held from 28 to 30 November 2008 at Jai Prakash Narayan Apex Trauma Center, All India Institute of Medical Sciences (AIIMS), New Delhi. Participants of the workshop and conference were from all over India and the faculty also came from Israel and USA. There was a rich exchange of knowledge and ideas in the field of Disaster and Mass casualty management apart from the regular management of Trauma patient issues. The conference increased the awareness about the impact of injuries and trauma on society

amongst the medical professionals. The medical professionals including paramedics and nurses were also trained to tackle the mass casualty during disaster situation.

### **Management of Chemical (Industrial) Disasters**

#### **National Conference on On-Site Planning of the Industry including Medical Preparedness & Management of Casualties**

5.6 A National Conference on On-Site Planning of the Industry including Medical Preparedness & Management of Casualties was held on 24-25 July 2008 at Chennai. Keynote Address and Introduction to National Guidelines on Chemical (Industrial) Disaster Management and Medical Preparedness and Mass Casualty Management was delivered by Lt. Gen. (Dr.) J R Bhardwaj, AVSM, VSM, PHS (Retd.), Member, NDMA. This Conference was inaugurated and National Guidelines on Chemical (Industrial) Disasters were launched by Shri I Periasami, Hon'ble Minister for Revenue & Housing, Government of Tamil Nadu. In the conference, several issues like, On-site Planning & Emergency Planning for Transportation & Pipelines, Regulatory Framework and Compliance Status, On-site Emergency Response, Management of Chemical Casualties including Specialized Chemical Response etc. were discussed. In the conference, need of Hazardous Industrial Units to handle disasters using a good emergency plan, do's and don'ts to protect themselves in case of any natural or man-made disaster, more interactive sessions with industry and District Disaster Management Authorities (DDMAs), regular table top exercises or off-site drills etc. were deliberated upon.





Shri I Periasami, Hon'ble Minister for Revenue & Housing, Government of Tamil Nadu with Lt. Gen. (Dr.) J R Bhardwaj, Member, NDMA during the inauguration of National Conference "On-Site Planning of the Industry Including Medical Preparedness & Management of Casualties" and the launch of Guidelines on Management of Chemical (Industrial) Disasters on 24 July 2008 at Chennai

### National Conference on Safeguarding Pipelines, Isolated Storages and Ports Handling Hazardous Chemicals

5.7 National Conference on Safeguarding Pipelines, Isolated Storages and Ports Handling Hazardous Chemicals was held on 16-17 October 2008 at Goa. This conference was attended by a large number of Government Officials, members of the industry and other stakeholders. Some of the important participants in this conference were Shri Man Singh, Chairman, Petroleum & Natural Gas, Government of India, Dr. L U Joshi, Chairman, Goa State Pollution Control Board, Shri V K Jha, Secretary, Factories & Boilers, Ministry of Environment, Government of Goa. The National Guidelines on Chemical (Industrial) Disasters were also launched by Lt. Gen. (Dr.) J R Bhardwaj, AVSM, VSM, PHS (Retd.), Member, NDMA. This Conference also addressed the issues like Perspectives of Emergency Management Systems, Risk Assessment and Threats to isolated Storages and Warehouses and Medical Management of HAZCHEM Emergencies.

### National Conference on Chemical (Industrial) Disaster Management, Pipelines, Storages and Medical Preparedness

5.8 National Conference on Chemical (Industrial) Disaster Management, Pipelines, Storages and Medical Preparedness was held from 11-13 February, 2009, at New Delhi. This Conference was inaugurated by Dr. A P J Abdul Kalam, Eminent Scientist & Former President of India. Several issues like approach and timeframe for implementation of guidelines; preparedness and timelines for integrated hospital disaster management planning, safe transportation of hazardous goods; vapour suppression in storage tanks and pipelines through encapsulation and photo catalyst applications; role of alternative medicines in chemical disaster management; PPP in Medical Preparedness in Disaster Management; model for integrated services for evacuation of casualties, disposal of dead bodies during mass casualty incident etc., were deliberated at length.



5.9 A Software Platform of India, Human Resource Development Programme (HRDP) - Industrial Development Risk Management (IDRM)) Project, was launched by Lt. Gen. (Dr.) J R Bhardwaj, AVSM, VSM, PHS (Retd.), Member, NDMA. A Book on Chemical (industrial) Disaster Management was also released in this Conference by Dr. A P J Abdul Kalam. The book encompasses the collection of important case studies, risk assessment, capacity building initiatives, On-Site & Off-Site Emergency Planning, Hazardous waste Management, Medical Preparedness, Occupational Health Preparedness, Medical Management of Chemical Casualty, Specialized Medical Preparedness for Chemical Disasters, Safe transportation of Hazardous Chemicals and elucidations on safety and security of pipelines, storages, maritime transportation of dangerous goods as well as safe handling of HAZCHEM at ports.

### Public Private Partnership

5.10 With the increasing frequency of natural and man-made disasters, there is an

urgent need to mobilize and expand the efforts of disaster preparedness, risk mitigation and effective response. As a part of mobilizing critical stakeholders in professionalizing DM, NDMA has initiated the process of interaction with the corporate sector to understand and define corporate sector's role in DM. Corporate sector has contributed in post-disaster relief and it has also been identified that they can play a significant role in disaster preparedness and mitigation.

5.11 A conference on "Operationalizing Public Private Partnership for Disaster Management" was organized on 16 -17 April 2008, at Pragati Maidan, New Delhi in collaboration with Response Net and Aidmatrix. The target audience of the conference was; (i) Companies across industrial sectors, (ii) Companies involved in services and products for disaster preparedness, relief and rehabilitation, (iii) Existing civil society disaster preparedness and management organizations, (iv) Fresh graduates-interested in disaster management, (v) Students from schools, colleges and



Shri A P J Abdul Kalam, Eminent scientist and Former President of India, Dr. Akhilesh Prasad Singh, the then Hon'ble Minister of State for Agriculture, Consumer Affairs, Food & Public Distribution with Gen. N. C. Vj, Vice Chairman and Lt. Gen. (Dr.) J R Bhardwaj, Member, NDMA during the Release of a book on Chemical (Industrial) Disaster Management on 11 February 2009



institutions, (vi) Managers (Middle / Senior levels), (vii) Armed Forces personnel, (viii) Disaster response organizations and individuals and (ix) Media.

5.12 The objectives of this two days conference were to strengthen partnership models for PPP for disaster management, nurture the ongoing partnerships of stakeholders; and share experiences, challenges of PPP for disaster management, and operationalize and encourage models of PPP for DM.

### **National Conference on Role of Corporate Sector in Disaster Management**

5.13 National conference on Role of Corporate Sector in Disaster Management was organized at Federation House, New Delhi on 7 November 2008, in collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI). The main agenda of the conference was to:

- i) Identify the roles of various corporate entities in different areas of disaster management, including disaster preparedness, mitigation, emergency response and recovery,
- ii) Explore the potential roles of trade associations and the modalities on involving key opinion leaders in the corporate sector,
- iii) Explore the full potential of corporate social responsibility and public private partnership in disaster management in India for professionalizing various aspects of governance and
- iv) Set up National Corporate Task Force on Disaster Management as well as to chalk out a roadmap with milestones and appropriate strategies.

### **Corporate Disaster Resource Network**

5.14 It was felt that on the pattern of India Disaster Resource Network (IDRN) in the Government domain, a Corporate Disaster Resource Network (CDRN) should also be built up in the public domain. It would be an information platform where details of all such products would be available which are required in emergency response of various types. This would greatly help in the procurement of items required in times of need and would help in showcasing the products of the corporate sector. It would also help the corporate world in knowing what is required when and where and accordingly as a part of Corporate Social Responsibility donate such products. On 7 November 2008, in collaboration with Aidmatrix and CSO partners, CDRN was launched at New Delhi. A cross section of Corporate Sector like Tata Blue Scope, NTPC, IBM, SAP, Accenture, KPMG, Arcellor Mittal etc. participated. It was also decided that CDRN should be launched at the regional and state levels. Prof. N Vinod Chandra Menon, Member NDMA delivered the Keynote Address at the launch of the CDRN.



Shri J.K. Sinha and Prof. N Vinod Chandra Menon, Members, NDMA, in a Conference on the launch of CDRN.



### Civil Defence

5.15 In the ongoing initiatives for community preparedness and creating public awareness at the grassroots level, revamping of the Civil Defence (CD) is one of the major programmes addressed by the NDMA. The mandate of CD is being redefined to play an effective and meaningful role in DM. Recommendations of High Power Committee Report headed by Shri K M Singh, Member, NDMA on Revamping of Civil Defence in the country were presented to the Civil Defence Advisory Committee headed by the Hon'ble Union Home Minister on 02 April 2008. All the recommendations of the Committee were accepted.

5.16 In addition to the organizational restructuring, emphasis is also being laid on the training of volunteers to prepare them for their role in community awareness and proactive management of disasters. The current Civil Defence training curricula of National Civil Defence College (NCDC), Nagpur and Central Training Institutes (CTIs) are mainly focused towards emergency response and capacity building of emergency responders. It has been found that the training at state level is not effective due to inadequate resources and lack of appropriate training materials, refresher training to instructors and

trainers and standardized training modules on disaster management.

5.17 Considering the above facts, NDMA organized four regional consultation workshops at different regions of the country in collaboration with United States Agency for International Development (USAID) to review the CD training curricula / modules and carry out training need assessment for CD volunteers in holistic management of disasters. The details of the regional consultation workshops are given below.

5.18 On the basis of the deliberations of these conferences, a detailed training curriculum has been developed which is in the process of finalization.

### Interaction with the States

5.19 Interaction and sensitization of the States to implement the paradigm shift in disaster management has been one of the major activities of the NDMA ever since its inception. The Vice Chairman and Members of NDMA visited several States and UTs and met the Chief Ministers, Governors and Government Officials to identify their concerns and priorities in the field of disaster management. Several meetings were held

Sl. No	Place	Date
1.	1 <sup>st</sup> RC NCDC, Nagpur	19 July 2008 (Western Regional Conference)
2.	2 <sup>nd</sup> RC Kolkata	25 July 2008 (Eastern Regional Conference)
3.	3 <sup>rd</sup> RC Delhi	22 August 2008 (Northern Regional Conference)
4.	4 <sup>th</sup> RC Trivandrum	05 November 2008 (Southern Regional Conference)

during these visits with various stakeholder groups to obtain their feedback on strengthening disaster preparedness, mitigation efforts and emergency response.

5.20 In addition to these visits, sensitization workshops were also conducted in Maharashtra and West Bengal on 07 November and 23 December 2008 at Mumbai and Kolkata respectively. These workshops involved a large number of stakeholders besides participants from Central Ministries and State Departments concerned. Prominent NGOs, Corporate Sector, CBOs, PRIs and Urban Local Bodies (ULBs) were also represented in these workshops.



Shri Vilasrao Deshmukh, Hon'ble Chief Minister, Maharashtra with Dr. Mohan Kanda, Member, NDMA in a Sensitization Workshop in Mumbai

5.21 Considering the multi-hazard vulnerability profile of the North Eastern States, a major initiative was undertaken to hold the workshops in these States in collaboration with the North East Council. During these workshops the risk and vulnerability analysis of each of these States was presented by experts and the Members of the NDMA. In these workshops field demonstrations by the NDRF Bns located at Guwahati and Kolkata were also carried out

on search and rescue skills in a disaster situation.

5.22 A two day workshop on 'Disaster Risk Management' was organized in Itanagar in Aurnachal Pradesh on 17-18 April 2008. Shri Dorjee Khandu Hon'ble CM inaugurated the workshop.



Shri Dorjee Khandu, Hon'ble Chief Minister, Arunachal Pradesh with Shri K M Singh, Member, NDMA during Disaster Risk Management Workshop in Itanagar on 17 April 2008

5.23 NDMA also organised a workshop in collaboration with Govt. of Meghalaya on Disaster Preparedness at Shillong on 10-11 June 2008. Workshop was inaugurated by Shri Donkumar Roy, Hon'ble Chief Minister, Meghalaya.



Shri Donkumar Roy, Hon'ble Chief Minister, Meghalaya with Shri K M Singh and Lt. Gen. J R Bhardwaj, Members, NDMA during Disaster Risk Management Workshop in Shillong on 10 June 2008



5.24 Two Day workshop on Disaster Risk Reduction was organised on 12-13 December 2008 at Agartala. The workshop was inaugurated by Shri Manik Sarkar Hon'ble CM Tripura. A demonstration on Collapsed

Structure Search and Rescue (CSSR) and Flood Rescue was carried out by the NDRF Bns. His Excellency Shri D N Sahaya, Governor of Tripura also witnessed the demonstration.



Shri Manik Sarkar, Hon'ble Chief Minister, Tripura with Gen. N C Vij, Vice Chairman, Shri K M Singh and Prof. N V C Menon, Members, NDMA during Disaster Risk Reduction Workshop in Agartala on 12 December 2008

### Mock Exercises

5.25 It is one of the most important initiatives which the NDMA has undertaken to facilitate the State Governments and District Administration in reviewing the effectiveness of their Disaster Management Plans both of natural and man-made disasters and creating public awareness. These exercises are



Mock Exercise on Earthquake in Aizawl, Mizoram, 17 February 2009

conducted in the most vulnerable districts and industries on the recommendations of the State Governments.

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





Mock Exercise on Chemical (Industrial) Disaster in Mumbai, 13 May 2008

keeping in view the responses of the various participants. A number of observers are also detailed to monitor the exercise and apart from the participants, the spectator from the community and stakeholders are also invited to attend the mock exercise. After the mock exercise a detailed debriefing is carried out in which the observers are asked to give their feedback. The gaps identified during these exercises are communicated to the State and District Administration and also to the Management of various industries.

5.27 Conduct of mock exercises has gone a long way in creating a culture of



Mock Exercise on Cyclones in Prakasam, Nellore District, Andhra Pradesh, 04 June 2008

preparedness at the grassroots level. There has been a large participation of the community as well as the students in most of these exercises. The District Administration, the Corporate Sector and the other First Responders have shown a tremendous enthusiasm. Most of these exercises have been attended by the elected representatives of the people and senior level functionaries at the State level. These exercises have also been widely covered by the local print and electronic media, thus, spreading the awareness amongst the large number of people.

5.28 During the year under report a total of 29 mock exercises were conducted throughout the country on various disasters like Urban Fire, Chemical (Industrial) Disasters, Floods, Earthquakes and Cyclones. The highlight of the mock exercise during this year was the conduct of mock exercise for Terrorist Attack and Gas Leak in Kolkata Metro Rail and mock exercises on Mass Casualty Management in Hyderabad and Bengaluru.



Mock Exercise on Hospital Preparedness and Mass Casualty Management in Hyderabad, 26 November 2008



**Mock Exercises conducted by NDMA from 1st April, 2008 to 31st March, 2009**

<b>Sr. No.</b>	<b>Date</b>	<b>Hazard/Disaster</b>	<b>Location</b>
01.	10 April 08	Urban Fire	Kolkata, West Bengal
02.	13 May 08	Chemical (Industrial) Disaster	Mumbai, Maharashtra
03.	24 May 08	Terrorist Attack and Gas Leak	Two Metro Stations of Kolkata Metro Rail
04.	29 May 08	Floods	Sidhdharthanagar District, Uttar Pradesh
05.	29 May 08	Floods	Gorakhpur District, Uttar Pradesh
06.	30 May 08	Floods	Deoria District, Uttar Pradesh
07.	04 June 08	Cyclone	Nellore, Andhra Pradesh
08.	04 June 08	Cyclone	Prakasham, Andhra Pradesh
09.	20 June 08	Floods	Veraval, Junagarh, Gujarat
10.	23 July 08	Chemical (Industrial) Disaster	Coimbatore, Tamil Nadu
11.	26 August 08	Mass Casualty Management	M S Ramaiah Memorial Hospital, Bengaluru, Karnataka
12.	29 August 08	Chemical (Industrial) Disaster	Haldia, West Bengal
13.	03 September 08	Urban Fire	Kanpur, Uttar Pradesh
14.	27 September 08	Urban Flooding	Chennai, Tamil Nadu
15.	01 October 08	Chemical (Industrial) Disaster	Bhilai, Chhattisgarh
16.	13 October 08	Urban Fire	Amritsar, Punjab
17.	18 October 08	Earthquake	East Delhi
18.	18 October 08	Earthquake	North-East Delhi
19.	18 October 08	Earthquake	South-West Delhi
20.	08 November 08	Earthquake	Shimla District, Himachal Pradesh
21.	11 November 08	Earthquake	Kangra District, Himachal Pradesh
22.	26 November 08	Hospital Preparedness and Mass Casualty Management	Hyderabad
23.	23 December 08	Cyclones	Kadmat Island, Lakshadweep
24.	24 December 08	Cyclones	Kavaratti Island, Lakshadweep
25.	17 February 09	Earthquake	Aizawl, Mizoram
26.	19 February 09	Chemical (Industrial) Disaster	Bengaluru (Rural), Karnataka
27.	24 February 09	Chemical (Industrial) Disaster	Numaligarh, Assam
28.	27 February 09	Earthquake	Kohima, Nagaland
29.	09 March 09	Chemical (Industrial) Disaster	Gurgaon, Haryana

### Awareness Campaigns

5.29 In its endeavor to spread awareness amongst the masses, 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.

#### Earthquake Awareness Campaign

5.30 The earthquake awareness campaign was extensively run through electronic as well as print media across the country throughout the year. To attract high viewership, the TV Spots were telecast during the prime time serials, news telecasts and the cricket matches. All India Radio also aired awareness campaign in their national as well as regional programmes. Advertisements in the leading national and regional dailies were also published. A special supplement on earthquake awareness was also published in India Today by Prof. N Vinod Chandra Menon, Member, NDMA in March-April 2008. This special supplement was published in Hindi, English as well as some of the regional languages.

#### Cyclone Awareness Campaign

5.31 In continuation with the Cyclone Awareness Campaign launched in year 2007-08, a focused campaign was run from October to December 2008 on the electronic media. This campaign was also run on Private Television Channels, Doordarshan as well as All India Radio. The care was taken to ensure that all cyclone-prone States and UTs are

given a wide coverage in their regional languages.

#### Flood Awareness Campaign

5.32 The Flood Awareness Campaign was launched across the flood-prone States and UTs through electronic media. The All India Radio aired this campaign in the months of June, July and August 2008. To ensure that these programmes get a wide coverage, spots were broadcasted on Vividh Bharti, FM Channels and during Asia Cup 2008 Cricket Matches. Doordarshan also telecast these programmes during Tri-Series Cricket Matches in June 2008. These programmes were also extensively aired by the regional centres of Doordarshan and All India Radio.

#### Republic Day Tableau

5.33 NDMA exhibited its first tableau during Republic Day Parade 2009 to portray its multi-faceted activities of community participation, search and rescue, disaster communication and medical preparedness. This tableau was



NDMA Tableau during Republic Day Parade on 26 January 2009



highly appreciated for its creativeness and design.

### **Information, Education and Communication activities through States/ UTs**

5.34 In order to reach out to the villages and local level communities, NDMA has decided to involve the States/ UTs in the awareness generation activities. The State Governments have undertaken similar campaigns in the past and this brought into necessary synergy between States/UTs and NDMA. In order to ascertain the activities a video conference was held on 18 - 19 June, 2008 with the Relief Commissioners/

Principal Secretaries of States/UTs, followed by a meeting with representatives of States/ UTs to send proposals for awareness campaigns. The activities proposed by the States/UTs include posters, documentary films in cinema halls (including radio jingles, TV spots), distribution of booklets/leaflets in local languages, hoardings, wall paintings, school safety programmes, mock drills, preparation of training modules on preparedness, emergency response, retrofitting, earthquake resistant construction, public awareness etc. These programmes are being actively pursued with appropriate financial assistance from the NDMA.

# 6

## DISASTER RISK MITIGATION PROJECTS

6.1 NDMA is engaged in conceptualization and implementation of a number of mitigation projects. 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.

### Mitigation Projects

6.2 The following Mitigation Projects are being planned by the NDMA:

- National Cyclone Risk Mitigation Project (NCRMP).
- National Earthquake Risk Mitigation Project (NERMP).
- National Disaster Communication Network Project (NDCNP).
- National Flood Risk Mitigation Project (NFRMP).

- National Landslide Risk Mitigation Project (NLRMP).

6.3 Other Disaster Mitigation Projects include:

- National Mitigation Reserves.
- School Safety Programme (Pilot Project).
- Study of Soil Erosion of River Brahmaputra and River Ganges.
- Development of Cartography Base in India.
- Study of Hyderabad Urban Floods.

6.4 NDMA has initiated the preparatory work for launching a National Cyclone Risk Mitigation Project (NCRMP), National Earthquake Risk Mitigation Project (NERMP), School Safety Programme (SSP), National Flood Risk Mitigation Project (NFRMP), National Landslide Risk Mitigation Project (NLRMP) and National Disaster Communication Network Project (NDCNP) in close collaboration with the nodal agencies and the State Governments.

### National Cyclone Risk Mitigation Project

6.5 National Cyclone Risk Mitigation Project (NCRMP) developed for 13 cyclone-prone coastal States/ UTs, was formulated by the Ministry of Home Affairs and was transferred to NDMA in September 2006 for



its management. The project is proposed to be implemented by nine states namely, Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Orissa, Tamil Nadu and West Bengal and four UTs namely, Andaman & Nicobar Islands, Daman & Diu, Puducherry and Lakshadweep. The Project is to be posed to World Bank for funding.

6.6 The National Cyclone Risk Mitigation Project was drawn up with a view to address the cyclone risks in the country, with the World Bank assistance. The main objective of the project is to strengthen the structural and non-structural cyclone mitigation efforts and reduce the cyclone risk and vulnerability in the coastal districts prone to cyclones. The project is envisaged to have four major components:

- Component A - Improvement of early warning dissemination system by strengthening the Last Mile Connectivity (LMC) of Cyclone warnings and advisories.
- Component B - Cyclone risk mitigation investments.
- Component C - Technical assistance for hazard risk management and capacity building.
- Component D - Project management and institutional support.

6.7 These components are highly interdependent and have to be implemented in a coherent manner. The planning framework of activities under this project provides end-to-end solutions for effective Cyclone Disaster Management in all 13 coastal States/ UTs.

6.8 NDMA has engaged M/s Ernst & Young, a consultancy agency, to assist in

managing the project. The Agency has started the assignment with effect from 19 May 2008. The Agency will help the project to be appraised by the World Bank for assistance and has made considerable progress in preparing different toolkits and manuals such as Detailed Project Report (DPR), Procurement and Financial Management Manuals, Environment and Social Framework and Operations Manual. These documents are the requisite appraisal documents for the financial appraisal of the project by the World Bank. To give a momentum to the project, a full time Project Director under technical assistance from ISDR is in position.

6.9 With the approval of the Ministry of Home Affairs, funds in the form of grants-in-aid for preparation of Detailed Project Reports relating to the Project by the States have been released. The amounts released to the States include:

Sl. No.	Name of the State	Allocation (in Rs. Crore)
1.	Andhra Pradesh	1.80
2.	Orissa	2.5
3.	Maharashtra	0.5
4.	Gujarat	0.12
5.	West Bengal	0.98

#### World Bank Mission to States

6.10 The Missions from the World Bank toured the States of Orissa from 3-6 February, 2009 and Gujarat from 9-12 February 2009. The objective of the Missions was to review the progress of preparation and the

institutional readiness of the States, discuss and agree with the States on the fiduciary and safeguard management arrangements and thereby assist NDMA and the States in accelerating the pace of project preparation. The Missions were full in nature as the Missions consisted of Members from Disaster Management, Sector Expertise (Roads, Bridges, Cyclone Shelters, Canals and Embankments, Plantations), Procurement and Financial Management, Environmental and Social areas. The representatives of NDMA and M/s. Ernst & Young accompanied the World Bank Missions.

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

6.11 The National Earthquake Risk Mitigation Project (NERMP) aims to address the critical gaps in the management of earthquake related risks. The NERMP aims to achieve the following objectives:

- Capacity building of various stakeholder groups like engineers, architects, faculty members of engineering colleges, site supervisors, contractors, lead masons and masons etc;
- Creation of public awareness on earthquake risk and vulnerability, techno-legal regime, building safety etc;
- Creating an enabling techno-legal regime and its enforcement and compliance by different Ministries of GoI and State Governments;
- Institutional strengthening and Research and Development;

- Retrofitting of lifeline structures starting with district hospitals in 229 high risk districts in seismic zones IV and V for demonstrative effect; and
- Project management support.

6.12 M/s Price Water House Cooper have been appointed as consultation agency to prepare a DPR.

### **National Disaster Communication Network (NDCNP)**

6.13 The country requires dedicated Communication & IT support for proactive disaster support functions including for early warning & forecasting. The support has to be converged (Voice, Video & Data), adequate and also responsive. It also has to be multi-layered; both for Command & Control as also for Execution & Early Warning (EW)/Forecasting.

6.14 NDMA has drawn up a National Disaster Communication Network Project at an estimated cost of Rs. 450 Cr. with project duration of five years. At present NDMA is in the process of selection of a consultant for preparing DPR for this project. The objectives of this project are:

- To provide a reliable, responsive and dedicated Communication and IT support for proactive disaster management functions.
- Establishment/ strengthening of Emergency Operations Centres at National, State and District level.
- Extension of Voice Connectivity upto Village level.



- Data Connectivity upto Common Service Centre (CSC) Level.
- Expeditious restoration of communication at the disaster site.

6.15 In response to RFP, four firms submitted their Technical and Financial Bids. A TEC under the Chairmanship of Additional Secretary, DoT was constituted to evaluate the Technical and Financial Bids. The TEC met on 27 February 2009 and evaluated the firms on the basis of the presentation of firms and criteria of evaluation prescribed in the RFP. On the basis of the recommendation of TEC and provisions contained in RFP, the Financial Bids have been opened. At present a Contract Negotiation Committee has been constituted to negotiate with the lowest bidder for signing the contract.

#### **National Flood Risk Mitigation Project**

6.16 The NDMA has drawn up a National Flood Risk Mitigation Project as a comprehensive project for strengthening flood preparedness, mitigation and management in the country. The National Flood Risk Mitigation Project aims at assisting the Central Ministries/ Departments, State Governments to address the issues of preparedness and mitigation of floods to minimize vulnerability to floods and consequent loss of lives, livelihood systems, property and damage to infrastructure and public utilities. The project would be taken up for implementation during the 11<sup>th</sup> Five Year Plan at an estimated cost of Rs. 500 Crore. Currently NDMA is engaged in the process of selection of a lead consultant for preparation of DPR for NFRMP. In this connection Expression of Interest (EoIs) have been received from 14 firms and out of them 9 have

been shortlisted for issuance of RFP. The RFP and scope of work is currently being finalized and with this in view a TEC has been constituted. In this connection a reference has been made to the Nodal Ministry i.e., the Ministry of Water Resources to get an update on the various components of their flood management programme to ensure that there is no duplication of efforts.

6.17 The aims and objectives of the project are as under:-

- (i) Mitigation or reduction in risk, severity or consequences of floods.
- (ii) Improve capability to deal with floods; Effective preparedness to deal with floods; Improve promptness in response to the impending threat of flood or actual occurrence and to assess the risk and vulnerabilities associated with various flood disasters.
- (iii) To ensure that arrangements are in place to mobilise the resources and capability for relief, rehabilitation, reconstruction and recovery from disasters and to create awareness and preparedness and provide advice.

6.18 NDMA has initiated the process for selection of a Consultancy Agency for the preparation of DPRs on the activities in the NFRMP.

#### **National Landslides Risk Mitigation Project**

6.19 In order to evolve a comprehensive strategy for landslide hazard risk mitigation, the National Disaster Management Authority intends to prepare a Detailed Project Report

on National Landslides Risk Mitigation Project. The important activities under NLRMP would be designing and developing a comprehensive understanding of landslide process and mechanism, proposing a strategy along with plan for mapping and assessing landslides, proposing a monitoring mechanism for active landslides, proposing modalities for assessment of loss including compiling and evaluating information on economic impacts of landslide hazards etc. The other components would be capacity development and awareness generation among the stakeholders/ affected communities. The proposal has been included in the 11<sup>th</sup> Five Year Plan of the Planning Commission.

6.20 NDMA has initiated the process for selection of a Consultancy Agency for the preparation of DPRs on the activities in the NLRMP. Nine Expression of Interests (EoIs) have been received and currently they are being examined for shortlisting. The NDMA is currently in the process of constituting a TEC for finalizing the Request for Proposal (RFP) to be issued to the short listed firms.

### **National Mitigation Reserve**

6.21 The idea is to retain a reasonable reserve at the National level to cater to emergent requirements in the wake of serious disasters in both the plain and the mountainous terrain. Experience in major disasters in the last decade has clearly established the need of a national initiative for pre-positioning of some essential reserves at crucial locations, including some for the high altitude areas. These reserves are intended to augment the resources at the State level in the immediate wake of occurrence of major

disasters. The work for preparation of National Reserves for four lakh people has been initiated, on priority.

### **School Safety Programme (Pilot Project)**

6.22 To promote the culture of safety in schools, a National Programme is contemplated to be launched as a Pilot Project in the year 2009-2010. 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). Under this programme, measures will be initiated for capacity building at the school level as well as formulation of the draft School Safety Policy. This programme will also include retrofitting of minimum two Schools in the 44 targeted districts and a sensitization programme for the teachers as well as the students including conduct of mock drills.

### **Study of Soil Erosion by River Brahmaputra**

6.23 A study on the problem of soil erosion by River Brahmaputra in Assam was awarded to Prof Nayan Sharma of IIT Roorkee. The study is to be conducted in three phases. The study has commenced in April 2008 and the duration of this study is 24 months from the date of commencement. The total cost of the study including Institutional overheads and Service Tax is Rs. 32,49,451.



6.24 The deliverables in terms of phase I, II & III are as follows:

- Phase I: Interim report covering quantitative information on assessment of spatio-temporal induced bank line changes of the River Brahmaputra.
- Phase II: Appropriate ANN models will be developed for prediction of stream bank erosion of River Brahmaputra in Assam.
- Phase III: the synthesized study report will be submitted which will include recommended measures for erosion control for field testing at two erosion sites on the River Brahmaputra by the concerned agencies.

6.25 Prof. Nayan Sharma has submitted a report for Phase I. A copy of the report has been sent to the MoWR and Government of Assam for appropriate action on the recommendation contained in the report.

#### **Study of Soil Erosion by River Ganges**

6.26 This case is under consideration for review of the study on the basis of the fact submitted by Ministry of Water Resources (MoWR) that soil erosion study has been carried out for exactly the same reaches as proposed in this study i.e., Raj Mahal to Dhulian in West Bengal by Farrakka Barrage Authority by investment of Rs. 100 Crore and erosion has been effectively contained. In this the nodal ministry i.e., Ministry of Water Resources is being consulted for taking final view.

#### **Cartographic Base of India**

6.27 The National Disaster Management Authority is required to manage and mitigate disasters in different parts of the country. Such

initiatives required maps/ spatial data which is at present lacking. In the NDMA core committee meetings, several representatives of State Governments/ UTs were invited who have also felt the need for such maps for disaster mitigation and management activities. In this context the Empowered Committee of NDMA recommended the proposal to engage National Atlas and Thematic Mapping Organization (NATMO), Kolkata to undertake a study for preparation of DPR on development of Cartographic Base in India. The objectives of this study are as follows:

- To prepare a DPR for:
  - Development of a Cartographic Base at 1:10,000 Scales with 1m contour interval in a phased manner, giving priority to the areas of 241 multi hazard prone districts in the country.
  - Preparation of detailed maps at 1:2,000 scale with 0.5 m contour interval for the cities/ towns and other priority areas, that are of concern from Disaster Management angle.
- Evaluate and suggest technological options and mechanism for completion of the above assignments in a minimum time frame.

6.28 The estimated cost of study is Rs. 10 Lakh. It was recently indicated by NATMO that in connection with the tender enquiry for the preparation of DPR for development of Cartographic Base of India only two responses have been received and as such the process has not made any progress. In the circumstances the NATMO has been advised

by the NDMA to go for "Limited Tender" enclosing the names of reputed firms vide letter dated 9/1/2009. Director NATMO has sought approval of NDMA for the lowest bidder of the "Limited Tender" on 13/3/2009.

### **Probabilistic Seismic Hazard Analysis (PSHA)**

6.29 The NDMA intends to prepare a Probabilistic Seismic Hazard Map of India. It involves:

- Preparation of a draft Tech-doc presenting a standard methodology for PSHA of India including a review of the past efforts.
- Creation of a National Database Catalogue of earthquakes for Seismic Hazard Analysis.
- Development of selected Strong Motion Attenuation Relationship for six or seven different seismogenic regions of the country.
- Development of National PSHA Map for PGA and SA at bedrock level on a grid of 0.2x0.2 for different return periods.

6.30 The project has been assigned to Structural Engineering Research Centre (SERC), Chennai at a total cost of Rs. 56.14 Lakh vide this office letter dated 7/8/2008. An advance payment of Rs. 28.07 Lakh was made to SERC on 24 September 2008. A review meeting was held on 05 December 2008.

### **Hyderabad Urban Floods**

6.31 Hyderabad, the Capital city of Andhra Pradesh, has a history of Urban Flooding. In earlier times, Musi River, a tributary of Krishna River which flows through a major portion of

Hyderabad and divides the historic old city with the new city is the cause of flooding in Hyderabad. At the heart of the city there is large Hussain Sagar Lake the overflow from which is channeled through a canal to the nearby River Musi. The city of Hyderabad received a record rainfall on 22-23 August 2000. The rainfall caused massive flash floods in the city of Hyderabad. In view of this background in urban flooding in Hyderabad the NDMA on the basis of the recommendations of Empowered Committee approved the proposal for engagement of Andhra Pradesh State Remote Sensing Applications Centre (APRSAC), Hyderabad for undertaking the study on Mapping, Impact Assessment and Management of Hyderabad Urban Floods vide letter No. 5-43/ 2007 - Admn. Dated 27 August 2008.

6.32 The main objective of the study is to develop a flood forecasting model for assessing the impact of riverine flash floods and vulnerability mapping of the flooding hazard in the Hyderabad City. The recommendations of the study can be linked with existing Master Plans which would help the city managers/ planners in handling flood situations.

6.33 The total cost of study is Rs. 27 Lakh. Out of this a sum of Rs. 22 Lakh will be borne by APRSAC/ APSDMS and balance of Rs. 5 Lakh will be borne by NDMA. The total cost of study does not include the cost of instrumentation and ALTM data. The project will be completed within a period of 12 months starting from the date of acceptance by APRSAC/ APSDMS. The funds will be released on pro rata basis in the ratio of 5:22 (NDMA:APRSAC) based on the funding pattern of the project.



# 7

## INFORMATION, COMMUNICATION AND EARLY WARNING SYSTEMS

### Communication Support for Disaster Management

7.1 Communication and IT support system with state-of-the-art technology and built in redundancy for each of the technology adopted is the most important part of any disaster management framework. It is required during all phases of disaster continuum viz., pre, during and post disaster scenario. Along with voice, data and video conferencing, knowledge based information is required to be sent to the stakeholders for fast and appropriate disaster management action.

7.2 NDMA has already taken up the task to establish a dedicated National Disaster Communication Network (NDCN) in the country that will essentially be value addition to the existing communication and IT support system, wherever available, with special emphasis on the last-mile connectivity between the district level administration and the affected areas at the remotest locations during the disaster scenario.

### Development of Advance Forecasting Platform

7.3 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.

### GIS Platform

7.4 One of the most important inputs needed for disaster management and mitigation is the availability of the Decision Support System (DSS) based on GIS data, to the authorities responsible for taking decisions during the time of disaster. Taking advantage of the latest technological development in the field of remote sensing, the Geographic Information System (GIS) is proposed to be developed through NRSC Hyderabad. It will be made by superimposing core data (Demographic, Topographic, Infrastructure and Socio- Economic) and hazard data (hydro- meteorological and geographical) over the digital base maps for all the Maximum Hazard Prone (MHP) districts of the country.

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

7.5 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).

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

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

7.7 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.

7.8 A working group of experts from IIT Roorkee, IIT Mumbai, IMD, NRSC, CBRI, and RMSI are actively working on this and the project is nearing completion.

#### **Seismic Micro-zonation based on Probabilistic Seismic Hazard Analysis (PSHA) of Indian Landmass**

7.9 Seismic Micro-zonation is of high importance for i) Town planners for future land use and construction of buildings, flyovers, bridges, and other infrastructure, ii) Professionals for detail Geo-Technical investigation to be undertaken and iii) Enforcement of building construction codes. The earlier approach of deterministic seismic analysis based on observed damage pattern of earthquakes lead to wasteful expenditure and improper planning for development. Therefore, a need was felt to adopt the approach of Probabilistic Seismic Micro-zonation. This task is implemented through SERC Chennai and IISc Bengaluru. The work has already been initiated.



# 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 the most visible and vibrant force of the NDMA. NDRF battalions are presently located at Guwahati,

Kolkata, Mundali (Bhubaneshwar), Arakkonam (Near Chennai), Pune, Gandhinagar, Bhatinda and Ghaziabad. Two additional battalions of NDRF have also been proposed at Patna and Vijayawada (Fig 8.1).

### NDRF BNS - LOCATIONS

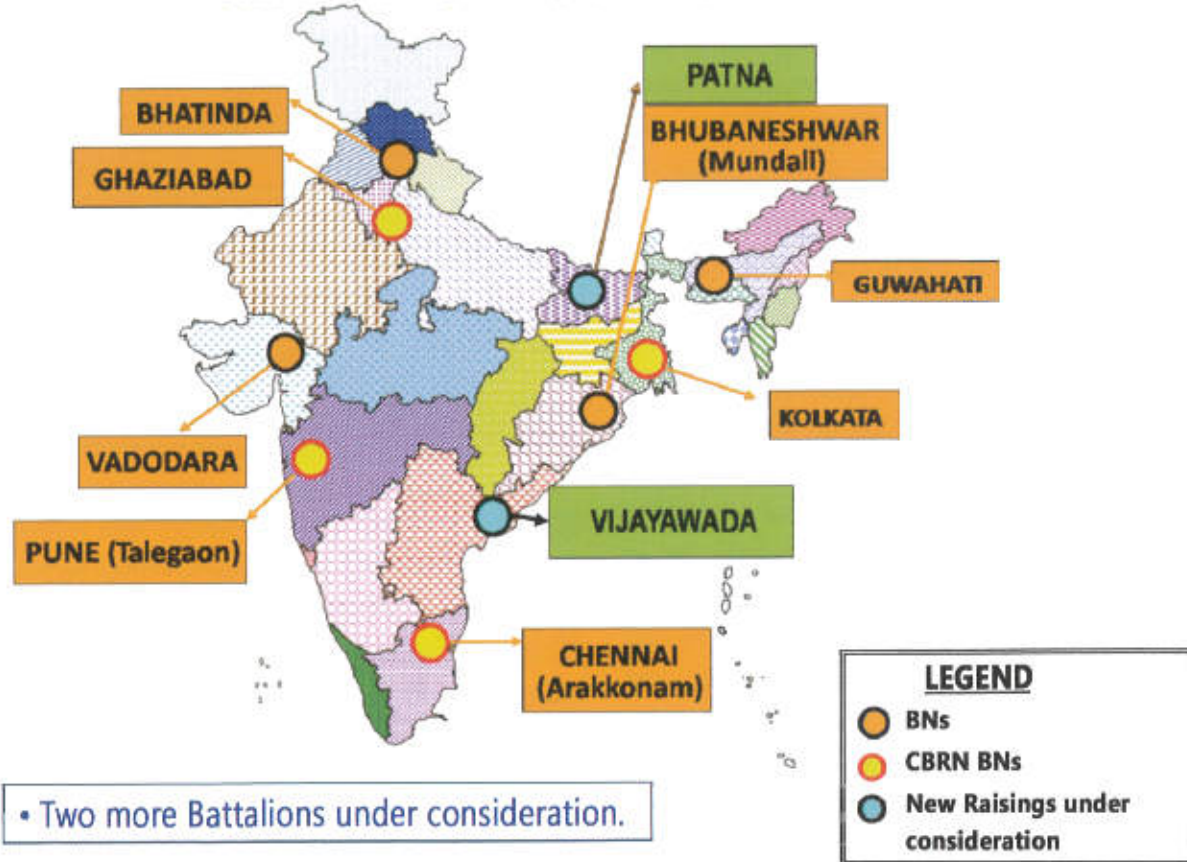


Fig. 8.1

8.2 The NDRF with highly swift rescue operations proved its efficacy during the floods in Bihar, Orissa and Assam. Additionally, the Community Capacity Building Programmes carried out by NDRF in different States brought it face to face with the community and a distinct recognition of an elite disaster response team has emerged.

### Infrastructure

#### Land

8.3 NDRF was already in possession of land at Vadodara, Mundali & Arakkonam by the year 2007-08, land was allotted at Patna and Pune for establishment of NDRF Battalions. Besides, the process of allotment of land continued at Ghaziabad, Nurgpur and Kolkata for NDRF Bns and at Nagpur for National Training Institute for Search and Rescue.

8.4 Impressed with prompt and efficient response of NDRF Bns during Bihar, Orissa and Assam floods; the Hon'ble Chief Minister of Bihar made formal request to the Hon'ble Prime Minister to sanction one Bn of NDRF in Bihar. Hon'ble CM, Bihar also offered 74.47 acres of land for the purpose in Bihta near Patna. At the same time Hon'ble Chief Minister of Andhra Pradesh made a similar request to Hon'ble Prime Minister for a NDRF Bn in Andhra Pradesh and has offered land for the same. The Gol has agreed to sanction two more NDRF Bns in Bihar (near Patna) and Andhra Pradesh (near Vijayawada). The process of infrastructure building and raising of two NDRF Bns at these locations has started and two companies of NDRF were earmarked for deployment at Bihta (near Patna) as a pre-emptive action for the forthcoming monsoon season in Bihar.

### Training Infrastructure

8.5 The NDMA has envisaged setting up of one National Institute of Excellence for Search and Rescue at a central place like Nagpur along with a network of ten outreach centres at the respective NDRF locations. The State-of-Art National Training Institute on Search and Rescue (NATISAR) at Nagpur will be responsible for (a) Advance Training on Search and Rescue (SAR); (b) Training of Master Trainers (ToT) and (c) Development of Training Plan, Modules, Content, Management Systems etc. It will also be available to complement the SAARC Centre for disaster management at NIDM in its Regional Response Capacity Building Initiatives. One hundred acres of land has been identified at Nagpur for the purpose. The outreach training centres at the respective NDRF Bn locations will be responsible for imparting basic training on SAR for its own personnel and also the SDRF personnel from the assigned States.

### Manpower

8.6 The NDRF battalions are authorized a strength of 1158 personnel each including 145 technical and medical personnel. At the beginning of the year 2007-08, the overall availability of manpower in the NDRF Battalions was roughly around 78 per cent, which had risen from 46 per cent during the same period in year 2006-07. However, it required continuous efforts on the part of NDMA in maintaining the status of manpower situation in these NDRF battalions during 2007-08.

8.7 A major breakthrough came about on the issue of technical manpower during the



year when a Committee headed by Addl. Secretary, NDMA submitted a comprehensive recommendations for the recruitment of technical and medical manpower in the NDRF Battalions. The MHA has accepted the report and the process of formulating the Recruitment Rules for these posts has begun.

### Training

8.8 Ministry of Defence (MoD) gave its approval for air support for helislithing training of 1,440 NDRF personnel during 2008-2009, NDMA organised helislithing training at the Para Bns at Chandigarh, Guwahati and Bengaluru. Last year NDMA had trained 1,260 personnel in helislithing.



Helislithing Training at Chandigarh

8.9 NDRF Bn Kolkata and Pune sent 100 personnel each for Flood Rescue Training at Rashtriya Life Saving Society, Kolkata from 16 July to 15 August 2008. Another 50 personnel from NDRF Bn Kolkata had undergone Flood Rescue Training at Sea Explores' Institute, Kolkata from 14 July to 02 August 2008. Another 100 personnel of NDRF Bn CISF, Mundali have undergone Flood Rescue Training at Rashtriya Life Saving Society Kolkata during the period of September - October 2008.



Flood Rescue Training at Kolkata

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

8.10 Training programme was organized by NDRF Bn Guwahati for 42 Armed Police Personnel (including 08 Fire Brigade Personnel) at Police Training Centre, Banderdewa, Arunachal Pradesh from 11 October to 11 November 2008 at the request of Director, Relief, Rahabilitation & Disaster Management (RR&DM) of Arunachal Pradesh. The Training module included various lectures, demonstrations and rigorous practical sessions on Medical First Responder, Collapsed Structure Search and Rescue, Fire Fighting, NBC, Rope Rescue and Swimming Skill.

8.11 NDMA conducted a special course of "Training of Trainers" for 34 State Police personnel from Rajasthan, Maharashtra and Jammu & Kashmir Police at CTC-II Coimbatore from 12 January to 27 February 2009. The objective of the training was to help the States develop a pool of trainers to be used in raising SDRF.

8.12 A course on Management of Casualties in a Disaster Scenario was



conducted by BIDR, BSF Academy, Tekanpur during 17 -19 March 2009. A total of 43 personnel from different NDRF Bns and training institutes participated in the course. The course curriculum included rules, regulations and procedures related to recovery of dead bodies/ dead body parts, documentation, matching of ante mortem with post mortem evidence and dignified disposal of dead bodies.

8.13 NDMA in association with University of Pune launched a programme of training 300 teachers of Pune University. The training will be conducted in six batches comprising 50 teachers in each batch. Objective of the course is to train the teachers as trainers so that their services may be utilized in imparting training to the under-graduate students of Pune University in particular and community in general. Pilot batch "Training of Trainers" for teachers of various colleges of Pune University comprising 21 teachers including 13 lady teachers was organized at NDRF Bn Pune during 9-14 March 2009. The training module included various lectures, demonstrations and rigorous practical sessions on Medical First Response, Flood Water Rescue, High Rise Building Rescue and CBRN emergencies.

### Foreign Courses/ Exercises

8.14 NDMA organized the following foreign courses/ exercises for the NDRF personnel during the year 2008-09:

- USAID PEER (Program for Enhancement of Emergency Response) conducted a national level Master Instructor Workshop at NISA, Hyderabad from 21-25 April 2008 with the help of National Society for



Urban Search and Rescue Training Course by SDC

Earthquake Technology (NSET), Nepal. Total 24 lead instructors from different NDRF Bns attended the course.

- Under the Indo Swiss Collaboration on Disaster Risk Reduction, the Swiss Development Corporation (SDC) conducted a course on Urban Search and Rescue from 18-26 June 2008 at NISA Hyderabad. The course was planned to provide the consolidation level training in Urban Search and Rescue to 24 NDRF trainers by Swiss Experts. Another batch of 36 NDRF personnel was trained in Urban Search and Rescue course at NISA, Hyderabad during 01-11 December 2008.
- 12 NDRF dog handlers along with their dogs attended a course on Search at ITBP BTC, Bhanu from 20-27 August 2008. This course was organized by Swiss Agency for Development and Cooperation under Indo-Swiss collaboration to enhance and update the disaster response skills of NDRF personnel. Another batch of 12 trainers along with their dogs attended a course of Search Training at ITBP BTC, Bhanu from 01-11 December 2008 under this programme.
- The USAID PEER (Programme for Enhancement of Emergency





Swiss expert Training Dog-handlers



ASAR Training at Florida, USA

response) Instructor Development programme was conducted at CTC-II, CRPF Coimbatore during 03 November - 27 December 2008 with assistance of NSET, Nepal. 24 NDRF personnel from different Bns underwent Medical First Response (MFR), Collapsed Structure Search and Rescue (CSSR), Training for Instructors (TFI), MFR Instructors Workshop (MFRIW) and CSSR Instructors workshop (CSSRIW) courses.

- Swiss Government organized four days UN INSARAG exercise from 17-20 November 2008 to strengthen

International coordination between rescue teams of Germany, Austria and Switzerland and to test international coordination to disaster response in accordance with UN INSARAG guidelines. Comdt. NDRF Bn Guwahati attended the exercise from India.

- Under USAID Programme arranged by NDMA an Advanced Search and Rescue (ASAR) course was attended by 24 NDRF personnel at Florida, USA from 01-05 September 2008.

8.15 The details of important trainings of NDRF Bns till March 31, 2009 are as follows:

Sl. No.	Details of Training	Trained upto March 31, 2008	Being Trained in 2008-09	Total
1	Collapse Structure Search & Rescue (CSSR)/ Medical First Responder (MFR)	1,800	2,400	4,200
2	Flood Rescue	1,500	1,500	3,000
3	Diving (Refresher Course)	-	80	80
4	Helislithering	1,260	1,440	2,700
5	NBC First Responders	1,200	900	2,100
6	NBC Master Trainers	54	32	86
7	Training of Doctors for Disaster Management	7	20	27
8	Foreign Courses	36	44	80
9	Dog Handlers	12	12	24
	<b>Total</b>	<b>5,869</b>	<b>6,428</b>	<b>12,297</b>

## Disaster Response, Community Preparedness and Public Awareness Programme

### Disaster Response

8.16 During the monsoon season, NDRF Bns actively engaged themselves in Flood Rescue and Relief operations in Bihar, Assam and Orissa. During July to September of this year, the swift and highly skilled flood rescue operations of NDRF Bns saved lives of about 1,05,000 flood victims in these three states.

### Floods in Bihar

8.17 The devastating flood in Bihar due to major breach in Kosi barrage (18 August 2008) caused havoc in north-eastern parts of the State and was declared as "National Calamity" by Hon'ble Prime Minister on 28 August 2008. Flood rescue trained personnel of NDRF Bn Mundali and Kolkata responded with utmost promptitude and were the first to reach the flood affected areas. Later additional trained personnel and inflatable boats with OBMs were airlifted on daily basis for seven days with massive mobilization of IL-76 from Air Force and sent to Purnia Airbase in Bihar. These men and equipments were pressed into service from the Purnia Airbase itself. From 20 August 2008 onwards, the NDRF personnel actively engaged themselves in rescue operations and relief duties on a war footing in districts Supaul, Madhepura, Araria and Purnia. A total of 19 teams (780 personnel) from different NDRF Bns trained in flood rescue & relief operation along with 153 high capacity boats were deployed in the area. The swift and highly skilled rescue operations of the NDRF personnel saved and evacuated over 1,00,000 people trapped by the swirling waters of river Kosi.



"NDRF", the Hope of Flood Marooned Villagers

8.18 NDRF personnel distributed relief supplies including drinking water to the stranded flood victims. A medical camp was established by the NDRF at Supaul. Three other Medical Teams led by NDRF Medical Officers assisted the local administration in providing medical support to the victims.

8.19 Hon'ble Vice Chairman, NDMA along with Shri K.M. Singh, Member and Lt. Gen. (Dr.) J.R. Bhardwaj, Member, NDMA, visited Bihar and held a meeting with Hon'ble Chief Minister, Bihar and other senior officials of Bihar Govt. and offered all possible help. The rescue operation by the NDRF was directed and coordinated by the NDMA at the highest level. Shri. K. M. Singh, Member, NDMA, visited Bihar second time during the flood to provide necessary guidance/ impetus to the NDRF for this extraordinary operation.

### Floods in Assam

8.20 During the period July-September 2008 NDRF Bn located at Guwahati was deployed at Hailakandi, Dhemaji, Dhuburi, Mirza, Kendukona, Golakganj for flood rescue





Rescuing Children and Women



Relief Supply to Assam Flood Victims

and relief operations. NDRF teams saved about 2,500 flood victims in the area and shifted them to safer places and distributed relief materials to the flood victims.



Salvaging Assam Flood Victims

### Floods in Orissa

8.21 In September 2008, the NDRF teams from Bns located at Mundali and Kolkata equipped with inflatable boats and other life saving equipments were deployed for rescue and relief operations in flood affected districts of Puri, Cuttack, Kendrapada and Jagatsinghpura in Orissa. These teams saved lives of more than 2,500 people and rescued them to safer places.

### Floods in Tamil Nadu

8.22 NDRF Bn CISF, Arakkonam was deployed at Nemmelikudi, Thevamangalam and Thenkuvalaveli villages of Tiruvarur district of Tamil Nadu for flood rescue and relief operations in November 2008 and saved lives of more than 750 people trapped in water and evacuated them to safer places.

### Pre-emptive Deployment against Stampede at Sabarimala Temple, Kerala

8.23 Three Search and Rescue teams of NDRF Bn Arrakonam were deployed at Pamba and Sannidhanam of Sabarimala Temple in Kerala during the period of 17 October 2008 to 22 January 2009 to assist



Villagers Rescued during Orissa Flood





Distributing medicines to Orissa Flood Victims

the pilgrims in the event of any disaster during the pilgrimage period. Two medical camps were also established by NDRF for providing medical assistance to the pilgrims.

#### **Pre-emptive Deployment at Amarnath and Kailash Mansarovar Yatra Route**

8.24 One team of NDRF Bn from Greater Noida was deployed on Amarnath Yatra route and another team from the same Bn was deployed on Kailash Mansarovar Yatra during the months of July-August 2008 to assist the pilgrims in the event of any high altitude disaster.

#### **Deployment of NDRF teams for AERO India Show**

8.25 Three teams of NDRF Bn Arrakonam were deployed to respond to any emergency during the International Air Show event conducted once in two years at Air Force Station Yelahanka, Bengaluru from 05 to 16 February 2009.

#### **Community Preparedness and Public Awareness Programme**

8.26 The Community Capacity Building and Public Awareness Programmes of NDRF are

focused to prepare the community (the first responder) with response and mitigation measures in case of any disaster. NDRF Bns continued with their Community Capacity Building and Public Awareness Programmes in different parts of the country (Bihar, Maharashtra, Gujarat, Uttrakhand and Kerala) especially at areas prone to landslides and monsoon related calamities to impart training on rescue operations like life saving techniques to be taken in flood situation. The teams organised demonstrations on various disasters, prompt response and mitigation measures. The Community Capacity Building/ Public awareness Programmes organised by NDRF Bns were enthusiastically attended by local people, students, State Police, and also Central and State Govt. personnel. About 1,25,000 people attended different Capacity Building and Public Awareness programmes organized by NDRF Bns in different parts of the country.

8.27 During the period, NDRF also carried out its community capacity building and public awareness programmes in the states of Tamilnadu, Madhya Pradesh, Rajasthan, Maharashtra, Himachal Pradesh and Uttar Pradesh. About 23,000 people including various stakeholders have attended these capacity building programmes in various states.

8.28 NDRF embarked in a big way upon the community capacity building and public awareness programmes in Bihar which included training of vulnerable people and officials in various districts. During June - July 2008, 30 NDRF teams (02 per district) carried out 3 day Flood Preparedness





Community Awareness Programmes being conducted by the NDRF

Training Programme for one month in 15 vulnerable districts (Bhagalpur, East Champaran, Vaishali, Munger, Muzaffarpur, Saharsa, Madhepura, Khagaria, Begusarai, Darbhanga, Madhubani, Patna, Sitamarhi, Samastipur and Seohar) of Bihar before monsoon season at District/Block levels. More than 15,000 village volunteers, local people, students, State Police, and also Central and State Govt. officials participated in the programme. In February - March 2009 another 12,000 people were trained in a similar programme.

### NDRF Workshops/ Exhibitions

8.29 NDRF training conference / workshop was held on 10-11 April 2008 at NDMA, New Delhi. Vice Chairman, NDMA emphasized the need for high standard of training to NDRF personnel for quick response to any disaster. It was decided that all the NDRF Nodal Training Centres will introduce approved NDRF courses so as to maintain uniformity in training curricula.

8.30 Two-day exhibition on Disaster Management by Army Training Command at



Community Capacity Building and Public Awareness Programme by NDRF in Vulnerable Districts of Bihar during June-July 2008 and February-March 2009



Shri Naveen patnaik, Hon'ble Chief Minister, Orissa with Gen N C Vij, PVSM, UYSM, AVSM (Retd.), Vice Chairman, NDMA during Two-day exhibition on Disaster Management by Army Training Command at Bhubaneswar on 13 December 2008.



Bhubaneswar, Orissa was inaugurated by Shri Naveen Patnayak Hon'ble Chief Minister of Orissa with Vice Chairman NDMA as Guest of Honour on 13-14 December 2008. NDRF Bn located at Mundali put up an impressive display of various rescue equipments during the exhibition.

8.31 A workshop cum exhibition on disaster management was organized by University of Pune, Maharashtra on 12-13 January 2009. The exhibition on Disaster Response put up on the occasion by NDRF Bn Pune was appreciated amongst 1.25 lakhs visitors including dignitaries from Central and State Govts., NGOs, students and general public.

8.32 BSF Institute of Disaster Response (BIDR) carried out mass public awareness drive by participating in Gwalior Trade Fair 2009 during the period of 07 January to 13 February 2009. Personnel of BIDR along with Search & Rescue and CBRN Emergencies equipments briefed the general public/ visitors about various natural and man-made disasters and preventive measures thereof.

### **Incident Command System**

8.33 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.

8.34 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, 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 ICS.

### **Evaluation of implementation of ICS in Orissa**

8.35 The Government of Orissa had organized a workshop for the implementation of ICS in the management of Baleswar flood situation of 14-15 June 2008. For the purpose of checking the efficacy of ICS on the ground, the NDMA evaluated the process of implementation of ICS on 09 September 2008 at Bhubaneswar. Thirty officers of Government of Orissa including state team and district team were interviewed. It had been found that i) the response mechanism was very much effective, ii) communication mechanisms were activated, iii) Role clarity of officers as per ICS structure, iv) relief code was maintained, v) required sections of ICS were activated, and vi) incident was managed as per objectives, etc.



### Simulation exercise on ICS in Assam

8.36 An ICS simulation exercise was conducted from 05 to 09 January 2009 at Silchar, Assam. Apart from Assam, the Senior Officers from Gujarat, a State which had implemented a pilot project on ICS also participated in this exercise. Major lesson which was brought out during this exercise was that the ICS has to be adapted to the local administrative set-up and the prevailing conditions in the district.

### Consultative workshop on institutionalization and scale up strategy for implementation of ICS in India

8.37 Two days Consultative workshop on institutionalization and scale up strategy for implementation of ICS in India was organized in collaboration with USAID Disaster Management Support (DMS) Project on 17-18 February 2009 at India Habitat Centre, New Delhi. The objectives of the workshop were as follows:

- i) Sharing information on progress of ICS piloting process and the experiences of ICS adaptation process in India;



Hon'ble Member Shri J.K. Sinha discussing with the targeted audience on institutionalization and scale-up strategy of ICS

- ii) Discuss lessons learnt from ICS piloting process in India;
- iii) Sharing information on future planning for integrating the ICS in the emergency response system of India;
- iv) Brainstorming on various components of the institutionalization process and scale up strategy and solicit ideas and recommendations; and
- v) Identify specific components of the institutionalization process and scale up strategy that will help the group of consultants to fine tune their output.

### ICS awareness Programme and Mock Exercise in Nagaland

8.38 A four days ICS awareness training program followed by mock exercise was organized at Nagaland in collaboration with ATI and civil administration, Kohima, Government of Nagaland from 24 to 28 February 2009. 43 state administrative officers participated in the program. The stakeholders were from various line departments, including the District Administration, Police, Home Guards, Medical Services, Food and Civil Supplies, Kohima Municipal Council, Red Cross, NDRF, PWD, PHED, Power, Fire and Emergency Services, etc. participated in the program. It was designed to propagate the ICS principles at the operating level and orient the participants to these principles through a mock exercise which was conducted on the last day of the program.

### Exposure visit

8.39 To see the adaptation and implementation of ICS the Government of

India sent a team from 11 to 23 January 2009 to Australia. The team was led by Shri J.K. Sinha, Member, NDMA, and it included 11 other Officers and Field Practitioner of ICS from various States of the Country. The

outcome of these deliberations would help in a big way in adapting the ICS to the existing administrative set up in the country to further improve the response capabilities.



# 9

## CROSS CUTTING THEMES

### Role of NDMA during Kosi Floods

9.1 On 18 August 2008 Bihar was struck with unprecedented floods due to breach in the embankment near Kushaha in Supaul District. The calamity was of such a magnitude that it engulfed six north-eastern districts of Bihar with River Kosi changing its course. NDMA was the first to respond to this disaster by deploying the NDRF teams from 20 August 2008 onwards. In total 19 NDRF Teams were deployed with 153 boats which rescued over one lakh people.

9.2 During this entire period NDMA coordinated its activities with NCMC and NEC which proved the efficacy of coordinating mechanism at the Apex Level. Gen N C Vij, PVSM, UYSM, AVSM (Retd.), Vice Chairman, NDMA, Lt. Gen. (Dr.) J R Bhardwaj AVSM, VSM, PHS (Retd.) and Shri K M Singh, Members, NDMA visited the Bihar State on 01 September 2008 and had a detailed interaction with Shri Nitish Kumar, Hon'ble Chief Minister and other State Officials and assured them all the support.

9.3 In addition to the rescue efforts, NDMA coordinated with the Corporate Sector, NGOs and other voluntary organizations for the requirement of immediate relief. A total of 1589 tents and 1125 tarpaulins were supplied for establishment of the relief camps. 4.2 lakh water bottles and five water purifying plants along with large quantities of water purifying

tablets, antibiotics and ORS were also supplied to the State Government. During this period NDMA maintained a close liaison with the Railway Authorities as well as the Indian Air Force for dispatch of stores and personnel which was carried out on a war footing.

9.4 On 12 September 2008, full NDMA meeting was convened at the PMO chaired by the Hon'ble Prime Minister. In this meeting a detailed briefing on the assistance provided to the State was carried out by the NDMA and various Ministries/ Departments. During this meeting it was noted that the institutional and coordination mechanism established for Disaster Management responded to the calamity in an effective manner. Contribution of the National Disaster Response Force, Armed Forces and Central Paramilitary Forces was also appreciated. It was also noted that the first stage of immediate response and evacuation was almost over and now the effort should be directed towards the relief and rehabilitation. It was decided that a high level committee consisting of Vice Chairman, NDMA, the Cabinet Secretary and the Home Secretary would initiate action at the earliest in this regard in coordination with the State Government.

### Mainstreaming Disaster Management into Developmental Plans

9.5 To mainstream the DM into developmental plans, a Working Group (WG)

was constituted by the Planning Commission, under the Chairmanship of Dr. Mohan Kanda, Member, NDMA. Recommendations of the Working Group have been incorporated in the Eleventh Five Year Plan document.

9.6 The NDMA has also proposed to the Planning Commission to put in place a mechanism that will monitor the operationalization of the following arrangements:

- (i) All ongoing and new programmes should be revisited to include design components compatible with the requirements of NDMA's guidelines in regard to the different types of hazards in different areas of the country.
- (ii) Existing built environment to be audited selectively with a view to retrofitting for disaster-resilience.
- (iii) Cabinet Committee on Economic Affairs (CCEA)/ Public Investment Board (PIB)/ Expenditure Finance Committee (EFC) Memos check lists to include the requirement of compliance with guidelines of NDMA wherever applicable.
- (iv) All Ministries/ Departments concerned to make appropriate fund provisions - for undertaking measures arising out of their plans for disaster resilient features - as required by the DM Act, 2005, and following the issuance of NDMA's guidelines.
- (v) Planning Commission was requested to ensure this aspect while approving annual/ five year plans of Central Ministries/ Departments and States

and to keep NDMA closely associated with the process.

9.7 A number of meetings have been held with the Planning Commission and the representatives of the Finance Ministry and the outcome of recommendations by the NDMA are awaited.

### **Funding Arrangements**

9.8 During the period under Report, NDMA carried out detailed interaction with the 13th Finance Commission and also briefed their Members on 19 May 2008. This was done with an aim to highlight the disaster management concerns for financial allocations. The following recommendations were made:

- (i) Funding of National and State level Mitigation Projects.
- (ii) Constitution of Disaster Response Fund at the National, State and District levels.
- (iii) Constitution of Disaster Mitigation Fund at the National and State levels.
- (iv) Enlargement of the scope of disasters for relief to include some more natural hazards afflicting different parts of the country like frost, cold wave, heat wave, lightning, river and sea erosion. Besides these, it was also recommended that man-made calamities occurring due to Chemical, Biological, Radiological and Nuclear origins should also be considered.

### **Catastrophe Risk Insurance**

9.9 Shri M Shashidhar Reddy, Member, NDMA was invited as a panelist in the session



of "Leveraging Insurance and Capital Markets against Natural Catastrophes" for the Conference on "Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific" organized by the Asian Development Bank (ADB) and Ministry of Finance, Government of Japan in Tokyo from 4-5 November 2008. One of the major recommendations for low penetration of Insurance in India and many other countries were the lack of data on the basis of which modeling can be done. This has also been well recognized in India and the Group of Ministers (GoM), which went into the recommendations of the Second Administrative Reforms Commission (ARC), took the decision that NDMA could work on collecting data needed for Insurance Companies.

9.10 In view of this, NDMA organized a conference on 'Harnessing Data for Disaster Risk Transfer Mechanism' on 12 March 2009 at NDMA Bhawan. The Conference was held to facilitate identification of the data required and prepare a Road Map for providing it with the involvement of various Ministries/ Departments, States, Insurance Regulatory



Gen. N.C. Vij, Vice Chairman, NDMA delivering Inaugural Address during the Conference on 'Harnessing Data for Disaster Risk Transfer Mechanisms'

and Development Authority (IRDA), National Insurance Academy (NIA), Academic and S&T Institutions and Insurance Companies. A consensus has been evolved on data required by Insurance Companies on the basis of which modeling can be done and appropriate products developed that will facilitate effective risk transfer mechanisms.

### Participation in International Conferences

9.11 Prof. N Vinod Chandra Menon, Member, NDMA, was invited by ProVention Consortium and the International Federation of Red Cross and Red Crescent Society (IFRC) to address the ProVention Annual Global Forum and Advisory Committee Meeting during 08-10 April 2008 at Panama City, Panama.

9.12 The State Council Poverty Reduction Office, IPRCC, Government of China, and Department for International Development (DFID), China organized an International Expert Workshop on "Wenchuan Earthquake Response: Community-Based Poverty Reduction in Remote Villages" on 14-15 July 2008. Prof. N Vinod Chandra Menon, Member, NDMA participated and addressed the delegates on formulating a policy on "Inter-Ministerial and Inter-Agency Coordination in Post-Earthquake Reconstruction" at Beijing, China.

9.13 During 26 to 29 January 2009, Prof. N Vinod Chandra Menon, Member, NDMA was invited to address the delegates of the Wilton Park Conference on "Responding to Flooding - Improving the Preparation and Response" at Wiston House, South Sussex, United Kingdom.

# 10

## ADMINISTRATION AND FINANCE

### General Administration

#### Office Accommodation of NDMA

10.1 The "NDMA Bhawan" at A-1, Safdarjung Enclave was completed in September 2008 and the entire office was shifted from the Centaur Hotel. This is a custom-made building with all the facilities like video-conferencing, video-wall, operations room, auditorium and library. The office has a modern outlook with optimum utilization of space. The building is earthquake resistant

and the provisions have been made for rain water harvesting and fire fighting.

#### NDMA Secretariat

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



VC and Members with other Officers and Staff of NDMA at 'NDMA Bhawan', A-1 Safdarjung Enclave



### **Policies, Plans, Rehabilitation and Recovery Division**

10.3 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 rehabilitation and recovery measures in all the States. Mainstreaming disaster management in development plans is also an important task of this division. This division is also closely involved with the tasks relating to Rehabilitation and Recovery and ensures that all new built environments are disaster resilient. 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.

### **Mitigation and Capacity Building Division**

10.4 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.

10.5 Capacity Building which is a major subject to be dealt with by the NDMA is another task of this division. The Mitigation and Capacity Building 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. The total sanctioned staff in this Division is 20, comprising one Advisor (JS level), four Joint Advisors (Directors level), four Assistant Advisors (US level) and 11 support staff.

### **Operations and Communications Division**

10.6 NDMA, as the Apex Body, needs to be always in a state of readiness to tender advice to the Government on disaster situations at all times, for which it must remain fully apprised of the latest information. For this critical activity NDMA has an Operations Centre to provide round the clock disaster specific information and data input facility and also guide the effort during the subsequent stages of response.

10.7 It also has the task of maintaining a dedicated and continually operational state-of-the-art communications. The key components of the Communication and IT Wing are Communications and IT network and DM Information System with special reference to Knowledge Management and Data Fusion with emphasis on GIS based applications. The total sanctioned staff in this Division is 15, comprising one Advisor (JS level), two Joint Advisors (Director level), three Assistant Advisors (US level), two Duty Officers (US level) and 7 support staff.

### **Administration and Coordination Division**

10.8 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

10.9 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 Asstt FA (US level) and 5 support staff. Details of its functions and responsibilities are:

- Drawls 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.
- To watch settlement of audit objections, Inspection Reports, Draft Audit paragraphs etc.
- To ensure prompt action on Audit Reports, Reports of Public Accounts Committee (PAC) and Estimates Committee.
- To ensure timely submission of periodical reports and returns.

### Finance and Budget

10.10 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>   | - Relief on account of Natural Calamities.                                    |
| Major Head (2245)   |   |
| 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 Mitigation Project (NERMP).                        |
| 03  | - 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.

**Fund Allocation and Utilization**

10.11 During the period under report (2008-09) the Budget Allocation (BE) for NDMA was a total amount of Rs. 71.59 Cr., out of which Rs. 25 Cr. was meant for Plan Schemes/ Projects of the Organization and Rs. 46.59 Cr were allotted against Non-Plan Budget.

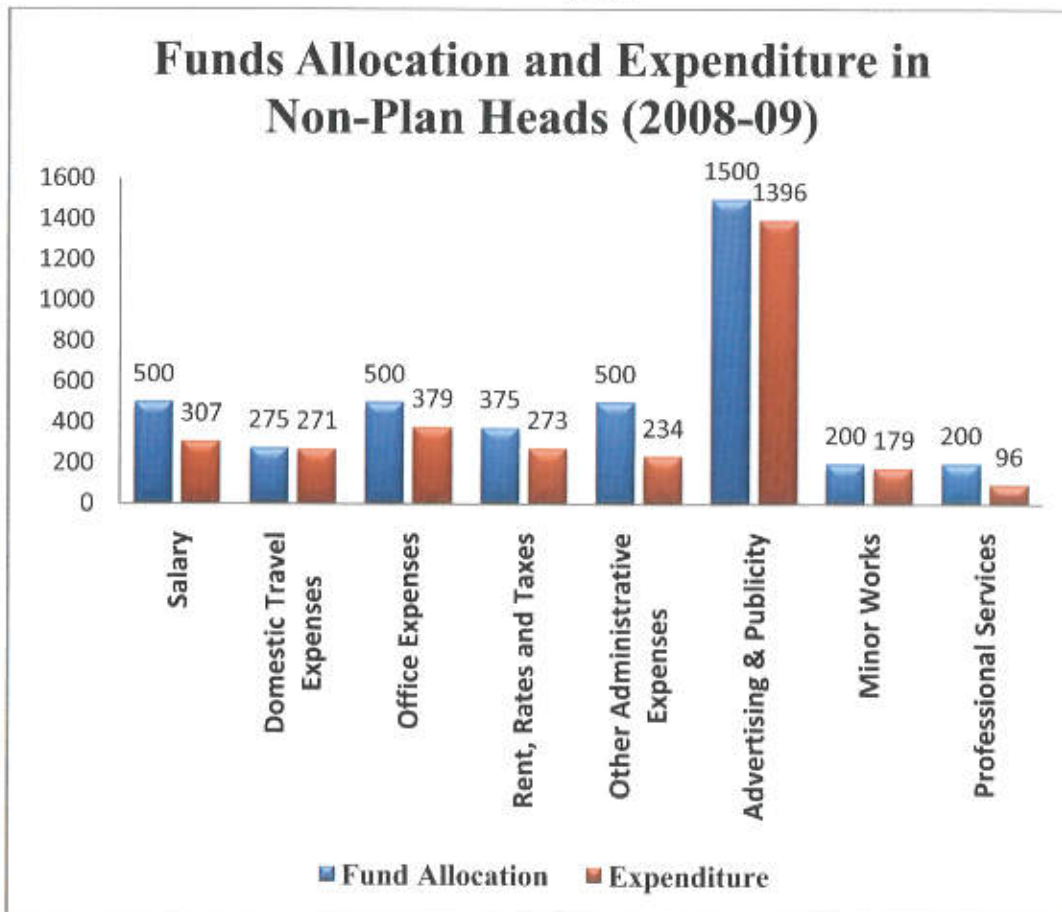
10.12 The actual expenditure against the RE of Rs 46.185 Cr (Non-Plan) and RE of Rs. 13 Cr (Plan) was Rs. 35.26 Cr for Non-Plan and Rs. 6.70 Cr for Plan Budget.

10.13 A substantial portion of expenditure under Non-Plan is incurred under the following

object heads:-

- Salaries.
- Domestic Travel Expenses (DTE).
- Office Expenses (OE).
- Rent, Rates & Taxes (RR&T) (during 2007-08, NDMA was housed in a rented accommodation).
- Other Administrative Expenses (OAE).
- Advertising & Publicity (A&P).
- Minor Works (MW) (carried out for the new office building of NDMA).
- Professional Services (PS).

10.14 Funds allocation and expenditure during 2008-09 under the above mentioned Non-Plan heads are shown below in graphical form:



10.15 Total amount of Rs. 25 cr. allotted in BE 2008 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. 2 cr.	(iv) National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	- Rs. 15 cr.
(ii) National Landslide Risk Mitigation Project (NLRMP)	- Rs. 1.5 cr.	(v) Other Disaster Management Projects	- Rs. 3 cr.
(iii) National Disaster Communication Network (NDCN)	- Rs. 1.5 cr.	(vi) National Flood Disaster Management	- Rs. 2 cr.
		<b>Total</b>	<b>- Rs. 25 cr.</b>

10.16 Actual expenditure during 2008-09 of Rs. 6.70 Cr was against the National Cyclone Risk Mitigation Project only.



# ANNEXURE I

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## Composition of the NDMA

1.	Dr. Manmohan Singh, Hon'ble Prime Minister of India	Chairperson
2.	Gen. N. C. Vij, PVSM, UYSM, AVSM (Retd.)	Vice-Chairperson
3.	Lt. Gen. (Dr.) J. R. Bhardwaj, PVSM, AVSM, VSM, PHS (Retd.)	Member
4.	Shri B. Bhattacharjee	Member
5.	Dr. Mohan Kanda	Member
6.	Prof. N. Viond Chandra Menon	Member
7.	Smt. P. Jyoti Rao	Member
8.	Shri M. Shashidhar Reddy	Member
9.	Shri K. M. Singh	Member
10.	Shri J. K. Sinha	Member

## ANNEXURE II

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### List of Senior Officers of the NDMA

1. Shri H. S. Brahma, Special Secretary (Since 01-12-2006)
2. Smt. Dipali Khanna, Financial Advisor (upto 31-07-2008)
3. Shri Sunil K Kohli, Financial Advisor (Since 01-08-2008)
4. Shri J. B. Sinha, Joint Secretary (upto 28-02-2009)
5. Dr. G.S.G. Ayyangar, Advisor (Since 18-08-2008)
6. Shri Suresh Kumar Sepuri, Advisor (Since 21-08-2008)
7. Shri Amit Jha, Joint Secretary (Since 27-02-2009)
8. Shri A.R. Sule, Director (Since March 2006)
9. Shri R.K. Singh, Deputy Secretary (Since 20-02-2009)
10. Shri Prem Kumar, Deputy Secretary (Since 23-02-2009)
11. Dr. C.V. Dharma Rao, Deputy Secretary (Since 20-03-2009)
12. Shri R.K. Chopra, Under Secretary (Since 14-11-2006)
13. Shri P. Thakur, Assistant Advisor (Since 01-05-2008)
14. Shri R.H.H. Hmar, Assistant Advisor (upto 07-01-2009)
15. Shri Mahendra Pratap, Assistant Advisor (Since 03-10-2008)
16. Shri J.C. Babu, Assistant Advisor (Since 25-09-2008)
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. Vijayalakshmi Bhardwaj, Assistant Advisor (Since 19-01-2009)
21. Shri Chandra Shekhar, Under Secretary (Since 09-03-2009)