

8.1 Due to its geo-climatic conditions, India has been vulnerable to various natural disasters. About 60% of its landmass is prone to earthquakes; over 40 million hectares is prone to floods; of 7,500 kilometer (km.) of coast line close to 5,700 km. is prone to cyclones and 68% of the area is susceptible to drought. The Tsunami disaster, which struck five coastal States/ UTs in India in December 2004, has further highlighted the vulnerability of coastal areas. Fire incidents, industrial accidents and other manmade disasters involving chemical, biological and radioactive materials are additional hazards which have underscored the need for strengthening mitigation, preparedness and response measures.

### Role of Central and State Governments

8.2 The basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of a disaster rests with the concerned State Government. The Central Government supplements the efforts of the State Governments by providing logistic and financial support in case of severe natural calamities. The logistic support includes deployment of aircrafts and boats, specialist teams of Armed Forces, Central Para Military Forces and personnel of National Disaster Response Force (NDRF), arrangements for relief materials & essential commodities including medical stores, restoration of critical infrastructure facilities including communication network and such other assistance as may be required by the affected States to meet the situation effectively.

### Change of approach

8.3 The Government have brought about a

change in the approach to disaster management. The change is from a relief-centric approach to a holistic approach covering the entire cycle of disaster management encompassing prevention, mitigation, preparedness, response, relief and rehabilitation. The approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built in the development process.

### Disaster Management Act

8.4 The Government have enacted and notified the Disaster Management Act, 2005 on December 26, 2005 to provide for institutional mechanisms for drawing up and monitoring the implementation of the disaster management plans, ensuring measures by various wings of Government for prevention and mitigating effects of disasters and for undertaking a holistic, coordinated and prompt response to any disaster situation. The Act provides for setting up of a National Disaster Management Authority (NDMA) under the chairmanship of the Prime Minister, State Disaster Management Authorities (SDMAs) under the chairmanship of the Chief Ministers and District Disaster Management Authorities (DDMAs) under the chairmanship of District Magistrates. The Act further provides for constitution of National Executive Committee (NEC), National Institute of Disaster Management (NIDM) and National Disaster Response Force (NDRF). It also provides for the concerned Ministries and Departments to draw up departmentwise plans in accordance with the National Disaster Management Plan. In addition, the Act contains provisions for constitution of National Disaster Response Fund and National Disaster Mitigation Fund and similar Funds

at the State and District levels. The Act also provides for specific role to local bodies including Panchayati Raj Institutions (PRIs) as well as Urban Local Bodies (ULBs) in disaster management.

8.5 Relevant provisions of the Act, as mentioned below, have already been brought into force by the Government of India with effect from the dates indicated against each:-

S.No.	Sections of the Act	Date
1.	2-6, 8, 10, 75,77 & 79	July 28, 2006
2.	7, 9, 11-13, 35-37,42, 43,49,50,70(1) & 76	October 30, 2006
3.	14-34, 38-41, 48, 51-69, 70(2), 71-74, 78 & 79.	August 1, 2007

8.6 The Rules relating to NDMA, NEC, NIDM, laying of Annual Report of NDMA in the Parliament and Notice of Alleged Offence have also been notified by the Government of India.

8.7 As per the information received from the States/UTs, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, Kerala, Mizoram, Puducherry, Punjab, Tripura, Utrakhand and West Bengal have already constituted SDMAs under the provisions of the Act. Gujarat and Uttar Pradesh have constituted SDMAs under the provisions of the respective State Disaster Management Acts. District Disaster Management Authorities have also been constituted by Goa, Mizoram, Punjab, Himachal Pradesh, Puducherry, Tripura, Haryana and West Bengal.

### National Disaster Management Authority (NDMA)

8.8 NDMA has been constituted in accordance with the provisions of the Disaster Management Act, 2005 on September 27, 2006, under the Chairmanship of the Prime Minister. The Authority has nine other Members, one of whom has been designated as the Vice-Chairperson.

8.9 A draft National Policy on Disaster Management has been prepared by NDMA in keeping with the paradigm shift from the erstwhile relief centric approach to the one envisaging holistic management of disasters with emphasis on prevention, preparedness and mitigation. NDMA has also taken up the process of formulation of guidelines through a participatory and consultative process involving all the stakeholders, including Government, Non-Government, Academic and Scientific Institutions, Corporate sector and Community. The guidelines on management of earthquakes, chemical (industrial) disasters, preparation of State Disaster Management Plans, medical preparedness and mass casualty management and floods have already been released. The guidelines on nuclear disasters, biological hazards, cyclones, landslides, urban flooding, river erosion, micro finance and insurance are under finalization. NDMA is also facilitating the training and equipping of the National Disaster Response Force (NDRF) which has been constituted by upgradation/conversion of two battalions each of Border Security Force (BSF), Indo-Tibetan Border Police (ITBP), Central Industrial Security Force (CISF) and Central Reserve Police Force (CRPF). NDMA is also engaged in planning national level mitigation projects related to cyclone, earthquake, floods etc. Awareness campaign to improve risk perception, preparedness and self reliance in the context of cyclone and earthquake disaster has also been launched. It is also facilitating mock exercises in vulnerable states on various types of natural and man made disasters to help the State Governments in reviewing the adequacy and efficacy of the State and District level Disaster Management Plans and identify gaps in resources and systems. In addition, NDMA has overseen the progress of post-tsunami rehabilitation and reconstruction activities in Andaman & Nicobar Islands.

### Financing Mechanism

8.10 The Scheme of financing the relief

expenditure is based on the recommendations of the successive Finance Commissions. The present scheme, which is in operation from 2005-06 to 2009-10, is based on the recommendations of the Twelfth Finance Commission (TFC). The TFC recommended continuation of the Schemes of Calamity Relief Fund (CRF) and National Calamity Contingency Fund (NCCF). The TFC recommended that avalanches, cyclone, cloud burst, drought, earthquake, fire, flood, hailstorm, landslides and pest attacks are to be considered as natural calamities for providing assistance from CRF/NCCF. The TFC has increased the allocation in CRF to Rs.21,333.33 crore for the five year period (2005-10) from Rs.11,007.59 crore allocated for 2000-05.

### **Calamity Relief Fund (CRF)/National Calamity Contingency Fund (NCCF)**

8.11 A CRF has been constituted for each State with an allocated amount, based on the recommendations of the TFC under the Scheme to ensure ready availability of funds with the States. The CRF is contributed by the Government of India and the State Government in the ratio of 3:1. The Central share is released in two equal installments: in June and December each year. In case of severe calamities, sometimes advance releases are also made. Under the Scheme of CRF/NCCF, the State Level Committee headed by the Chief Secretary is fully authorized to decide on all matters relating to the financing of the relief expenditure from the CRF, in accordance with the items and norms approved by the Government of India.

8.12 In the event of a calamity of a severe nature, in which the requirement of funds for relief operations is beyond the funds available in the State's CRF account, additional Central assistance is provided from National Calamity Contingency Fund (NCCF). NCCF has been constituted with a corpus of Rs.500/- crore which is recouped by contingent duties and special surcharge collected on tobacco products, etc. As per the laid down procedure, the State Government is required to

submit a memorandum indicating the sector-wise damage and requirement of funds. On receipt of memorandum, an Inter-Ministerial Central Team is constituted and deputed for an on the spot assessment of damage and requirement of funds for relief operations, as per the existing items and norms of CRF/ NCCF. The report of the Central Team is considered by the Inter-Ministerial Group (IMG) headed by the Home Secretary. Thereafter, the High Level Committee, comprising of the Agriculture Minister, the Home Minister, the Finance Minister and the Deputy Chairman, Planning Commission considers the request of the State Government in the light of the report of the Central Team, recommendations of the IMG thereon, norms of assistance and balance available in the State's CRF and approves the quantum of assistance to be released from NCCF.

8.13 A statement indicating the allocation and release of funds from CRF and releases made from NCCF during the year 2007-08 (up to December 31, 2007) is at **Annexure-XVII**.

### **Revision of Items and Norms of Expenditure from CRF/NCCF**

8.14 As mentioned above, the expenditure from CRF/NCCF is required to be incurred on aforesaid items as per norms approved by the Government of India in the Ministry of Home Affairs.

8.15 It has generally been a practice to review and revise the items and norms of assistance immediately after the Award of the Finance Commission is accepted by the Government. Minor revisions in norms are also made from time to time as and when the need arises.

8.16 Subsequent to receipt of Award of the 12<sup>th</sup> Finance Commission, an Expert Group was constituted by the Ministry of Home Affairs to review and recommend revision of the items and norms of assistance from CRF/NCCF.

8.17 The Government of India, after considering the recommendations of the Expert Group, approved revision of items and norms of assistance from CRF/ NCCF. The revised items and norms of assistance were circulated to all the States and concerned Central Ministries on June 27, 2007. The revised

norms have also been uploaded on MHA's website [www.ndmindia.nic.in](http://www.ndmindia.nic.in).

8.18 As a result of the revision, there has been substantial upward revision in the norms pertaining to items which directly benefit the affected victims/ farmers. These are:

Item	Old Norms (in Rs.)	Revised Norms (in Rs.)
1. Ex-gratia payment in case of death	50,000	1,00,000
2. Ex-gratia payment for loss of limbs	25,000	a) 35,000 (40-75% disability) (b) 50,000 (over 75%) disability
3. Assistance for loss of clothing and utensils ( per family)	1,000	2,000
4. Agricultural Input subsidy		
i) for rainfed areas	1,000	2,000
ii) for irrigated areas	2,500	4,000
iii) for perennial crops	4,000	6,000
5. Fully damaged pucca house	10,000	25,000
6. Fully damaged kuchha house	6,000	10,000
7. Severely damaged pucca house	2,000	5,000
8. Severely damaged kuchha house	1,200	2,500
9. Partially damaged house (both pucca and Kuchha)	800	1,500
10. Huts- damaged/destroyed	no such item	2,000 ( new item)

### Constitution of National Disaster Response Fund

8.19 Section 46 of the Disaster Management Act, 2005 provides for constitution of National Disaster Response Fund (NDRF). The corpus of the NDRF will comprise of:

- An amount which the Central Government may, after due appropriation made by the Parliament by Law in this behalf provide;
- Any grant that may be made by any person or institution for the purpose of Disaster Management.

8.20 As per the Act, the NDRF is to be made available to the National Executive Committee

(NEC), which has been constituted under the Chairmanship of Union Home Secretary, under section 46 of the Act, to meet the expenditure for emergency response, relief and rehabilitation,

8.21 The Government has approved the constitution of NDRF on November 26, 2007 with an initial corpus of Rs.100 crore. The existing scheme of NCCF will be in parallel operation with NDRF till the duration of the Award of the Thirteenth Finance Commission i.e. March 31, 2010. The issue of merger of NCCF with NDRF has been included in the Terms of Reference of the Thirteenth Finance Commission.

8.22 Section 48 of the DM Act provides for the constitution of State Disaster Response Fund

(SDRF) and the District Disaster Response Fund (DDRF) at State and District levels respectively. The merger of CRF with the SDRF will also be effected on the recommendations of the Thirteenth Finance Commission.

### Expenditure on Long-Term Rehabilitation and Reconstruction

8.23 The Schemes of CRF/NCCF provide for only immediate relief to the victims of natural calamities. The expenditure on restoration of infrastructure and other capital assets (except those intrinsically connected with immediate relief operations and connectivity with the affected areas and population) are required to be met from the Plan funds of the States.

8.24 Keeping in view the magnitude of the situation caused by heavy rains and floods in some States during South-West and North-East Monsoon in 2005 and the need for long term rehabilitation and reconstruction in the severely affected areas, an inter-ministerial committee (IMC) was constituted by the Government of India under the Chairmanship of Vice-Chairperson, NDMA, on the lines of Core Group set up in the Planning Commission in the wake of Tsunami of December, 2004. Several affected State Governments have since submitted their sectoral plans and programmes to the IMC, which has considered the matter. This assistance is proposed to be provided as Special Plan Assistance, which will be built into the State's Plan. The assessment of requirement of funds for long term reconstruction has been made by IMC, recommended by HLC and approved by the Cabinet at a cost of Rs.5323.26 crore to be implemented over a period of two years i.e. 2007-08 and 2008-09.

### Monsoon Behaviour in 2007

8.25 The southwest monsoon rainfall figures for the period June 1, 2007 to September 30, 2007 for the country as a whole and the four broad homogeneous regions are as follows:

Region	Actual (mm)	Normal (mm)	Percentage Departure
All-India	936.9	892.2	+5%
Northwest (NW) India	520.8	611.6	-15%
Central India	1073.8	993.9	+8%
South peninsula	907.3	722.6	+26%
Northeast (NE) India	1485.9	1427.3	+4%

8.26 The cumulative rainfall from June to September 2007 was excess in 13, normal in 17 and deficient in 6 meteorological sub-divisions. Out of 513 meteorological districts for which data were available, 144 districts (28%) received deficient rainfall (rainfall deficiency more than 19%) during the season, out of which 77 districts (15%) experienced moderate drought conditions (rainfall deficiency 26% to 50%) and 30 districts (6%) experienced severe drought conditions (rainfall deficiency 51% and more). The rainfall was excess (actual rainfall higher than LPA by 20% or more) in 164 districts (32%) during the season.

8.27 During this season, as many as 13 low pressure areas were formed over the Indian region, 11 over the Bay of Bengal, 2 over the Arabian Sea. Out of these low pressure areas, 2 developed into cyclonic storms, 5 into depressions/ deep depressions and 6 into low pressure areas/ well marked low pressure areas. All these systems that formed over the Bay of Bengal generally had a west-northwesterly to northwesterly track causing heavy rainfall (25 cm. or more) over Orissa, Gangetic West Bengal, Bihar, Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Rajasthan, Gujarat, Maharashtra and Karnataka.

### Natural calamities in 2007

8.28 During the South-West Monsoon - 2007, 24 States/UT namely Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat,



Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand, West Bengal and UT of Puducherry reported damage in varying degrees due to heavy rains, cyclonic storms, floods, landslides and cloud bursts etc. As per the preliminary reports received from these States/ UTs, 612.951 lakh population, 72.55 lakh hectares cropped area and about 26.60 lakh houses have been affected besides loss of 3,494 lives of people and 1,04,423 cattle heads. The heavy rains/floods etc. have affected some parts of the States and disrupted road communication, rail links and telecommunications. State-wise details of extent of damage is at **Annexure-XVIII**.

### Relief measures

8.29 The concerned State Governments reacted first to the flood situation and undertook immediate rescue and relief operations, which were suitably reinforced, with alacrity, by the Government of India through necessary financial and logistic support.

8.30 The National Crisis Management Committee under the Cabinet Secretary closely monitored the situation, in cases of natural calamities of severe nature. The Ministry coordinated with the Ministries/Departments/ Agencies rendering Emergency Support Functions to ensure convergence of efforts to deal effectively with the situation caused by the floods during the South-West monsoon. The Central Government deployed Air Force helicopters, Army Boats, units of the National Disaster Response Force, Army Columns and Central Para-Military Forces to assist the affected State Governments in rescue and relief operations. The Ministry of Health and Family Welfare provided the requisite stocks of essential medicines and drugs, bleaching powder, Chlorine tablets and ORS packets to meet the requirements of the State Governments and to prevent the outbreak of water borne diseases and epidemics. Additional stocks of essential commodities and petroleum products were provided to some of the severely flood affected States. The Ministries/ Departments/ Agencies of Shipping, Road Transport & Highways, Telecommunications, Power, Drinking Water Supply, National Highway Authority of India (NHAI) and Border Roads



Sashastra Seema Bal personnel distributing food packets to flood victims in Piprakothi Bihar in August 2007

Organization (BRO) took necessary steps to ensure immediate repair and restoration of damaged infrastructure on due priority.

8.31 Twelve States (Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Karnataka, Kerala, Mizoram, Orissa, Sikkim, Tamil Nadu and Uttar Pradesh) and one Union territory (Puducherry) have submitted 18 Memoranda seeking additional Central assistance in the wake of heavy rains, floods, cyclones and landslides during 2007-08. Inter Ministerial Central Teams have visited all these States and submitted their reports in all cases except Puducherry. The High Level Committee (HLC) has considered the memoranda of Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala and Orissa and approved the additional Central assistance under NCCF.

**Assistance to Jammu & Kashmir for Long-term reconstruction of infrastructure damaged due to the earthquake in 2005.**

8.32 The Central Government had earlier sanctioned additional Central assistance under National Calamity Contingency Fund (NCCF) and also through a Special Package for immediate relief and rehabilitation of victims of earthquake of 2005. With regard to long term reconstruction of damaged infrastructure, the Cabinet in its meeting held on May 24, 2007, approved a Special Plan Assistance of Rs.635.88 crore to be built into the State Plan subject to adjustment of excess release from NCCF. The summary of approval, release and utilisation is as follows:

(Rs. in crore)

Amount approved by Cabinet	Amount released by MoF (on grant component)	Expenditure incurred by the State Government
635.88 (90% grant equals to Rs.572.29 crore)	425.71	81.27

**Tsunami Rehabilitation Programme (TRP)**

8.33 The Government approved on December 8, 2005 a "Tsunami Rehabilitation Programme" (TRP) for rebuilding the infrastructure damaged due to Tsunami and for rehabilitation of people affected by Tsunami, covering housing, agriculture, fisheries, ports and jetties, power, water and sanitation, environment, social infrastructure etc., at an estimated outlay of Rs.9,870.25 crore (later revised to Rs. 9,822.10 crore) to be implemented over a period of four years from 2005-06 to 2008-09. This includes an amount of Rs.1,772.62 crore relating to long term reconstruction transferred from the Rajiv Gandhi Rehabilitation package sanctioned earlier for immediate relief and rehabilitation of Tsunami Victims. State/UT Governments, CPWD and the Department of Shipping are implementing the TRP. The States have made considerable progress in rehabilitating the people affected by the Tsunami by way of making available temporary shelters, permanent houses, replacement of damaged boats/ nets/ fishing gear etc, repairs of roads and bridges and reclamation of agricultural and horticultural land affected by salinity. The State/UT-wise physical progress in four major sectors of housing, agriculture and livelihood, fisheries and livelihood and roads and bridges up to December 2007 is at **Annexure-XIX**.

8.34 An amount of Rs.1876.16 crore incurred during the two years of 2005-06 and 2006-07. An outlay of Rs.2128.22 crore has been earmarked during 2007-08. State-wise outlay and utilisation under TRP till December, 2007 is as under:

(Rs. in crore)

States/UTs	Revised outlay	Total amount (utilised till December 2007)
Tamil Nadu	4165.33	1013.3
Kerala	1441.75	181.61
Andhra Pradesh	210.16	150.60
Puducherry	663.73	463.17
Andaman & Nicobar Islands	2654.69	1147.58
Total	*9135.66	2956.29

\*\* Excludes Rs.686.43 crore given to Department of Shipping for reconstruction of Ports and Jetties and for the expenditure related to activities of Core Group.

## National Institute of Disaster Management (NIDM)

8.35 NIDM came into existence as an independent institute under the administrative control of the Ministry of Home Affairs in October, 2003. After the enactment of the Disaster Management Act, 2005, NIDM has been notified as

a statutory body under the Act with effect from October 30, 2006. The first meeting of the Institute was held on April, 19, 2007 under the chairmanship of the Union Home Minister, who is the President of the Institute. The first meeting of the Governing Body of the Institute was held on June, 20, 2007 under the Chairmanship of the Vice-Chairperson of NDMA.



Union Home Minister presiding over the first meeting of the National Institute of Disaster Management held on April 18, 2007

8.36 The institute has organized 45 training programmes on different aspects of disaster management from April, 2007 to December, 2007. Out of these, 19 programmes have been conducted in State Capitals in collaboration with the Administrative Training Institutes. In addition, it has organised seven workshops during this period on issues like community based disaster management, national disaster statistics, disaster management for teachers and school administration, impact of climate change on cultural heritage, humanitarian emergency and disaster management, urban flood case studies and national drought manual. One online training programme on comprehensive disaster risk management, 4 specialised online programmes on community based disaster risk management, safe cities, reconstruction and damage need assessment, and financial strategies for managing the economic impact of disasters have

also been conducted by NIDM. The institute has signed MOUs with three organisations namely ITC Netherlands, All India Disaster Mitigation Institute, Ahmedabad and NIMHANS, Bangalore for collaboration in specific areas of disaster management. It has also joined hand with the Ministry of Environment and Forests for a collaborative project on capacity building in climate change adaptation.

## 2<sup>nd</sup> Asian Ministerial Conference on Disaster Risk Reduction held on November 7-8, 2007

8.37 The Second Asian Ministerial Conference on Disaster Risk Reduction was organised by the Ministry of Home Affairs on 7-8<sup>th</sup> November 2007 at New Delhi in partnership with international bodies including United Nations International Strategy for Disaster Reduction (UN ISDR), United Nations





Prime Minister at the Inaugural Session of 2nd Asian Ministerial conference on Disaster Risk Reduction

Development Programme (UNDP), the World Bank, World Health Organization (WHO), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Asian Development Bank (ADB), South Asian Association for Regional Cooperation (SAARC), United Nations International Children's Emergency Fund (UNICEF), Asian Disaster Preparedness Centre (ADPC), Asian Disaster Reduction Centre (ADRC), Swiss Agency for Development and Cooperation (SDC) and United States Agency for International Development (USAID). The theme of the Conference was 'Development without Disasters'.

8.38 The Conference was attended by delegates of 51 national governments in Asia and Pacific region, representatives of United Nations agencies, regional organisations, other international agencies, experts, Non-Governmental Organisations, line Ministries of the Central Government and representatives of the State Governments. The Conference was also attended by several eminent international experts, Academicians, Researchers and Scholars. More than 600 participants of various countries participated in the deliberations spread over two days. The Conference had three segments: Intergovernmental, Technical and Side Events.

While the discussions in the Intergovernmental Segment were held in four High Level Round Tables, the Technical Segment had discussions and presentations on four themes grouped under two major topics of i) Application of Science and Technology for Disaster Risk Reduction (DRR) and ii) Integrating DRR in Development. Besides, a total of nine side events on various disaster related themes were also held.

8.39 The objectives of the 2<sup>nd</sup> Asian Ministerial Conference held in India in November, 2007 were to review the progress of national governments in the implementation of Hyogo Framework of Action (HFA) adopted in the World Conference on Disaster Reduction held in January, 2005 at Kobe, Japan, review the progress of the Beijing Action Plan for Disaster Risk Reduction (DRR) in Asia adopted in the First Asian Conference on Disaster Risk Reduction at Beijing in Sept., 2005, to promote and enhance cooperation for DRR, to share and exchange best practices in disaster management, to discuss new initiatives such as Global Platform and Global Facility for DRR, and to develop a vision and roadmap for DRR in Asia.

8.40 At the end of Conference, a "Delhi Declaration 2007" was adopted by the Conference.

This declaration would pave the way for stronger regional partnership for DRR and also for effective implementation of HFA in Asia and the Pacific Region with the participation of national governments, regional and sub-regional organisations, civil society, media, private sector and UN agencies.

8.41 The Government of Malaysia has offered to host the 3<sup>rd</sup> Asian Ministerial Conference on Disaster Risk Reduction in 2008.

### **SAARC Disaster Management Centre (SDMC)**

8.42 SDMC has been set up within the premises of NIDM and Executive Director, NIDM is also the Director of SDMC which was formally inaugurated by the Home Minister on October 10, 2006. The second meeting of the Governing board of SDMC was held on October 17-18, 2007 and was attended by all member States from SAARC.

## **MITIGATION MEASURES**

### **Building Bye-laws**

8.43 An Expert Committee was constituted to formulate model building bye-laws, town and country planning legislation, zoning and building regulations for incorporating disaster resistant features. The Report of the Expert Committee has been shared with the State Governments and a series of seminars organised by the Building Materials and Technology Promotion Council (BMTPC) to facilitate adoption of disaster mitigation technologies under the techno-legal regime.

### **Capacity Building Programmes**

8.44 Two National programmes for capacity building in earthquake risk management have been undertaken for training of 20,000 engineers and architects. 223 trainer-engineers and 223 trainer architects have been trained at the National

Resource Institutes so far to impart training to engineers/architects at the State Resource Institutes. Over 942 serving and practicing engineers and 86 practicing architect have also been trained.

8.45 Model Courses on disaster mitigation technologies/designs have since been developed by a Committee of Experts and shared with the All India Council of Technical Education (AICTE) and the Council of Architecture (CoA) for incorporating them in the course curricula at under-graduate level.

### **Retrofitting of Lifeline Buildings**

8.46 A pilot project for detailed evaluation and retrofitting of five Lifeline buildings has been undertaken in Delhi. The Public Works Department, Government of Delhi is being technically supported by Geo Hazards International for Seismic Assessment and retrofitting of five key buildings. Government of Delhi has since formed a specialized team of engineers trained under the project called the 'Retrofitting Circle' to handle all retrofitting projects in the State. Of the five, estimates have been prepared for three, two are being retrofitted now and retrofit decisions have been arrived at for the remaining three. The key focus of the project has been capacity building of engineers. Another aspect covered in the project is the mitigation of Falling hazards- a demonstration of which has been done in the Ludlow Castle School, New Delhi as one of the five buildings identified under the Scheme. The Retrofit Circle has already initiated the replication of outcome in nine schools identified for the purpose in Delhi.

### **Disaster Risk Management Programme (DRMP)**

8.47 DRMP has been taken up in 169 most hazard prone districts in 17 States with assistance from United Nations Development Programme (UNDP), United States Agency for International Development (USAID), European Union and some other international agencies. The programme aims

at putting in place sustainable initiatives with the involvement of local self-government institutions and communities. The States are being assisted to draw up State, District and Block level disaster management plans. Village level Disaster Management Plans are being developed in conjunction with Panchayati Raj Institutions (PRIs) and Disaster Management Teams consisting of village volunteers are being trained in preparedness and response functions such as search and rescue, first-aid, relief coordination, shelter management plans, etc. The State and District level multi-hazard resistant Emergency Operation Centres (EOCs) are also being set up under this programme including provision of equipments for EOCs. Orientation training of engineers, architects and masons in disaster resistant technologies has been initiated. Disaster Management Plans have been prepared for 1,18,680 villages, 23,882 Gram Panchayats, 1,224 Blocks and 162 Districts. Members of Disaster Management Committees are being trained. 10.95 lakh members at village level, 2.78 lakh at Gram Panchayat level, 45,871 at block level, 11,619 at district level have already been trained. In addition, a large number of volunteers and other stakeholders have also been imparted training under the programme. A sub-component of this programme i.e. the Urban Earthquake Vulnerability Reduction Project (UEVRP), has been undertaken in 38 cities having a population of over five lakhs in seismic zone III, IV and V. Detailed information, education and communication materials have been compiled and disseminated to the State Governments. The Programme Steering Committee in its 8<sup>th</sup> Meeting held in April 2007 agreed to extend the Programme by one year till December 2008. A Graduation-cum-Exit Strategy for replacing the existing externally aided scheme by the concerned State Governments has been drafted and is being finalized in consultation with the State Governments.

## PREPAREDNESS MEASURES

### **Annual Conference of Relief Commissioners/ Secretaries, Department of Disaster Management of States/UTs**

8.48 An Annual Conference of Relief

Commissioners/ Secretaries, Department of Disaster Management of States/UTs was held on April 23, 2007 in New Delhi to review the status of preparedness for the ensuing South-west Monsoon, 2007 and to discuss other disaster management related issues. The representatives of various Central Ministries/ Organizations rendering Emergency Support Functions also participated in it besides representatives of Central Para-Military Forces. Members of the National Disaster Management Authority also contributed in the conference. India Meteorological Department (IMD) and Central Water Commission (CWC), which are the nodal organizations for forecasting the respective natural disasters, elaborated their plans to strengthen their network based on the past experience and technological developments. The need for advance planning in all critical areas to deal effectively with such situations was emphasized which included operation of Relief Camps, plan for evacuation of people from vulnerable areas, making available foodgrains and other essential items to affected people and so on. States/UTs were also requested to undertake mock drills and rehearsals to keep their relief machinery at various levels in a state of alertness.

### **National Disaster Response Force (NDRF)**

8.49 The NDRF has been constituted by upgradation/conversion of 8 (eight) standard battalions of CPFs i.e. two battalions each from Border Security Force (BSF), Indo-Tibetan Border Police (ITBP), Central Industrial Security Force (CISF) and Central Reserve Police Force (CRPF) to build them as a specialist force to respond to disasters or any threatening disaster situation. Based on vulnerability profile of different regions of the country, these specialist battalions have been presently stationed at judiciously selected places. Adequate land is being acquired to build necessary independent infrastructure and other facilities to enable NDRF to intervene with minimum time lapse at the time of disaster to undertake search and

rescue work. The NDRF battalions are being trained and equipped with the state-of –the-art equipment. The specialist units of the force will work under the general superintendence, direction and control of NDMA.

### State Specialist Response Teams

8.50 The States have also been advised to set up their own Specialist Response Teams for responding to disasters. The Central Government is providing assistance for training of trainers. The State Governments have been allowed to utilize 10% of the annual allocation in the CRF for the procurement of search and rescue equipment and communication equipment. The formation of Search and Rescue teams by States/UTs is in progress.

### Regional Response Centres (RRCs)

8.51 15 RRCs have been identified and are being developed for storing a cache of essential search and rescue equipments to facilitate swift movement of such equipments to the site of a disaster from the nearest RRC to provide immediate response/relief to the affected people.

### Communication Network

8.52 Communication is normally the first casualty in case of a major calamity, since the traditional communication network systems normally break down in such situations. It has, therefore, been decided to put in place multi-mode, multi-channel communication systems with enough redundancy. Phase-I of the National Emergency Communication Plan has been implemented. It will provide satellite based mobile voice/data/video communication between National Emergency Operation Centres (EOCs) and the Mobile EOCs at remote disaster/emergency sites. Phase-II of the plan envisages connecting National EOC/State EOCs/District EOCs with the Mobile EOCs at disaster/emergency sites. An instant alert messaging system has also been

made operational in the National EOC. It sends alert messages through SMS, e-mail and e-fax.

8.53 A mirror back up of the communication links at the National EOC is also proposed to be provided at the NIDM and the NDMA.

### Tsunami Early Warning System

8.54 The Government of India decided in January 2005, to set up an early warning system to forewarn about the occurrence of tsunami and storm surges in the Indian Ocean. Department of Ocean Development was identified as the nodal agency to set up Tsunami Early Warning System in the Indian Ocean at estimated cost of Rs.125 crore. The system was scheduled to be made operational by September 2007. As per plan, the Early Warning System for Mitigation of Oceanographic Disasters-Tsunami and Storm Surges has been established and operationalized at the National Centre for Tsunami and Storm Surges at the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad and was inaugurated on October 15, 2007. This system is capable of generation and issue of timely and reliable Earthquake Information Bulletins within 20 minutes of occurrence of an earthquake; Tsunami Warning, Alert and Watch within 30 minutes after occurrence of a tsunamigenic earthquake with magnitude of more than 6.5. It is also capable of generating Tsunami Information Bulletins on Tsunami Confirmation/Upgradation/Cancellation and observed heights of water levels and also estimates of travel time of tsunami waves and related additional information. The capabilities of the system have effectively been used on September 12, 2007 in generating timely and accurate earthquake information bulletins (T+20 minutes), Tsunami warnings, alerts and watch (T+30 minutes) and subsequent tsunami information bulletins when a tsunamigenic earthquake occurred with its epicenter in Indonesia. This Ministry closely monitored the whole phenomena and experienced the benefits of the system. A very feeble remainder



tsunami was observed in some Indian coastal areas which coincided with the assessments generated by the Indian Tsunami Early Warning System.

### **Crisis Management Plan (CMP)– 2007**

8.55 The Ministry revised its CMP – 2004 in the light of lessons learnt through the years and circulated the CMP – 2007 of MHA to all concerned for further follow up action, including framing/ updating their detailed Standard Operating Procedures (SOPs) for dealing with different crises/ emergencies.

### **Incident Command System (ICS)**

8.56 In order to professionalize emergency response management by providing the designated coordinating officers at various levels a backup of a professional team comprising of trained members for performing specialized functions, ICS is being introduced in the country. The system provides for specialist incident management teams with an Incident Commander and officers trained in different aspects of incident management – logistics, operations, planning, safety, media management, etc. The Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie and National Institute of Disaster Management (NIDM), New Delhi have been designated as the lead agencies for the purpose of imparting training in different modules of ICS. Six Administrative Training Institutes (ATIs) also have been identified to meet the training requirements of various States in ICS.

8.57 After imparting training to a sizeable mass, ICS has been tested in three districts of Gujarat as a Pilot State. Additional two Pilot States have been identified for cementing the experiences before adaptation of ICS for replication throughout India.

### **GoI-USAID assisted Disaster Management Support (DMS) Project**

8.58 The bilateral agreement on the Disaster Management Support (DMS) Project signed between the Government of India and the United

States Agency for International Development (USAID) has been put to effect with signing of Second Amendatory Agreement on April 4, 2007. The Road Map on implementation focuses on Capacity Building viz Incident Command System (ICS), review of Management and Education System, Curriculum Development for Civil Defence and Disaster Communication, Study on Early Warning and assistance to Delhi Government for Retrofitting Project. The DMS Project will also fetch equipments worth US \$ 1.5 million for Advance SAR training of NDRF and establishment of Model EOCs at national level

### **CIVIL DEFENCE (CD)**

8.59 Civil Defence includes any measures not amounting to actual combat, for affording protection to any person, property, place or thing in India or any part of the territory thereof against any hostile attack whether from air, land, sea or other places or for operating/ mitigating the effect of any such attack: whether such measures are taken before, during or after the time of such attack. It is to be organized as an integral part of the defence of the country.

8.60 During times of war and emergencies, the Civil Defence organization has the vital role of guarding the hinterland, supporting the armed forces, mobilizing the citizens and helping civil administration for:

- Saving life and property
- Minimising damage
- Maintaining continuity in production
- Raising public morale

8.61 The Civil Defence Act, 1968 is applicable throughout the country, but the Civil Defence Organisation is raised only in such towns which are considered vulnerable to enemy attacks. The revision and renewal of categorised Civil Defence towns is being done at regular intervals, with the

level of perceived threat remaining the fundamental criterion for categorisation. At present, CD activities cover 225 categorised towns, spread over 35 States/ Union territories.

### Civil Defence and Disaster Management

8.62 It has been increasingly felt that Civil Defence has an important role to play in disaster relief, preparedness, etc., as communities are often the first to respond to any disaster situation. With this in view, the Government set up a committee under the Chairmanship of Member, NDMA in February, 2006 to suggest ways and means of integrating Civil Defence in disaster management. The Committee submitted its report in December, 2006 and the same is under consideration in consultation with the State Governments. Separately, the possible role of Civil Defence volunteers in internal security related functions is also being considered. An outlay of Rs.100 crore has been earmarked in the 11<sup>th</sup> Five Year Plan for revamping the Civil Defence set up in the Country.

### Organisation

8.63 The Civil Defence Organisation is primarily organised on a voluntary basis, except for a small number of permanent staff, which is augmented during emergencies. Against a target of enrolling 13.24 lakh Civil Defence volunteers, 6.87 lakh volunteers have been raised and 5.15 lakh have been trained. These volunteers are supervised and trained by Deputy Controllers, Medical Officers and Civil Defence Instructors, who hold permanent posts.

### Training

8.64 Apart from carrying out training and rehearsal/demonstration of CD measures during peace time, Civil Defence volunteers are also deployed, on a voluntary basis, in various constructive and nation building activities, which include providing assistance to the administration

in undertaking social and welfare services and in the prevention/ mitigation of natural/man-made disasters as well as in post- disaster response and relief operations. Civil Defence training is conducted by the State Government/UT Administrations in three tiers, i.e. at the Local/Town level, State level and National level. A focused action towards strengthening and upgradation of the training institutions and arrangements in the States during the XI<sup>th</sup> Plan is proposed.

### Central Financial Assistance

8.65 Central financial assistance to the States for undertaking Civil Defence measures for raising, training and equipping of Civil Defence volunteers is confined to categorised towns.

### National Civil Defence College

8.66 The National Civil Defence College(NCDC) was founded on April, 29, 1957 at Nagpur as the Central Emergency Relief Training Institute (CERTI).

8.67 This College is the only one of its kind in South- East Asia and catalogued in the United Nations Department of Humanitarian Affairs (UNHDA) centers of Disaster Relief training. It has also been identified as a premier training establishment on Chemical Disasters by the Ministry of Environment & Forests. This College has been selected as one of the advanced training centers in India on Search & Rescue by Office of the Federal Disaster Agency (OFDA) of USA and Asian Disaster Preparedness Center (ADPC), Bangkok.

8.68 The College has also been recognised as a Nodal Training Institute for Nuclear, Biological and Chemical Emergencies. The Institute has been regularly training Trainers from Central Police Forces such as ITBP, CRPF, BSF, CISF, etc., in order to prepare their personnel for the organisation of National Disaster Response Force. Skills for dealing with terrorist threats that may comprise use of

Weapons of Mass Destruction (WMD) are also imparted by means of field exercises.

8.69 During 2007, the NCCDC has conducted 22 different courses pertaining to Civil Defence and Disaster Management based on the needs of the organisation and the training policy adopted by the Government of India. The training programmes at NCCDC have been classified into three levels:-

- **Development of Skills** related to tasks required to be performed at disaster site;
- **Building Knowledge** for managerial personnel to organise, control and co-ordinate Disaster Operations; and
- **Generating Awareness** for senior managerial levels in Disaster Management to build capacities for better planning and coordination of Disaster Operations.

8.70 The College, in addition to conducting training courses on Search & Rescue, Fire Fighting, Medical Operation, Communications and Nuclear, Biological and Chemical disasters also conducts the Amateur Radio Communications for Responders and Emergency Response to Rail Transport Accidents, Basic Life Support, Emergency Operations Center management, Flood/Cyclone

Disaster Response, Earthquake Disaster Response and Incident Management & Command System Courses. The College conducted two special training programmes for Civil Defence Organisations of Delhi and Karnataka at their respective Institutes. It also conducted a special five days Search and Rescue Programme for the NCC Officers at the Officers Training Academy, NCC, Nagpur and a comprehensive Disaster Management Training Programme for teachers of 30 Schools operating with Department of Atomic Energy.

8.71 Since its inception in 1957, NCCDC has trained a total of 43,500 trainees. A National level Seminar/Training Conference is part of its annual schedule that aims to generate awareness on the latest training techniques and activities of the institute.

8.72 In view of the increasing importance of Civil Defence and community related training, Government has approved the upgradation of National Civil Defence College at an estimated cost of Rs.15.01 crore, which involves inter-alia, construction of residential and academic buildings, procurement of training aids and equipments and provision of other infrastructural facilities.

### Fire Service



Indigenously designed Hazmat war & its features being explained to NCC Cadets

8.73 Fire prevention and fire fighting services being a State subject, are organised by the States/UTs. The Ministry renders technical advice to States/UTs and the Central Ministries on Fire Protection, Fire Prevention, Fire Legislation and Training.

8.74 The Eleventh Finance Commission have allocated Rs.201 crore for the development of Fire

Services in States/UTs, especially in all District headquarters and also, for towns having a population of 50,000 and above, during the period 2005-2010.

### **National Fire Service College, Nagpur**

8.75 The training of junior level fire professionals are conducted by the States/UTs in 14 States/UTs in State Fire Training Schools under the aegis of National Fire Service College (NFSC), Nagpur. Officers of Fire Service are trained in the NFSC, Nagpur, a subordinate training establishment of the Ministry of Home Affairs. The College is affiliated to the Nagpur University for undertaking Bachelor of Engineering (Fire) course. Since inception in 1956, the College has so far trained 14,036 Fire Officers, including 71 foreign trainees from 12 countries. Rs. 103 crore has been sanctioned by the Ministry to upgrade this college as an Institution of Excellence. The project will be completed in three years.

### **Home Guards**

8.76 Home Guards is a voluntary force first raised in 1946 to assist the police in controlling civil disturbance and communal riots. The role of Home Guards is to serve as an auxiliary to the police in maintenance of law and order, help the community in any kind of emergency such as an air-raid, fire, cyclone, earthquake, epidemic, etc., help in maintenance of essential services and perform various other duties as per local requirements, including duties at the time of elections. The total approved strength of Home Guards in the country is 5,73,793 against which the raised strength is 4,91,415 Home Guards. The organisation is spread in all States and Union Territories, except in Kerala.

8.77 Eighteen Border Wing Home Guards (BWHG) Bns. have also been raised in the border States viz. Punjab (6 Bns.), Rajasthan (4 Bns.), Gujarat (4 Bns.) and one each Bn. for Assam, Meghalaya, Tripura and West Bengal to serve as an auxiliary to Border Security Force for preventing infiltration on the international border/coastal areas, guarding of vulnerable areas/vulnerable points and lines of communication in vulnerable areas at the time of external aggression.

8.78 Home Guards are raised under the Home Guards Act and Rules of the States/UTs. All citizens of India, who are in the age group of 18-50, are eligible to become members of Home Guards. Normal tenure of membership in Home Guards is 3 to 5 years. Home Guards, whenever called out for duty/training, are paid duty/training allowance at prescribed rates to meet out-of-pocket expenses. Members of Home Guards with three years service in the organisation are trained in police establishments for maintenance of law and order, prevention of crime, anti-decoity measures, border patrolling, prohibition, flood relief, fire-fighting, election duties and social welfare activities. In the event of national emergency, some portion of Civil Defence work is also entrusted to the Home Guards.

8.79 The Ministry formulates the policy in respect of the role, raising targets, training, equipping, establishment and other important matters pertaining to the Home Guards Organisation. Expenditure on Home Guards is generally shared between the Centre and the State Governments as per the existing financing policy. During 2006-07, Rs.50 crore had been reimbursed to various States on raising, training and equipping of Home Guards. Rs.48 crore has been allocated for the financial year 2007-08.

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