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NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)

Government of India

**NDMA Bhawan, A1, Safdarjung Enclave
New Delhi – 110 029**

**National Disaster Management
Authority
Annual Report**

2009-10

National Disaster Management Authority Annual Report

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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

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

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

1

INTRODUCTION

Introduction

1.1 India is vulnerable, in varying degrees, to a large number of disasters. More than 58.6 per cent of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12 per cent) 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 per cent of its cultivable area is vulnerable to droughts; and, its hilly areas are at risk from landslides and avalanches. Moreover, India is also vulnerable to Chemical, Biological, Radiological and Nuclear (CBRN) emergencies and other man-made disasters.

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 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 The founding Members accordingly joined NDMA as follows:

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. Shashidhar 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.

- a) Gen N C Vij, PVSM, UYSM, AVSM (Retd.), Vice Chairman - 28 Sep 2005.
- b) Lt Gen J R Bhardwaj, PVSM, AVSM, VSM, PHS (Retd.), Member - 28 Sep 2005.
- c) Shri K M Singh, Member - 28 Sep 2005.
- d) Prof N Vinod Chandra Menon, Member - 28 Sep 2005.
- e) Dr. Mohan Kanda, Member - 05 Oct 2005.
- f) Shri M Shashidhar Reddy, MLA, Member - 05 Oct 2005.
- g) Smt P Jyoti Rao, Member - 14 Aug 2006.
- h) Shri B Bhattacharjee, Member - 21 Aug 2006.
- i) Shri J K Sinha, Member - 18 April 2007.

1.7 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.

Responsibilities of Members of NDMA

1.8 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. The Vice Chairman and Members of the NDMA are supported by the subject Specialists and Senior Research Officers to perform their functions.

NDMA Secretariat

1.9 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. The detailed organization of the NDMA Secretariat is being discussed in a separate Chapter on 'Administration and Finance'.

Advisory Committee of the NDMA

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

1. Ms. Kumud Bansal, IAS (Retd.).
2. Ms. Sushma Chaudhary, IAS (Retd.).
3. Prof. S. K. Dube, Director, Indian Institute of Technology, Kharagpur.
4. Prof. Harsh Gupta, Former Director, National Geophysical Research Institute, Hyderabad.
5. Shri Sanjoy Hazarika, Managing Trustee, Centre for North East Studies and Policy Research.

6. Dr. P. K. Iyengar, Former Chairman, Atomic Energy Commission.
7. Lt. Gen. Davinder Kumar, PVSM, VSM BAR (Retd.).
8. Shri Alok Mukhopadhyay, Chief Executive, Voluntary Health Association of India (VHAI).
9. Dr. R. K. Pachauri, Director General, The Energy & Resources Institute (TERI).
10. Shri R. S. Prasad, Former Chairman, Central Water Commission.
11. Dr. D. R. Sikka, Former Director, Indian Institute of Tropical Meteorology.
12. Lt. Gen. V. K. Sood, PVSM, AVSM (Retd.), Former Vice Chief of Army Staff.

1.11 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. The term of the existing Advisory Committee was extended for one year i.e., upto 14 June 2010.

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 the 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 and the National Policy on Disaster Management the vision is:

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

Objectives of NDMA

2.5 The objectives of the NDMA are:

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

3

OVERVIEW

Major Initiatives

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

- (a) Policy, Plans & Guidelines.
- (b) Mainstreaming Disaster Management into Developmental Planning.
- (c) Mitigation Projects.
- (d) Scientific & Technological Initiatives.
- (e) CBRN Preparedness.
- (f) Medical Preparedness.
- (g) NDRF - Strengthening Emergency Response.
- (h) Capacity Building.
- (i) 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). National Policy on Disaster Management got the approval of the Union Cabinet on 22 October 2009 and subsequently it was released by the Hon'ble Prime Minister on 18 January 2010 during the Third NDMA Meeting.

3.3 The DM Act, 2005 mandates NDMA to approve the national plan and the plans prepared by the ministries/ departments of the Gol in accordance with the National Plan. In this direction, it has 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.

3.4 During the period 2009-10 NDMA released three disaster specific and thematic guidelines viz., (i) National Disaster Management Guidelines on Management of Landslides & Snow Avalanches, (ii) National Disaster Management Guidelines on Management of Chemical Terrorism Disasters and (iii) National Disaster Management Guidelines on Psycho Social and Mental Health Care. NDMA also convened several workshops on the Management of Drought, Tsunami and Urban Flooding. The guidelines on cross cutting issues like Minimum Standards of Relief, Management of Dead, Role of NGOs in Disaster Management and several others are in various stages of finalization. The Guidelines on Incident Response System is ready and is likely to be released shortly.

Mainstreaming Disaster Management into Developmental Planning

3.5 Mainstreaming disaster management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity, but also from the perspective of minimizing that activity's potential contribution to the hazard. Every development plan has to incorporate elements of impact assessment, risk reduction, and the 'do no harm' approach. The aim being to ensure that all newly built structures and those under construction to be disaster resilient and those which have already been constructed are selectively retrofitted in accordance with priority.

Mitigation Projects

3.6 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 approval, covering 13 cyclone-prone States/UTs. Other projects which are in the various stages of planning are the National Earthquake Risk Mitigation Project (NERMP), National Disaster Communication Network (NDCN), Demonstration Project for School Safety, 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 and Soil Erosion in Brahmaputra River in Assam.

Scientific & Technological Initiatives

3.7 S & T initiative into the entire Disaster Management continuum would empower all the stakeholders of disaster management at different levels of administration as well as the affected community to act in a proactive and holistic manner to build disaster resilience in the community for sustainable development. NDMA set up Core Groups and Expert Committees to introduce science and technology for proactive and holistic management of disasters. Members of these Core Groups/ Expert Committees were identified from the best known professionals from IITs, Indian Institute of Science and other premier research organizations in the country. The Road Map worked out envisaged to put all DM activities on the basis of Vulnerability Analysis and Risk Assessment (VA&RA) for the DM activities in the pre-event scenarios (e.g. mitigation projects, preparedness programmes etc.) and Decision Support System (DSS) for DM activities during - (for rescue and relief) and post-event scenarios (for rehabilitation and recovery). The VA&RA tool would enable disaster managers to take decisions based on sound scientific basis.

CBRN Preparedness

3.8 NDMA has also been tasked to look into the aspects of CBRN emergencies in the country. During the period under report, NDMA worked upon the preparation of CBRN Security plans for the Protection of Parliament House as well as a plan against the CBRN threat for Commonwealth Games. A

committee of experts and the stakeholders was constituted for this purpose.

Medical Preparedness

3.9 Physical casualties are consequence of almost all types of disasters, be it natural or man-made. Hence, there is special need for medical preparedness and mass casualty management for efficient response. Medical facilities such as specialized ambulances, specialized CBRN hospitals and radiation injury treatment centres also need to be augmented to take care of mass casualties due to radiation burns and injuries. It is also necessary to network medical professionals, train them in the management of radiation injuries, maintain an up-to-date database of such expertise and develop a mechanism to tap this expertise in the event of an emergency.

National Disaster Response Force (NDRF) - Strengthening Emergency Response

3.10 In October 2009, Andhra Pradesh and Karnataka experienced unprecedented floods. 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 calamity and excelled in the rescue and relief operations saving several 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 2009-10. NDRF teams were also proactively deployed during impending disaster situation in this period.

Capacity Building

3.11 NDMA has launched multi-pronged initiative to introduce disaster management into the education curricula in higher and technical education. A concept paper was formulated which was sent to Ministry of Human Resource Development (MoHRD), UGC and AICTE.

3.12 To sensitize the various functionaries at State and District levels, NDMA has launched a joint initiative with the Sardar Ballabhbai Patel National Police Academy, Hyderabad and Lal Bahadur Shastri National Academy for Administration, Mussorie. In these programmes, capsules are being run jointly with these institutions in the basic foundation courses as well as specially organized workshops for the field level officers at the state and district level.

3.13 A pilot project on capacity building in disaster management for Government Officials, representatives of the PRIs and ULBs at the district level has been formulated.

3.14 NDMA is implementing this programme with the overall objective of institutional strengthening and capacity building for disaster risk reduction with an outlay of ₹ 63 crore.

3.15 NDMA adopted a multi-dimensional approach for generating awareness about the paradigm shift of disaster management in India. A concerted campaign was launched to focus at the various sections of society and making them aware of the vulnerabilities to both natural and man-made disasters. Partnerships of the States were also solicited to reach out to the

masses of different parts of the country. Visits, conferences, presentations, electronic & print media were extensively used to reach the target audience. These campaigns have generated a lot of awareness amongst the community and other stakeholders.

Mock Exercises

3.16 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

3.17 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 International Participants of UNESCO on 08 April 2009.
- ii. Vice Chairman and Members, NDMA held a discussion with Russian Delegation on 24 July 2009.
- iii. Vice Chairman and Members, NDMA along with Senior Officials of NDMA held discussion with Members of 13th Finance Commission on 10 July 2009.
- iv. Vice Chairman, NDMA held discussion with Union Agriculture Minister on 18 August 2009.
- v. Vice Chairman, NDMA held discussion with Union Finance Minister on 25 August 2009.
- vi. Vice Chairman, NDMA held discussion with Union Law & Justice Minister on 11 September 2009.
- vii. Vice Chairman and Members, NDMA along with Senior Officials of NDMA held discussion with Ms Wahlstorm, UN Special Representative on 05 November 2009.
- viii. Vice Chairman, NDMA held discussion with Union Rural Development & Panchayati Raj Minister on 30 November 2009.

4

POLICY, PLANS AND GUIDELINES

National Policy on Disaster Management

4.1 The National Policy on Disaster Management prepared by the NDMA portrays a paradigm shift from erstwhile 'Response-Centric' approach to the holistic management of disasters with emphasis on Prevention, 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 were carried out with a large number of stakeholders. This Policy document was also 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 was circulated to the States and Central Ministries/ Departments before the same is brought before the Union Cabinet for approval.

4.3 In all, eight drafts of the National Policy were prepared and submitted to the MHA on 21 Sep 06, 24 Nov 06, 28 March 07, 30 April 07, 23 May 07, 20 Dec 07 and 30 May 2008. After detailed discussions with the MHA and

taking cognizance of the views expressed by various Ministries and States, the final draft was sent to the MHA on 19 August 2009, which was then processed for the approval by the Union Cabinet, and finally it got approved on 22 October 2009. Hon'ble Prime Minister released the National Policy on Disaster Management on 18 January 2010 during the Third NDMA Meeting.

Highlights of the National Policy on Disaster Management

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

4.5 The central theme of this Policy document is the belief that a disaster resilient community, duly empowered by a newly created disaster management structure, working in cohesion, multi-sectorally, will help realize the national vision.

4.6 A holistic and integrated approach will be evolved towards disaster management with emphasis on building strategic partnerships at various levels. The themes underpinning the National Policy on Disaster Management are:

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

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

4.8 The National Policy on Disaster Management also aims to bring in transparency and accountability in all aspects of disaster management through involvement of community, community based organizations, Panchayati Raj Institutions (PRIs), local bodies and civil society.

4.9 The National Policy on Disaster Management also emphatically mentions that the subject of disaster management will be included as a 'standing item' in the agenda of the Inter State Council and Zonal Council and as a 'reporting item' in the National Development Council.

National Plan

4.10 Section 11 of DM Act, 2005 provides that, 'There shall be drawn up a plan for Disaster Management for the whole of the Country to be called National Plan. The National Plan shall be prepared by the National Executive Committee having regard to the National Policy and in consultation with the State Governments and expert bodies or organizations in the field of Disaster Management to be approved by the National Authority'. After discussions within the NDMA and the NEC, it was decided that the National Plan would comprise of three volumes. The National Response Plan spanning all the Central Ministries/ Departments and related agencies covering all types of disasters would be prepared by the MHA. An Inter Ministerial Central Team has already been formed by the NEC in the MHA to prepare this Plan. Mitigation and Preparedness Plan is to be prepared by the various Central Ministries and Departments and other agencies covering specific disasters. The National Human Resource and Capacity Building Plan is to be prepared by National Institute of Disaster Management, addressing the training and capacity building needs of several sectoral/ thematic disciplines. Guidelines and formats for formulation of these plans were deliberated

upon in the NDMA and forwarded to the MHA, concerned Ministries/ Departments and the NIDM.

4.11 As a follow up, two meetings of Facilitation Committee for formulation of National Response Plan have been held on 14 January 2009 and 15 April 2009 under the Chairmanship of Secretary (Border Management) in MHA. As regards the National Human Resource & Capacity Building Plan, NIDM has structured a schedule indicating completion of the task by June 2010. As regards the National Preparedness and Mitigation Plan of the Central Ministries/ Departments, a Committee headed by Union Home Secretary as Chairman of NEC is reviewing the progress. Plans for the following disasters have been completed:

- Floods - Ministry of Water Resources.
- Drought - Ministry of Agriculture.
- Railways - Comments are being sent to Ministry of Railways.
- Nuclear - Department of Atomic Energy.

4.12 Work has started on the following disaster Plans -

- Cyclone - Ministry of Earth Sciences.
- Earthquakes - Ministry of Earth Sciences.
- Tsunami - Ministry of Earth Sciences.
- Landslides - Geological Survey of India (GSI) under Ministry of Mines.
- Chemical Disasters - Ministry of Environment & Forests.

State Disaster Management Plans

4.13 NDMA guidelines on Preparation of State Disaster Management Plans were sent to all States on 14 August 2007. NDMA has also provided financial assistance to the States/ UTs for hiring knowledge institutions to assist them in preparation of their DM Plans. Draft Plans are ready for 15 States & UTs of: Delhi, Goa, West Bengal, Sikkim, Mizoram, Arunachal Pradesh, Meghalaya, Orissa, Uttarakhand, Uttar Pradesh, Gujarat, J&K, Maharashtra, Mizoram and Bihar. These plans are being analyzed at the NDMA and the comments duly processed will be forwarded to the States/ UTs.

Guidelines

4.14 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.

4.15 The process comprises:

- A quick review of the studies conducted, disaster-wise, of the

actions/steps taken so far by various agencies, including the Central Ministries, States, Scientific and Technical Institutions etc.

- Identification of the residual agenda in terms of operational, administrative, financial and legal issues.
- The drawing up of a roadmap to the destination duly indicating milestones to facilitate easy monitoring.
- In terms of goals and objectives, screening down the destination is to be attained, in short, as well as long term, duly prioritized as vital, essential and desirable.
- Four important questions were to be answered: i.e. what is to be done?, how it is to be done?, who will do it?, and by when?
- Putting in place an institutional mechanism that oversees the operationalization of this roadmap.

4.16 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 on Pandemic Preparedness Beyond Health - 22 April 2008.
- Cyclones - 24 April 2008.
- Biological Disasters - 22 August 2008.
- Nuclear and Radiological Emergencies (Unclassified, Part - I) - 24 February 2009.

Guidelines Prepared and Released During 2009-10

National Disaster Management Guidelines - Management of Landslides & Snow Avalanches

4.17 Landslides are another natural disaster which afflicts 15 per cent of the country's geographical area spread over 23 States and Union Territories. Landslides are especially active during the monsoon season which in addition to causing loss of lives, cultivable lands and property, disrupt the movement of vehicular traffic which adversely affects the economy and brings untold misery to the daily lives of people. Earthquakes, particularly in Himalayan regions also do trigger landslides. The landslides many a times block the rivers resulting in formation of artificial dams leading to inundations upstream and devastation in the downstream areas once these bursts causing flash floods. Landslides also add enormous amount of sediments to

the reservoirs, thereby reducing the effective life of hydro-electric and multi-purpose projects. Snow avalanches pose a serious threat to the populations of Himalayan and trans-Himalayan regions during the winter months. Their incidences are on the rise.

4.18 There are a number of governmental organizations and institutions which are engaged in the study of landslides and snow avalanches and their management in the country. Most of these organizations work independently as a result of which data exchange is lacking and leads to duplication of works. Creation of National Mitigation Strategy for Landslide and Snow Avalanche Hazard Management through detailed investigations and utilizing the best technologies is required. It is precisely for this reason that the National Disaster Management Authority undertook the framing of guidelines on Management of Landslides and Snow Avalanches in consultation with the various stakeholders under the stewardship of Dr. Mohan Kanda, Member, NDMA. These guidelines were released on 23 June 2009 by Shri B K Handique, Union Minister of Mines.



Release of Landslides & Snow Avalanches Management Guidelines by Shri B K Handique, Union Minister of Mines, in New Delhi on 23 June 2009

4.19 These guidelines contain regulatory and non-regulatory framework comprising structural and non-structural measures with defined time scheduled. The salient aspects of these guidelines include development and continuous updating of the inventory of these hazards, development of new and revision of existing codes and procedures on geological investigations on landslides and snow avalanches, hazard zonation mapping on macro and meso-scales, early warning systems and stabilization strategies, taking up site specific studies, education and training of professionals, capacity development of communities and organizations and generating awareness and preparedness amongst various stakeholders. Establishment of National Centre for Landslides Research Studies and Management as an autonomous body has also been recommended.

Highlights of Guidelines on Management of Landslides & Snow Avalanches

4.20 Following are the key areas addressed by these Guidelines:

- i. Developing and continuously updating inventory of landslide incidences affecting the country.
- ii. Landslides hazard zonation mapping in macro and meso scales after identification and prioritization of the areas in consultation with the Border Road Organization, State Governments and local communities.
- iii. Taking up pilot projects in different regions of the country with a view to carry out detailed studies and

- monitoring of selected landslides and assess their stability status and eventually estimate the risk.
- iv. Setting pace setter examples for stabilization of slides and also setting up early warning systems depending on the risk evaluation and cost-benefit ratio.
- v. Completion of site specific studies of major landslides and planning of treatment measures and encouraging State Governments to continue these.
- vi. Setting up of institutional mechanisms for generating awareness and preparedness about landslide hazard among various stakeholders.
- vii. Spreading landslide education, training of professionals and capacity development of organizations working in the field of landslide management.
- viii. Capacity development and training to make the mitigation and response regime more effective.
- ix. Development of new codes and guidelines on landslide studies and revision of the existing ones.
- x. Establishment of an autonomous national centre for landslide research, studies and management.

National Disaster Management Guidelines - Management of Chemical Terrorism Disasters

4.21 The anti-national elements find terrorism easy to adopt and cost effective. They are not only adopting newer modalities

but are also getting more aggressive. The main aim of the terrorists is to intimidate the population, seek attention to or force a legitimately constituted government or organization to act or abstain from doing an act. A terrorist attack involving chemical agent differs from a normal terrorist attack as it results in specific effects on health and can cause fatal injuries, create panic, affect the moral of the community. It is in this context that the NDMA came out with Guidelines on Management of Chemical Terrorism under the guidance of Lt. Gen. (Dr.) J R. Bhardwaj (Retd.).

4.22 Shri A K Antony, Union Defence Minister, released these guidelines on 04 August 2009. These guidelines focus on all aspects of disaster management cycle including preventive measures, such as surveillance and intelligence, mitigation of direct and indirect risks, preparedness in terms of capacity development of human resources and infrastructure development as well as relief, rehabilitation and reconstruction. The guidelines lay emphasis on security and surveillance measures for installations,



Release of Chemical (Terrorism) Disaster Management Guidelines by Shri A K Antony, Union Defence Minister on 04 August 2009

manufacturing/ using/ storing chemicals, strengthening information and security on movement of chemicals and preparedness for counter terrorism measures, which include issues relating to safety of chemicals, strengthening of response and emergency medical resources and community centric mechanism.

Highlights of Guidelines on Management of Chemical Terrorism Disasters

4.23 Following are the key areas addressed by these guidelines:

- i. Development of Integrated chemo-surveillance systems with an in-built risk management framework and adequate laboratory support.
- ii. Establishment of physical and collective protection, advanced detection technologies, mobile chemical laboratories, with appropriate intra-hospital and inter-state linkages.
- iii. Development of knowledge management centres networked with all technical and educational institution, linked with national, state and district authorities to effectively mitigate chemical terrorism activities.
- iv. Training of Medical First Responders by imparting adequate knowledge on various types of chemical agents including Toxic Industrial Chemical/ Material, Chemical Warfare agents, etc., their properties and possible modes of dispersal; different modalities and methods of decontamination; use of Personal Protective Equipments (PPEs); principles of triage for chemical casualties, and knowledge about treatment protocols for managing chemical casualties.
- v. Hospital disaster management planning, up-gradation of earmarked hospitals, development of mobile hospitals and mobile medical teams supported by communication backups and adequate medical logistics, including essential medicines, antibiotics, PPEs etc. will be undertaken on priority basis at each level.
- vi. Development of bio-markers, bio-indicators, and therapeutic interventions including antidotes for the effective medical management of chemical victims.
- vii. District DM Plans will lay down the Standard Operating Procedures for an alert mechanism, situational assessment, notification of an event, emergency response at the incident site, response functions of different stakeholders or service providers including Medical First Responders/ Quick Reaction Medical Team (MFRs/ QRMTs), evacuation of chemical casualties, and treatment at the hospital, including management of long-term effects of chemical agents.
- viii. Adequate provisions for relief and rehabilitation, giving special care to vulnerable groups, psycho-social

support and mental health care, media management, community preparedness, information networking system including India Disaster Resource Network (IDRN).

- ix. Secure communication networks for first responders, stockpiling and supply chain and network of blood banks as well as standardized procedures for post-disaster medical documentation and epidemiological surveys.
- x. Implementation of these guidelines through an action plan will lead to a state of preparedness, which shall be able to prevent Chemical (Terrorism) Disasters.

Guidelines on Psycho-Social Support and Mental Health Services (PSSMHS)

4.24 Disasters leave a trail of agony which significantly impact the survivor's mental health resulting in social disability and affecting their overall well being. Psycho-Social Support and Mental Health Services have an important role to play, to cope up with the challenges in the recovery. These interventions help individuals, families and groups to build human capacities, restore social cohesion, dignity and cultural integrity. Unfortunately, this facet also tends to be generally ignored while handling any disasters. Consequently, the formulation of the national guidelines on the entire gamut of Psycho-Social Support and Mental Health Services has been one of the areas of concern of the NDMA with a view to build resilience to respond effectively in all types of disasters. The guidelines on the subject were prepared



Release of Psycho-Social Support and Mental Health Services Guidelines by Shri Ghulam Nabi Azad, Union Health Minister on 20 January 2010

after protracted consultation with the Institute of Human Behaviour and Allied Sciences and National Institute of Mental Health and Neuro-Sciences and other experts in the field, Ministries, Departments of Government of India and Departments of Health of various States under the stewardship of Lt. Gen. (Dr.) J R Bhardwaj, Member, NDMA. These guidelines were released by Union Minister of Health & Family Welfare Shri Ghulam Nabi Azad on 20 January 2010.

4.25 Psycho-Social support refers to comprehensive intervention aimed at addressing a wide range of social and mental health problems arising in the aftermath of disasters. Psycho-social support helps in the level of actual and perceived stress and in preventing adverse psychological and social consequences amongst disaster affected communities. The main components of these guidelines are the integration of Psycho-Social Support and Mental Health Services into various health programmes, development of skilled human resource at all levels and mainstreaming the knowledge of the preventive and mitigation strategies into the

education system, training of community level workers, NGOs and various professionals and providing psycho-social first aid in relief camps. These guidelines also stress on research and development to evolve effective intervention based on community needs, adoption of international best practices, systematic documentations and procedures, identification of institutions for training and long term management of mental health interventions.

Highlights of Guidelines on Psycho-Social Support and Mental Health Services

4.26 Following are the key highlights of Guidelines on Psycho-Social Support and Mental Health Services:

- i. Integration of Psycho-Social Support and Mental Health Services into various health programmes, National Mental Health Programme (NMHP), District Mental Health Programme (DMHP) and evolving of legal instruments necessary for implementation of such policies under the guidance of National sub committee on PSSMHS constituted by the MOH&FW.
 - ii. Development of skilled and competent human resource at all levels with the help of academic and other nodal institutions through standardized training practices.
 - iii. Mainstreaming the knowledge about preventive and mitigation strategies for adverse psycho-social effects of disasters into education system.
- iv. Training of community level workers, NGOs and various professionals for providing PSSMHS in the aftermath of disasters.
 - iv. Normalization of survivor's psychological impact could be hastened by providing psycho-social first aid, subsequently psycho-social support in relief camps. Later provision of psycho-social support during rehabilitation and rebuilding phase would be integrated into the overall community development interventions.
 - v. Research and development to develop effective interventions shall focus on community needs, integration of professional referral system with existing community best practices, vulnerability and epidemiological factors that compound the psycho-social impact on any emergency.
 - vi. Systematic documentation, procedures to enhance community participation, elements of psycho-social support and mental health services in deliverables like relief, transportation, care of vulnerable groups, psycho-social first aid supported by adequate infrastructure will be undertaken as planned objectives.
 - vii. Inclusion of PSSMHS in hospital disaster management planning, effective communication and networking, counseling session areas, pooling of resources amongst network

of health care services and identification of all the critical issues in state/ district health disaster management planning.

- viii. Identification of designated institutions for training under District Mental Health Programme and models of Public-Private Partnership will be developed, tested and practiced.
- ix. Long term management of mental health interventions will be undertaken through standardized and structured need assessment tools followed by scientific studies, evaluation and development of specific intervention modules.
- x. Adoption of international best practices, provisions for special care to vulnerable groups, care to care givers, in all phases of disaster management cycle based on 'all hazard' disaster management approach.

4.27 As a follow-up to the national guidelines on PSSMHS in disasters, a project has been taken up under the aegis of NDMA by NIMHANS, Bangalore, wherein all 158 bereaved families of the Mangalore Air Crash victims will be provided psycho-social support and followed up for one year to address their psychosocial issues.

4.28 Significant emphasis has been given to PSSMHS in the upcoming National Guidelines on Disposal of Dead in the aftermath of Disasters, Minimum standards for food, water, sanitation and hygiene in disaster relief.

Guidelines under Formulation

Preparation of National Guidelines on Management of the Dead in the aftermath of Disasters

4.29 India has been a victim of both natural and man-made disasters, the resultant being a large number of dead bodies and animal carcasses. Management of the dead, a major social responsibility of the community and the government, encompasses the process of correct handling of the deceased in the post-disaster period to minimize the physical, psycho-social, ethical, religious and cultural issues raised by the surviving community. It is a multi-stage and multi-disciplinary task performed by skilled professionals and unskilled first responders of variable capabilities. The aim of this National Guidelines is to institutionalize standard procedures for the proper management of dead bodies and animal carcasses in the aftermath of disasters.

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

4.31 These Guidelines will be utilized by the following responders and service providers (i) all Disaster Management authorities and administrators at national, state and district levels (ii) those concerned with handling, identification and disposal of the dead bodies including forensic, medical and other professionals involved in management of the dead (iii) all other stakeholders connected directly or indirectly with management of the dead including the First Responders like Police, Fire Services, Civil Defence, National Disaster Response Force and other paramilitary forces (iv) NGOs and community at large, including media.

4.32 The Final draft of this Guideline has been discussed by the extended Core Group on 25 March 2010 and their comments on it solicited by 10 April 2010.

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

4.33 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 are under preparation. During the period under Report, several conferences were conducted in different parts of the country to arrive at the final shape of these Guidelines.

4.34 National Disaster Management Authority in collaboration with Sphere, Inter Agency Group Assam, Concern Worldwide and Save the Children BRB organized a three

days conference at North East Diocesan Social Forum, Guwahati, Assam during 01-03 April 2009. This conference was aimed at creating awareness and sensitization on minimum standards among the various actors in humanitarian interventions. The other key objective was to collect recommendations and feedbacks from the participants on the minimum standards and contextualization of the minimum standards for Assam. The conference was successful in providing recommendations on the various sectors including Food Security, Nutrition and Food Aid, Water Supply, Sanitation and Hygiene Promotion, Shelter, Settlement and Non-Food Items, and Health Services in disaster response. The conference was attended by representatives from World Vision India, Seva Kendra, Rural Volunteers Center, NEICORD, NEADS, Bosco Reach Out, IGSSS, NEDSF, Morigaon Zilla Puthibhoral Sanstha, Eco Systems India, GVM, NDMA, Action Aid, VRS, Concern Worldwide, Sphere India etc.

4.35 National Disaster Management Authority in collaboration with Sphere, Inter Agency Group Bihar, Concern Worldwide and Save the Children BRB organized a three days



conference at Hotel Holiday Resorts, Patna, Bihar during 07-09 April 2009. The conference was attended by representatives from Young Men's Christian Association, Caritas India, IDF, NIDAN, Adithi PLAN, SEEDS, Save the Children, UNDP, Samarpan, Unmukt, Mahila Vikas Ashram, Samta Gram Seva Sansthan, DASHRA, Nav Jagriti, NDMA, Jawaharlal Nehru University, M. S. Ramaiah Medical College etc.

4.36 National Disaster Management Authority in collaboration with Sphere, State Government, Inter Agency Group West Bengal, Concern Worldwide and Save the Children BRB organized a three days conference at Seva Kendra, Kolkata, West Bengal during 21-23 April, 2009. The conference was attended by representatives from ABCD, Directorate of Disaster Management, Govt. of West Bengal, Civil Defense, GUP, ICOD, CCK, PUS, Seva Kendra, IRCS, Anugyalaya, SSUP, ACTED, SMS, SWI, SPADE, NDMA, JNU, Concern Worldwide, UNICEF, PLAN, CRS, EFICOR etc.

4.37 NDMA in collaboration with Sphere India, a National Coalition of Humanitarian Agencies in India, J&K State Government, UNICEF and J&K State Inter Agency Group, organized a three days conference on Minimum Standards of Food, Water, Medical Cover, Sanitation and Hygiene in Disaster Relief at Srinagar, J&K from 21-23 July 2009. The conference received high level of acclaim and appreciation by different stakeholder groups. The conference came out with recommendations for different sectors in the context of J&K state and for the National Guidelines being prepared by NDMA. The

conference concluded with a set of recommendations presented by the participants' groups on the sectoral themes of (1) Minimum Standards Common to All Sectors, (2) Minimum Standards of Water Supply, Sanitation and Hygiene Promotion, (3) Minimum Standards of Food Security, Nutrition and Food-Aid, (4) Minimum Standards of Shelter, Settlement and Non-Food Items, and (5) Minimum Standards of Health Services. The conference was well appreciated by the participants and the J&K State Government. The State Government of Jammu & Kashmir also offered its full support to the process if the J&K State IAG gets strengthened and works in synchronization with the Government towards the good of the communities and other stakeholders.

4.38 National Disaster Management Authority, in collaboration with Sphere, Govt. of India, Government of Uttar Pradesh, State Inter Agency Groups of Uttar Pradesh & Bihar organized a two days "Conference on Minimum Standards of Food, Water, Medical Cover, Sanitation & Hygiene and Psycho-Social Support in Disaster Relief" at Uttar Pradesh Academy of Administration and Management (UPAAM), Lucknow, Uttar Pradesh. The conference was inaugurated by Mr. Rajesh Tripathi (State Minister for Homeopathy and Charity Works, Government of Uttar Pradesh) who highly appreciated the efforts of the organizers and welcomed the initiative. The conference came up with a set of recommendations in the context of Uttar Pradesh and Bihar states for the minimum standards in different sectors in disasters relief.

4.39 National Disaster Management Authority in collaboration with Sphere, National Institute of Mental health and Neuro Sciences (NIMHANS), Bangalore, UNICEF, and Public Health Foundation of India organized a Conference on Minimum Standards of Health Services and Psycho-Social Support during Emergencies at NIMHANS, Bangalore, Karnataka on 22 December 2009.

4.40 The Conference on Minimum Standards of Water Supply, Sanitation and Hygiene Promotion was organized at MS Ramaiah Medical College, Bangalore, Karnataka, India on 18-19 January 2010 with the objective of collecting recommendations and feedbacks from the experts and professionals on the draft chapter of minimum standards of water supply and sanitation and hygiene. The workshop was attended by representatives from different institutions and agencies viz. Bangalore University, National Institute of Mental Health and Neuro Sciences, UNICEF, ESAF, Action Aid, AFPRO, MS Ramaiah Medical College, Mandya Institute of Medical Sciences, Karnataka State Disaster Management Authority, Voluntary Health Association of Karnataka, OXFAM, St. John's National Academy of Health Sciences etc.

4.41 National Disaster Management Authority in collaboration with Sphere, Kerala State Disaster Management Authority, ESAF and UNICEF organized a conference on Minimum Standards for Food, Water Supply, Sanitation & Hygiene, Health Services & Medical Cover and Psycho-Social Support in Disaster Relief, at Residency Tower, Trivandrum. The two day conference was



Shri N. Vinod Chandra Menon (Hon'ble Member, NDMA) and Shri KP Rajendran, (Revenue Minister, Govt. of Kerala) inaugurating the conference on Minimum Standards at Thiruvananthapuram, Kerala on 9th Feb, 2010.

inaugurated on 09 February 2010 by Prof. N. Vinod Chandra Menon, Honorable Member, NDMA, Govt of India. K.P. Rajendran, Hon'ble Minister Revenue and Land Relief presided over the function. Roy K. Alex, Director - Program, ESAF, welcomed the gathering.

During his inaugural speech Prof Menon opined that "Hazards are inevitable but the negative impacts of disasters can be minimized with appropriate measures and by following certain set of minimum standards in different sectors." He briefed on the efforts of NDMA and role of NGOs and civil societies in disaster management and emphasized on the need for coordinated efforts to develop minimum standards of disaster relief.

Preparation of National Disaster Management Guidelines - Drought

4.42 In continuation of the Panel Discussion organized on 12 August 2008 and a National Workshop on 14 March 2009 at Dr. MCR HRD Institute of Andhra Pradesh, Hyderabad, to initiate the process of preparation of **Guidelines for the Management of Drought**, a Core Group

meeting was held on 07 August 2009 at NDMA Bhavan to discuss upon the revised base paper. This meeting included participants from Central Ministries/Departments and State governments and prominent NGOs. First drafting committee meeting of six Core Group members was held on 01 October 2009. After a series of drafting committee meetings, the draft is almost final. The committee has also referred to the Drought Manual prepared by Ministry of Agriculture and NIDM.

Preparation of National Guidelines on Incident Command System

4.43 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.

4.44 During the period under this Report Focused Group discussions and meetings were organized at NDMA to finalize the draft Incident Response System Guidelines at different span of time. The stakeholders from different line departments of the Government of India, State Governments and different training institutions were participated. The suggestions and comments received from

different Ministries, State Governments and Training Institutions were also examined in these meetings and incorporated into the Guidelines.

4.45 An extended Core Group Meeting was organized to discuss the draft Guidelines on Incident Response System on 09 June 2009 at NDMA, New Delhi. Total 27 participants were participated from all over the country. The suggestions and recommendations received from different States through regional consultation workshops were discussed. Also adaptation of Incident Command System in different countries was also examined. The left out points during the regional consultation workshops were also discussed in detail and incorporated.

4.46 Workshops and talks were also organized by NDMA and State Governments like Bihar, Tamil Nadu and Assam at different span of time during the period under Report. Through these discussions, the final version of Guidelines was discussed before giving final shape to it.

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

4.47 As a part of its mandate, NDMA has followed nine-step process to prepare national guidelines for the management of urban flooding. In the process, review of the present status and assessment of critical gaps on urban flooding were made by taking on board the nodal agencies, ministries/ departments of Gol and state governments/UTs, academic, scientific and technical institutions and NGOs,

and exhaustive feedback from ULBs and interaction with Members of Parliament (MPs), Members of Legislative Assemblies (MLAs) and elected representatives from ULBs.

4.48 Different committees were constituted and, subsequently, Regional Workshops, State level Workshops, Core Group Meetings, Review Meetings and an Indo-US workshop were held to prepare the draft guidelines. The draft National Guidelines was discussed several times throughout the year 2009. The final draft is ready for circulation to Ministries/ Departments, States/UTs, various other Authorities and Institutions concerned for seeking their recommendations. Once, available recommendations from different agencies/ stakeholders received, they will analysed and included in the final document. It is expected that the guidelines will be released by September 2010.

Preparation of National Disaster Management Guidelines for the Management of Tsunami

4.49 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.

4.50 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) 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

4.51 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

4.52 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.

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

4.53 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.

Preparation of National Guidelines on National Disaster Communication Network

4.54 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

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 multidisciplinary 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.

H1N1 Influenza and Pandemic Preparedness & Response

5.3 NDMA with the backdrop of a successful workshop conducted on Pandemic Preparedness Beyond Health with National and International stakeholders in April 2008 was well geared to tackle the H1N1 Pandemic when it was finally confirmed in our country in the middle of May 2009. NDMA was therefore able to spearhead pandemic preparedness by synergizing efforts on all issues of health and beyond health matters by initiating various preventive measures.

5.4 Policies and plans initiated by the NDMA are as under:

- (a) Direction on Swine Flu - 28 April 2009.
- (b) Prevention and Management of Influenza A (H1N1) - 01 May 2009.
- (c) Management of H1N1 Pandemic - 05 May 2009.
- (d) Guidelines on Influenza (H1N1) Pandemic Preparedness for Business

Continuity in non-health sector - 19 May 2009.

- (e) Action Plan for Pandemic Preparedness and Response by Ministry of Health and Family Welfare in consultation with NDMA - May 2009.

5.5 A number of initiatives were taken for dealing with a full blown H1N1 pandemic situation and to deal with CBRN Disaster. A meeting was held on 10 September 2009 with officers of Ministry of Health & Family Welfare, ICMR and AIIMS etc. to discuss the strategies to deal with a full blown H1N1 pandemic situation. Another meeting was held on 14 September 2009 with Secretaries of Disaster Management and Directors of Health Services of various States/UTs to discuss the strategies to deal with a full blown H1N1 pandemic situation.

5.6 The National Strategy on Pandemic Preparedness and Mitigation for managing Influenza A H1N1 was formulated by NDMA in conjunction with Ministry of Health & Family Welfare on 25 September 2009 addressed the following issues:

- What type of patient load will be built up in cities of various sizes (related to population size)?
- What kind of bed availability in hospitals (isolation ward) is needed to be created in different types of cities?
- How much stocking/ availability of medicines (Tamiflu etc.) should be there?

- What quantity of anti-viral drug will be required for outdoor patients and its modalities?
- What level of stocking of antiviral drugs needs to be built up at National level?
- What could be requirement of vaccine itself at the National level?
- Changes to be incorporated subsequently based on Pandemic Severity Index?

5.7 Sensitization programmes on H1N1 conducted by the NDMA were as follows:

- Media interaction through press and television.
- Information, Education and Communication (IEC) materials developed with World Health Organization and NGOs.
- Visits by the Member, NDMA to various States for coordination and implementation of the National Strategy with State Disaster Management Authorities (SDMAs).

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

5.8 Acute health risks of Chemical, Biological, Radiological and Nuclear (CBRN) agents must be defined and known to doctors and para-medical staffs. Every doctor must be able to provide emergency medical care to CBRN casualties before they are handed over to specialized team. Since the treatment of

affected patients need multi-disciplinary care, all the specialists including physician, surgeon, oncologist, hematologist, gastroenterologist and specialist in laboratory medicine are to be trained for the radiation injuries management so that they will be able to handle the CBRN casualties at the time of need. NDMA in collaboration with DRDO, BARC and JPN Apex Trauma Centre has imparted CBRN Casualties' Management Training to 150 doctors of Delhi during the period under report. Training courses were organized in May, July and October 2009. Following CBRN Casualties Management Courses were conducted during the year 2009-2010:

- Training on Preparedness for Emergency Medical Response to CBRN Casualties at JPN Apex Trauma Centre, New Delhi during 20-22 May 2009.
- Training on Preparedness for Emergency Medical Response to CBRN Casualties at JPN Apex Trauma Centre, New Delhi during 29-31 July 2009.
- Training on Preparedness for Emergency Medical Response to CBRN Casualties at JPN Apex Trauma Centre, New Delhi during 28-30 October 2009.

Activities undertaken to develop CBRN strategy

5.9 Meetings held on 12 May 2009 and 15 May 2009 with officers of Ministry of Defence and Ministry of Health & Family Welfare respectively to discuss the need to develop the capacity for managing the Chemical, Biological, Radiological and

Nuclear (CBRN) Disasters.

5.10 A National Seminar on CBRN Disaster Management was also organized jointly by College of Military Engineering and NDMA at CME, Pune on 5-6 February 2010. Seminar was attended by more than 400 persons from various fields.

5.11 A Capacity Building (Training) programme for District officials for handling CBRN Disasters was also organized at College of Military Engineering (CME), Pune from 8-11 February 2010. Capacity Building (Training) programme was attended by 18 District officials.

5.12 A meeting to discuss the preparedness to handle radiological hazards in Metro/Major cities through Additional Emergency Response Centres(AERCs) was organized with officers of State Governments on 24 February 2010. Officers from BARC were also present. Issues relating to possible radiological hazards and use of the equipments to detect the radioactive substances were explained to the participants.

Management of Chemical (Industrial) Disasters

Conference on Chemical (Industrial) Disaster Management

5.13 NDMA, jointly with Ministry of Environment & Forests and FICCI conducted following training, education and awareness generation programmes in the country which have been very well received by the participants for excellent quality of presentations, interactions and interface on important topics connected with prevention, preparedness and mitigation of chemical

incidences/ disasters in the country:

- Conference on Chemical (Industrial) Disaster Management, Pipelines, Storages & Medical Preparedness at FICCI, New Delhi on 11-13 February 2009.
- Conference on Chemical (Industrial) Disaster Management, Pipelines, Storages & Medical Preparedness at Ahmedabad during 30 November to 01 December 2009.
- CIDM - 2010 in Mumbai during 5-7 February 2010.

Corporate Sector in Disaster Management

5.14 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.

5.15 A concept note on Corporate Sector in DM was discussed in a meeting under the chairmanship of Vice Chairman, NDMA on 17 April 2009, with a basic strategy is to match strengths and preferences, to States' requirements as part of CSR and sometimes in a PPP mode. Indian Institute of Management, Ahmedabad was engaged as a consultant for facilitating the process of

involving the Corporate Sector in DM initiatives of the NDMA. In this connection the following events were organized:

- One state level conference was organized at Kolkata on October 26, 2009, and was participated by FICCI, CII and Bengal Chamber of Commerce. An action plan has been made with CII as the nodal agency.
- A State level Conference with the Industry associations and important corporates was held in Hyderabad on November 26, and December 01, 2009, in Visakhapatnam. It was attended by a large number of corporate and government departments.
- A State level Conference with the Industry associations and important corporate was held in Cochin on December 09, 2009, and attended by a large number of corporate and government departments.
- A State level Conference with the Industry associations and important corporates was held in Ahmedabad on December 11, 2009, and attended by a large number of corporate and government departments.
- Letters sent to CII, FICCI and ASSOCHAM to facilitate holding of workshops in various States. CII and ASSOCHAM have responded and readily agreed to facilitate the workshops.

5.16 NDMA has organized a series of workshops to obtain feedback from the representatives of various Chambers of Commerce and Industry and Trade Associations on improving disaster preparedness, mitigation and emergency response. These workshops with members of CII, FICCI, ASSOCHAM and other corporate business houses explored the various possibilities for encouraging Public Private Partnerships (PPP) in the field of DM and for streamlining the role of Corporate Sector not only in relief measures but also in mitigation and preparedness. NDMA has engaged Indian Institute of Management, Ahmedabad to undertake consultancy work on "Development of a suitable framework with strategies for involving Corporate Sector in the Disaster Management".

Civil Defence

5.17 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.

5.18 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.

5.19 National policy approach paper related to revamping of Civil Defence setup which was prepared by NDMA has been accepted by the Government of India. In pursuance to the acceptance of this document ₹ 100 crore has been approved for revamping of Civil Defence. Out of which ₹ 15 crore has been released for the year 2009-10.

Mock Exercises

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

5.21 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



Mock Exercise Floods - Chhattisgarh, 29 June 2009

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 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.

5.22 Conduct of mock exercises has gone a long way in creating a culture of 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 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 larger section of community.

5.23 During the year under report, a total of 39 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 Delhi Metro Rail.



Mock Exercise Cyclone, Porbander, 19 June 2009

Mock Exercises on School Safety

5.24 Mock exercises in schools are conducted to empower the schools to face the disasters squarely before the specialist response is effected. These are conducted in two steps. In Step 1, the formulation of DM

Mock Exercises conducted by NDMA from 1st April, 2009 to 31st March, 2010

Sl. No.	Disaster	State/s	No. of Mock Exercises Conducted
1.	Earthquake	Uttarakhand, Arunachal Pradesh, Meghalaya, Delhi, Himachal Pradesh, Mizoram, Nagaland, A& N Islands, J&K	11
2.	Cyclone	Gujarat	01
3.	Floods	Tamil Nadu, Bihar, Chhattisgarh, Maharashtra	04
4.	Urban Fire	Haryana, Karnataka, J & K and Sikkim	04
5.	Chemical (Industrial)	Karnataka, Tamil Nadu, Goa, Punjab, Maharashtra, Madhya Pradesh, Gujarat	09
6.	Terrorist Related	Delhi	05
		Total	39

framework, constitution of School Disaster Management Committee, outline DM Plan, framing of DM teams and process of conduct of mock exercises are delineated. In Step 2, mock exercises on perceived disaster are conducted in the schools by actual evacuation, search & rescue, first aid, etc. being practiced. The mock exercise is controlled from school control room established near the Principal's office. The details of mock exercises in schools are given in table below:



Mock Exercise Earthquake, Anantnag, 16 March

Sl. No.	Disaster	State/s	No. of Mock Exercises Conducted
1.	Earthquake	Delhi, Uttarakhand, Haryana, Karnataka and J&K	43
2.	Cyclone	Goa	01
3.	Fire	Tamil Nadu, Karnataka, Maharashtra	27
4.	Terrorist Related	Karnataka, Delhi	09
		Total	80



Mock Exercise on School Safety, Bellary, Karnataka, 17 June 2009

Awareness Campaigns

5.25 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.

5.26 The following Disaster Management Awareness campaigns were launched during the period 2009-10:

Audio Visual Campaigns

5.27 The publicity campaigns were run through radio and video spots on AIR, Doordarshan, Private TV Channels like General Entertainment Channels, News Channels and , Regional Channels, FM Radio channels through DAVP and NFDC.

Earthquake Awareness Campaign

5.28 4 (Four) Video in 35mm & 4 (Four) Audio spots were produced for running Earthquake awareness campaigns across the

States/UTs prone to earthquakes. The focus was on selected areas of knowledge gap amongst the target audience. The details of the campaigns are as under:

- Special Awareness Campaign during the counting day of Lok Sabha Election on 16/05/2009 on Doordarshan , Lok Sabha Channel and All India Radio.
- Special Awareness Campaign on the occasion of International Day of Disaster Reduction on 14/10/2009 on Doordarshan and Private T.V. Channels and F.M. Radio Channels.
- Awareness Campaign during July, 2009 on All India Radio and Pvt. T.V. Channels.
- Awareness Campaign during the ONGC Nehru Cup Tournament from 22/08/2009 to 31/08/2009 on ZEE SPORTS Channel.
- Awareness Campaign during the ICC Championship Trophy in June 2009 on Championship AIR.
- Disaster Awareness Campaign during the Tri Cricket Series, 2009 from 08/09/2009 to 14/09/2009 on AIR.
- Awareness Campaign during the India Vs Australia Cricket Series, 2009 from 28/10/2009 to 11/11/2009 on Pvt. T.V. Channels and AIR.
- Awareness Campaign from 18/12/2009 to 27/12/2009 during India Vs Sri Lanka Cricket Series through Doordarshan and AIR.

- Awareness Campaign for one month from 20/11/2009 to 19/12/2009 on Pvt. T.V. Channels and 15 days campaign from 19/12/2009 to 2/01/2010 on FM Radio Channels.
- Awareness Campaign during ODI Cricket Matches between India Vs. South Africa on 21st, 24th & 28th February, 2010 on Doordarshan and AIR.
- Awareness Campaign during the Hockey World Cup in February-March, 2010 on Ten Sports Channel.
- Awareness Campaign for one month from March to April, 2010 on Pvt. T.V. Channels and 20 days campaign from 17.03.2010 to 5.04.2010 on FM Radio Channels.

Cyclone Awareness Campaign

5.29 Three Videos in 35 mm & 3(Three) Audio spots were produced in Hindi and regional languages for running Cyclone awareness campaigns across the States/UTs prone to Cyclone. The details of the campaigns are as under:

- Awareness Campaign for seven days 19.11.2009 to 25.11.2009 on Pvt. T.V. Channels on FM Radio Channels.

Flood Awareness Campaign:

5.30 Four Videos in 35mm & 4 (Four) Audio spots were produced for running Flood awareness campaigns across the States/UTs prone to Flood. The details of the campaigns are as under:

- Awareness campaign for one month from 1/07/2009 to 31/07/2009 on Pvt. T.V. Channels and F.M. Radio and AIR.

Print Campaign

- Advertisements of Full Pages on Guidelines on Landslide and Snow Avalanches, Guidelines on Chemical (Terrorism) Disaster, Psycho Social and Mental Health Care were released in various leading Newspapers at the times of release of these guidelines.
- Half-page advertisement on Do's and Don'ts on various disasters was published in various leading newspapers on occasion of International Day for Disaster Reduction.
- Article of 2 pages on "Mainstreaming of Disaster Management in Development was published in the India Today Magazine. Advertorial for 2 pages on "Science & Technology Initiatives for Holistic Management of Disasters" was published in the Outlook Magazine.
- 10 sets of 20 Collapsible and 9 sets of 20 hardboard panels in each set were prepared detailing the activities of NDMA & NDRF.
- 10,000 copies of Brochure with details of the activities of NDMA and NDRF were prepared.
- In addition, leaflets containing Do's and Don'ts on disasters have been prepared.

Exhibitions

- NDMA had put up stalls for displaying publicity material like panels, brochures, leaflets, guidelines in the exhibitions held at Vigyan Bhavan, Pragati Maidan IITF, Mussorie, Tech Festival 2009 at IIT Mumbai and Cognizance 2010 festival of IIT Roorkee.

IEC Activities:

- Financial assistance of ₹ 2.33 crores has been released to 19 States/Union Territories for awareness generation activities under IEC Activities like poster, leaflets, hoardings, wall paintings, video/audio spots, etc.

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:

- School Safety Programme (Demonstration 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 the 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 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 The Investment Proposals of Andhra Pradesh and Orissa and copies of the Model Detailed Project Reports relating to the following activities were forwarded to the World Bank, Department of Economic Affairs and Ministry of Home Affairs on 12.8.2009 in addition to the documents relating to Component-C and D.

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

6.9 The World Bank Appraisal Mission visited Andhra Pradesh and Orissa during 30 November to 04 December 2009. NDMA officers accompanied the World Bank Mission to Andhra Pradesh and Orissa. Subsequently, World Bank intimated that the appraisal has been taken to be completed.

6.10 A draft EFC Memo seeking approval for implementation of the Project was forwarded to the Ministry of Home Affairs on 13.1.2010. The EFC considered the Memo on 7.4.2010 and has recommended the Project for approval of the competent authority. A note for Cabinet Committee on Economic Affairs is under consideration of the Ministry of Home Affairs, seeking approval of CCEA to the implementation of the Project.

6.11 Technical Discussions between the Department of Economic Affairs, Ministry of Home Affairs, NDMA, World Bank and the representatives of the States of Andhra Pradesh and Orissa were held from 15 to 18 February 2010.

National Earthquake Risk Mitigation Project (NERMP)

6.12 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 Govt and State Governments;
- Institutional strengthening and Research and Development;
- Retrofitting of identified district hospitals; and
- Project management support.

6.13 M/s. PWC, the Consultant, has submitted the DPR of the project which is under consideration.

National Disaster Communication Network (NDCNP)

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

6.15 NDMA has drawn up a National Disaster Communication Network 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.

6.16 Pricewaterhouse Coopers who have been appointed Consultants for preparation of Detailed Project Report (DPR) for the Project have submitted the draft DPR for the project.

National Flood Risk Mitigation Project

6.17 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. Currently, NDMA is engaged in the process of selection of a lead consultant for preparation of DPR for NFRMP. A reference has also 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.

6.18 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.

National Landslides Risk Mitigation Project

6.19 This project aims at strengthening the structural and non-structural landslide mitigation efforts and reducing the landslide risk and vulnerability in the hilly districts, prone to landslides and mud flows and reducing risks arising out of disasters in landslides.

6.20 NDMA is in the process of selection of a Lead Consultant for preparation of DPRs of the project and had invited EOIs from Consultants. GSI have furnished the names of five sites which have been conveyed to Consultancy Development Centre, New Delhi, the agency engaged by NDMA to assist in selection of the Lead Consultant. CDC has been requested to furnish the revised RFP for consideration of NDMA.

School Safety Programme (Demonstration Project)

6.21 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).

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

Study of Soil Erosion by River Brahmaputra

6.23 Brahmaputra river erosion study has been awarded by NDMA to Indian Institute of Technology, Roorkee at an estimated cost of ₹ 32,49,451/- The study is to be carried out in three phases. The Project cost of Phase-I of the study is ₹ 13,48,320/- (including taxes). The Interim Report on Phase-I received from IIT, Roorkee was sent to the Ministry of Water Resources for comments. The comments received from Ministry of Water Resources have been sent to IIT, Roorkee.

Cartographic Base of India

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

initiatives require maps/ spatial data which are 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.

6.25 The work of development of Cartographic Base for India has been awarded to National Atlas and Thematic Mapping Organization (NATMO), Kolkata to prepare a Detailed Project Report (DPR) on the development of Cartographic Base for India at the required scale with the specific Contour intervals at a total cost of ₹ 3.309 Lakh.

Probabilistic Seismic Hazard Analysis (PSHA)

6.26 The NDMA has assigned a project to prepare a Probabilistic Seismic Hazard Map of India to the Structural Engineering Research Centre (SERC), Chennai at a cost of ₹ 58.14 lakh for:

- Preparation of a draft Tech-doc presenting a standard methodology for PSHA of India including review of the past efforts.
- Creation of a National Database Catalogue of earthquakes of 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.

Hyderabad Urban Floods

6.27 Hyderabad, the Capital city of Andhra Pradesh has a history of Urban Flooding. Musi River which is 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, the NDMA on the basis of the recommendations of Empowered Committee approved the proposal for engagement of Andhra Pradesh State Remote Sensing Applications Centre (APSR SAC), Hyderabad for undertaking the study on Mapping, Impact Assessment and Management of Hyderabad Urban Floods at a cost of ₹ 27 lakh excluding the cost of instrumentation and ALTM data. While APSRSAC/ APSDMS will bear the amount of ₹ 22 Lakh, the balance amount of ₹ 5 lakh will be borne by the NDMA.

6.28 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.

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.

7.4 One of the primary requirements for proactive and holistic management is an efficient forecast system that meets the minimum criteria in terms of lead time, resolution, precision etc. The scope and skill in operational forecasting of natural processes like flood, cyclone and other extreme weather events, especially in India, however, are still below desired level for proactive and effective disaster management. Improvement in skill in forecasting requires scientific and technological inputs of the highest level. Further, such a development effort would be only implemented by an agency engaged in day-to-day weather forecasting. There is, thus, an urgent need for the scientific and technological community to make critical effort to achieve adequate operational forecasting skill for hydro meteorological disasters by networking the available knowledge, manpower and other resources of various Institutions and R&D communities.

7.5 The basic objective is to strengthen and enhance the forecasting capabilities of

India Meteorological Department (IMD) in terms of lead (upto 48 hours for extreme rainfall events and up to 72 hours for tropical cyclones) and improved forecast skill (24-hour landfall error less than 100KM). It is proposed to execute the project in two phases viz. Phase-I and Phase-II. Total cost of the Phase-1 of the project is ₹ 4.44 crore. The Concept Note for the Project was furnished to MHA for "in-principle" approval. MHA has conveyed the comments of Ministry of Earth Sciences on the Concept Note. These are under consideration in NDMA.

Geographic Information System (GIS) Platform Based National Disaster Management Information System (NDMIS)

7.6 For disaster management and mitigation, the availability of the Decision Support System (DSS) based on GIS data, to the authorities responsible for taking decisions during the time of disaster is quite important. 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 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.

7.7 NDMA proposes to develop a Geographic Information System (GIS) based National Disaster Management Information System (NDMIS), where the data collected from different nodal agencies will be utilized along with detailed GIS with Decision Support System (DSS) for generation of very

sophisticated actionable information for all the stakeholders at various levels by involving the domain experts from the scientific & technological community of the nation. GIS Platform with DSS will host the core database as well as disaster specific database for carrying out Vulnerability Analysis and Risk Assessment (VA&RA) that are essential to enforce holistic and pro-active management of disasters in contrast to the response centric approach. The NDMIS would be composed of three essential elements:

- Knowledge based information;
- Integration of current sources of data and information;
- Interconnectivity for dissemination of these data/information sources to the stakeholders at the right time and at the right place.

7.8 The proposed NDMIS will be based on National Database for Emergency Management (NDEM) already being implemented by Ministry of Home Affairs in collaboration with the National Remote Sensing Centre (NRSC), conceived as a GIS based repository of data to support disaster/ emergency management in the country, in real/ near real time.

Digital Maps of India at Required Scales and Contour Intervals

7.9 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).

7.10 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

7.11 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.

7.12 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.

Microzonation of major cities - Development of Probabilistic Seismic Hazard Map of India (PSHA)

7.13 The present seismic zone map of India is based on observed damage patterns where the spatial and temporal uncertainties in the occurrence of earthquake are not included. These deficiencies are proposed to be met by development of Probabilistic Seismic Hazard

Map of India (PSHA). The study has been awarded to Structural Engineering Research Centre (SERC), Chennai at a total cost of ₹ 56.14 lakh.

Geo Technical Investigation for Seismic Micro-zonation of Indian Landmass

7.14 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 detailed 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 prepare the Technical Document on "Geo Technical Investigation for Seismic Micro-Zonation Studies in India". This task is being implemented through IISc, Bengaluru.

Setting up of Additional Emergency Response Centers

7.15 With increasing incidents of terrorism, threat scenario from possible Radiological Dispersal Devices (RDDs) explosions is assuming the dimensions of serious concern. Even though RDDs do not cause mass-destruction, they are weapons of mass-disruption with high potential for creating panic and psychological disturbances. In addition, they can contaminate large number of people and area in the vicinity. The National Guidelines for Management of Nuclear and Radiological Emergencies prepared by NDMA stipulate that in addition to 18 specialized Emergency Response Centers (ERCs)

established by BARC, Additional Emergency Response Centers (AERCs) are required to be located in all the major cities in the country. The Emergency Centers will be equipped with appropriate radiation detection instruments and manned by trained personnel. They would also tackle emergencies arising out of any transport accidents or those related to orphan sources of radiation.

7.16 The Police usually are the first to reach the site of an explosion. In order to enable them to undertake the task of monitoring and surveillance in the area of jurisdiction it would be necessary to equip the police vehicles with simple radiation detection monitoring instruments like Go/No-Go type Survey

instruments. These basic instruments will help them in meeting the impact of RDD on the surrounding population. This could be done by cordoning off the area, and arranging for the decontamination of the affected area by contacting the experts from the neighboring specialized ERCs/Facilities of the Department of Atomic Energy (DAE) and/or the NDRF stations.

7.17 It is proposed to set up AERCs in 20 Cities with population of 20 lakhs or more in phase I on priority basis. Thereafter, AERCs will also be created in 15 more big cities in the country with population of 10 lakhs and above. The project will be implemented in collaboration with States/UTs concerned.

8

NATIONAL DISASTER RESPONSE FORCE: STRENGTHENING EMERGENCY RESPONSE

8.1 The National Disaster Response Force (NDRF), constituted under the provisions of Sections 44 and 45 of the DM Act, 2005, has established itself as one of the most visible and vibrant force of the NDMA. NDRF battalions are presently

located at Guwahati, Kolkata, Mundali (Bhubaneswar), 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

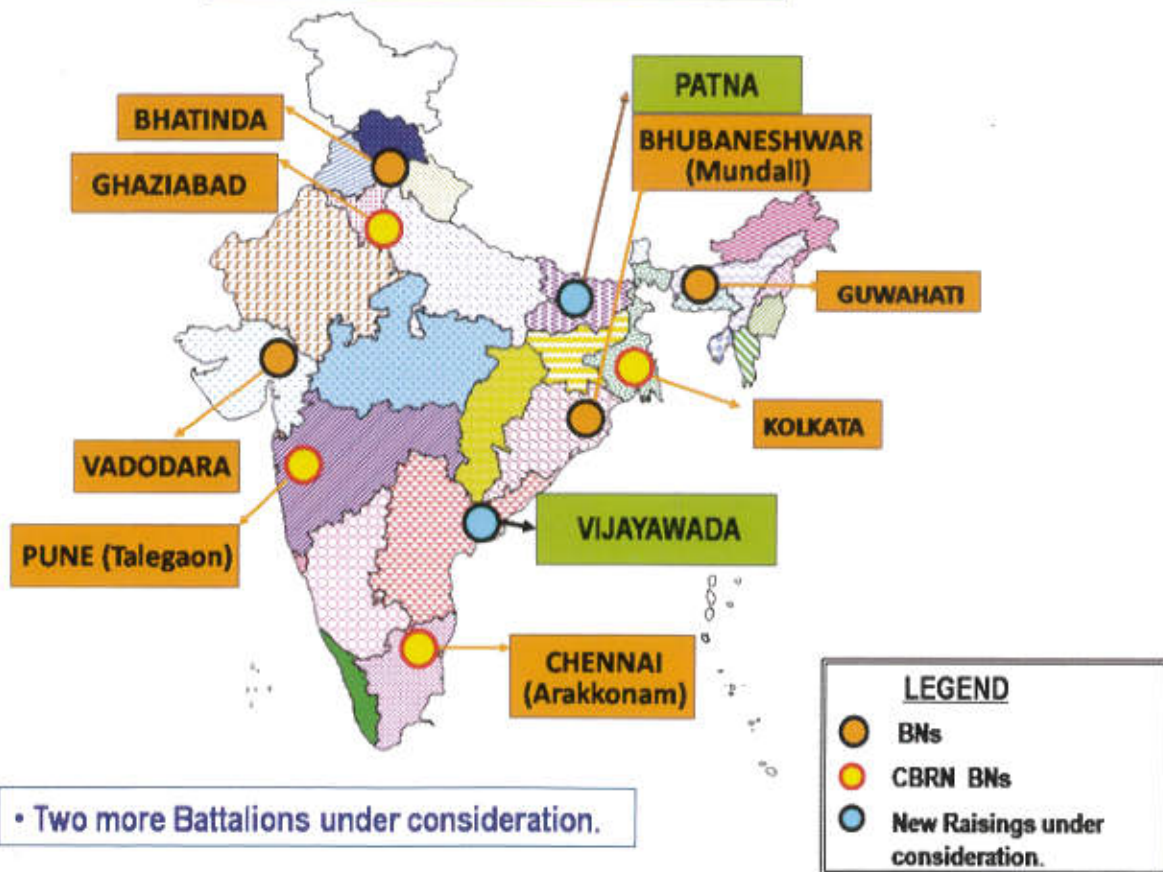


Fig. 8.1

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 masses and a distinct recognition of a disaster response team has emerged. The map given below illustrates the area of their responsibility (Fig 8.2).

AREA OF RESPONSIBILITY OF NDRF BNS

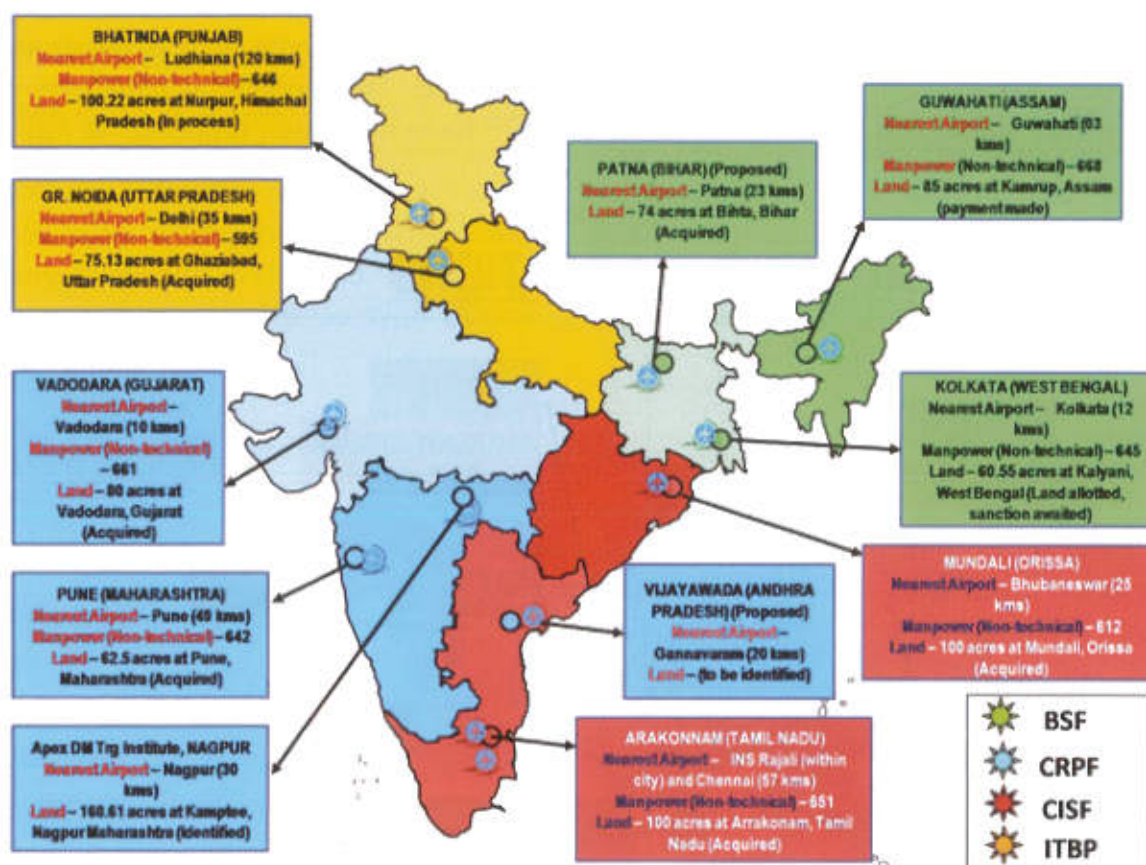


Fig. 8.2

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, Nurpur 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.

8.5 The present status of land is illustrated in the following table:

NDRF Bn	Present Location	Proposed Location	Present Status
Already acquired			
Pune	Talegaon, Pune, Maharashtra	Pune	62.5 acres of land has been acquired at Vill- Saumbre, Pune (2009).
Gandhinagar	Gandhinagar, Gujarat	Vadodara, Gujarat	80 acres of land has been acquired at Vadodara (2008).
Arakkonam	Arakkonam, Tamil Nadu	Same	100 acres of land was already available with CISF from where this Bn came on deputation to NDRF Bn (1992).
Mundali	Mundali, Orissa	Same	100 acres of land was already available with CISF from where this Bn came on deputation to NDRF Bn (2002).
Ghaziabad	Gr Noida, Uttar Pradesh	Ghaziabad, Uttar Pradesh	75.13 acres has been acquired in Ghaziabad for NDRF (2009).
Patna	Patna, Bihar	Same	74 acres of land has been acquired for NDRF (2009).
Land allotted and payments made			
Guwahati	Patgaon, Guwahati, Assam	Kamrup, Guwahati	Government of Assam has delineated 85 acres of land at Piyabari, Distt Kamrup. An amount of Rs 5, 76, 65,320/- was paid to Government who paid of Assam. At present, writ petition (c) 227/228 titled BSF Vs Shri Fukan Rabha and 29 others Vs State of Assam is pending in High Court of Assam. A case of allotting 3.55 acres for approach road is before Government of Assam.

Land allotted and sanction of Gol Awaited			
Kolkata	24PGS(N) Kolkata, West Bengal	Kalyani, West Bengal	60.55 acres of land has been allotted at a cost of 5, 98, 74,282/-only at Harighanta, Nadia (WB). The proposed case has been sent to MHA for sanction. Government of West Bengal has agreed to provide a separate approach road for this land.
Land allotments in process			
Krishna	Krishna, Andhra Pradesh	Krishna, Andhra Pradesh	CM Sectt, Andhra Pradesh has written to Collector Krishna district to identify 100 acres of land for NDRF (Aug18, 2009) in Krishna district. A team of officials of NDMA/NDRF will visit once the land is identified by DC.
Bhatinda	Bhatinda, Punjab	Nurpur, Punjab	40.56 Hectares of land has been identified in Nurpur (HP). Out of total land, 23.05 hectares of land is forest/Government land. The process of diversion of this forest land for establishing NDRF is in progress with Central Conservator of Forests, Chandigarh. The remaining land is private land and the case is with DC for issuing of notification for private land.
Apex Disaster Mgt Training Institute	Kampetee	Nagpur	65 hectares of land identified at Kampetee. Allotment letter yet to come.

Training Infrastructure

8.6 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-the-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. The Government has approved ₹ 530 crore for the purpose of setting up of one National Institute of Excellence for Search and Rescue and ten Outreach Training Centres at the respective NDRF locations. The finalization of Detailed Project Report for the same is in the process.

8.7 Under the bilateral DMS project sponsored by the USAID, a group of experts from NDMA/ NDRF visited 12 leading Disaster Management Training Institutions in the United States of America from 12-24 October 2009. The aim of this study tour was to get the first hand experience about training methods,

infrastructural set up, facilities, equipments, functioning and management practices of leading disaster management training institutes in the USA that will help in construction of NDRF Bns training infrastructure.

Training

8.8 Under Indo-Swiss Collaboration for Training 24 NDRF personnel attended the Rescue (USAR) training organized at National Industrial Security Academy, Hyderabad in Dec, 2009. Canine search training was also organized at BTC Bhanu in which 29 trainers along with their dogs participated during the period March 30-April 12, 2009, Nov 24-Dec 02, 2009 and March 15-26, 2010.



Training by Swiss experts at BTC Bhanu

Foreign Courses/ Exercises

8.9 NDMA organized the following foreign courses/ exercises for the NDRF personnel during the year 2009-10:

- 04 NDRF personnel participated in INSARAG Asia-Pacific USAR earthquake response exercise at



INSARAG training at Kathmandu, Nepal

Kathmandu, Nepal during April 21-24, 2009. The purpose of the exercise was to develop international coordination methodology in accordance with the INSARAG Guidelines, with a focus on cooperation between national and international disaster management authorities and response actors.

- Shri R. C. Meena, Comdt NDRF Bn Gandhinagar participated in the Comprehensive Crisis Management Course held at Asia Pacific Center for Security Studies (APCSS) Honolulu, Hawaii (USA) from August 20 to Sep 22, 2009. This course was meant to develop individual leader skills in critical thinking, communication and collaboration which can be applied to any crisis situation.



Shri R.C. Meena receiving CCM Course



Participants at Montreux, Switzerland

- Two NDRF officers attended BLACK ICE 2, a joint US-Swiss bioterrorism tabletop exercise held at Montreux, Switzerland on Sep 07-08, 2009. This course was meant for operational level

responders familiar with national response capabilities.

- Shri K.M. Singh Hon'ble Member NDMA along with Shri R.K. Bhatia, DG, NDRF attended the INSARAG Asia Pacific Regional Meeting 2009 at Beijing, China from Nov 9-11, 2009. The meeting was meant for officers who are responsible for Disaster Response at the national level and who have been involved in implementing the INSARAG Guidelines in developing the response units.

8.10 The status of the training of the NDRF personnel is given in the following table:

Training	Training Partners	Already Trained	Trained in 2009-10	Total
CBRN	College of Military Engineering, Pune DRDE, Gwalior Singapore Civil Defence Academy	2,976	480	3,456
Heli-Borne Training	Indian Air Force Base at Nahan, Guwahati, Agra & Bangalore	2,700	1,500	4,200
Natural Disasters	INSARAG (UNOCHA) Trg.Standard USAID: PEER Programme Under INDO-SWISS Collaboration for Training (INSWIT) by Swiss Development Corporation (SDC) Safety Solutions Inc., Ocala, Florida (USA)	5,071	950	6,021
Water Rescue	Life Saving Society, Kolkata Sea Explorer Institute, Kolkata	3,520	1,600	5,120
Foreign Trained	Various Courses	54	07	61

Disaster Response, Community Preparedness and Public Awareness Programme

Disaster Response

8.11 During the period under report, NDRF Bns actively engaged themselves in several Rescue and Relief operations in various parts of the country. The swift and highly skilled rescue operations of NDRF Bns saved many lives. The details of these rescue operations are mentioned in succeeding paragraphs.

Cyclone Aila

8.12 Cyclone Aila hit the coast of West Bengal on May 25, 2009 with a wind speed of 100-110 kms per hour and storm surge with high waves (25 feet). NDRF promptly responded to the call of Government of West Bengal and 14 teams (600 personnel) of NDRF Bns Kolkata and Mundali along with 84 boats, life buoys, life-jackets, fishing nets, relief materials and medicines were deployed in the affected areas of districts 24 Pargana North and South for rescue and relief operations. During the operation NDRF personnel rescued



NDRF shifting school children during Cyclone

around 2000 trapped persons including school children and evacuated them to safer places. NDRF teams distributed about 50 truckloads of relief material to the affected people. NDRF personnel distributed medicines to 30,000 cyclone victims and food packets to 16,000 homeless victims of Sandesh Khali, Hingalganj, Hasanabad, Sagar Island, Namkhana, Pathar Pratima and Gosaba areas of these districts.

Darjeeling Landslide

8.13 Following a heavy landslide in Darjeeling hills several houses were damaged at various places across three hill sub-divisions due to incessant rain on the



NDRF Team clearing debris after Landslides in Darjeeling

intervening night of May 25-26, 2009 killing 27 people and injuring many. Promptly, teams of NDRF Bn Guwahati were deployed in the area and continued search and rescue operations till June 10, 2009 clearing debris at all the affected places. A NDRF team has now been located in Darjeeling as a permanent arrangement during the disaster season.

Floods in Bihar

8.14 On August 01, 2009 a wide breach (60 meters) in the main embankment of river Bagmati flooded 11 Panchayats of Runnisaipur block in Sitamarhi district of Bihar. Seven teams (235 personnel) of NDRF Bn Kolkata along with 53 boats and other flood rescue equipments carried out rescue and relief operations in the flood affected areas. NDRF personnel rescued 1,034 trapped persons and distributed medicines to 831 flood victims.



NDRF Personnel rescuing flood marooned villagers in Bihar

Floods in Kerala

8.15 On request of Government of Kerala in the night of 15 July 2009, 08 teams (266 personnel) of NDRF Bn Arakkonam along with 40 inflatable boats and other life saving equipments were airlifted and deployed in flood affected districts of Wayanad, Mallapuram, Calicut, Kasarkode, Kannur & Ernakulam districts of Kerala. Next morning onwards, NDRF carried out rescue and relief operations and saved 108 precious human lives. The commendable rescue work by NDRF was highly appreciated by Hon'ble Minister of State

for Home, Shri Mullappally Ramachandran and Revenue Minister of Kerala.

Search operation at Chimney Collapse at Korba, Chhattisgarh

8.16 On Sept 23, 2009 an under-construction chimney (100 meter high) collapsed at the site of BALCO's proposed power plant in Korba. On request of State Government 03 teams (121 personnel) of NDRF Bn Mundali reached the spot by road on Sept 25, 2009 and started search and rescue operations. NDRF personnel retrieved 42 dead bodies by cutting metal pieces of the chimney and clearing debris.



NDRF Personnel clearing metallic debris at BALCO, Korba

Andhra Pradesh and Karnataka Floods

8.17 On requisition of the State Governments of Andhra Pradesh and Karnataka in the evening of Oct 01, 2009, about 963 flood rescue trained personnel (including deep divers, 308 inflatable boats & other life saving equipments) from NDRF Bns Arakkonam, Pune, Mundali, Gr. Noida and Bhatinda were airlifted on Oct 02-03, 2009 and deployed in flood affected 04 districts of Andhra Pradesh (Kurnool, Vijayawada, Mehboob Nagar and Nandhiyal) and 04



NDRF Team rescuing people during Floods in Karnataka

districts of Karnataka (Bagalkote, Raichur, Gadag and Bijapur).

8.18 NDRF personnel immediately started rescue and relief operations in the flood affected districts of both the states and saved about 18,659 precious human lives. NDRF also distributed over 40 quintals of food and drinking water to the flood marooned people and distributed medicines to the flood victims. The excellent rescue and relief services rendered by NDRF were highly appreciated by Shri K. Rosaiah, Hon'ble Chief Minister, Andhra Pradesh in a letter written to the Vice Chairman NDMA.

Bridge Collapse at Kota, Rajasthan

8.19 On Dec 25, 2009, the under-construction bridge over Chambal river in Kota



NDRF clearing debris of collapsed bridge at Kota, Rajasthan

district of Rajasthan collapsed. On request of the State Government one team (43 personnel) of NDRF Bn Gandhinagar along with SAR and diving equipments reached the accident site by road on Dec 28, 2009. NDRF personnel retrieved 11 dead bodies by cutting metal pieces and clearing debris.

Search & Rescue Operation at Bellary, Karnataka

8.20 On the requisition of SDMA Karnataka, two specialist search and rescue teams (100 personnel) of NDRF Bn Pune along with State-of-the-art search and rescue equipments airlifted on Jan 27, 2010 and reached the site of collapsed five storey under construction multistoried building at Bellary Karnataka. The colossal search and rescue efforts of NDRF saved 20 precious human lives and recovered 27 dead bodies. The team also rescued a live victim from the debris after 09 days.



NDRF clearing debris of collapsed building at Bellary, Karnataka

Community Preparedness and Public Awareness Programme

8.21 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 especially in areas prone to landslides and monsoon related calamities to impart training on rescue

operations like life saving techniques in drowning cases, precautions to be taken in flood, earthquake situation etc. The teams organised demonstrations on various disasters, prompt response and mitigation measures.

State-wise Figure of Community Capacity Building & Public Awareness by NDRF Bns (2006-10)		
S. No	State	Number of Beneficiaries
1	Gujarat	147,018
2	North-Eastern States	93,349
3	Maharashtra	82,735
4	Rajasthan	79,524
5	Bihar	74,095
6	Karnataka	31,809
7	Haryana	31,349
8	West Bengal	21,086
9	Kerala	18,363
10	Tamil Nadu	16,110
11	Uttar Pradesh	14,490
12	Uttarakhand	9,946
13	Madhya Pradesh	9,550
14	Himachal Pradesh	7,440
15	Punjab	7,060
16	Andhra Pradesh	6,345
17	Other States	5,412
	Total	655,681

8.22 About 410,830 people attended to different Capacity Building and Public Awareness programmes organised by NDRF Bns in different parts of the country in the year 2009-10. The Programmes organised by NDRF Bns were enthusiastically attended by local people, students, State Police, and also

Government and non-Government officials.

Training of Trainers for Teachers of University of Pune

8.23 NDMA took a pioneering initiative with University of Pune to impart training in DM capsule to the students in the graduation

courses to be achieved by training of 300 teachers of University of Pune who would in turn educated the students in their respective colleges. To achieve this goal, NDRF Bn Pune organised first batch of ToT for 27 teachers of Pune University including 13 lady teachers during the period March 9-14, 2009, and the next batch for 43 teachers during the period June 22-27, 2009.

Training at North Eastern Police Academy (NEPA)

8.24 NDMA/ NDRF organized a 03 days workshop on Disaster Management at NEPA on July 29-31, 2009 for officers in the rank of Deputy Superintendent of Police to Superintendent of Police.

Training of Kerala State Police Personnel

8.25 A 03 days training programme in Disaster Management for State Police and selected volunteers of Kannur district of Kerala was organised by NDRF Bn Arakkonam from March 15-18, 2010. One team of Bn consisting of 12 Master trainers imparted training on various rescue/life saving techniques like CPR, FBAO etc. and displayed their specialized rescue equipments to the participants.

NDRF Workshops/ Exhibitions

8.26 NDMA, in collaboration with the North Eastern Council and Government of Mizoram, organized a two day workshop on Disaster Risk Reduction at Aizawl on June 11-12, 2009. The workshop was inaugurated by Hon'ble Chief Minister of Mizoram Shri Pu Lal Thanhawla and attended by MLAs, senior



Shri LalThanhawla Hon'ble Chief Minister, Mizoram with Shri P.P. Srivastava, Member NEC and Shri K.M. Singh, Member NDMA at the inaugural function

officers of Civil and Police departments and representatives of educational institutions, NGOs, Youth organisations and print and electronic media.

8.27 An important component of the two day programme was an impressive live demonstration on techniques of Search and Rescue by the NDRF Bn Guwahati. H.E. the Governor of Mizoram Lt. Gen (Retd) M.M. Lakhera was the chief guest on the occasion. About 10,000 people, mostly school students, witnessed the demonstration.

8.28 NDRF Bn Pune put up an International standard exhibition displaying disaster response equipments and organized



High Rise Building Rescue by NDRF personnel at IIT Mumbai

demonstrations on Heli Rescue, Collapsed Structure Search & Rescue, High Rise Building Rescue and Dog Show during TechFest 2010 (The annual International Science and Technology Festival of IIT Mumbai) on Jan 22-24, 2010. TechFest 2010 was inaugurated by Gen. N.C.Vij, Hon'ble Vice Chairman, NDMA. This three day event witnessed more than 70,000 visitors, 15,000 participants, nearly 2000 colleges and approximately 5000 members of Industry and academia.

8.29 NDRF Bn Kolkata participated in "Technika 2010", the annual technical festival of Birla Institute of Technology, Mesra. The exhibition was inaugurated by H. E. the Governor of Bihar Shri Devanand Konwar on March 26, 2010. NDRF Bn Kolkata put up an exhibition of international standard showing their State-of-the-art rescue equipments to generate awareness. NDRF personnel demonstrated the skills of Heli-Rescue, Collapsed Structure Search & Rescue, High-Rise Building Rescue to generate disaster awareness among the visitors. Shri Devesh Chandra Thakur, Hon'ble Minister of Disaster Management, Govt of Bihar also witnessed



NDRF personnel showing their rescue skills at Technika 2010

and appreciated the entire event during Technika 2010.

8.30 The State Government of Bihar organized a major event on the occasion of 'Bihar Divas' at Gandhi Maidan, Patna during the period March 22-24, 2010. The programme was inaugurated by Shri Nitish Kumar, Hon'ble Chief Minister of Bihar. All the ministries/ departments of the State Government participated in the programme.



NDRF Stall surrounded by pool of interested visitors at Gandhi Maidan, Patna

8.31 On the specific request of the Principal Secretary Disaster Management, Govt of Bihar, NDRF Bn Kolkata put up an impressive exhibition on disaster preparedness displaying various search and rescue equipments to generate awareness among public besides distributing informative materials, leaflets and pamphlets. The NDRF stall was visited by more than 50,000 people during the three days event.

8.32 NDRF Bn Pune organized a Training of Trainers programme at Art of Living Foundation, Bangalore from Feb 06-11, 2010. Eighty-five volunteers from different states participated in the programme and were trained in various life saving



NDRF personnel training the volunteers of Art of Living Foundation at Bangalore

techniques and skills like high-rise building rescue, flood water rescue, protection and action during NBC emergencies, MFR & CSSR techniques.

8.33 NDRF Bn Pune participated in the two day Mega-Exhibition on disaster management "TATPAR 2010" organized by Disaster Management Department of Municipal Corporation of Greater Mumbai (MCGM) at Shivaji Park, Mumbai on Feb 26-27, 2010. The team also organized mock drills on earthquake disaster & dirty bomb explosion to generate awareness among the public. About 50,000 people visited the two day exhibition.



NDRF personnel demonstrating rescue skills during Tatpar 2010

Incident Response System

8.34 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.

8.35 The Government of India, realizing the importance of this aspect, had decided to adopt the ICS in collaboration with the USAID in 2003. The experience over the past years in implementing this system established the need of indigenizing the system, meaning thereby, to align it to our administrative set up and the provisions of the DM Act, 2005. During the period under review, apart from the regional workshops for preparation of the guidelines, a large number of workshops and simulation exercises were carried out to propagate the principles of ICS. NDMA has changed the name of ICS and it is now renamed as Incident Response System in Indian context.

8.36 An extended Core Group meeting was organized to discuss the draft guidelines on Incident Response System on 09 June 2009

at NDMA, New Delhi. Total 27 delegates participated from all over the country. The suggestions and recommendations collected from different states through regional consultation workshops were discussed. Adaptation of ICS in different countries was also examined. The left out points during the regional consultation workshop were also discussed in detail and incorporated.

8.37 Focused group discussion and meetings were organized at NDMA to finalize the draft Incident Response System Guidelines at different span of time in the year of 2009-10. The stakeholders from different line departments of the Government of India, State Governments and different Training Institutions participated. The suggestions and comments received from different Ministries, State Governments and Training Institutions were also examined in this meeting and incorporated in the Guidelines.

8.38 Workshops and talks were organized by NDMA and State Governments like Bihar, Tamil Nadu and Assam at different span of time during the period under report. Through these discussions, the final version of Guidelines was discussed before giving it a final shape.

IRS awareness Programme

8.39 A training programme on Disaster Management as a capsule course was designed covering role of Police in Disaster Management, provisions of DM Act, 2005 and District Disaster Management Plan, Incident Response System, Capabilities of NDRF for senior level IPS Officers at Sardar Vallabh

Bhai Patel National Police Academy, Hyderabad. A total of 19 capsule courses were conducted and 848 officers were sensitized under this during the year. This capsule programme was designed on the request of the NPA under the leadership of J K Sinha, Member, NDMA and formalized by two senior specialist Brig (Dr) B K Khanna and Maj Gen V K Dutta.

8.40 A similar training programme on Disaster Management as a capsule course was designed covering present scenario on Institutional and Legal Arrangements, Incident Response System and Civil Defence for senior level Administrative Officers at Lal Bahadur Shastri National Academy of Administration, Mussoorie. A total of 03 capsule courses were conducted and 385 officers sensitized in this programme during the period under report.

National Cadet Corps (NCC)

8.41 Task of imparting Disaster Management training to NCC was undertaken by the NDMA under the stewardship of Shri J K Sinha, Member, NDMA. The objectives of the training programme was to (a) generate awareness amongst the NCC cadets, (b) provide exposure to the emergency first aid, search and rescue and fire fighting, (c) involve NCC Cadets in the disaster management, and (d) promote the culture of prevention and preparedness.

8.42 During the period under report, training on DM was imparted to total 61,000 NCC Cadets. The details of NCC Cadets trained are given in Table below:

Training of NCC Cadets

Sl. No.	State	NCC Cadets trained at Regular Camps	NCC Cadets trained at National Integration Camps
1.	Andhra Pradesh	6000	1800
2.	Uttar Pradesh	5000	1200
3.	Bihar	3000	600
4.	Punjab	2500	1000
5.	Haryana	1500	800
6.	Maharashtra	2000	1200
7.	Orissa	1500	600
8.	N E States	5000	600
9.	Gujarat	1500	1800
10.	J&K	4000	---
11.	Delhi	5000	600
12.	Madhya Pradesh	1000	1800
13.	Rajasthan	3000	1200
14.	Uttarakhand	2000	---
15.	West Bengal	---	600
16.	Kerala	----	1200
17.	Karnataka	----	1800
18.	Tamil Nadu	----	1200
19.	Nagaland	----	600
	TOTAL	43,000	18,000

Fire Services

8.43 Vice Chairman, NDMA had very emphatically projected the urgent need for revamping of Fire Services before the 13th Finance Commission. As a follow up to this, the 13th Finance Commission has given the positive directions related to revamping of Fire Services. Subsequently with the direction of

Vice Chairman, NDMA and under the leadership of Shri J K Sinha, Member, NDMA, it was decided to formulate a National Guidelines for Revamping of Fire Services. A meeting was organized on 22 March 2010 at NDMA to prepare Guidelines on this topic. In this meeting, the Fire Advisory Committee of India was invited. A Core Group was formed for preparation of these guidelines.

9

MAINSTREAMING DISASTER MANAGEMENT INTO DEVELOPMENTAL PLANS

9.1 Mainstreaming disaster management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity, but also from the perspective of minimizing that activity's potential contribution to the hazard. Every development plan has to incorporate elements of impact assessment, risk reduction, and the 'do no harm' approach. The aim being to ensure that all newly built structures and those under construction to be disaster resilient and those which have already been constructed are selectively retrofitted in accordance with priority.

9.2 As a part of the effort of mainstreaming DM concerns into the overall developmental effort, the Planning Commission had agreed to the conduct of a DM audit of all new and on-going projects and selective revisiting of completed projects. This has now been finally approved in the form of inclusion of DM Audit in the EFC and the PIB forms as a self certified portion. The Finance Ministry and the Planning Commission have now accepted the need to ensure funding for this activity, as well as support the measures arising from the DM Plans required to be made by the Central Ministries/Departments and the States/Union Territories.

9.3 To institutionalize this process a number of meetings were held with the

Planning Commission and the Ministry of Finance. Finally the process has been formalized which includes the Disaster Resilient Audit on Self Certification Basis right in the inception and the Planning stage of formulating DPRs and then to the execution stage in all the new projects. To this end, the Finance Ministry issued instructions vide their OM No 37(4)/PF.II/2003 dated 19 June 2009 and OM No. 1(9)/E. II (A)/2007 dated 14 July 2009 that the disaster resilience will be inbuilt into all new projects and checked at all stages of formulation, appraisal and approval - in nutshell beginning with the preparation of Detailed Project Reports, upto clearance through revised EFC/ CNE check memos.

9.4 The EFC and DPR formats have been revised by Ministry of Finance on 19 June 2009, to include disaster management concerns. The generic EFC/ SFC/ CNE note read as:

- (i) Does the project involve any creation/ modification of structural/ engineering assets including land reclamation or changes to existing land use plans? If yes, then the costs involved in prevention and mitigation of disaster (s) (natural and man-made) would need to be included fully in the project cost.
- (ii) What is the location of the project area? Reasons for selecting the site? Have possible alternatives site been

- considered? Is the type of activity envisaged in the area compatible with the provisions of relevant NDMA Guidelines?
- (iii) Identify the possible risks and analyze the likelihood and impact from earthquakes, floods, cyclones and landslides due to the location of the project sites as well as through secondary evidence.
 - (iv) What are the landuse directives, regulations applicable? List preventive measures enshrined in regulations which are to be complied with and confirm compliance.
 - (v) Based on the prioritization of risks, the mitigation measures being contemplated, both structural and non-structural. Confirmation that the implementation of the selected mitigation measures will not create new risks.
 - (vi) Confirmation that the design and engineering of the structure has taken into consideration the National Building Code 2005, the appropriate BIS Codes and the NDMA Guidelines. Other sources such as Indian Roads Congress Manual, Ministry of Road Transport & Highways and Shipping manual, Railway Board Manual, Central Public Health & Environmental Engineering Organization (Ministry of Urban Development) Manual, Central Electricity Authority Manual and Central Water Commission Manual etc may also be consulted where applicable.

- (vii) Has the cost of disaster treatment/ mitigation measures been included in the overall project cost?
- (viii) Also indicate that the whole process of risk assessment has been done based on available information and secondary evidence and the mitigation measure(s) are in conformity with the statutory and other regulatory requirements and are the most viable ones in the present circumstances.

9.5 This procedure will be applicable to all new schemes of the Central Ministries/ Departments and will also include all the ongoing schemes like Indira Awaas Yojana. It is also planned to selectively revisit the old schemes. The Planning Commission has promised adequate financial support for this purpose. The Vice Chairman has also written to all the Chief Ministers of States to include this procedure in all their projects/ plans. Response from the States is very encouraging in this matter. To take this process further to the housing and infrastructure sector, NDMA is in communication with the Reserve Bank of India to issue guidelines to the banks for considering loans only to those individuals/ projects who certify that the structures are disaster resilient.

9.6 Ministry of Panchayati Raj & Rural Development has also been approached by the NDMA and it has been decided that the concern of disaster management should be reflected in the training of representatives of the Panchayati Raj Institutions and local bodies. All the ongoing projects and future projects of Ministry of Panchayati Raj & Rural Development will take into concern the disaster resilient features.

9.7 Ministry of Urban Development & Poverty Alleviation will also take into concern the disaster management features into their projects and programmes like JNNURM etc.

9.8 Disaster Management is to be mainstreamed into the developmental planning process through structural and non-structural measures.

Structural Measures

9.9 In the structural measures, disaster management concerns are addressed in three ways:

- All new projects/ programmes would be revisited to build in disaster management concerns to ensure disaster resilience.
- The design of ongoing projects/ programmes will also similarly be audited, and Projects/ Programmes already completed would be revisited selectively on priority to address DM concerns.
- Disaster risk reduction measures will also be incorporated into developmental programmes involving construction of buildings etc., such as Sarva Shiksha Abhiyan, Indira Awas Yojana, Jawaharlal Nehru National Urban Renewal Mission etc.

Non-Structural Measures

9.10 Non-Structural measures would include legislation and other such instruments as building bye-laws, land use regulations which create the enabling regulatory environment.

Disaster Management in Education

9.11 As an effort to mainstream disaster management concerns into the education curricula, NDMA has taken the initiative in conjunction with the Ministry of Human Resource Development, to ensure that DM curriculum will be the part of the course curriculum in undergraduate science and humanities courses and Medical, Engineering, Architecture courses besides in school education. It will also focus on the training of teachers and faculties in disaster management. Sarva Siksha Abhiyaan (SSA) will also put in place the concern of disaster resilient aspect.

9.12 The subject of social sciences as taught in class VIII & IX of secondary schools contains specific chapters on disasters managements. The NDMA is in further contact with the department of HRD/ UGC with main emphasis to introduce DM capsules in all the Higher Education Streams. In this connection the following meetings were organized:

- i. First meeting was held on the October 21, 2009. Five key activities were discussed.
 - a. Introducing DM into Humanities, Law & Sciences and Under Graduate education;
 - b. Introducing DM into Engineering and Architecture;
 - c. Benchmarking of Distance Education Course on DM;
 - d. UGC funding for setting up Centres for DM in selected universities;

- e. Teachers' Training - Draft syllabus for the UG level and the Engineering course has been circulated for comments.
- ii. Next meeting was held on the November 19, 2009, wherein the issue was taken up with the AICTE.
- iii. The course curriculum proposed by AICTE on DM as an applied sciences subject in under graduate programmes of Technical Education was accepted by the Committee on Higher Education. The course would be introduced in the next academic year as an optional course with suitable credits.
- iv. UGC will adopt the curriculum proposed by AICTE, with such modification as considered necessary, for introducing this course in the general educational under-graduate stream as an optional course from the next academic year.
- v. Has been introduced in Ag. B.Sc and B.Vet. SC following our initiative.
- vi. ICMR committees headed by Gen. Bharadwaj, vide their letter No. NDMA/JRB/10 dated April 06, 2010, has already sent the proposed syllabi for U.G., P.G. and the medical professionals.

10

ADMINISTRATION AND FINANCE

General Administration

NDMA Secretariat

10.1 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.

Policies, Plans, Rehabilitation and Recovery Division

10.2 This Division deals with all matters pertaining to the formulation of policies, guidelines and approval of plans of all the Central Ministries/Departments as well as 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

10.3 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.

10.4 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

10.5 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.

10.6 It also has the task of maintaining a dedicated and continually operational state-of-the-art communications. The key components of the Communication and IT Wing are Communications and IT network and DM Information System with special reference to Knowledge Management and Data Fusion with emphasis on GIS based applications. The total sanctioned staff in this Division is 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

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

Finance and Accounts Division

10.8 The Finance and Accounts Division deals with the work relating to maintenance of accounts, preparation of budget, financial scrutiny of proposals, etc. This Division also monitors progress of expenditure and advises

NDMA on all matters falling within its delegated financial powers, etc. The total sanctioned staff in this Division is 8, comprising one Financial Advisor (JS level), one Director, one 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

10.9 In the Demands for Grants of Ministry of Home Affairs (MHA), NDMA has been classified under Grant No. 54 - Other

Expenditure of MHA. The classification of Budget heads is as under:

Grant No - 54 - other Expenditure of MHA

(A) Revenue (Non-Plan)

- Major Head (2245) - Relief on account of Natural Calamities.
- Sub-Major Head (80) - General.
- Minor Head (102) - Management of natural disasters, contingency plans in disaster prone areas.
- Sub-Head (04) - National Disaster Management Authority.

(B) Capital Section (Non-Plan)

- Major Head (4250) - Capital outlay on other Social Services.
- Minor Head (101) - Natural Calamities.
- Sub-Head (03) - National Disaster Management Authority.

(C) Revenue (Plan)

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.
- 07 - National Flood Disaster Management
- 14 - National Disaster Response Force

Fund Allocation and Utilization

10.10 During the period under report (2009-10) the Budget Allocation (BE) for NDMA was a total amount of ₹ 88.06 Cr., out of which ₹ 40 Cr. was meant for Plan Schemes/Projects of the Organization and ₹ 48.06 Cr were allotted against Non-Plan Budget.

10.11 The actual expenditure against the RE of ₹ 41.26 Cr (Non-Plan) was ₹ 30.59 Cr.

10.12 A substantial portion of expenditure under Non-Plan is incurred under the following object heads:-

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

10.13 Funds allocation and expenditure during 2009-10 under the above mentioned Non-Plan heads are shown below in tabulated form:

Fund Allocation and Expenditure in Non-Plan Heads (2009-10)			
(₹ in Lakh)			
Sl. No.	Object Head	Allocation	Expenditure
1.	Salary	700	493.77
2.	Domestic Travel Expenses	250	158.65
3.	Office Expenses	500	350.51
4.	Other Administrative Expenses	500	127.02
5.	Advertising & Publicity	1800	1788.40
6.	Professional Services	200	73.57

10.14 Total amount of ₹ 40 cr. allotted in BE 2009-10 for preparation of Detailed Project Reports (DPRs) had been distributed as follows for various Plan projects of NDMA:-

	Allocation
(i) National Earthquake Risk Mitigation Project (NERMP)	- ₹ 5 cr.
(ii) National Landslide Risk Mitigation Project (NLRMP)	- ₹ 1 cr.
(iii) National Disaster Communication Network (NDCN)	- ₹ 4.5 cr.
(iv) National Cyclone Risk Mitigation Project (NCRMP) with World Bank Assistance	- ₹ 15 cr.
(v) Other Disaster Management Projects	- ₹ 10 cr.

(vi) National Flood Disaster Management - ₹ 4.5 cr.

Total - ₹ 40 cr.

10.15 Due to slow progress on finalization of DPRs, the BE allocations were reduced to ₹ 11.30 Cr in RE 2009-10. Against these allocations, the total expenditure under Plan heads was only ₹ 6.30 Cr in respect of various projects.

Audit Paras

10.16 There were 5 audit paras in the C&AG Audit Report for the year ending 31 March 2008. All the 5 audit paras were replied and sent to DM Division, MHA for vetting from C&AG. No audit para is pending for the year ended 31 March 2009.

10.17 There are three audit paras in the audit report for the year ending 31 March 2009 received from C&AG. The same is under finalization.

ANNEXURE I

Composition of the NDMA

1.	Dr. Manmohan Singh, 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

List of Senior Officers of the NDMA

1. Shri A. B. Prasad, Secretary (Since 24-07-2009)
2. Shri Sunil K Kohli, Financial Advisor (Since 01-08-2008)
3. Dr. G.S.G. Ayyangar, Advisor (Since 18-08-2008)
4. Shri Suresh Kumar Sepuri, Advisor (Since 21-08-2008)
5. Shri Amit Jha, Joint Secretary (Since 27-02-2009)
6. Smt. Sujata Saunik, Joint Secretary (Since 18-12-2009)
7. Shri A.R. Sule, Director (Since March 2006)
8. Shri R.K. Singh, Joint Advisor (Since 20-02-2009)
9. Shri Prem Kumar, Director (Since 23-02-2009)
10. Dr. C.V. Dharma Rao, Joint Advisor (Since 20-03-2009)
11. Shri R.K. Chopra, Under Secretary (Since 14-11-2006)
12. Shri P. Thakur, Assistant Advisor (Since 01-05-2008)
13. Shri J.C. Babu, Assistant Advisor (Since 25-09-2008)
14. Shri S.K. Prasad, Assistant Advisor (Since 01-10-2008)
15. Shri A.K. Jain, Assistant Advisor (Since 03-11-2008)
16. Shri Budh Ram, Assistant Financial Advisor (Since 31-12-2008)
17. Smt. Vijayalakshmi Bhardwaj, Assistant Advisor (Since 19-01-2009)
18. Shri Chandra Shekhar, Under Secretary (Since 09-03-2009)