

# National-level Disaster Management Planning

## **P**reparedness planning: rationale and characteristics

Disaster Preparedness minimises the adverse effects of a hazard through effective precautionary actions, rehabilitation, and recovery to ensure timely, appropriate, and effective organisation and delivery of relief and assistance following a disaster (NCDM 2001). It involves activities designed to minimise loss of life and damage, organising temporary removal of people and assets from a threatened location, facilitation of timely and effective rescue, and relief and rehabilitation (Singh et al. 2000). Preparedness relates to the accepted risk facing an area or population due to a disaster and relates to activities aimed at an organised response. Preparedness plans are thus action plans for short-term response and can be divided into passive and active categories. The more traditional activities include preparing disaster manuals, stockpiling relief goods, and generating lists of resources and personnel. These are passive. Active measures include development of comprehensive response plans, monitoring of threatening hazards (such as cyclone tracking or stream-flow monitoring), training of emergency personnel, and development of tools and methods of emergency response. Plans should have the following common features: clarity of aim, realism, level, flexibility, coordination, clear responsibilities and duties, ease of use, clear plan components, and viability (Carter 1991).

## **Disaster management planning in India**

Disaster management in India is a state subject, but the national government has a supportive role. Since Independence in 1947, disasters have been handled by the states affected through allocations of the Calamity Relief Fund (CRF). This fund, allocated to each state on the basis of recommendations from the Finance Commission, receives 75% of its allocation of funds from the national government and the balance is contributed by the state concerned. The CRF is used by state governments on the basis of their respective relief codes. Individual states, especially those facing annual floods, have prepared their own contingency plans and relief codes for coordinating their responses according to the specific needs of each state.

Disaster management planning at the national level was first recommended by the High Powered Committee (HPC) on Disaster Management in 2001. The HPC was established to prepare disaster management plans at the national, state, and district levels in view of the increasing frequency and intensity of natural disasters and the need to strengthen the organisational structure. Subsequently, its mandate was augmented to include human-induced disasters in order to develop a more comprehensive disaster management system. The HPC took an overview of recent disasters (natural as well as human-induced) and identified common response and preparedness mechanisms. The approach of the HPC was holistic, in line with the Yokohama Strategy (1994), focusing on planning for prevention, reduction, mitigation, preparedness, and response to reduce loss of life and property.

The HPC recommendations put planning as an important component of all preparedness measures. They suggest that the most important component of preparedness is planning for all contingencies. The plans have to be linked with different support departments, linking district plans to state plans, and state plans to national plans, i.e., horizontal and vertical integration.

HPC prepared a report with wide-ranging recommendations for institutionalising a system of disaster management in the country at various levels, as also a National Disaster Response Plan (NDRP) (Annex 2). The vision of the HPC was not to prepare a plan for a complete overhaul of the system but to build on the existing structure and practices and streamline the bottlenecks caused by the large number of disasters occurring in different parts of India.

## **National Disaster Response Plan (NDRP)**

The HPC prepared a National Disaster Response Plan in 2001-02 (Annex 2) to provide uniformity in response mechanisms, including scale of assistance, in various parts of the country. Preparedness and mitigation plans were to be formulated by the states in the specific contexts of their vulnerabilities.

The NDRP was the outcome of extensive deliberations and consultations with all relevant ministries and departments of the national government. It took into account the work and learning from the various systems of response that have been implemented all over the world. The NDRP has a multi-hazard approach and incorporates a culture of quick response, incorporating concepts such as the 'trigger mechanism' to identify the sequence of events after a disaster and of four levels of response; namely, L0 (preparedness activities); L1 (an event that can be managed at district level); L2 (an event that requires assistance and active participation of state resources to manage the disaster); and L3 (a national-level disaster affecting two or more states). Although the union government plays a supportive role to state governments, it has to be

prepared for L3 level of disasters and maintain close monitoring of L2 as well as L1 disasters that affect different parts of the country. Therefore, the approach of the plan is to identify common elements of response and act as a base plan and framework around which the supporting agencies can draw up the details of their plans.

The approach of the NDRP is that a national response mechanism has to be prepared and any impending disaster has to be closely monitored in order to provide immediate assistance whenever required. The national response mechanism has to be predefined in terms of process, related handbooks, and checklists that are needed during a disaster. The document contains procedures and formats for activities to be carried out during an L3 disaster. In this document, the quick response mechanisms have been outlined along with checklists and handbooks that will be required for detailed enumeration of each task as follow-up action to the plan.

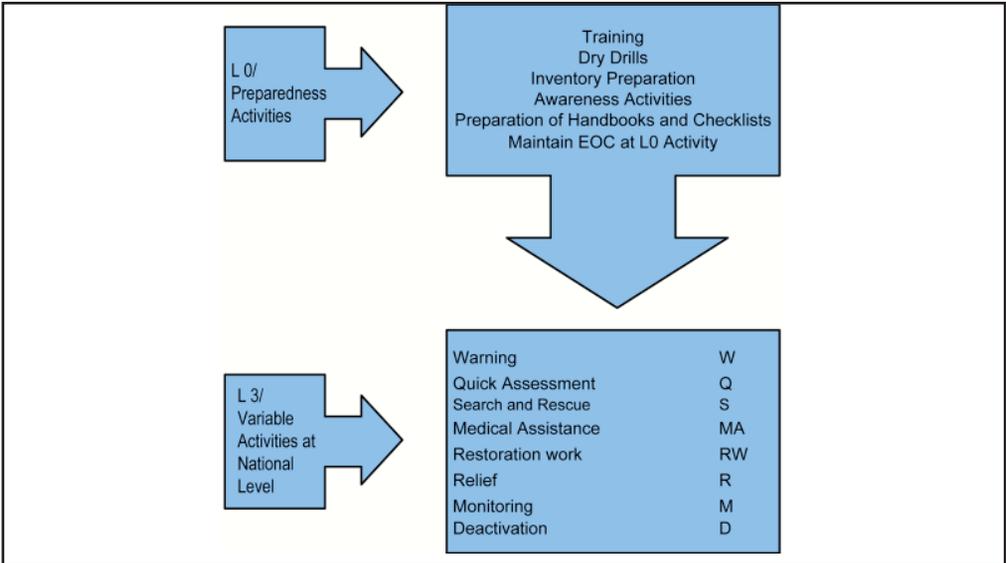
The NDRP primarily explains processes and mechanisms that are brought into action after the declaration of L3 in a disaster event. It also defines the approach of the HPC to holistic management of disasters and the role of the national government. The LO or preparedness measures to be taken before a disaster strikes have been listed along with those in the event of a disaster, from warning (W), quick assessment (Q), search and rescue (S), medical assistance (MA), and relief (R), to deactivation (D) at the end of the emergency. These activities have been marked for individual disasters also. Figure 4 broadly summarises the activities for response to disaster.

A crucial input required for disaster planning is time. The speed at which the government reacts to a disaster determines the impact and effectiveness of the intervention for the community affected. Accordingly, the working document to the response plan identifies the actions to be taken in the first 24 hours and those that need to be completed within 48 hours.

The National Disaster Response Plan contains step-wise progress of activities in the following phases of disaster.

- Pre-disaster warning
- Disasters where warnings can be given
- Disasters where effective warning cannot be given
- De-warning or scaling down of the alert
- National-level meetings for coordination
- Quick response

The document also provides a list of handbooks, checklists, and minimum standards to be maintained that will be required by the personnel responding to disasters.



**SUBGROUP I - Water and climate-related hazards**

Disasters	L0	Concept of operations during L3								
		W	Q	S	MA	RW	R	M	D	
Floods and Drainage Management	•	•	•	•	•	•	•	•	•	•
Cyclones Tornadoes Hurricanes	•	•	•	•	•	•	•	•	•	•
Hailstorms Cloudbursts Snow Avalanches Heat & Cold Waves Thunder & Lightening	•	•	•	•	•	•	•	•	•	•
Sea Erosion	•	■	■	•	•	■	•	•	■	■
Droughts	•	•	•	■	•	•	■	•	■	■

**SUBGROUP II – Geologically-related hazards**

Disaster	L0	Concept of operations during L3								
		W	Q	S	MA	RW	R	M	D	
Earthquakes	•	■	•	•	•	•	•	•	•	•
Landslides Mudflows	•	•	•	•	•	•	•	•	•	•
Soil Erosion	•	■	•	■	■	■	•	•	■	■
Dam Bursts & Dam Failures	•	■	•	•	•	•	•	•	•	•
Mine Fires	•	■	•	•	•	•	•	•	•	•

• Extensive efforts will be required ■ Efforts will not be required / minimal efforts will be required

W = warning; Q = quick assessment; S = search and rescue; MA = medical assistance; RW = restoration work; R = relief; M = monitoring; D = deactivation

Source: Department of Agriculture & Cooperation 2001, p. 17

**Figure 4: Specific response actions for L3 disasters at national level**

## Major components of the NDRP

Emergency support functions (ESFs) – The National Disaster Response Plan provides for primary and secondary agencies and emergency support functions to deal with the response activities. There are 14 ESFs identified in the plan, and these, along with the primary national agency responsible for carrying them out, are given in Table 10.

In addition to the ESFs and the primary and secondary agencies, the following provisions were made in the plan for providing efficient response. Major planning interventions were the following.

**Quick response teams** – These are to be established in the preparedness phase and be capable of leaving for the site within six hours of the event after the declaration of L3 – they include the following categories.

**Assessment teams** to assess the damage and prioritise response activities for deploying the right kind and quantity of human resources and materials in the area affected. The teams may comprise of four groups of officers – joint secretaries, area officers, technical officers, and medical officers.

**Table 10: Emergency support functions**

ESF No	Function	Primary national agency
ESF 1	Communication	Ministry of Communication
ESF 2	Public Health & Sanitation	Ministry of Health & Family Welfare
ESF 3	Power	Ministry of Power
ESF 4	Transport	Ministry of Surface Transport/ Ministry of Railways
ESF 5	Search & Rescue	Ministry of Defence
ESF 6	Donation Management	Ministry of Disaster Management/ Ministry of Home Affairs
ESF 7	Public Works & Engineering	Ministry of Urban Affairs & Poverty Alleviation
ESF 8	Information & Planning	Ministry of Information Technology
ESF 9	Relief Supply Management	Ministry of Planning & Programme Implementation
ESF 10	Food	Ministry of Food & Civil Supplies
ESF 11	Drinking Water & Water Supply	Ministry of Water Resources
ESF 12	Shelter	Ministry of Urban Affairs & Poverty Alleviation
ESF 13	Media	Ministry of Information & Broadcasting
ESF 14	Help lines	Ministry of Disaster Management/ Ministry of Home Affairs

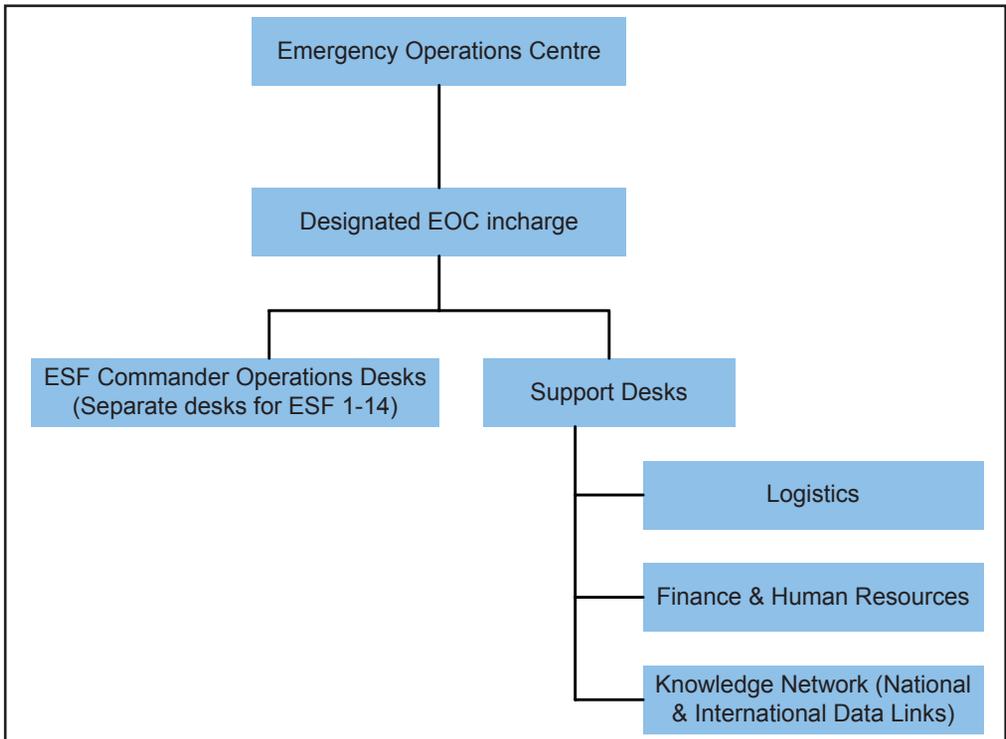
**Medical response teams consisting of**

- medical first (aid) response and
- disaster mortuary assessment team.

**Search and rescue and other teams**

- Urban search and rescue
- Collapsed structure search and rescue
- Specialised sniffer dog teams

**Emergency operations’ centre (EOC)** – In a disaster situation, the variables of intensity, population affected, and severity of damage need to be quickly assessed based on which government agencies can allocate and deploy relief. EOCs are nodal centres (see Figure 5) that are activated during disasters to organise coordinated response in terms of effective management of resources, disaster supplies, and relief management by providing a chain of command and direction. In the case of an L3 disaster, EOCs in the nation, state, and districts affected have to be activated. The national EOC will provide centralised direction for emergency operations, communications, and warning and evacuation; mobilise additional resources; coordinate support and aid; issue emergency information and instructions specific to national-level organisations; consolidate; and analyse and disseminate damage assessment data and situation reports. The EOCs have to be equipped with state-of-the-art communication technology



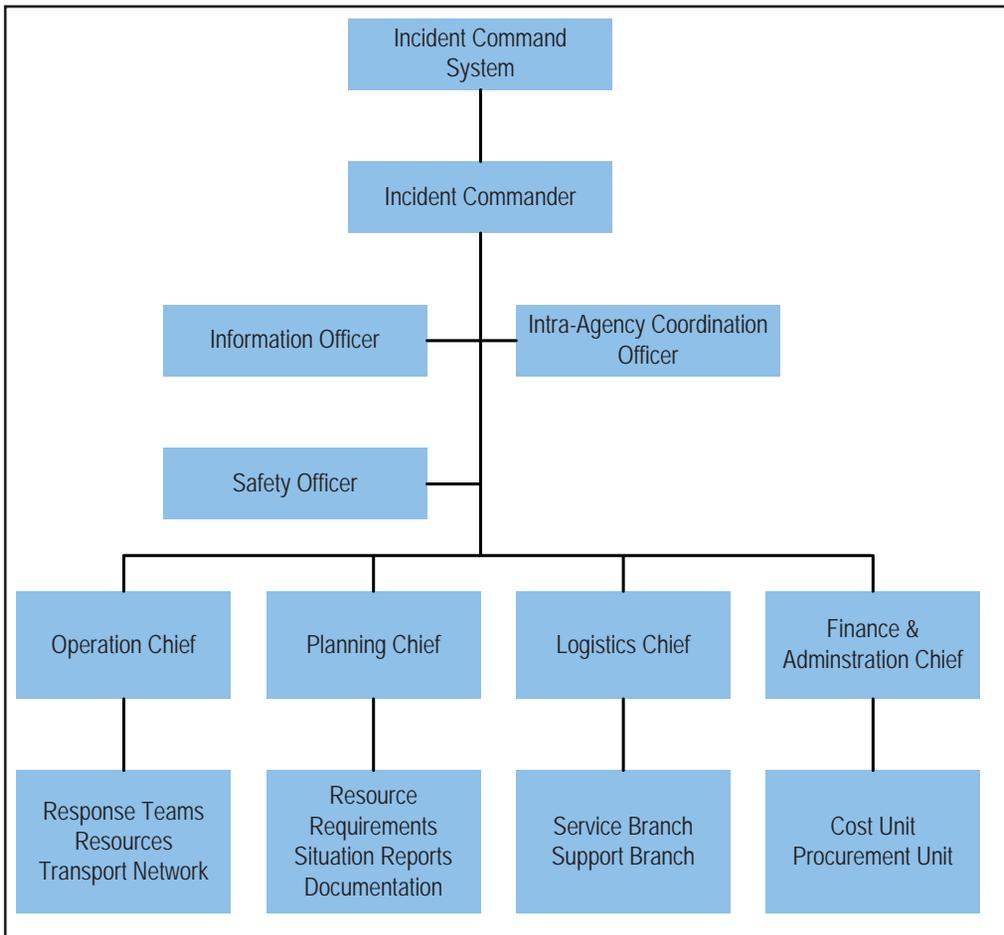
**Figure 5: National emergency operations’ centres**

and GIS systems for quick and effective decision-making. The structure in which EOCs are housed should also be as disaster-resistant as possible.

**Incident Command System (ICS)** – As already discussed, the NDRP proposed an adaptation of the ICS of the USA for the Indian system of disaster response as a model tool for command, coordination, and use of resources at the site of the incident. The system can be applied to a wide variety of disaster situations. The organisation of the ICS is built around five major management activities; viz., command, operations, planning, logistics, and finance/ administration (see Figure 6).

**Special emphasis areas** – The national plan identifies the following areas for special emphasis as LO or preparedness activities in addition to the response initiatives.

- Building bye-laws for each disaster
- Minimum standards and layouts for EOC and relief camps and standard operating procedures (SOPs) for the same



**Figure 6: Incident command system**

- Insurance policies for disasters
- Facilities in disaster situations for women and children and the physically challenged
- Provision of maps and integration of GIS in the response plan

## **National Disaster Response Plan: implementation process**

The HPC recommendations and NDRP were accepted by the Government of India on submission in October 2001. The National Framework prepared subsequently in 2004 and currently being implemented draws heavily on the HPC recommendations and NDRP. The Incident Command System and Emergency Operations' Centres have already been institutionalised in the disaster management system of the country. The recently set up National Disaster Management Authority (NDMA) has been mandated to prepare the guidelines for plans, checklists, and operating procedures for various organisations. The Disaster Management Act of 2005 also provides for emergency support plans to be drawn up by relevant departments and agencies and for designating resources in advance. 'Quick Response Teams' have been established at national level. The training and equipping are underway for 96 specialist search and rescue teams, each team consisting of 45 personnel such as doctors, paramedics, structural engineers, and others. These teams will be located at various centres around the country and will have the latest equipment as well as dog squads for locating survivors in the debris. Apart from specialist search and rescue units, it has been decided that personnel from the central police organisations should also be given training in search and rescue so that they can be requisitioned to the sites of incidents without loss of time. Pending arrival of the specialist teams, the battalions located near the site of an incident will be deployed immediately. For this purpose, a curriculum has been drawn up and integrated into the training curricula of these organisations. The Incident Command System is being put into operation by training trainers who will then train the designated incident commanders. Most importantly, legal back-up in the form of the National Act and institutional mechanisms like the Disaster Management Authorities at the national, state and district levels have been important steps in improving national preparedness.

## **National Disaster Management Plan: recent developments**

The Disaster Management Act of 2005 provides for the preparation of a plan for the whole country called the National Plan. The National Executive Committee is mandated to prepare this plan giving due consideration to the national policy and in consultation with the state governments and expert bodies or organisations approved by the national

authority. As per the provisions of the act, the plan should include the following.

- Measures to be taken for the prevention of disasters or mitigation of their effects
- Measures to be taken for the integration of mitigation measures in the development plans
- Measures to be taken for preparedness and capacity building to respond effectively to any threatening disaster situations or disaster
- Roles and responsibilities of different ministries or departments of the Government of India with respect to the earlier functions

The act provides for annual revision of the plan by the authority as well as financial provisions to be provided by the Government of India for implementation. The relevant ministries and departments of the government are to draw up their own plans keeping the National Plan in mind.

It can be concluded that the planning process in India is still in a preparatory phase. While the National Disaster Response Plan was accepted by the government in October 2001, the National Act of 2005 provides for preparation of a plan by the National Executive Committee (NEC) to be approved by the National Authority (NDMA). As of now, the authority has submitted a National Policy on Disaster Management to the Government of India, and it is being considered. It can be surmised that the National Plan will be prepared on the lines of the approved National Policy.