

capacity) and National monuments besides other critical lifeline buildings will be regarded as a National priority.

Additional provisions in Development Control Regulations/Bye-laws for Safety in Natural Hazard Prone Areas

Registration preferred - Registration, qualification and duties of professional defined.

- In order to bring professionalism in all development and construction work, specially with respect to safety against natural hazards, registration of the following professionals have been recommended mandatory requirement.

- Structural engineer - qualification and experience defined on the basis of types and importance of structures
- Engineers
- Construction Engineer (RCE)
- Construction Management Agency
- owner shall be a RCE
- Quality Auditor
- Architect
- Geotechnical Agency
- Town Planner
- Developer

Rescue Operations

Role of National Disaster Response Force (NDRF)

The National Disaster Response Force (NDRF) is a specialized force constituted "for the purpose of specialist response to a threatening disaster situation or disaster" under the Disaster Management Act, 2005. The "Apex Body for Disaster Management" in India is the National Disaster Management Authority (NDMA). The Chairman of the NDMA is the Prime Minister. The responsibility for Disaster Management in India's federal system is that of the State Government. The 'nodal Ministry' in the central government for management of natural disasters is the Ministry of Home Affairs (MHA). When 'calamities of severe nature' occur, the Central Government is responsible for providing aid and assistance to the affected state, including deploying, at the State's request, of Armed Forces, Central Paramilitary Forces, National Disaster Response Force (NDRF), and such communication, air and other assets, as are

available. The DM act has made the statutory provisions for constitution of national disaster response force (NDRF) for the purpose of specialized response to natural and man-made disasters. Accordingly, in 2006 NDRF was constituted with 8 battalions (2 battalions from BSF, 2 battalions from CRPF, 2 battalions from ITBP, 2 battalions from CISF). As on date NDRF is having strength of 10 battalions. Each NDRF consists of 1149 personnel. Union cabinet has also approved the conversion/up gradation of 2 battalions from SSB, The force is gradually emerging as the most visible and vibrant multi-disciplinary, multi-skilled, high-tech, standalone force capable of dealing with all types of natural and man-made disaster. NDRF has proved its importance in achieving this vision by highly skilled rescue and relief operations, regular and intensive training and re-training, capacity building and familiarization exercises within the area of responsibility of respective NDRF battalions, carrying out mock drills and joint exercises with the various stakeholders. Vision of NDRF is to emerge as the most visible and vibrant multi-disciplinary, multi-skilled, high-tech force capable to deal with all types of natural as well as man-made disasters and to mitigate the effects of disasters.

Role and Mandate of NDRF

1. Specialized response during disasters
2. Proactive deployment during impending disaster situations
3. Acquire and continually upgrade its own training and skills
4. Reconnaissance, rehearsals and mock drills
5. Impart basic and operational level training to state response forces (police, civil, defence, home guards)
6. Community capacity building Programme
7. Public awareness campaign
8. Exhibitions, posters, pamphlets, literatures to public.

Command and control of NDRF

The National Emergency Operation Centre (NEOC), located in MHA, is mandated to function 24 hours a day, seven days a week. The NEOC is responsible for monitoring the disaster or disaster like situation, receive updates from Agencies like the IMD, Central Water Commission, Snow & Avalanche Study Establishment. After processing the information it submits its report

and updates to affected States and concerned Central Ministries and organisations. During the monsoon period, it is required to issue daily situation reports.

National Disaster Response Force (NDRF) is under the NDMA. The head of the NDRF is designated as Director General. The Director Generals of NDRF are IPS officers on deputation from Indian police organisations. Director General wears the uniform and badges of rank of an army three-star general. The NDRF is a top-heavy organisation which in addition to the DG has several Inspector Generals (IG) and Deputy IGs, who fly flags and wear army-style badges of rank.

Organisation of NDRF

National Disaster Response Force (NDRF) is a force of 12 battalions, organised on para-military lines, and manned by persons on deputation from the para-military forces of India: three BSF, three CRPF, two CISF, two ITBP and two Sashastra Seema Bal. The total strength of each battalion is approximately 1,149. Each battalion is capable of providing 18 self-contained specialist search and rescue teams of 45 personnel each including engineers, technicians, electricians, dog squads and medical/paramedics. NDRF in addition to being able to respond to natural disasters, has four battalions capable of responding to radiological, nuclear, biological and chemical disasters.

Location of NDRF battalions

These NDRF battalions are located at 12 different locations in the country based on vulnerability profile of country. The main headquarters is located at New Delhi

S.NO	NDRF Unit	State	Battalions
1	01 Bn NDRF, Guwahati	Assam	BSF
2	02 Bn NDRF, Kolkata	West Bengal	BSF
3	03 Bn NDRF, Mundali	Odisha	CISF
4	04 Bn NDRF, Arakkonam	Tamil Nadu	CISF
5	05 Bn NDRF, Pune	Maharashtra	CRPF
6	06 Bn NDRF, Gandhinagar	Gujarat	CRPF
7	07 Bn NDRF, Ghaziabad	Uttar Pradesh	ITBP
8	08 Bn NDRF, Bhatinda	Punjab	ITBP
9	09 Bn NDRF, Patna	Bihar	BSF
10	10 Bn NDRF, Vijayawada	Andhra Pradesh	CRPF

11	11 Bn NDRF, Varanasi	Uttar Pradesh	SSB
12	12 Bn NDRF, Itanagar	Arunachal Pradesh	SSB

Reforms by Govt. of India for disaster management:

1. National disaster mitigation fund has been administered by NDMA. States and districts will administer mitigation funds.
2. A national disaster response fund has been administered by NDMA through the national executive committee. State and districts will administer state disaster response fund and disaster response fund respectively.
3. 10 battalions of NDRF are being trained and deployed with CSSR and MFR equipment and tools in 10 strategic locations.
4. A national disaster management policy and national disaster response plan has also be drawn up.

Areas of concern for disaster management:

1. Activating an Early warning system network and its close monitoring.
2. Mechanisms for integrating the scientific, technological and administrative agencies for effective disaster management.
3. Funding: Primary of relief as disaster response.
4. Preparedness and mitigation very often ignored.
5. Emergency medicine, critical care medicine, triage, first aid.
6. Weak areas continue to be forecasting, modeling, risk prediction, simulation and scenario analysis etc.
7. Sustainability of efforts
8. Vulnerability of critical infrastructures (power supply, communication, water supply, transport, etc).

India Vulnerability to disasters:

1. 57% land is vulnerable to earthquakes, 12% is vulnerable to floods, 68% to drought, 8% vulnerable to cyclone.
2. A part from natural disasters some cities in India are vulnerable to chemical and industrial disasters and man-made disasters.

Disasters and the role of Indian armed forces

The 21st century has seen an increasing number of natural disasters with alarming intensity – the 2001 Bhuj earthquake; the 2004 tsunami; the 2005 earthquake in Kashmir; heavy rainfall in Mumbai in 2006; the 2008 Bihar Kosi river flood; the August 2010 cloud burst in Leh; the September 2011 Sikkim earthquake; and, most recently, in June, the unprecedented flash floods and cloudbursts in Garhwal, parts of Kumaon and Nepal, and Kinnaur region of Himachal Pradesh. Each of these disasters has seen the active involvement of the armed forces in the relief operations.

The Disaster Management Act of 2005 provides the blue print for the National Disaster Management Authority (NDMA) at the Centre, the State Disaster Management Authorities and the District Disaster Management Authorities. The state and the district level are the weak links in disaster management efforts. It appears that the civil administration has “got used to military and central help as a norm”.

The Disaster Management Act 2005 is a vital instrument which explains the role and functions of various establishments. It is also a tool to bring in a sense of accountability and responsibility. However, this act mentions the “deployment of naval, military and air forces, other armed forces of the Union or any other civilian personnel as may be required for the purposes of this Act” under the heading “Measures by the Government for Disaster Management”. There is no amplification or mention of the role of the armed forces with a view to offer legal support and backup. The Act is surprisingly silent on the aspect of assigning well-defined role and responsibilities to the armed forces. However, the armed forces form the core of the government’s response capacity and have become the crucial immediate responders in all serious disaster situations. Due to their vast potential to meet any adverse challenge, speed of operational response and the resources and capabilities at their disposal, the armed forces have historically played a major role in emergency support functions. These include communications, search and rescue operations, health and medical facilities and transportation, especially in the immediate aftermath of a disaster. The air and helicopter lift and movement and assistance to neighbouring countries primarily fall within the expertise and domain of the armed forces. The armed forces will also participate in imparting training to trainers and disaster management managers, especially in NBC aspects, helicopter insertion, high altitude rescue, watermanship and training of paramedics. At the national level, the Chief of the Integrated Defence Staff to the Chiefs of

Staff Committee (CISC) has already been included in the National Executive Committee (NEC). Similarly, at the state and district levels, the local representatives of the armed forces will be included in their executive committees to ensure closer coordination and cohesion.”