



## 18. CHANDIGARH DISASTER MANAGEMENT PLAN

### 18.1 INTRODUCTION

Although the common man is not so familiar with the term Disaster Management, people today are much aware of certain phenomena like earthquakes, cyclones, landslides and now even the tsunami. Since times immemorial India has been highly prone to natural calamities. The Union Territory of Chandigarh spread over an area of 114 sq. kms. has high vulnerability to earthquakes as it lies in Seismic Zone IV.

- **Disasters**

Disasters are characterized by some or all of the following:

- They are disruptive to individuals and communities.
- They are not part of day to day experience and are outside normal life expectations .
- They are unpredictable in occurrence and effects can be of sudden on set.
- They require a response for which normal local resources may be inadequate.
- They have a wide range of effects and impacts on the human and physical environment.

- **Disaster Management Cycle**

Three major functional areas were recognized as necessary components of a comprehensive approach; prevention, response and recovery. Without these areas, the key responsibilities of agencies include:

- **Planning:** -  
The analysis of requirements and the development of strategies for resource utilization.
- **Preparedness:** -  
The establishment of structures, development of systems and testing and evaluation by organizations of their capacity to perform their allotted roles.
- **Co-ordination:-**  
The bringing together of organizations and resources to ensure .

### 18.2 OBJECTIVES

Disaster Management Plan is a comprehensive plan, which optimally utilizes men, material and available resources to prevent loss to lives and minimizes loss to property. It ensures fastest approach for rescue and rehabilitation. Disaster Management Plan guides the entire machinery engaged in relief operation and induces courage amongst the community to face the eventuality boldly. The key objectives of the Chandigarh Disaster Management Plan are:

- To improve the preparedness for disaster through risk assessment and vulnerability analysis of Chandigarh.
- To evolve a suitable mitigation strategy so as to minimize the impact of disaster in terms of men and material loss.
- To give professional guidance to the relief machinery engaged in relief operations.
- To create awareness amongst the community to face the disaster in case of an eventuality.
- To involve the voluntary organizations & NGO's in awareness creation and in relief operations.
- To enable quick restoration of the public service system affected by the disaster.
- To prevent the spread of post-disaster epidemics.

#### **Risk and Vulnerability, Analysis (RVA)**

- Risk and Vulnerability Analysis (RVA) is an essential tool for any disaster management plan. In the Chandigarh Disaster Management Plan (CDMP)-2008, a conscious effort has been made to include a preliminary RVA which will help identify people, property and resources that are at risk of damage, injury or loss during disasters. Such information would aid in prioritizing the precautionary measures.



### 18.3 identification and prioritization of hazards

- \* Earthquake
- Terrorist Attack
- Fire
- Chemical Hazards.
- Flood
- Accidents (Road, Railways, Air, Building Collapse)
- Road Blockade

### 18.4 HAZARD ANALYSIS

Hazard Analysis involves mapping of areas, which are prone to disaster so as to develop a visual representation of the hazard. The analysis aims at identifying areas in which the potential impact of a disaster is higher.

based on the analysis, the following vulnerable areas in Chandigarh have been identified. Plan showing location of vulnerable areas is at Plan DM 1.

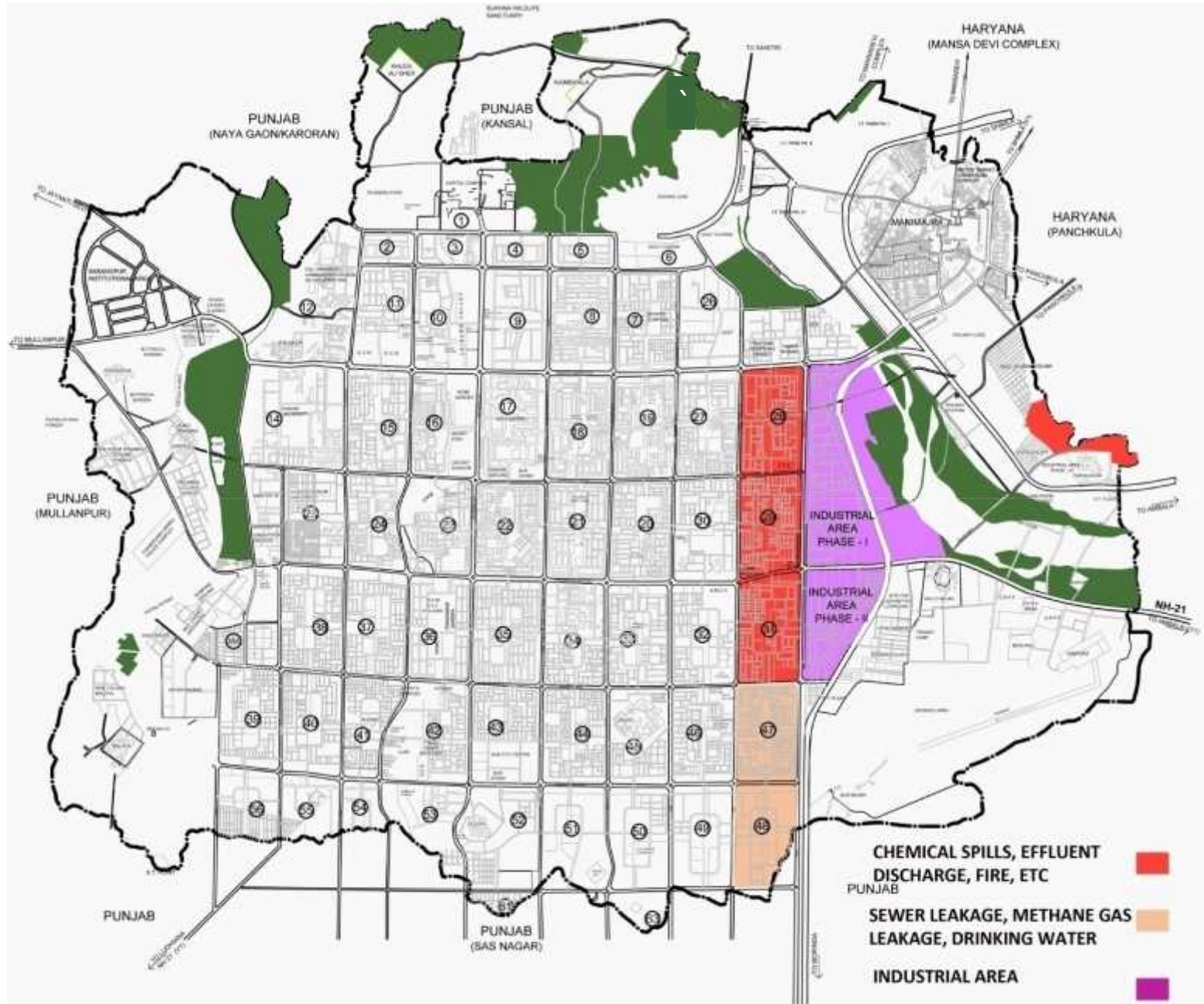
Sr. No.	Industrial Location	Natural of Hazard	Vulnerable Areas
1.	Industrial Area-Phase-I	Chemical Spills, Effluent Discharge, Fire, etc.	Sector 28, 29, Sukhna Choe, Reserved Forest
2.	Industrial Area-Phase-II	Chemical Spills, Effluent Discharge, Fire, etc.	Sector 31, Karsan Rehabilitation Colony
3.	Industrial Area-Phase-III	Chemical Spills, Effluent Discharge, Fire, etc	Mauli Jagran Rehabilitation Colony
4.	Sewerage Treatment Plant	Sewer Leakage, Methane Gas leakage, Drinking water pollution, etc.	Sectors 47 & 48, Karsan Rehabilitation Colony.

### 18.5 CRITICAL FACILITIES ANALYSIS

This analysis aims at identifying the critical facilities in Chandigarh like educational institutions, police stations, hospitals, fire and rescue stations, etc. These facilities play a central role in disaster response and recovery and, hence, it is important to protect these critical facilities to ensure that disruption of public service is minimized during the disaster. The list of the critical facilities includes:

- Schools, Colleges and University
- Hospitals
- Police Stations
- Shelter Homes
- Telecom Offices
- Key Government Offices
- Community Centres
- Fire Stations
- Hotels.







MILD CRACKS ON THE WALLS OF THE SECTOR 42 INDOOR BADMINTON HALL AFTER THE EARTHQUAKE IN CHANDIGARH ON 08-10-2005



DRAINAGE CAUSED IN KALAGRAM

## 18.6 State Disaster Management Authority

State Disaster Management Authority for Chandigarh has been formed under the Chairmanship of the Adviser to the Administrator, U.T. to evaluate the disaster preparedness for different type of calamities. This Authority is the pioneer Committee in the U.T. to take stock of the situation, monitor routine preparedness and to suggest improvement in the response mechanism. This has been done to ensure coordinated mitigation, preparedness and response measures whenever disaster strikes.

The State Disaster Management Authority comprises of the following officials:

Sr. No.	Functionaries	Designation
1.	Adviser to the Administrator, UT, Chandigarh	Chairman
2.	Home Secretary, Chandigarh Administration.	Member
3.	Finance Secretary, Chandigarh Administration.	Member
4.	Commissioner, Municipal Corporation, Chandigarh	Member
5.	Secretary, Social Welfare, UT, Chd.	Member
6.	Inspector General of Police, U.T., Chandigarh	Member
7.	Deputy Commissioner, U.T., Chandigarh.	Member Secretary



## 18.7 DISASTER MANAGEMENT STRATEGY

Optimum strategy is to be followed in accordance with the comprehensive District Disaster Management Plan to combat the effects of the disaster and to minimize the loss of life and property. Different stakeholders from district administration, public, NGO sector, civil defense, interest groups are required to play a major role in disaster mitigation. Broadly it has been divided into three major strategies viz Pre-Disaster Phase, Impact Phase and Post Disaster Phase.

1. **Pre Disaster Phase-** Preparedness in “No Disaster Situation”.  
In the Pre Disaster Phase – prevention, Mitigation and Preparedness activities are undertaken. The key activities are:-
  - Formation of the District Disaster Management Committee.
  - Formulation of District Disaster Management Plan for running year.
  - Risk Assessment and Vulnerability Analysis.
  - Resource Inventory.
  - Allocation of responsibilities to the individual actors/Groups/Institutions/Organizations.
  - Training and capacity building etc.
2. **Impact Phase-** Emergency Relief Measures  
This phase includes measures taken immediately after the disaster. The key activities are:-
  - Rescue operation/Evacuation by teams (already identified) and providing basic infrastructure and movement to rescue centres.
  - Functioning of District Control Room (DCR) & other Sub Divisional/Block/Tehsil /Line Departmental Control Rooms.
  - Coordination meeting with officials at District Control Room at each 12 hours interval to take stock of the situation.
  - Management of Rescue Shelters
  - Monitoring Disaster Management by ensuring a line of control through Police & Paramilitary forces, Civil Defence, Fire services, Civilians, PSUs, NGOs etc.
  - Administration of Relief.

3. **Post Disaster Phase-** Damage Assessment and Long term relief.
  - All measures at this stage aim at speedy return of the affected areas to normalcy and to mitigate the long-term consequence of the disaster. The key activities are:-
  - Assessment & enumeration of damage.
  - Developing a Reconstruction and Rehabilitation plan.
  - Monitoring Relief Operation organized by outside agencies/ UN Agencies/ Red Cross/ NGOs/ PSUs/ other states etc through District Administration.
  - Restoration of Communication- Roads, Railways, Electronic Communication etc.
  - Maintenance of Law & Order.
  - Provision of Medical facilities, Minimum sanitation, drinking water, free kitchen etc.
  - Removal of debris and disposal of carcasses.
  - Meeting officers of both District level and Field level in every 24 hours to take stock of the situation.
  - Collection of Information and submission of daily situation report to Government through District Collector.
  - Documentation of the entire event – Black & white/ Audio & Video.

## 18.8 DISTRICT DISASTER MANAGEMENT COMMITTEE – CHANDIGARH

District Disaster Management Committee is the high-powered committee at district level to look after disaster management and emergency response. This high-powered committee would be chaired by the Deputy Commissioner with all policy makers from the District/ Nodal Officer of each line department/ ADC/ SDMs and nodal officers from various organizations as its members. ADC would be the convener of District Disaster Management Committee (DDMC).



## 18.9 DISASTER MANAGEMENT PLANNING

The first responder of any disaster anywhere is none other than the local people who are the victims too. The strategy of planning shall be as follows:

- The territory of each RWA or Local Body or NGO can be taken as logical unit for planning.
- Every school in the district, irrespective of size, shall be a logical unit.
- Every hospital with more than 10 bed shall have disaster management plans.
- All cinema Halls, clubs, religious centers etc where gatherings are possible, shall have Disaster Management plans.
- Every Government office/building/department shall have separate disaster management plans.
- Every Merchant Traders Associations (MTA), shopping center and district center shall have a DM plan.
- All industries in the district, irrespective of size and nature to have disaster management plans.
- Each logical unit shall have the template/modal plan document for the disaster management which shall be updated at least bi annually.

### Enforcing Existing Codes and Laws

Lists of codes are already in place to monitor the construction practices in the district Bureau of India Standards, National Building Codes of India and subsequent amendments in various acts provides sufficient legal protection to the enforcing agencies for safe construction practices. In Chandigarh, the major government bodies undertaking construction and granting permission to the private players' viz, MC, CHB, Engineering Department would undertake sufficient measures to enforce the building codes.

### Structural Mitigation Measures

It is immensely pivotal for the planning community to respond towards disaster management positively. Urban disaster management is intimately connected to the wholesome process of urban development and therefore needs a sincere incorporation in the development planning itself. The industrial relocation/location, unauthorized-regularization issue, slumming, over densification and continuous influx of population to Chandigarh are some of the open concerns. Besides a planning challenge, these are concerns for disaster management.

The district shall take steps for structural mitigation of disaster management. The departments that are associated with development of residential and commercial plots shall stick to the NOC norms. The Building Codes shall be strictly enforced in the district. Only seismically oriented engineers, contractors and masons shall be given certificates for multi storey constructions and real estate. Simultaneously retrofitting is to be promoted with expert advice. The possible two structural measures for disaster protection are Retrofitting of the existing building and Earth Quake Resistant new construction.

### Retrofitting

For an existing building, Retrofitting or Seismic Strengthening is the only solution to make it disaster resistant. In Chandigarh, all lifeline buildings such as major hospitals, Schools with large space for storage, district administration offices and other vital installations shall be retrofitted in the first phase. In the second phase all other significant buildings shall be given priority for seismic strengthening. Before carrying out retrofitting, a panel of experts shall be approached for assessing the structure and to suggest the type of retrofitting required.



### Earth Quake Resistant Construction

Promotion of Earth Quake Resistant Construction mainly includes construction safety, quality control and inspection. In previous decades, there were no specific guidelines on EQ resistant construction and seismic strengthening. Due to the very fact, most of the buildings till 1990a were built without any safety measures. But in the present scenario, there are building byelaws and guidelines. Civic Bodies like Municipal Corporation and Chandigarh Housing Board in the district shall try to enforce these laws. Construction shall be carried out under the supervision of the Construction Engineer on Record or Construction Management Agency on Record for various seismic zones. They shall be given a certificate based on the norms on completion of the construction. Illegal constructions, encroachments, unapproved additions, alterations etc of residential buildings and conversion of residential building into commercial purpose etc shall be checked by the District Administration.

### 18.10 LONG TERM RESPONSE PLAN

The long-term response plans are related with Recovery and Reconstruction activities on one side and institutionalizing disaster management in district administration on the other. The former includes:-

- Operation Procedures (SOPs) for the Emergency Support Functions. In long term measures the following actions shall be undertaken duly.
  - Constitution of Emergency Support Functions, Disaster Management Teams, Quick Response Teams, Field Response Teams.
  - Refresher trainings for all such teams in a regular interval of time and exercise of Mock Drills.
  - Continuous awareness/sensitization programmes for the stakeholders and the general public.
- A mega exercise replicating an earthquake at Panchkula, Chandigarh, Mohali, Shimla and adjoining region was organised in February 2013 by the National Disaster Management Authority (NDMA) and the Haryana, Himachal Pradesh, Punjab and Chandigarh authorities. Observers from Jammu & Kashmir and Uttarakhand were also deployed to oversee the entire exercise. of 7.8 intensity in 1905.
  - The exercise was based on a hypothetical earthquake with epicentre at Sundarnagar in Mandi district of Himachal Pradesh with a magnitude of 8.0, maximum intensity of IX+, depth of 15 km and rupture length of 200 km. The exercise carried out to assess “multi-State earthquake preparedness” and to understand the implications of a possible major earthquake and its likely impact on several States regarding preparedness, response and coordination,” Himachal Pradesh, Punjab, Haryana, Uttrakhand, Jammu & Kashmir and Chandigarh are highly vulnerable due to proximity to prominent fault lines and are likely to suffer extensive infrastructure and building damage. Schools and colleges, shopping malls, metro rail stations, hotels and residents' welfare associations would also be involved in the exercise.
  - Also proposed to assess the vulnerability of lifeline of all buildings in Chandigarh and prepare a list of the same. “Review of Disaster Management Plans of Chandigarh and various departments will be undertaken by the UT Administration and GHS.