

# INDIA

## I. Natural hazards in India

### 1.1 Natural hazards likely to affect the country

Earthquakes, floods, cyclones, drought, tsunami, landslides, avalanches

### 1.2 Recent major disasters

year	dis_subset	killed	total_affected	dam (US '000s)
2005	Avalanche	250	5000	—
2005	Storm	18	7550	—
2005	Meningitis	48	405	—
2005	Heat wave	329	—	—
2005	Flood	239	405000	2300000
2005	Valley Flood	6	5000	200000
2005	Flood	15	700000	—
2005	Flood	62	49000	—
2005	Flood	12	10000	—
2005	Flood	930	340055	3500000
2005	Landslide	12	20	—
2005	Leptospirosis	66	—	—
2004	Flash Flood	900	33000000	220000

Source: "EM-DAT: The OFDA/CRED International Disaster Database, [www.em-dat.net](http://www.em-dat.net) - Université catholique de Louvain - Brussels - Belgium"

## 1. Description of recent major disaster and response activities

### Gujarat Flood, 5 July 2005

Owing to unprecedented heavy rains in the state of Gujarat has been experiencing floods and inundation of low lying areas. The situation in the state is reported to be critical in the districts of Vadodara, Kheda and Anand in other parts of the state flood waters have started receding and life is slowly getting back to normal. The affected Districts are: *Surat, Valsad, Navsari, Bharuch, Vadodara, Surendranagar, Dangs, Ahmedabad, Anand, Kheda, Amreli, Bhavnagar, Junagadh, Rajkot, Narmada, Jamnagar, Gandhinagar and Sabarkantha*. The total number of taluka affected is 117 with 8000 villages.

However the severely affected districts are *Vadodara, Anand and Kheda* and 2000 villages. The cities experiencing severe inundation conditions are *Vadodara, Nadiad, Ahmedabad, Navsari, Surat and Limbdi, Dakor, Anand, Kheda, Petlad, Borsad*. Due to flooding and inundation of topography, clogging of drainage channels

Source: WCDR Report, ADRC Country Report, WBI's On-line Course on CDRMF, 2005, NDI India

## **Relief Operations and Restorations**

### **Evacuation**

The state administration evacuated 500,000 affected persons to Safe locations including primary and secondary schools, community halls, 'Dharmasalas' and temples in Village Panchayat were used as temporary shelters.

### **Relief**

At the relief/temporary camps necessary requirements such as 269678 food packets, 236000 water pouches and 300 family kits, 14100 packets of milk powder have been distributed. The drinking water arrangements are being coordinated by Gujarat Water Supply & Sewerage Board (GWSSB) through portable tankers. A team of 639 members of which 34 medical officers and 200 Para medics have been deployed in the relief camps.

### **Rescue Operations**

The state has deployed 14 army Columns of 610 personnel and company of CRPF in Kheda, with 56 boats (OBM and Non-OBM) have been deployed for rescue operations in Vadodara, Anand, Ahmedabad while 11 Indian Air Force Helicopters have been conducting rescue operations and air dropping of relief materials. 600 trained State Police force have been deployed. The trained fire brigade rescue teams from all city municipal cooperation and Nagarpalikas (city local bodies) are carrying out emergency operations in the affected cities.

## **2. Activities for recovery and reconstruction after major disasters**

### **Restoration**

Power supply was restored in 5,068 villages and 52 towns with 2,022 feeders restored and 673 electricity distribution transformers restored. Water supply was restored in 3,621 villages, and 25 Towns Water was supplied through tankers in Kheda, Anand and Vadodara. Chlorination of water source was done to prevent out break of water borne diseases.

Traffic on the Express Highway was opened for limited operation. The State Express Highway and National Highway 6, 8 and 8E and 59 were operational for select vehicles. 4,690 skilled workers and 87 JCB 363 dumpers/tractors were used for restoring blocks roads. Rail transport was revived on Delhi- Mumbai route. However Railway services between Ahmedabad-Baroda-Mumbai, Ahmedabad- Bhavnagar-Rajkot had slow rail traffic movement.

## II. Disaster management system

### 2.1 Administrative system

<i>Conventional long form:</i>	Republic of India
<i>Conventional short form:</i>	India
<i>Government type:</i>	federal republic
<i>Capital:</i>	New Delhi
<i>Administrative divisions:</i>	28 states and 7 union territories

### 2.2 Legal system, legal framework

### 2.3 Structure of disaster management

At the national level, the Ministry of Home Affairs is the nodal Ministry for all matters concerning disaster management. The Central Relief Commissioner (CRC) in the Ministry of Home Affairs shall coordinate relief operations for natural disasters. The CRC receives information relating to forecasting/warning of a natural calamity from India Meteorological Department (IMD) or from Central Water Commission of Ministry of Water Resources on a continuing basis.

The Ministries/Departments/Organizations concerned with the primary and secondary functions relating to the management of disasters include: India Meteorological Department, Central Water Commission, Ministry of Home Affairs, Ministry of Defense, Ministry of Finance, Ministry of Rural Development, Ministry of Urban Development, Department of Communications, Ministry of Health, Ministry of Water Resources, Ministry of Petroleum, Department of Agriculture & Cooperation, Ministry of Power, Department of Civil Supplies, Ministry of Railways, Ministry of Information and Broadcasting, Planning Commission, Cabinet Secretariat, Department of Surface Transport, Ministry of Social Justice, Department of Women and Child Development, Ministry of Environment and Forest, Department of Food. Each Ministry/Department/Organization nominate their nodal officer to the Crisis Management Group chaired by Central Relief Commissioner. The nodal officer is responsible for preparing sectoral Action Plan/Emergency Support Function Plan for managing disasters.

**National Crisis Management Committee (NCMC):** Cabinet Secretary, is the highest executive officer, heads the NCMC. Secretaries of all the concerned Ministries /Departments as well as organizations are the members of the Committee. The NCMC gives direction to the Crisis Management Group as deemed necessary. The Secretary, Ministry of Home Affairs is responsible for ensuring that all developments are brought to the notice of the NCMC promptly. The NCMC can give directions to any Ministry / Department / Organization for specific action

needed for meeting the crisis situation.

**Crisis Management Group:** The Central Relief Commissioner in the Ministry of Home Affairs is the Chairman of the CMG, consisting of senior officers (called nodal officers) from various concerned Ministries. The CMG's functions are to review every year contingency plans formulated by various Ministries/Departments/Organizations in their respective sectors, measures required for dealing with natural disasters, coordinate the activities of the Central Ministries and the State Governments in relation to disaster preparedness and relief and to obtain information from the nodal officers on measures relating to above.

The CMG, in the event of a natural disaster, meets frequently to review the relief operations and extend all possible assistance required by the affected States to overcome the situation effectively. The Resident Commissioner of the affected State is also associated with such meetings.

**Control Room (Emergency Operation Room):** An Emergency Operations Center (Control Room) exists in the nodal Ministry of Home Affairs, which functions round the clock, to assist the Central Relief Commissioner in the discharge of his duties. The activities of the Control Room include collection and transmission of information concerning natural calamity and relief, keeping close contact with governments of the affected States, interaction with other Central Ministries/Departments/Organizations in connection with relief, maintaining records containing all relevant information relating to action points and contact points in Central Ministries etc., keeping up-to-date details of all concerned officers at the Central and State levels.

**At the State level,** disaster management is handled by the Departments of Relief & Rehabilitation. The Government of India is working with the State Governments to convert the Departments of Relief & Rehabilitation into Departments of Disaster Management with an enhanced area of responsibility to include mitigation and preparedness apart from their present responsibilities of relief and rehabilitation. The change happened already in eight State Governments/Union Territory Administrations.

With its enhanced mandate of mitigation and prevention, the district heads and departments engaged in development are added as members to the Committee so that mitigation and prevention is mainstreamed into the district plan. The existing system of drawing up preparedness and response plans will continue. A long term mitigation plan needs to be in place. District Disaster Management Committees have been constituted in several districts and are in the process of being constituted in the remaining multi-hazard prone districts. A large number of village level Disaster Management Committees and Disaster Management

Teams have already been constituted.

## 2.4 Priority on disaster risk management

### III. Disaster Management Plan (describe the latest on a national basis)

#### The tenth 5 Year Plan (2005-2007)

India is a vibrant, pluralistic and federal democratic set-up. The decision making process necessitates consensus building with extensive consultations between the Central Government, State Governments, numerous governmental and non-governmental organizations. Within this complex framework, Five Year Plans over the last fifty years have served three primary objectives:

1. To provide a common, agreed, framework of objectives, and a strategy within which compatible decisions can be evolved;
2. To analyze the rationale of these decisions;
3. To delineate the strategy for accelerated growth of the economy and enhance the welfare of all citizens.

Strive for the achievement of these objectives has sustained national unity within the complexity of daunting problems. The content and the strategy of the Five Year Plans have necessarily varied in response to the development issues being addressed and the evolution of policies represents the contemporary needs of the time. It is in this evolving context that the President of India in his address to the Joint Session of the Parliament has described that the “Tenth Five Year Plan convincingly explains why these ambitious goals are achievable. It has distinguished itself from previous Plans by underscoring that it is not merely a Resources Plan but a Reforms Plan.”

#### **The tenth plan regarding disaster management:**

Although Disaster Management is not conventionally a subject for Five-Year Plans, disasters do in fact occur regularly – earthquakes, cyclones, floods, droughts - and can significantly set back the development of a region or State. It is therefore important to do what can be done in the way of advance prevention and mitigation of disasters, and prepare for post-disaster management as well.

Disaster mitigation components need to be built into all Plan projects, such as earthquake resistant structures, so as to minimize both the likelihood of damage and the cost of post-disaster restoration and rehabilitation. This will mean some additional outlay for projects coming up in disaster-prone areas, first for building a comprehensive data-base on risks and actions already taken, and secondly for undertaking a vulnerability analysis and risk assessment for the project in question. In

addition, the construction of specific disaster-prevention projects (flood defenses, cyclone shelters) needs to be considered in the context of the growing incidence of disasters worldwide.

The funding of relief is already institutionalized through the Calamity Relief Fund and the National Calamity Contingency Fund. However, while it is clearly the responsibility of the State Government concerned to manage relief, there are major gaps in the institutional arrangements and systems that should be used within a State, and by Central institutions in support of a State. There is a case for unified legislation to define responsibilities, and this will be examined during the Tenth Plan.

Community awareness and preparedness is also a major mitigation tool, and this was recognized during the Eighth Plan by the establishment of the National Centre for Disaster Management at the IIPA, creation of disaster management faculties in 23 States, as well as research, documentation and information exchange, and training. This will be extended in all 28 States during the Tenth Plan. This will help each State build the necessary teams of skilled personnel, communications equipment and control rooms as required.

#### **IV. Budget size on national level**

##### **Financing of Relief Expenditures**

The policy arrangements for meeting relief expenditure related to natural disasters are based on the recommendations of finance commissions. The two main windows for meeting such expenditures are:

(1) Calamity Relief Fund (CRF). This fund is used for providing immediate relief to victims of cyclone, drought, earthquake, fire, flood and hailstorm. Expenditure on restoration of damaged capital works ordinarily comes from the normal budgetary heads, except when it is used for providing immediate relief like restoration of drinking water sources or provision of shelters; restoration of communication links for facilitating relief operations, etc. CRF comes from the contribution of each State and varies from Calendar years 2000-01 to 2004-05, as indicated by the Finance Commission. The Government of India contributes 75 per cent of the total yearly allocation in the form of a non-plan grant, and the balance amount is contributed by the State Governments concerned. A total of Rs.11,007.59 crore was provided for the Calamity Relief Fund from 2000-05.

(2) National Calamity Contingency Fund (NCCF). This was in-forced in 2000-01, pursuant to the recommendations of the Eleventh Finance Commission, operative till the end of the financial year 2004-05. NCCF

is intended to cover natural calamities like cyclone, drought, earthquake, fire, flood and hailstorm, which are considered to be of severe nature requiring expenditure by the State Government in excess of the balances available in its own Calamity Relief Fund. The assistance from NCCF is available only for immediate relief and rehabilitation.

## **V. Progress and situations of the Hyogo Framework for Action (HFA)**

### **National Disaster Management Framework--Outputs**

#### **1. Institutional Mechanisms**

- level with appropriate systems
- Creation of State Departments of Disaster Management
- Setting up State Disaster Management Authorities

#### **2. Disaster Mitigation/Prevention**

- Disaster mitigation/prevention to be mainstreamed into the development process
- Techno-legal regime
- Land-use Planning and Zoning regulations
- Plan schemes for vulnerability reduction and preparedness

#### **3. Legal/Policy Framework**

- Disaster Management to be listed in the Concurrent List of Seventh Schedule to the Constitution
- State Disaster Management Acts
- National Policy on Disaster Management
- States to enunciate Policy on Disaster Management
- State Disaster Management Codes

#### **4. Preparedness and Response**

- National Emergency Response Force/ Specialist Response teams
- Specialized Response Teams at State level

#### **5. National Network of Emergency Operation Centers (NNEOCs)**

- Setting up Emergency Operations Centre[EOC] at National level
- State level EOC
- District level EOC
- Putting Incident Command System in Place
- Emergency Support Function Plan
- India Disaster Resource Network
- Communication linkages which will be functional even post-disaster
- Regional Response Centers
- Training in response to be made a part of training curriculum of CPMFs and State Police Forces

- State Disaster Management Plans
- District Disaster Management Plans
- Block Disaster Management Plans
- Community based mitigation, preparedness and response plans

#### **6. Early Warning Systems**

- State of the art sensors to be set up
- Hazard monitoring, tracking and modeling
- Warning Protocols

#### **7. Human Resource Development & Capacity Building**

Training for services /cadres/ agencies involved in mitigation, preparedness or response

- Training of IAS/IPS, State Administrative Service Officers/State Police.
- Engineers/Architects
- Health Professionals
- Youth organization
- Masons
- School curriculum
- National mass media campaign for awareness generation
- Non-government community-based organizations involved in awareness generation and community participation in disaster preparedness and mitigation planning
- Corporate sectors involved in awareness generation and disaster preparedness and mitigation planning
- Inter-state arrangements for sharing of resources during emergencies and lessons learnt

#### **8. Research and Knowledge Management**

- Institutionalize knowledge and lessons learnt in the process of working on the national roadmap
- Develop national disasters database
- Promote research in national, state and regional institutions in the areas of disaster risk reduction

### **VI. Projects on disaster reduction headed by Ministry**

#### **Program 1**

##### **(1) Sectional topic-Program objectives and targeted actions**

Sustainable earthquake risk reduction in India:

- Ensure seismically safer habitats by training of practicing architects.
- Capacity building of the Colleges of Architecture at the National and State levels for ensuring effective training of



- practicing architects in earthquake safety.
- (iii) Development of Resource Materials/ training modules for sensitization/ training of architects
  - (iv) Putting in place a system of training and subsequently of certification for practicing architects.
- (2) **Actor(s)**  
Government of India, Ministry of Home Affairs, National Disaster Management Division
- (3) **Partners**  
Indian Institute of Architects (IIA), Council of Architecture (COA)
- (4) **Title**  
National Programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM)
- (5) **Contents**  
In respect of architects who have passed out from the schools before the inclusion of earthquake resistant components in the course curriculum but not yet started independent practice, it is proposed that there will be one-week training modules. In consultation with CoA, a system will be evolved for permitting them to function as independent practicing architects after completion of the course. In case of existing practicing architects, they will be required to complete the above mentioned one week module in a staggered system within a time frame of one month and submit the certificate to CoA. A system will be devised in consultation with CoA to make it mandatory.
- (6) **Means of implementation**  
Courses of architecture offered in Colleges, orientation programmes, workshops, training, support.
- (7) **Target year**  
June 2004 to May 2007
- (8) **Target area/place**  
All the States and Union Territories of the country and the country
- (9) **Other info**  
Approval of the Home Secretary is solicited for taking up the National Programme for Capacity Building for of Architects for Earthquake Risk Reduction (NPCBAERM) over a period of three years at the cost of Rs. 4.51 crore.

## **Program 2**

1. **Name of the Scheme:** Natural Disaster Management Program.
2. **Type of Scheme:** Central Sector
3. **Year of inception:** 1992-93
4. **Pattern of assistance:** 100 per cent by Government of India.

### **5. Objectives:**

- To focus on disaster preparedness with emphasis on mitigation measures.
- To increase level of awareness of community about disasters, prepare them adequately to face the crisis situation

### **6. Activities**

- i. Human Resources Development,
- ii. Research and Consultancy Services.
- iii. Documentation of major events,
- iv. Operation of Faculty on NDM in State level training States.
- v. Operation of National Centre of Disaster Management.
- vi. Public education and community awareness program

### **7. Achievements**

- (i). Setting up of a National Centre for Disaster Management in the Indian Institute of Public Administration in 1995.
- (ii) Setting up of separate Disaster Management Faculties in State Administrative Training Institutes in 18 out of 25 States. These States are Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.
- (iii) Documentation of major events like UP. and Maharashtra earthquakes, research studies On land slides in Kerala, Sikkim and Uttar Pradesh, Research study on Drought in Rajasthan.
- (iv) Preparation of source book for use of trainees of the Lal Bahadur Shastri National Academy of Administration,
- (v) Organized/sponsored about 100 training Programs/workshops on various aspects of Natural Disaster Management
- (vi) Public education and community awareness campaign through newspapers, postal stationery, audio-visual media and observation of World Disaster Reduction Day annually.

### **8. Increase in activities**

The occurrences of major natural disasters like Maharashtra earthquake of 1993 and cyclone of Andhra Pradesh in 1996 and Orissa in 1999 have been instrumental in generating a lot of concern among the various agencies of Government, NGOs and the public at large about the adverse impact of natural disasters. This has increased the tempo of activities under the Plan Scheme as many institutions /organizations States are

showing interest in the field of disaster reduction activities. Keeping in view the magnitude and frequencies of natural disasters visiting various parts of the country annually; there is need to provide substantial budget provision in the Annual Plan to commensurate with the requirements of a vast country like ours in order to embark upon such activities in a big way in the context of fast developing scientific and technological advancements in the world.

#### **9. Thrust Areas**

- Public education and community participation campaign,
- Information Technology, building up data base,
- involvement of NGOs, strengthening of State faculties on NDM,
- regional cooperation on sharing of experience,
- expertise and technology in various fields of natural disaster
- preparedness and mitigation.

#### **VII. Counterpart of ADRC**

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