

# District Disaster Management Plan for Ratlam District

Advait Uday Moholé

PFM 2011 – 13



**Iq'kklu**

**School of Good Governance & Policy Analysis**  
(An Autonomous Institute of Government of Madhya Pradesh)

## DECLARATION BY ORGANISATION

This is to certify that the project report entitled “**District Disaster Management Plan for Ratlam District**” done by Advait Uday Moholé is original work. This has been carried out as summer internship under my guidance for partial fulfilment of Post Graduate Diploma in Forest Management at Indian Institute of Forest Management, Bhopal.

Place:

Reporting Officer

Date:

Organisation's Name &

Seal

## DECLARATION BY STUDENT

I, Advait Uday Moholé, hereby declare that the project report entitled “**District Disaster Management Plan for Ratlam District**” is an original work. The contents of this project report have not been published before and reflect the work done by me during the Summer Internship of the Post Graduate Diploma in Forest Management at Indian Institute of Forest Management, Bhopal from 9 April 2012 to 11 June 2012 with School of Good Governance and Policy Analysis, Bhopal.

Place:

Advait Uday Moholé

Date:

PFM 2011 - 13

Place:

Reporting Officer

Date:

Organisation's Name & Seal

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## **Executive Summary**

Any type of disaster natural or manmade, leads to immense loss of life, and also causes damage to the property and the surrounding environment, to such an extent that the normal social and economic mechanism available to the society, gets disturbed. With an aim to address the need for a specific act to deal with such disasters the GoI came out with the Disaster Management Act in 2005.

The District Disaster Management Plan (DDMP) of Ratlam district adheres to the directives of this Disaster Management Act. This DDMP is a generalist document with an intended audience varying from the local populace to the Disaster Management practitioner. This plan has a detailed hazard, vulnerability and risk analysis has been made for the district and based on it prescriptions and finding for the various government departments provided.

The DDMP can help officials in taking important decisions and also provide guidance to direct subordinates in emergency. The DDMP helps in saving precious time, which might be lost in the consultations, and getting approval from authorities. Standard Operating Protocols have been detailed out for the various stakeholders to ensure a checklist for an action oriented response structure and to study the stakeholder's preparedness level.

The crux of this report lies in the adaptation of the DDMP in the form of Chapters 3 through 6. Chapter 3 discusses the demographic, health, education, administrative, information, etc. Chapter 4 talks about the current institutional arrangements with regards to disaster management available in Ratlam. Chapter 5 is the heart of this plan and focuses completely on the Hazard, Vulnerability and Risk analysis of Ratlam based on the latest available information. Chapter 6 is a combination of prescriptive and findings based reporting for the various stakeholders. It details out the necessary mitigation related, preventive and response related functions. This chapter also goes into detail about the Standard Operating Protocols of the various Government departments involved in disaster management work.

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## List of Acronyms

APL: Above Poverty Line  
 AY: Antoday Yojna  
 BDMC: Block Disaster Management Committee  
 BPL: Below Poverty Line  
 CBDM: Community Based Disaster Management  
 CEO: Chief Executive Officer  
 DCMG: District Crisis Management Group  
 DCR: District Control Room  
 DDMA: District Disaster Management Authority  
 DDMAC: District Disaster Management Advisory Committee  
 DDMC: District Disaster Management Committee  
 DEOC: District Emergency Operation Centre  
 Dm: Disaster Management  
 DMI: Disaster Management Institute  
 DUDA: District Urban Development Authority  
 ESF: Emergency Support Functions  
 GPDMC: Gram Panchayat Disaster Management Committee  
 HAM: High Amplitude Modular  
 HDFMD: Heavy Door Frame Metal Detector  
 HFR: High Frequency  
 HHMD: Heavy Hand Metal Detector  
 ICDS: Integrated Child Development Services  
 ICP: Incident Command Post  
 ICS: Incident Command System  
 IRS: Incident Response System  
 IRT: Incident Response Teams  
 JNNURM: Jawaharlal Nehru National Urban Rural Mission  
 KUM: Krishi Upaj Mandi  
 MGNREGA: Mahatma Gandhi National Rural Employment Guarantee Act  
 MPEB: Madhya Pradesh Electricity Board  
 MPPCB: Madhya Pradesh Pollution Control Board  
 MPSDMA: Madhya Pradesh State Disaster Management Authority  
 MPWRSD: Madhya Pradesh Water Resource and Supply Department  
 NGO: Non Governmental Organization  
 NREGS: National Rural Employment Guarantee Scheme  
 NRHM: National Rural Health Mission  
 NOC: No Objection Certificate  
 NYK: Nav Yuva Kendra  
 PRI: Panchayati Raj Institution  
 PHED: Public Health Engineering Department  
 PWD: Public Works Department  
 RD: Rural Development  
 RTO: Road & Transport Office  
 SEOC: State Emergency Operation Centre  
 SHG: Self Help Group  
 SOC: Site Operation Centre  
 SSA: Safe School Assessment  
 TDMC: Tehsil Disaster Management Committee  
 UD: Urban Development  
 ULB: Urban Local Bodies  
 VDMC: Village Disaster Management Committee  
 VHF: Very High Frequency

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## Chapter 1 Introduction

The District of Ratlam is vulnerable to natural disasters owing to its unique geo – climatic features. The major natural hazards for the district are floods and droughts. The district is also vulnerable to a variety of manmade disasters such as Industrial disasters and Environmental pollution.

Each disaster has a different character and therefore requires a different plan of action for prevention and mitigation. This plan aims at providing a general outlay for dealing with these disasters by providing information of existing vulnerabilities and laying down an effective institutional structure of government functionaries to mitigate any disasters. The formation of the District Disaster Management Authority will play a vital part in bringing all the key people on a common understanding towards the modern approach of mitigation and prevention of disasters.

The scope of district disaster management plan is very wide, and it is applicable in all the stages of disasters (before, during, after & non disaster time). This District Disaster Management Plan (DDMP) can help officials in taking important decisions and also provide guidance to direct subordinates in emergency. This DDMP will help in saving precious time, which might be lost in consultations, and getting approvals from authorities.

It will be the responsibility of the District Disaster Management Authority members to look after the district and sub district level institutionalization activities pertaining to the disaster management, including the periodic review of district disaster management plan and allied functions.

DDMP is an operational module for district administration (owned by the DDMA) and it helps to effectively mitigate the different types of disasters with locally available persons and resources. It also ensures a checklist for all the stakeholders for an action oriented response structure and to study their preparedness level.

### 1.1 Purpose of the Plan

To make the district safer, and respond promptly in a coordinated manner in a disaster situation, mitigate potential impact of disasters in order to save lives of people and property of the respective district.

### 1.2 Key Objectives

Complying with the DM Act 2005, the objectives guiding the formulation of the plan are:

- Assess all risks and vulnerabilities associated with various disasters in the district
- Promoting prevention and preparedness by ensuring that Disaster Management (DM) receives the highest priority at all levels in the district.
- Prevention and minimization of loss of human lives and property by gearing up preparedness, prevention & mitigation of disasters
- To provide clarity on roles and responsibilities for all stakeholders concerned with disaster management so that disasters can be managed more effectively

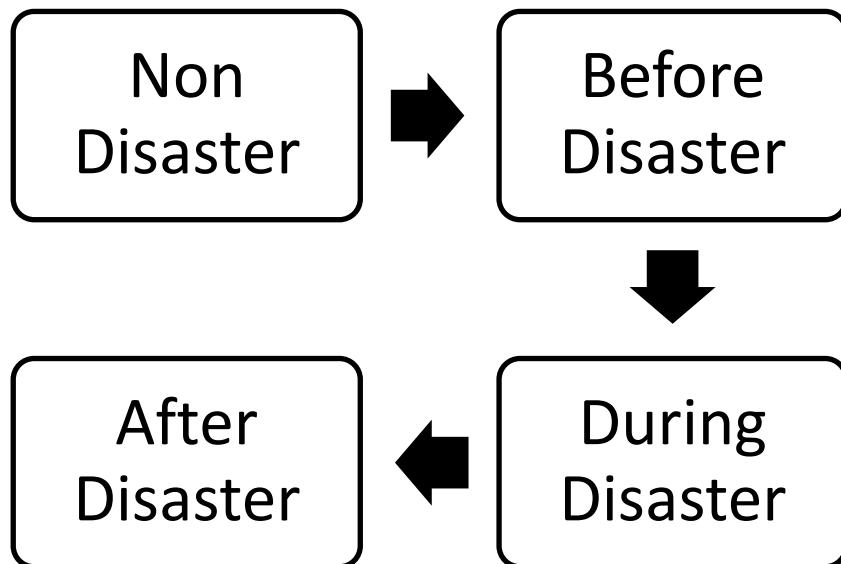
- Assisting the line departments, Block administration, urban bodies and community in developing coping skills for disaster management & Ensuring that community is the most important stakeholder in the DM process.
- To strengthen the capacities of the community and establish and maintain effective systems for responding to disasters
- Developing convergence of action in addressing, preventing and mitigating disasters and to equip with maximum possible relief measures and to resort to pre-disaster, during and post-disaster steps.
- To establish and maintain a proactive programme of risk reduction, this programme being implemented through existing sectors and inter-sector development programmes and
- Mainstreaming DM concerns into the developmental planning process.
- Encouraging mitigation measures based on state-of-the-art technology and environmental sustainability.
- To address gender issues in disaster management with special thrust on empowerment of women towards long term disaster mitigation
- Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communications and Information Technology support.
- Encourage training and create awareness, rehearsals, dissemination of knowledge, and information on DM among all the citizens living in the district.
- Ensuring relief/assistance to the affected with care, without any discrimination of caste, creed, community or sex
- Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat.
- Undertaking recovery to bring back the community to a better and safer level than the pre-disaster stage
- To develop disaster management as a distinct management discipline and creation of a systematic and streamlined disaster management cadre

### **1.3 District Plan Approach**

The aim of the plan is to establish necessary systems, structures, programs, resources, capabilities and guiding principles for reducing disaster risks and preparing for and responding to disasters and threats of disasters in respective district, in order to save lives and property, avoid disruption of economic activity and damage to environment and to ensure the continuity and sustainability of development.

The district disaster management plan has a holistic and integrated approach with emphasis on prevention, mitigation and preparedness by ensuring that Disaster Management receives the highest priority at all levels in the district. It has a paradigm shift, similar to the lines of national and state level, from reactive and relief centric approach to disasters. The approach is aimed to conserve developmental gains and also minimize losses to lives, livelihood and property.

For efficient execution of the District Disaster Management Plan, the Plan has been organized as per these four stages of the Disaster Cycle.



Non disaster stage: Activities include disaster mitigation, leading to prevention & risk reduction.

Before disaster stage: Activities include preparedness to face likely disasters, dissemination of early warnings.

During disaster stage: Activities include quick response, relief, mobilization of search & rescue, damage assessment.

After disaster stage: Activities include recovery & rehabilitation programs in disaster affected areas.

## **Chapter 2 Data Collection Methodology**

The DDMP was made using reports from the heads of the various district departments. The Statistical handbook of Ratlam District 2010 was the base utilised for a majority of the administrative information of Ratlam.

Secondary information was majorly utilised from district administrative departments. The Flood management plan of 2007 and the Off - Site Industrial disaster management plan for the 2 Major accident hazard industries present in Ratlam provided a lot of information on the workings of the district administrative machinery. The Disaster Management Plan of Ratlam district prepared by the Home department in 2011 also provided information about the prevalent institutional arrangements in the district.

The Soil Atlas of Ratlam provided information for drought analysis of the district. These were the major sources from where data was collected. No primary data gathering was deemed necessary due to the authenticated records of the District Collectorate being made available. Qualitative analysis of the present hazards in the district has been done using information gathered from the Revenue and the Agricultural department.

The existing vulnerabilities of the district were assessed using information from the Census 2001 figures of the district.

## Chapter 3 District Profile

### 3.1 Location and administrative divisions

Ratlam District lies between 23° 05' - 23° 52' North latitudes and 74° 31' - 75° 41' East longitudes. It is bounded by Mandsaur district in the North, by Ujjain district in the East, by Dhar and Jhabua district in the South and by the State of Rajasthan in the West and Northwest.

The total area of the present district is 4,861 Sq. Kms. Ratlam district is small as compared to the other districts. It ranks 33rd in order of area. The total number of villages is 1,081, out of which 1,050 villages are inhabited and the remaining are uninhabited.

The district comprises of 6 blocks and 6 tehsils. It has 419 Gram Panchayats. The blocks and tehsils are, namely Alot, Jaora, Piploda, Ratlam, Sailana and Bajna. Ratlam has one Municipal Corporation; Ratlam, one Municipal Committee; Jaora and 7 notified area committees namely, Alot, Tal, Vadavda, Piploda, Sailana, Dhamnood and Namli. Ratlam has 27 Post Offices, 21 Police stations and 55 Villages above the population of 2000.

Table 3-1: Administrative Information<sup>1</sup>

Serial no	Administrative Information	
1	Location (in degrees)	Latitude – 74 31' East to 75 41' East Longitude - 23 05' North to 23 52' North
2	No. of sub divisions:	4
3	No. of Tehsils:	6
4	No. of Municipal Boards	9
5	No. of Blocks:	6
6	No. of Gram Panchayats:	419
7	No. of Villages:	1057 (1053 Populated)
8	No. of Police Stations:	21
9	No. of Post Offices:	27 + 129 EDBOs
10	Year of district formation:	1948, Reorganised in 1949
11	Name of adjacent districts:	Mandsaur, Jhabua, Dhar, Ujjain, Chhitorgarh*, Banswara*

\* Districts of the State of Rajasthan

### 3.2 Geography and Topography

Ratlam has 6 major rivers namely Mahi, Chambal, Pingla, Maleni, Jamad and Rojad. There are 74 dams and embankments in the district.

One of these dams is Dholapur Dam; which is a medium sized dam ,with a height of 293 mts. This dam is on the river Maleni and is the chief source of drinking water for the city of Ratlam.

Towards the south of the district the Vindhyan range is found. The district has a forest cover of 328.24 km<sup>2</sup>

<sup>1</sup> Source: District Disaster Management Plan 2011, Department of Home, Ratlam, 2011 pp 3-5.



Table 3-2: Geography and Topography<sup>2</sup>

Serial No	Geography and Topography	
1	Name of rivers and lakes:	Rivers: Mahi, Chambal, Pingla, Maleni, Jamad, and Rojad
2	No. of dams, embankments:	54
3	Name of existing mountains:	Vindhyanchal Mountain Range
4	Forest cover in the district:	328.24 km <sup>2</sup>

### 3.3 Demographic and socio economics

According to the 2011 Census the total population of Ratlam district is 1454483 comprising of 737365 males and 717118 females. The sex ratio is 972 females for every thousand males. The overall population density is 299 people per km<sup>2</sup>. The per capita income is INR 25656 rupees per year. (Source: HDI report for MP 2006-07)

There are 185921 families above the poverty line, while 104650 families are below the poverty line. Almost 33 percent of people are involved in agriculture, while about 30 percent are industrial labourers.

Table 3-3: Demographic and socio economics<sup>3</sup>

Serial no	Demographic and socio economics		
1	<b>Population</b>	Total household	293116
2		Total population	1454483
3		Male	737365
4		Female	717118
5		Population density	299
6	<b>Income</b>	Per capita income	25656
7		Total APL, BPL families	APL: 185921
8	BPL: 104650		
9	<b>Occupation</b>	Main occupation	Agriculture
10		Secondary occupation	Industrial labour

<sup>2</sup> Source: Revenue Department, Ratlam District, Madhya Pradesh, 2011.

<sup>3</sup> Source: Census of India 2011.

### 3.4 Climate and weather

Ratlam district has an average maximum temperature of 26°C with the maximum temperature reaching the 40°C mark in the month of May. The average minimum temperature being 17°C with the minimum temperature reaching as low as 5°C in January. The total annual rainfall for 2011 was 803 mm and the average total rainfall for the past 10 years is 762 mm. Summer begins in the month of March and lasts till the mid June. The monsoon holds sway till October.

Ratlam experiences a marginal increase in temperature in October post which winter begins from November and lasts till the last week of February.

Monsoon season is from June to September. Historically the highest number of Rain - days have been recorded in July; April and May are the months when the Summer is at its peak and some degree of water scarcity may be faced in May. Highest rainfall ever recorded is 1 907 mm and highest temperature ever reached is 44°C.

Table 3-4: Climate and weather<sup>4</sup>

Serial no	Climate and weather		
1	Rainfall	Total annual rainfall of last year	803 mm
2		Average rainfall ( last 10 years)	762 mm
3	Temperature	Average Maximum Temperature	26°C
4		Average Minimum Temperature	17°C
5	Demarcation of crucial seasons	Months of excess rainfall, leading to flood situation	Monsoon season is June to September. The highest number of Rain days are recorded in July
6		Months of water scarcity, leading to drought situation	April and May are the months when the Summer is at its peak.

<sup>4</sup> Source: Indian Meteorological Department.

Table 3-5: Ratlam Weather and Rainfall<sup>5</sup>

<b>Ratlam Weather and Rainfall</b>					
<b>Month</b>	<b>Record High °C</b>	<b>Average High °C</b>	<b>Average Low °C</b>	<b>Record Low °C</b>	<b>Precipitation mm</b>
Jan	33	25	12	4	8
Feb	36	28	13	4	3
Mar	39	33	18	7	3
Apr	44	37	23	9	3
May	44	38	26	15	15
Jun	44	34	25	15	137
Jul	38	29	23	11	277
Aug	36	27	22	11	249
Sep	39	30	22	13	183
Oct	40	31	19	10	36
Nov	37	28	16	8	18
Dec	33	26	12	3	8
Year	44	30.5	19.3	3	937

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<sup>5</sup> Source: Indian Meteorological Department

### 3.5 Health (Medical)

Ratlam has 25 Primary Health Care centres located strategically in the district. There are 5 Community Health Care centres, one in each tehsil except in Jaora. Jaora along with Alot have Civil Hospitals while the District Hospital is located in the Ratlam urban area. The District Hospital is a well equipped hospital and also has a Trauma Centre and a Blood bank.

Table 3-6: Health Centres<sup>6</sup>

Serial no	Block Name	Type of Health Centre	Medical officers	Nurses / Compounders	Beds
1	Alot	No. of Hospitals: 1	2	9	30
2		No. of Primary Health Centres (PHCs): 5	1	NA	6
3		No. of Community Health Centres (CHCs): 1	3	4	30
4	Jaora	No. of Hospitals: 1	12	24	100
5		No. of Primary Health Centres (PHCs): 4	6	12	18
6		No. of Community Health Centres (CHCs): 0	NA	NA	NA
7	Piploda	No. of Hospitals: 0	NA	NA	NA
8		No. of Primary Health Centres (PHCs): 4	3	8	NA
9		No. of Community Health Centres (CHCs): 1	1	6	30
10	Ratlam	No. of Hospitals: 4	22	154	130
11		No. of Primary Health Centres (PHCs): 6	5	8	36
12		No. of Community Health Centres (CHCs):1	1	7	30
13	Sailana	No. of Hospitals: 0	NA	NA	NA
14		No. of Primary Health Centres (PHCs): 4	4	7	36
15		No. of Community Health Centres (CHCs):1	5	4	30
16	Bajna	No. of Hospitals: 0	NA	NA	NA
17		No. of Primary Health Centres (PHCs):2	1	3	6
18		No. of Community Health Centres (CHCs):1	1	5	30

<sup>6</sup> Source: Office of the Chief Medical and Health Officer, Employee List, Ratlam, 2012.

### 3.6 Education

The average literacy rate of Ratlam district is 68.03%. The male literacy rate is 79.38% while the female literacy rate is 56.45%. There are no Engineering or Medical colleges in the District. There is one ITI and 3 mini ITIs in the district. The following table details the education scenario in the district according to various blocks. Student strength in all the educational institutions is 242616.

Table 3-7: Population and Literacy<sup>7</sup>

Serial no	Block	Population		Literacy	
		Male	Female	Male	Female
1	Alot	79046	49864	83.00%	54.90%
2	Jaora	88718	57450	82.30%	56.00%
3	Piploda	51998	32417	83.90%	54.20%
4	Ratlam	208486	148115	85.90%	64.40%
5	Sailana	34250	18976	66.40%	37.70%
6	Bajna	29118	13414	47.30%	22.00%
7	Total	493585	322830	79.50%	54.30%

Table 3-8: Educational Institutions<sup>8</sup>

Serial no	Education	Total
1	No. of Higher Secondary schools:	136
2	No. of Middle schools:	1317
3	No. of Primary schools:	2312
4	No. of Anganwadis:	1620
5	No. of ITIs/ training Centres:	4
6	No. of Engineering colleges:	0
7	No. of Medical colleges:	0
8	No. of Other colleges:	6

<sup>7</sup> Source: Government of Madhya Pradesh, Ratlam District Statistical Handbook, Ratlam, 2010.

<sup>8</sup> Source: Government of Madhya Pradesh, Ratlam District Statistical Handbook, Ratlam, 2010.

### 3.7 Agriculture and Land use

A major portion of Ratlam District is covered with black cotton soil (85%). This makes Ratlam district an excellent place for agriculture. As a result in the Rabi season majorly Wheat and Gram are grown and in the Kharif season Soyabean, Corn and Cotton are grown.

2 Blocks in Ratlam viz. Jaora and Alot have been declared drought prone every year for the past 10 years. As a result to conserve and improve the water table these blocks have been declared part of the red zone where no water may be drawn from the ground using electric pumps or motors during the Non – Monsoon season.

Table 3-9: Agriculture and Land use<sup>9</sup>

Serial no	Agriculture and Land use		
1	Cropping pattern	Type of major crops:	Rabi: Wheat, Gram.
2			Kharif: Soyabean, Corn, Cotton
3		Cropping seasons:	Kharif and Rabi
4	Land classifications	Forest land:	1459 Hectares
5		Barren & Uncultivated land:	12382 Hectares
6		Cultivated land:	351014 Hectares
7		Pasture land:	26557 Hectares
8	Soil classifications	Saline:	No area has Saline soil
9		Water logging:	NA
10		Recurrent flood hit area:	NA
11		Drought hit area:	Jaora, Alot

<sup>9</sup> Source: Department of Agriculture Ratlam office, Ratlam Land use classification report, Ratlam, 2011.

### 3.8 Housing Pattern:

A majority of the houses in Ratlam District are Kuccha houses made using Mud and Unburnt Brick. In the Rural areas houses more than one storey are highly uncommon. In the Urban areas of Ratlam city and the various Tehsil headquarters also construction of RCC Slab houses more than 3 storeys' is highly uncommon.

Table 3-10: Housing Pattern<sup>10</sup>

Serial no	Material Used	Total	Rural	Urban
1	Grass/ Thatch/ Bamboo/ Wood/ Mud etc.	14312	12273	2039
2	Plastic/ Polythene	6714	5951	763
3	Hand - made Tiles	90244	87954	2290
4	Machine made Tiles	52750	49958	2792
5	Burnt Brick	1948	862	1086
6	Stone/ Slate	34682	13718	20964
7	G.I/ Metal/ Asbestos Sheets	85110	59802	25308
8	Concrete	63214	21985	41229
9	Other Material	2147	1460	687
10	Total no of Census Houses	351121	253963	97158

### 3.9 Industrial set ups

The Ratlam - Nagda Industrial area has a large number of medium scale industries. Many of these industries use hazardous chemicals. Large industries include Kataria Perfumes, Indian Oil Corporation etc.

Table 3-11: Industrial set ups<sup>11</sup>

Serial no	Industry Information
1	No. of Major Accident Hazard Units/ Polluting industries/ Industrial Areas: 2
2	Total workforce involved in these industrial units 3922
3	No. of Medium and small scale industries : 47
4	Total manpower involved in these units: 20306
5	Total no. of industries 49

<sup>10</sup> Source: Housing Census of India 2011

<sup>11</sup> Source: Industrial Health and Safety Department, Ujjain Division, Ujjain, 2012.

### 3.10 Transport and communication network

Ratlam is well connected by road with one National highway and 3 state highways passing through it. Ratlam is a major junction for the Indian Railways. Four major Railway Tracks pass through Ratlam City, these are towards Mumbai, Delhi, Ajmer and Khandwa, amongst which the railway track along Khandwa is a Meter Gauge track.

Table 3-12: Transport<sup>12</sup>

Serial no	Transport Connectivity	Total (km)
1	By Road	980.28
2	By Rail	125
3	By Air	None
4	Waterways	None

Table 3-13: Communication network<sup>13</sup>

Serial no	Communication network	Total
1	No. of wireless stations in the respective blocks	37
2	Availability of telephone, mobile services in each block	39620
3	Availability of internet facility in the blocks	2313
4	No. of HAM Radio Stations in the blocks	None

### 3.11 Power stations and electricity installations

Ratlam district has wind and solar power generation units. The district has good electricity connectivity.

Table 3-14: Electricity<sup>14</sup>

Serial no	Electricity Information	
1	List of power stations in the district:	8
2	Electricity outreach in the district:	240831 Connections
3	Ratio of electricity supply to consumption:	1.71
4	Available sources of electricity in district, like DG sets etc:	11

<sup>12</sup> Source: Revenue Department, Ratlam District, Madhya Pradesh, 2011.

<sup>13</sup> Source: Home Department, Ratlam District, Madhya Pradesh, 2012.

<sup>14</sup> Source: Madhya Pradesh Electricity Development Board, Ujjain Division, Ujjain, Madhya Pradesh, 2011.



### 3.12 Major historical, religious places, tourist spots

Hussain Tekri situated in Jaora is the most visited religious place in Ratlam District. Visitors throng here in the tens of thousands in the month of January after Moharram. Most other temples like the Kalika Mata Mandir in Ratlam see an increase in the number of visitors during the Hindu festival of Navratri. Most other religious places have a steady flow of devotees daily. The medium scale dam of Ratlam district, Dholawad sees an increase in the number of visitors during the summer months and during the monsoon as well. The home guards have a permanent station at the Dholawad dam.

Table 3-15: Religious Places<sup>15</sup>

<b>Serial no</b>	<b>Religious places</b>	<b>Serial no</b>	<b>Religious places</b>
1	Veerupaksh Mahadev Temple, Bilpank.	7	Mahalaxmi Temple, Ratlam.
2	Shipawra Temple, Alot	8	Kalikamata Temple, Ratlam.
3	Dharola Mahadev Temple, Alot	9	Gadkhange Mata Temple, Bajna.
4	Kedareshwar Temple, Shivgarh.	10	Sagod Jain Temple, Ratlam.
5	Amarji Temple, Ratlam.	11	Hussain Tekri, Jaora.
6	Ayana Mahadev Temple, Jaora.	12	Andikalpeshwar Temple, Alot.

<sup>15</sup> Ratlam District Website, ratlam.nic.in, accessed on 12.45, 28<sup>th</sup> April, 2012.

## Chapter 4 Institutional Arrangements

As per Section 25 of the DM Act 05, A DDMA for Ratlam district has been constituted on 19 August 2011. The District Disaster Management Authority (DDMA) will act as the district planning; coordinating and monitoring body in accordance with the guidelines laid down by the State Authority.

This section will cover the basic structure for institutional arrangements, as mandated by the DM Act 2005, including the broad functions of DDMA, DEOC, DDMAC/ DDMC/ BDMC/ GPDMC etc and its inter linkages with upward and downward (state level and Block level). The section will also throw light on the role of the key entities pertaining to the emergency response functions, and will also address the modalities part, as mandated by Madhya Pradesh State Disaster Management Policy 2011.

### 4.1 District Disaster Management Authority (DDMA)

Date of inception of DDMA: 19 August 2011

Table 4-1: District Disaster Management Authority<sup>16</sup>

Serial No	Designation	Name	Designation in the Authority
1	District Magistrate	Mr Rajendra Sharma	Chairperson
2	Chairperson, Zilla Parishad		Dy. Chairperson
3	Mayor Nagar Nigam	Sh. Shailendra Daaga	Dy. Chairperson
4	Superintendent Police	Mr. R.S Sikarwar	Member
5	Dy Collector	Ms Vandana Mehera	Member Secretary
6	CEO Zilla Panchayat	Dr. V S Rawat	Member
7	CMHO		Member
8	CEE PWD		Member

<sup>16</sup> Source: District Disaster Management Plan 2011, Department of Home, Ratlam, 2011, pp 12.

## 4.2 District Disaster Management Committee/ Advisory Committee (DDMC/ DDMAC)

Table 4-2: District Disaster Management Committee<sup>17</sup>

Serial No	Functionaries	Designation
1	Collector	Chairman, DDMC
2	C.E.O. Zila Panchayat	Dy. Chairperson DDMC
3	A.D.M.	Member Secretary, DDMA
4	S.P.	Member, DDMA
5	Dy Director Panchayat and Social Justice	Member, DDMA
6	Dy Director, Veterinary Health	Member, DDMA
7	CMHO Ratlam	Member, DDMA
8	Dy Commissioner Adivasi Development	Member, DDMA
9	Dy Director Information and Broadcasting	Member, DDMA
10	Chief Municipal officer	Member, DDMA
11	Commissioner Nagar Nigam	Member, DDMA
12	Project Officer, District Urban Area Development Authority	Member, DDMA
13	Rotary Club Representative	Member, DDMA
14	Lions Club Representative	Member, DDMA
15	Officer In-charge, Relief Branch	Member, DDMA
16	CEO Janpad Panchayat All	Member, DDMA
17	Executive Engineer Public Health Department	Member, DDMA
18	Local officer IMD	Member, DDMA
19	DC, Home Guards	Member, DDMA

## 4.3 District Emergency Operations Centre (DEOC) / District Control Room (DCR)

The District Emergency Operation Centre (DEOC) will be hub of all the activities related with disaster response in the District. The DEOC of Ratlam district is to be established in the Police Control Room. During non disaster times, the DEOC will work under the supervision of the Superintendent of Police, during disaster time it will come under the direct control of the DM or a person designated by him as Chief of Operations.

Table 4-3: District Emergency Operations Centre

<b>Location of the DEOC / DCR:</b>	Land Records Office, Ratlam
<b>Involved agencies in DEOC / DCR, Roles and responsibilities of the officials / nodal persons (phase wise):</b>	Revenue Department.
	Home Department
	Rural Development Department,
	Public Health department
<b>Equipments installed (software and hardware):</b>	Computer with internet connection

<sup>17</sup> Source: District Disaster Management Plan 2011, Department of Home, Ratlam, 2011, pp 16.

#### 4.4 District Disaster Information Management System

Collector will be an integral part of the DCR, Collector will be assisted by SOC. SOC will be headed by a Site Manager. Site Manager will coordinate the activities at various camp sites and affected areas. The Site Operations Centre will report to the District Control Room.

Collector will coordinate all the field responses. Field responses include setting up Transit Camps, Relief Camps and Cattle Camps.

The desk arrangements provide for division of tasks, information gathering and record keeping and accountability of the desk officer to the DDM for specific functions. Each desk should have a Desk Officer assigned. The capacity of various desks to coordinate amongst themselves and with the units to be coordinated will ultimately decide the quality of response. Such a function of coordination would largely depend on the capacity to effectively keep a track on communications received and the decisions taken.

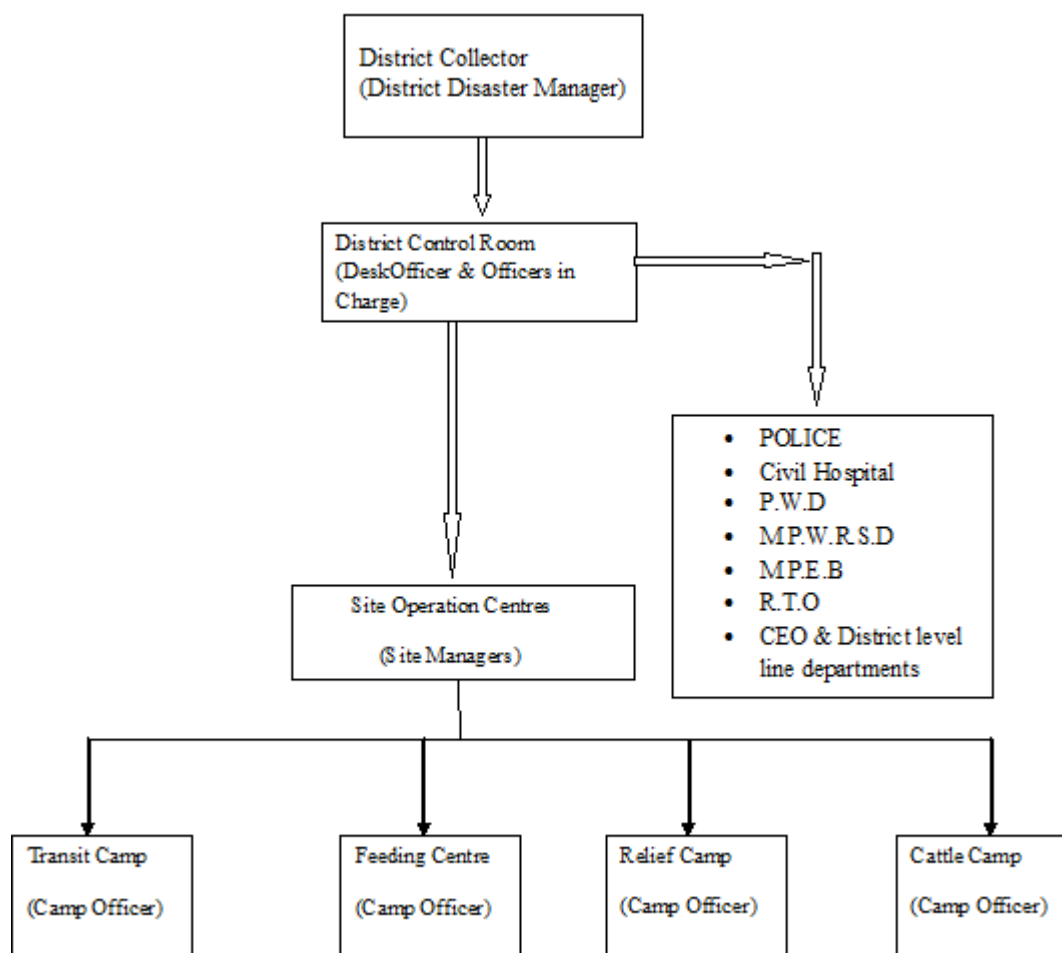


Figure 1: District Disaster Information Management System

#### 4.5 Urban Area Disaster Management Committee

No urban area Disaster management committees exist in Ratlam. Since the Mayor of the Nagar Nigam of Ratlam is part of the DDMA and officials from the Municipalities are part of the respective tehsil DMAs there seems to be no need to constitute a separate urban area disaster management committee. Also the area classified as urban in Ratlam district is quite small as compared to its rural area.

#### 4.6 Tehsil Level Disaster Management Committee

The Tehsil level Disaster management committees have been in existence under the guise of the Flood management Committees since July 2007. This was the year when the first Flood Management plan was produced in the District. These tehsil level committees now take care of the much wider scope of Disaster Management also.

A typical Tehsil committee consists of the following members:

Table 4-4: Tehsil Level Disaster Management Committee<sup>18</sup>

<b>Serial No</b>	<b>Officials Rank</b>	<b>Designation</b>
1	Anuvibhagiy Adhikari	Chairperson
2	Tehsildar	Member Secretary
3	Nayab Tehsildar	Member
4	Executive Engineer (PWD)	Member
5	CEO Janpad Panchayat	Member
6	CMO Tehsil	Member
7	Thana Inspector	Member
8	BMO Tehsil	Member
9	Animal Health Officer	Member
10	DE (MPEB)	Member
11	Fertiliser Officer	Member
12	NGO representative	Member

<sup>18</sup> Source: Ratlam District Disaster Management Authority, District level Disaster Management Work Plan (Flood and Excess Rainfall), Ratlam, 2007

#### 4.7 Gram Panchayat / Village Disaster Management Committee

Following the trend village level disaster management committees have been set up as far back as the year 2007, however most of them are defunct. A typical VDMC in Ratlam looks like the following:

Table 4-5: Village Disaster Management Committee<sup>19</sup>

<b>Serial No</b>	<b>Officials Rank</b>	<b>Designation</b>
1	Sarpanch	Chairperson
2	Patwari	Member Secretary
3	Panchayat Secretary	Member
4	Gram Patel	Member
5	A.N.M/ M.P.W/Anganwadi worker	Member
6	Kotwar	Member

<sup>19</sup> Source: Ratlam District Disaster Management Authority, District level Disaster Management Work Plan (Flood and Excess Rainfall), Ratlam, 2007

## HAZARD VULNERABILITY ASSESSMENT AND RISK PROFILING

### 5.1 Hazard Assessment

#### 5.1.1 History of past disasters

Table 5-1: History of Past disasters

Type of hazard	Year of occurrence	Area Affected	Impact on Life	Livelihood	Livestock	Hazard prone zone
Drought	2000	Jaora and Piploda are drought prone blocks which have been consistently plagued by less than average rainfall for the past 10 years. Jaora Block has also has depleted groundwater resources.	No people have died directly due to drought inflicted maladies, such as lack of drinking water and food. However this area sees a large migration during the summer due to lack of agricultural activities.	Agriculture has suffered highly as the two blocks have faced consistent droughts. Also only 30% of the area of these 2 blocks is irrigated.	There are no records of the number of livestock lost during the droughts of the past 11 years. However fodder availability is a major issue in this area due to drought.	The blocks of Jaora and Piploda have 150 and 90 villages respectively . All these 240 villages are affected by drought.
	2001					
	2002					
	2003					
	2004					
	2005					
	2006					
	2007					
	2008					
	2009					
	2010					
2011						
Flood	1984	The blocks of Alot and Bajna have the majority of rivers running through them and were affected the most in every flood year. The other 4 blocks have seen some sort of flooding as well.	The rivers in Ratlam are small and as a result do not have a large flood plain. In 2006 2 people died in Piploda urban area due to flooding. Otherwise data is not available for the other years regarding loss of life.	Floods destroy houses, standing crops, and the stagnant water leads to diseases. There are no records available about the compensation paid, or the amount of crops damaged.	Livestock faces the brunt of the floods. The livestock population of the flood affected areas is more than 10,000 cattle and other animals.	There are a number of Gram Panchayats which are situated in the flood areas of the various rivers in Ratlam. These have been reported in the Annexure no.
	1986					
	1993					
	1994					
	1995					
	1996					
	2006					
	2012					

Type of hazard	Year of occurrence	Area Affected	Impact on Life	Livelihood	Livestock	Hazard prone zone
Stampede	2012	Hussain Tekri, Jaora	12 lives were lost, in this stampede.	No major loss of livelihood.	No Livestock was affected.	Hussain Tekri in Jaora Block.

No other Industrial or Environmental disasters have occurred in the past in Ratlam.

### 5.1.2 Applicable hazards

A hazard is a threat of an occurring event which will have a negative effect on humans. This negative effect is a disaster. In other words when the hazardous threat actually happens and harms humans, it is termed as a disaster. Ratlam district is threatened by the various hazards, floods and droughts amongst them affecting livelihood the most. Among the other hazards and possible disasters to be considered are:

- Fire
- Industrial and Chemical Disasters
- Rail/Road Accidents
- Environmental hazards
- Stampede

These hazards are found all over the district. Some blocks such as Alot and Jaora have been declared drought hit every year for the past ten years; Ratlam block has a high concentration of Industries and is home to 2 Major Accident Hazard industries; parts of the Piploda urban area is sure to flood each year; and so on.

#### 5.1.2.1 Flood

Ratlam has 2 main rivers: Chambal and Mahi. Chambal and Mahi have 3 tributaries each Shipra, Maleni, Pingla and Jamad Patdi, Karn, Undva rivulet respectively. The average yearly rainfall of Ratlam is 895.9 mm. In a wet rainfall year however the rainfall exceeds 1147 mm. Most of the tributaries are seasonal. The rivers here are just starting out and in the case of an excess rainfall most of the effects of flooding are felt further downstream in the adjacent districts of Ujjain, Jhabua, and Mandsaur.

Table 5-2: Flood hazard affected areas (Rural)<sup>20</sup>

Serial no	Block	Gram Panchayat	Serial no	Block	Gram Panchayat
1	Alot	Bhojakhedi	8	Bajna	Lukkipada
2		Khajurisolanki	9		Chandragad
3		Gulbalod	10	Piploda	Hatnara
4		Shishakhedi	11		Machun
5	Jaora	Uni	12		Sukheda
6	Sailana	Sarvan	13		Mavta
7	Bajna	Jharniya			

<sup>20</sup> Source: Ratlam District Disaster Management Authority, District level Disaster Management Work Plan (Flood and Excess Rainfall), Ratlam, 2007.



Over the years due to rampant urbanization slums have formed along the river when it goes through a town. The urban areas of Ratlam and Piploda are plagued by water logging due to heavy rainfall every year.

#### 5.1.2.2 Drought

Ratlam has 3 tehsils namely Piploda, Jaora and Alot which have been declared in the Red Category for having a very low water table, by the Water resources department. The people residing in these red category blocks are not permitted to use bore wells or any other form of pumps to draw water from the underground water stock. As a result of this there is no naturally available drinking water for large parts of these tehsils during the peak of the summer in May. These 3 tehsils have consistently being declared as drought prone every year since 2000.

Table 5-3: Drought affected areas<sup>21</sup>

Serial no	Block	Area Affected
1	Jaora	Entire Block
2	Piploda	Entire Block
3	Ratlam	Partial Block
4	Alot	Partial Block

#### 5.1.2.3 Industrial and Chemical Disasters

There are various Industries in and around the Ratlam Block. Many of these industries use hazardous chemicals. Though there is no precedence of an Industrial disaster happening there is still a high vulnerability. Ratlam District has 2 Major Accident Hazard (MAH) units, The Indian Oil Corporation Oil Depot at Bangrod, and Kataria Industries at Dosigaon. Apart from these MAH units there are 11 other hazardous industries in Ratlam District.

Table 5-4: Hazardous Industries<sup>22</sup>

Serial no	Hazardous industries	Chemicals used and stored	Maximum quantity (Tonne)
MAH 1	Kataria Industries Pvt Ltd.	Propane / LPG	20
MAH 2	IOCL Ratlam Terminal	Motor Spirit	13373 kl
		High Speed Diesel	34965 kl
		Kerosene Oil	15540 kl
		ATF	4500 kl
		Ethanol	140 kl
1	Ipca Laboratories	Toluene	20
		Acetone	20
		Ammonia	1
		Acryl nitrate	10

<sup>21</sup> Source: Ratlam District Disaster Management Authority, District level Disaster Management Work Plan (Flood and Excess Rainfall), Ratlam, 2007

		Aniline	3
		Hexane	20
Serial no	Hazardous industries	Chemicals used and stored	Maximum quantity (Tonne)
		Methyl Alcohol	60
		Ether	20
		Methyle Chloride	20
		Hydrogen	43 m3
2	DP wires Pvt. Ltd	Lead	12
		Furnace oil	18 kl
		HCL	5
3	Ratlam wire Pvt. Ltd	Lead	32
		Furnace oil	116 kl
		HCL	5
4	Kataria wires Pvt. Ltd	Lead	14
		Furnace oil	20 kl
		HCL	3
5	Malva Oxygen Pvt Ltd	EDC	10
		Acetone	10
		Thynoil Chloride	2.5
		Benzoyl Chloride	10
		Calcium carbide	15
		Ethylene di Chloride	5
		Monochloro Benzene	5
6	Raj Solvex Pvt. Ltd	Hexane	NA
		Hydrogen	NA
7	Puja Soya Industries	Hexane	NA
8	Ambika Solvex	Hexane	60 kl
9	Water Filter Plant	Chlorine	1.8
10	Ratlam Ice Factory	Ammonia	1.5
11	Vyas Ice Factory	Ammonia	1.5

#### 5.1.2.4 Stampede

There is a shrine of religious significance at Hussain Tekri in Jaora, where people come in large numbers on the occasion of Chehlum, a Muslim religious observation that comes after Moharram. There was a stampede here when devotees tried to come into the main shrine at midnight on 12<sup>th</sup> of January of this year. 10 people died. The Hussain Tekri is vulnerable to such events in the future. The Kalika Mata Temple sees thousands of devotees during the Navratri Festival.

<sup>22</sup> Source: Ratlam District Disaster Management Authority, Off- Site Emergency Plan, Ratlam, 2007.



## **5.2 Vulnerability Analysis**

### **5.2.1 Physical vulnerability**

Ratlam has one national highway and 2 state highways running through it. The state highways used by the oil containers running through and from the Bangrod Indian Oil Corporations Oil Depot are especially vulnerable for a fire hazard. Ratlam has 2 medium sized dams, Dholawad and Ganga Sagar. The Dholawad dam was repaired in 2011 using the funds from the National Disaster Reserve Fund. The PWD is following the required earthquake codes for making earthquake resistant government buildings.

### **5.2.2 Social Vulnerability**

Ratlam city recently had a communal riot, though there were no fatalities in this incident, many were injured and the peace and harmony of the city was disturbed, and a curfew had to be enforced. The minority Muslim community lives in pockets in Urban areas and are vulnerable to such incidents in the future.

Ratlam district does not have any sizeable area with tribal population and hence is not vulnerable on the inclusion front.

### **5.2.3 Economic vulnerability**

Ratlam has 2 blocks which have been declared drought prone for the last 10 years and have suffered a drought every one of these 10 years. The water table in these 2 blocks is also in the red zone.

#### **5.2.3.1 Migration Pattern**

The Ratlam district has six blocks out of which Bajna and Sailana block are the heavy migration affected blocks. The intensity of migration is on an average is 65% where as it reaches to 70% in summer season particularly in June. Reason behind the migration is highly undulating terrain with degraded land quality and high runoff of monsoon water. The area is rain fed area and only Kharif crop is available to the resident of these block. Small land holding and low productivity of crops does not satisfy the need of the families which in turn promotes the migration. The migration in other block is very little and entirely different in nature in comparison to those Sailana and Bajna Block. The study have been made are based on these two blocks.

#### **5.2.3.2 Seasons of Migration**

It is been observed that the migration start with the crop cutting season which start from September – October month for Kharif crop cutting and March- April month for Rabi crop cutting. These people generally do not come back to their home till month of June. After the agricultural work these people stay in towns for construction activity and other works. The migration intensified after April in want of job for earning. They also moved to other places with

their cattle for grass and fodder. They generally come back before the monsoon for preparation of their agriculture land.

#### 5.2.3.3 Rural to Urban Migration

The general trend of migration here is from rural areas to urban areas though it starts from nearby rural areas to the big cities. This labour force moves from their rural area to Ratlam, Ujjain and Indore in Madhya Pradesh. They also move to Banswara, Chitorgarh, Kota in Rajasthan and Baroda, Dahod in Gujrat.

#### 5.2.3.4 Migration within district

Migration within the district by the village people is normal practice but it is found to be comparatively in less quantity than the migration outside the district.

#### 5.2.3.5 Migration outside district

It is a general trend and mentioned in above paragraphs. Migration outside the district is almost 90%. During the migration period only old members of the family and children left to their home places to keep care of each other and to their cattle.

### **5.2.4 Environmental vulnerability**

Ratlam has a bird sanctuary in Piploda block, the Kharmore Bird Sanctuary. There is minimal mining in the district and most of the mining blocks are old and no new mining blocks are proposed in Ratlam. The rivers that do flood in Ratlam do not affect a large flood area and hence do not cause significant environmental damage.

The presence of the Ratlam - Nagda industrial zone, 4 Industrial waste dump sites and the possibility of an industrial disaster however is always impending. There needs to be more research conducted in enumerating the list of chemicals being used in this area, the wind directions, the quantum of waste generated, where it is being stored, etc. such research needs to be taken up by the Divisional Pollution Control board, Ujjain.

### **5.2.5 Institutional vulnerability**

Ratlam has a robust administration in place to deal with disasters. The DDMA, DDMC are established and functioning. The tehsil level disaster management committees are also in place. Village level committees are also in place for flood prone villages. Village level committees also need to be established for the villages near the Industrial areas. Ratlam district however has no Community based DDMCs.

### 5.3 Block wise vulnerability

This section contains the vulnerable elements applicable for the district specific to each block.

Table 5-6: Block wise Vulnerability

Name of Block	Physical/ Infrastructural Vulnerability	Environmental/ Natural vulnerability	Social vulnerability	Economic vulnerability	Institutional vulnerability
Jaora	Tens of thousands of people visit the Hussain Tekri Shrine as part of the Muslim festival of Moharrum.	Jaora block is susceptible to sporadic though localized flooding due to heavy rains.	137,621 people in the rural area are vulnerable to migration and its related maladies due to constant droughts.	Jaora is a notified block under EPA for having low water table and the drought situation has affected the economic situation of the masses.	A robust administration needs to be put in place to deal with issues specifically related to this block, a CBDM needs to be enacted at the Hussain Tekri shrine.
Alot	No specific vulnerability	4 Gram Panchayats are flood prone, a population of about 4,519 is highly vulnerable to flooding due to heavy rains	Only 54% of the female population of this block is literate. This is the lowest amongst all the blocks of the district.	Alot is classified as having Semi Critical ground water resources and in the case of a bad monsoon the entire population of the block will be vulnerable.	Alot does not have any specific Institutional vulnerability
Piploda	No specific vulnerability	Of all the blocks in the district this block is the most vulnerable in the case of a flood incidence. A total population of 14,618 people are currently inhabiting in the flood prone areas of the block	114,483 people in the rural area are vulnerable to migration and its related maladies due to constant droughts.	Piploda is classified as having Over Exploited ground water resources and in the case of a bad monsoon the entire population of the block will be vulnerable.	No specific vulnerability
Bajna	No specific vulnerability	Flood	This block is susceptible to high levels of Migration.	No specific vulnerability	No specific vulnerability
Sailana	No specific vulnerability	Floods	This block is susceptible to high levels of Migration.	No specific vulnerability	No specific vulnerability

Ratlam	Industrial area is present just 5 km away from the urban area of Ratlam district headquarters. Ratlam also has a major rail junction	4 industrial waste dump sites are present in the block	No specific vulnerability	No specific vulnerability	No specific vulnerability
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#### 5.4 Capacity Analysis

An updated capacity analysis of the district specific to the blocks is provided in this section. The presence of equipments required during disaster time, list of major PDS shops, trained personnel who will be called upon during disaster time, etc.

The majority of this information is drawn from the India Disaster Resource Inventory (IDRN) and has been updated where possible by contacting the respective departments.

Table 5-7: Capacity Analysis<sup>23</sup>

Resource Type	Number	Availability
Blankets	49	Homegaurd Department
Search Light	1	Tehsildaar
Search Light	3	Homegaurd Department
Electric Generator	1	Krishi Upaz Mandi (KUM)Ratlam
Electric Generator	1	Janpad panchayat,
Electric Generator	1	Agriculture Department
Electric Generator	1	Janpad panchayat, Ratlam
Electric Generator	1	KUM, Gadarwara
Lifebuoy	56	Homegaurd
Lifebuoy	1	Tehsildaar
life jacket	76	Homegaurd
Fibre boat (12 Person)	1(40 HP)	Homegaurd
Fibre boat (12 Person)	1(20 HP)	Homegaurd
Motor boat (12 Person)	2 (20 HP)	Homegaurd
Pump Floating	2	Krishi Upaz mandi (KUM)Ratlam
ABC type (fire extinguisher)	1	S.P. Office Ratlam
Stretcher (Normal)	170	C.M.H.O. Ratlam
Incubator for children	6	C.M.H.O. Ratlam
First Aid Kit	7	C.M.H.O. Ratlam
Portable E.C.G.	7	C.M.H.O. Ratlam
Portable suction Unit	6	C.M.H.O. Ratlam
Mobile Medical Van	1	C.M.H.O. Ratlam
4-Wheel drive vehicle	1	KUM, Piploda

4-Wheel drive vehicle	1	Water Resource, Ratlam
4-Wheel drive vehicle	11	S.P. Office Ratlam
4-Wheel drive vehicle	1	Janpad panchayat, Ratlam
Resource Type	Number	Availability
4-Wheel drive vehicle	1	Krishi Upaz mandi (KUM)Ratlam
4-Wheel drive vehicle	1	Sericulture Department, Ratlam
Matador	1	Sericulture Department, Ratlam
Truck	16+ 2(Jail Vehicle)+ 2(Water Tank) = 20	S.P. Office Ratlam
Mini Bus	1	S.P. Office Ratlam
Tractor	15	Agriculture Department
Heavy Truck	4	S.P. Office Ratlam
Ambulance Van	1	S.P. Office Ratlam
VHF Sets Static	27	S.P. Office Ratlam
VHF Sets Mobile	23	S.P. Office Ratlam
Walky-Talky Sets	80	S.P. Office Ratlam
HF Sets Static	1	S.P. Office Ratlam
ABC type (fire extinguisher)	12 (9 Litre)	Fire Department Nagarpalika & Nagar Panchayats
ABC type (fire extinguisher)	20 (5 Litre)	Fire Department Nagarpalika & Nagar Panchayats
ABC type (fire extinguisher)	3 (Carbon Dioxide)	Fire Department Nagarpalika & Nagar Panchayats
JCB Machine	1	Nagar Palika Ratlam
Mini Auto	2 ( Solid waste )	Nagar Palika Ratlam
Fire Brigade	1	Nagar Palika Ratlam
Fire Brigade	1	Nagar Palika Jaora
Water Tankers	4	Nagar Panchayat Jaora
Fire Brigade	1	Nagar Panchayat Ratlam
Search Light	49	S.P. Office Ratlam
Heavy Vehicle	6	Police Line Distt. Control Room Ratlam
Medium Vehicle	12	Police Line Distt. Control Room Ratlam
Light Vehicle	29	Police Line Distt. Control Room Ratlam
ABC type (fire extinguisher)	10	Police Line Distt. Control Room Ratlam
HDFMD (door frame metal detector)	4	Police Line Distt. Control Room Ratlam
HHMD ( Hand metal detector)	20	Police Line Distt. Control Room Ratlam
Video Camera	5	Police Line Distt. Control Room Ratlam
Rope (Nylon)	400 ft.	Police Line Distt. Control Room Ratlam
Barricade	50	Police Line Distt. Control Room Ratlam



Watch Tower (Barman)	1	Police Line Distt. Control Room Ratlam
16x12 Tent (10 Person)	10	Police Line Distt. Control Room Ratlam
12x10 Tent (8 Person)	1	Homegaurd department

## 5.5 Risk Assessment

Risk is the chance of harmful effects to human health or to ecological systems resulting from exposure to an environmental stressor. This stressor may be natural or manmade. Based on the applicable hazards for the district, this assessment aims at providing a clear picture for the risks faced by the vulnerable populations of humans. This risk estimation deals with the number of people exposed to the various stressors present in the district. These people are termed as population at risk.

The assessment of financial losses occurring due to the stressors however is out of the scope of this document however an attempt at providing ball park figures where possible has been made. It is also recommended that a detailed financial risk assessment be done for every hazard present in Ratlam. This will help in the future when Disaster risk insurance becomes common. Disaster risk mitigation insurance will be explained in section 6.1.1.4.

### 5.5.1 Flood

A total population of 26326 is resides in the historically flood prone areas of Ratlam district. There are many more people who may be affected in the future considering that there are many Villages and Gram Panchayats located along river banks.

Table 5-8 Flood Assessment<sup>24</sup>

Serial no	Vulnerable areas		Potential Impact population	Identified safer places
1	Alot	Bhojakhedi	1583	Village School Building / Panchayat Building
2		Khajurisolanki	979	Village School Building
3		Gulbalod	1074	Village School Building
4		Shishakhedi	883	Village School Building
5	Jaora	Uni	1912	Village School Building
6	Sailana	Sarvan	2701	Village School Building / Panchayat Building
7	Bajna	Jharniya	479	Village School Building
8	Ratlam	Dholawad	356	Village School Building
9	Bajna	Kanglikhora	691	Village School Building
10		Lukkipada	635	Village School Building

<sup>23</sup> Source: National Disaster Management Authority, India Disaster Resource Network 2011 Ratlam District Capacity Inventory, Ratlam, 2008.

<sup>24</sup> Source: Ratlam District Disaster Management Authority, District level Disaster Management Work Plan (Flood and Excess Rainfall), Ratlam, 2007.

11		Chandragad	415	Village School Building
12	Piploda	Hatnara	3487	Village School Building / Panchayat Building
13		Machun	1250	Village School Building
14		Sukheda	5774	Village School Building / Panchayat Building
15		Mavta	4107	Village School Building / Panchayat Building

Vulnerabilities due to flooding in the affected areas are:

- Communication network: HF, VHF Stations
- Telephone connections
- Kutcha Houses, Semi Kutcha Houses
- Road network
- Standing Crops
- Irrigation Sources
- Farmland
- Electrical Installations
- Drinking Water sources
- Streams and ponds, PHD/ Rural water supplies, Stand Posts
- Live stock: Cows, Buffaloes, Goats/Sheep, Poultry Farms, etc.
- Handicapped, Old/Aged
- Sick, ailing/diseased
- Children
- Pregnant Women

### 5.5.2 Drought

The livelihood of 7,13,462 people is directly affected in the case of a drought. Only 30% of Ratlam district is irrigated. A majority of the farmers are dependent practice rain fed farming. Jaora and Piploda are in the red category because of depleted groundwater. More than 45,000 households in these 2 blocks are at a risk since the farmers are not allowed to draw water from the ground during the non-monsoon period.

Based on the Thornthwaite system of climate classification, Ratlam district has been classified as semi – arid and dry sub-humid climatic type. The district receives an average 975 mm of rainfall. There is an 80% probability that the district receives rainfall less than 747 mm. The groundwater is recharged during the months of July, August and September. The remaining of the year the water needs exceed the water supply via rain.

In a climatic condition such as this, Ratlam district which majorly has the rich black cotton soil, over usage of the groundwater has rendered 4 blocks in the district highly vulnerable to the effects of drought. In a dry rain year, there is a large scale migration of villagers out of the district in search of work. The district administration does make sure that drinking water is available to all Gram Panchayats via water tankers, but this does not solve the problem of livelihood losses.

Table 5-9: Drought Assessment<sup>25</sup>

Serial no	Vulnerable areas		Potential Impact population
1	Jaora	Entire Block	2,10,387
2	Piploda	Entire Block	1,21,786
3	Ratlam	Rural Area	2,29,798
4	Alot	Rural Area	1,51,491

### 5.5.3 Stampede

Stampedes in India usually happen at religious places. The Hussain Tekri shrine at Jaora is visited by more than 1 lakh pilgrims over a period of one week every year. People visit this shrine after the Muslim festival of Moharrum. Hussain Tekri does not have the capacity to handle such a large gathering of people. In order to avoid the situation of stampede in religious places such as this, a detailed crowd control plan should be made. This plan should ideally be made in consultation with the management of the religious place so that it gains a better acceptance.

Community based disaster management should be enforced to include the community in facilitating a seamless event.

### 5.5.4 Industrial Disaster

There are many medium and small industries present in the Industrial Area in Dosigaon Gram Panchayat situated about 5 km from the district headquarters. 2 MAH units are present in the district namely Kataria Industries in Dosigaon and Indian Oil Corporation's Oil depot in Bangrod. A large urban population resides near the Industrial area. In the case of an industrial disaster this population is at a high risk.

Table 5-10: Industrial disaster vulnerable population<sup>26</sup>

Serial no	Gram Panchayat	No of Households	People	Males	Females
1	Dosigaon	22	102	59	43
2	Borwana	135	748	408	340
3	Junwaniya	295	1576	789	787
4	Barwad	76	410	226	184
5	Banjli	327	1670	851	819
6	Sejawata	492	2708	1454	1254
7	Bhatuni	88	479	237	242
8	Ratlam Kasba	45612	242903	125189	117714
9	Bangrod	1075	6136	3145	2991
	Total	48122	256732	132358	124374

<sup>25</sup> Source: Population figures for Ratlam District, Census of India 2001.

<sup>26</sup> Source: Population figures for Ratlam District, Census of India 2001.

## 5.6 Risk Profiling of the District

Ratlam district is one of the safest districts when it comes to disasters in Madhya Pradesh; though this does not mean that no disasters happen in Ratlam. Floods and droughts are the major disasters affecting Ratlam district. Ratlam is the fourth largest city in Madhya Pradesh after Bhopal, Indore and Jabalpur. Ratlam Industrial area was initially developed on the outskirts of the city. However the city has grown and now the industrial area is very near the city bounds.

In the Industrial area various hazardous chemicals are stored and used on a daily basis. The Industrial area is also home to 4 industrial waste dump sites. Ratlam city is extremely at risk from industrial disasters and environment pollution due to any untoward incident at the industrial area.

The other 5 blocks of Ratlam are plagued by natural disasters. Jaora block has been notified under the Environment Protection Act for extremely low groundwater resources. The farmers of Jaora and Piploda are not allowed to draw underground water during the non monsoon season. Though this has had a positive impact on the water table, the livelihood of the people in these areas is suffering. Alot and Ratlam blocks also have semi critical and critical water table levels respectively.

In Ratlam District 63% of the population is dependent on groundwater for their daily needs via wells, hand pumps or tube wells. The populace of 4 out of the 6 districts are at a high risk of losing their water. Ratlam district also has highly saline groundwater in 32 villages

Alot, Bajna and Sailana are mainly plagued with flood situations in the monsoon. There are more than 50 villages in total along the banks of the various rivers flowing through these 3 blocks. The urban areas of Ratlam and Piploda also undergo sporadic flooding affecting few wards due to heavy down pours.

## **Chapter 6 : DISTRICT LEVEL DISASTER MANAGEMENT PLANNING**

### **6.1 District Action Plans**

#### **6.1.1 Mitigation Plan**

This part will mainly focus on various ways and means of reducing the impacts of disasters on the communities through damage prevention. Major focus will be given to disaster mitigation owing to its importance in reducing the losses. The mitigation plans will be specific for different kinds of hazards identified in HRVC section. Mitigation plans will be sector specific, and will deal with both aspects, structural & non-structural.

The identification of various departments, along with nodal officers, to coordinate the mitigation activities, including PRI and ULBs for implementing mitigation strategies will be the key. Community mitigation measures will be identified and implementation modalities formulated.

##### **6.1.1.1 Scope of Integrating Risk Reduction in Development Schemes**

It will address and align the pertinent issues of construction (structural & non-structural elements), infrastructure, repair & maintenance, transport, sanitation, research & technology transfer and land use planning. Integration of construction work, with development schemes (cover example, if any), Identify the primary agency to encourage new developments. Periodic Building assessment schedule, adherence of zoning laws, status of techno legal regime at district level, ensure proper enforcement of existing regulations and acts, process of Retrofitting of potentially weak buildings, unsafe infrastructures, coordination Mechanism to mitigation measures across departments, including RD, UD, PWD, Town planning, and Municipalities etc.

Disaster Mitigation linkages to be established with national development programmes like NREGS and other schemes should address the issues of village roads construction, embankments of river, watershed management, biomass production, plantation and soil conservation methods. Convergence with NRHM has to be established under Emergency Health Management, Mass Casualty Management and on other allied aspects.

Indira Awaas Yojana (IAY) should cover the pertinent issue of safe housing and shelters. In similar fashion, disaster mitigation initiatives to be established with SSA (for safe schools), JNNURM (for Infrastructure support) and with the other national and state level schemes.

##### **6.1.1.2 Training & Capacity Building**

A majority of the officials involved in Disaster management have been trained at the DMI, Bhopal. Such training have to be replicated as far as possible. Due to the presence of chemical industries in the Ratlam – Nagda Industrial zone, the fire department officials should be trained in dealing with chemical fires and the fire department itself should undergo capacity building to meet the demands of an unforeseen disaster.

The DDMA will be the primary agency for nominating training for all government officials involved in the planning and implementation of the mitigation strategies at the district and tehsil level. At the district level, training programs will be conducted in coordination with NGOs, and government training/research institutions. The tehsil level officials have to be involved in such programs/seminars.

In vulnerable areas, community initiatives should be taken to inform and empower the locals to be able to better respond during disasters. The Health department may organize First Aid training camps in such areas. Officials of the DDMC should also undergo such First Aid training. Most of the Home Guards are equipped to respond to disaster situations and have a training program in place for basic Relief and rescue work. They should be involved for capacity building of the concerned officials.

#### 6.1.1.3 Community Initiatives

Communities are always the first responders and hence the DDMA / Distt. Authority will ensure Community participation through initiatives like Community Based Disaster Management (CBDM) to promote local ownership, address local needs, and promote volunteerism. For the flood prone villages swimming camps may be organized to empower the locals to deal with the disaster till official help arrives.

The stampede at Hussain Tekri in January 2012 was chiefly because of lack of man power available to control the overwhelming number of devotees who visit the shrine. A volunteer program for the local community here should be constituted to help deal with and aid the devotees. A task force of such volunteers may be formed prior to the beginning of the festival. This task force may include the youth around Hussain Tekri. The administrators of the shrine are key stake holders in the smooth functioning of the festival and they should be involved in every way possible.

#### 6.1.1.4 Risk Management Funding

This section addresses the short & long term funding provisions for proposed mitigation activities, under the overall objective of risk management at district level.

Short term provisions are expected to cover the immediate loss, incurred due to disasters. Whereas long term provisions include the set up of fire stations, watershed management, planting trees along the river etc.

Short term provisions are expected to cover the immediate loss, incurred due to disasters. Whereas long term provisions include the set up of fire stations, watershed management, planting trees along the river etc.

Insurance schemes are important source of funds for restoration of private business enterprises. The Collector will coordinate with Insurance Companies to speed up settlement of insurance claims. It will help in restoration of private business enterprises. He will also coordinate with commercial banks for ensuring smooth flow of financial assistance from commercial banks for restoration of private business enterprises.

Agriculture department shall provide seeds and the required finance as loans through local banks for the resumption of agriculture activities. The district administration shall elicit the support funding of agencies like Care, CRS etc. for the resumption of agriculture and livelihood activities.

Revenue/Book Circulars contains standing instructions of the Government for distribution of ex-gratia payments to poor families, who suffer from disasters to initiate their recovery process. This assistance will be provided very promptly to the poor families by the functionaries of the Revenue Department.

Long term: Fire equipments should be purchased as required and as per new technology. For ex: multi-storeyed buildings (masks aren't available), equipments for fire extinguishing in slum areas where fire brigade cannot enter. Only 3 fire brigades are available in the district that too in Ratlam which might pose a problem in case of incidence of fire in distant places.

Eco friendly watershed interventions to deal with drought situations, check dams for mitigating soil erosion should be established.

### **6.1.2 Preparedness Plan**

This section will primarily focus on preparedness of the communities and local authorities in order to safeguard lives, protecting assets and efficiently utilize resources by taking appropriate actions in the face of any disaster. The preparedness plan will further ensure that agencies are able to respond to the potential damage zones in a prompt and coordinated manner. In most disaster situations the loss of life and property could be significantly reduced through appropriate preparedness measures and warning system.

It will be necessary that with respect to every disaster, the concerned agencies will be designated to issue the warnings. During this section, it will be ensured that the pre-disaster warning & alerts, preparedness before response and dissemination of warning, and evacuation activities have will be carried out in coordination with concern line departments.

#### **6.1.2.1 Preparedness before response**

The Preparedness prior to the response of various departments basically includes capacity building and training. The Home department through the main Police force and the associated Home Guards are always in the ready stage to respond to any occurrence of a disaster. The Health department of Ratlam district is instructed by the DDMA before the start of monsoon season to stock extra medicine for water borne diseases etc. The trauma centre in the district is situated in Ratlam city and usually caters to accident cases. The trauma centre has a good stockpile of medicines required during a disaster.

The various departments and their preparedness have been detailed in their respective SOPs for the Non Disaster stage.

### 6.1.2.2 Pre-Disaster Warning, Alerts

Flood is a minor worry for Ratlam district. The Meteorological department conveys the daily rainfall during the monsoons to the revenue department. During the summers the paucity of rain or the damage to crops is informed to the higher authorities by the various Patwaris.

Early warning mechanisms should be established to ensure that there is minimal loss of lives and properties. It is therefore necessary that with respect to every disaster a responsible officer is designated to issue the warnings. The District Disaster Management Authority will be the prime agency responsible for issuing the disaster warning at the district level through the District Emergency Operation Centre. Additionally the technical agencies authorized to issue warning will also communicate the same to the District Emergency Operation Centre and State Emergency Operation Centre for further actions.

Table 6-1: Hazard Mitigation Agencies

Serial no	Hazards	Agencies
1	Drought	Indian Meteorological Department, Revenue Department
2	Floods	Indian Meteorological Department, Irrigation Department
3	Human Epidemics	Health Department
4	Road Accidents	Police
5	Industrial and Chemical Accidents	Department of Industry, Police, State Pollution Control Board
6	Fires	Fire Brigade, Police, Forest Department
7	Stampede	Police

The mode of communication of the agencies involved to communicate the warnings will be through the media, and via the district administration. The police force may be involved in spreading the warning to all the areas of the concerned area.

For any information received on likelihood of disasters such as Floods, Forest Fire, Epidemics (Human/Animal), Industrial and Chemical, DDMA carry out the following activities.

- Activate the DEOC
- Based on early warning received, prepare initial information report with estimation of likely severity and scale of disaster.
- The Emergency Task Force will be asked to conduct a review of the preparedness level of the tehsils likely to be affected by the disaster, by calling a meeting of Tehsil DMCs (Disaster Management Committees).
- Prepare a team for deployment to assess damage and need.
- Inform respective departments to activate respective SOPs
- Inform the recognized state and national organizations.
- Provide appropriate warning to general public.
- Coordinate with district authorities on dissemination of warning to general public and if necessary, carry out evacuation.
- Request Home Department to be on standby for rescue and relief operations.
- If required, declare de-warning



#### 6.1.2.3 Evacuation preparedness

- It is important to understand the nature of threat and the procedures to be adopted and must be incorporated as part of the evacuation plan in the Gram Panchayat, Block and Urban areas evacuation plans.
- Safe routes and safe shelters need to be marked for each Gram Panchayat, Block and Urban areas.
- Safe routes and safe shelters needs to be marked in relation to specific hazards, as in case of floods shelters at higher elevations are a must. Such shelters areas have been marked; however there is a need to understand if they are in the flood prone area themselves or not.
- All agencies involved in evacuation must have a common understanding of their roles and responsibilities in order to avoid confusion and panic in affected community.
- Different situations demand different priorities and hence the responsibility for ordering evacuation is assigned to different agencies.
- All evacuations will be ordered only by the Designated Officer appointed by DDMA/Deputy Commissioner.
- For appropriate security, law and order, evacuation should be undertaken with assistance from home department, community leaders/Village Panchayat Disaster Management Committee and Task Forces responsible for evacuation.
- All evacuations should be reported to Collector or DEOC along with details of evacuees and facilities available at the safe shelters and emergent needs (if any)

The evacuation areas and the routes are marked in the enclosed maps. The evacuation routes may be different for different disasters. They have been marked in the map using a colour coded scheme to show the respective evacuation routes for particular disasters.

#### 6.1.2.4 Organizing mock drills

Mock drill is an integral part of the disaster management plan, as it is a preparedness drill to keep the community alert, activate DM Teams across the district and review & modification of DM plan. The mock drill carried out every 3 months by the IOC depot at Bangrod is an excellent example for other hazardous industrial units to follow. These may be conducted once every 6 months and all stake holders involved should be informed beforehand.

The Home Guards also conduct a yearly Mock drill at the Dholawad dam before the monsoons. Such Mock drills should also be under taken in the flood prone areas such that the locals are well aware of the evacuation areas and routes. The DDMA themselves should also hold a mock drill and a mock activation of the DEOC should happen. This should ideally take place before the monsoons as the DEOC usually is required in the monsoons due to the minor but recurrent flood situations arising in Ratlam.

### 6.1.3 Response Plan

The District Emergency operation Centre (DEOC) is the hub of all the activities related with disaster response in the district. The primary function of the DEOC is to implement the District Disaster Management Plan that includes coordination, data collection, operation management,

record keeping, public information and resource management. For the effective management of resources, disaster supplies and other response activities, focal points or Centres will have to be established. These points will have to be well networked starting from the State to the District and finally leading to the disaster site.

Emergency Operations Centres at the State (SEOC) and the District (DEOC) and Incident Command Post (ICP) at the disaster site are the designated focal points that will coordinate overall activities and the flow of relief supplies from the State. The District Emergency Operations Centre (DEOC) will be maintained and run round the clock, which will expand to undertake and coordinate activities during a disaster. Once a warning or a First Information Report is received, the DEOC will become fully operational. During a disaster situation, the DEOC will be under direct command of the District Collector or the designated person by him as the Chief of Operations.

During non disaster times, the District Emergency Operations Centre stays operational throughout the year in preparedness mode, working during day time in order to take care of the extended preparedness activities of data management, staff awareness and training, which is essential for the smooth functioning of the DEOC during crisis situations and handling of emergency Toll Free Contact Lines . During an emergency, the DEOC will get upgraded and will have all emergency stakeholders manning it round the clock.

#### 6.1.3.1 Aim of DEOC

The aim of the DEOC will be to provide centralized direction and control of all the following functions:

- Emergency operations
- Communications and warning, which includes handling of 24 hrs emergency toll free numbers.
- Centralized district level disaster resource database
- Requesting additional resources during the disaster phase from neighboring districts of the affected area
- Coordinating support and aid from state government and other relief agencies
- Issuing emergency information and instructions specific to departments, consolidation, analysis, and dissemination of Damage Assessment data and preparation of consolidated reports

#### 6.1.3.2 Organizational Setup of DEOC

The DEOC will comprise the following:

- DEOC In-charge

During non disaster times, the DEOC will work under the supervision of the official not below the rank of Additional District Magistrate and as designated by the DDMA.

In a disaster situation, the DEOC will come under direct control of the Deputy Commissioner or the person designated by him as the Chief of Operations. He is the primary role player in the DEOC, and is responsible for the overall coordination and decision making. He will also report

the status of the DEOC operations and the disaster situation to the SEC/SEOC and Divisional Commissioner.

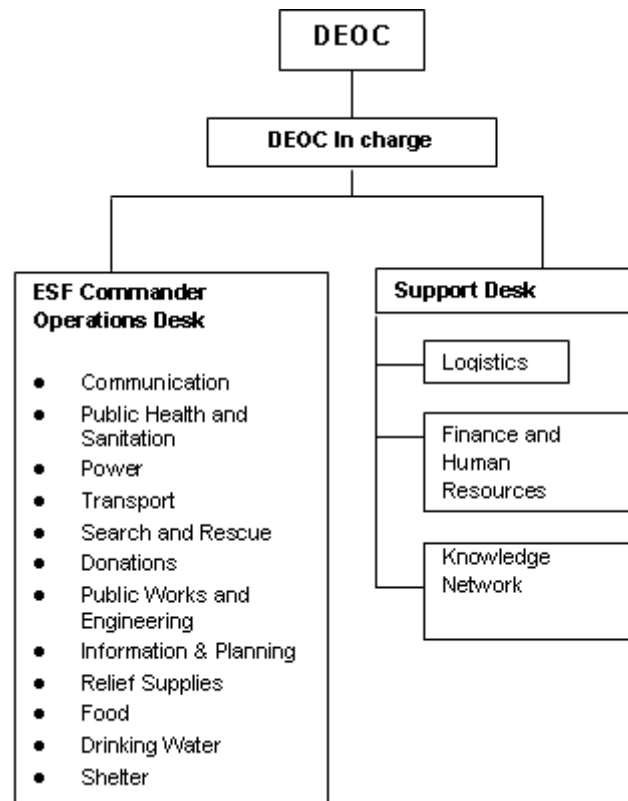


Figure 2: Institutional arrangement of the DEOC

#### 6.1.3.3 Operations Section

The Operations Section will ensure smooth and planned functioning of the DEOC. It will fulfil the following functions:

- Handle requests for emergency personnel, equipment and other resources
- Designate responsibilities and duties for management of the DEOC
- Manage storage, handling and set-up of incoming equipment and personnel
- Ensure medical care, feeding and housing for DEOC personnel
- Maintain documentation of resource inventories, allocation and availability.
- Manage finances for DEOC operations

#### 6.1.3.4 Representatives in DEOC

Representatives of District Departments of the following departments will be present at the DEOC to take part in the operations and facilitate quick coordination between the DEOC command and their parent departments towards ensuring quick information availability and decision making:

- Department of Public Works Department
- Department of Irrigation and Public Health

- Department of Town and Country Planning
- Department of Transport
- Department of Power
- Department of Home
- Department of Revenue
- Department of Food, civil supplies and consumer affairs
- Department of Rural development
- Department of Health
- Department of Agriculture
- Department of Social Justice and Empowerment
- Department of Urban Development
- Department of Information and Public Relations
- Department of Finance
- Department of Industries
- BSNL
- Red Cross Society
- Media
- Non Governmental Organisations

Emergency Support Functions (ESFs) have been established, to support the DEOC functions. Each ESF is headed by a lead department for coordinating the delivery of goods and services to the disaster area, and it is supported by various departments and agencies.

During a disaster, the ESFs will be an integral part to carry out response activities. After a major disaster or emergency requiring district response, primary agencies, when directed by the DEOC will take actions to identify requirements and mobilize and deploy resources to the affected area and assist the DEOC in its response actions under fourteen ESFs.

#### 6.1.3.5 Location of DEOC

It is proposed that the DEOC be established with the Department of Home since the Civil Defence and Police for Disaster Preparedness is a dedicated department suited to the logistical management of an EOC. The DEOC will be set up with the entire infrastructure as per the given layout.

- The Chief of operations will initiate the activation of emergency services of the DEOC as established.
- Activation of the DEOC should immediately follow the declaration of a District Level Emergency.
- The Individuals staffing the DEOC are responsible for establishing communications with their respective departments through radio and telephone etc.
- The DEOC Chief or designee will determine what staff he/she deems necessary to effectively operate the DEOC apart from the prescribed staff.
- The designated officers of the Police will provide security at the DEOC

#### 6.1.3.6 Back-up SEOC

It is recommended that an alternate DEOC must also be established. It is suggested to setup the backup DEOC within the Ratlam Deputy Commissioner's office building.

### 6.1.3.7 Equipment Requirements

The DEOC will need to operate round the clock, and may itself be subjected to adverse conditions due to the impact of disaster. It needs to be equipped with the following hardware and software for its efficient functioning:

- Resource Inventories and databank of maps and plans at block and district level on a GIS platform for quick retrieval and analysis.
- State-of-art communication equipment for staying linked with the SEOC, Divisional Commissioner's office, district headquarters of line departments, district collectors of adjoining districts, field teams/Incident Command posts, media, and national and international support agencies. These includes ham radio, satellite phones, mobile phones, hotline connections with state EOC, Printer-Scanner-Fax (Multi Utility Machine) and divisional commissioner and Video Conference Unit (NIC Video Conferencing Network Compatible).
- A mobile command vehicle with communication equipment.
- Workstations and communication lines for all representatives of the line ministries.
- Radios and television sets tuned to different news channels and coverage.
- Projection equipment and screens.
- Emergency power backup.
- Stock of drinking water, food, medicines, bedding and essential items required for personnel manning the DEOC for long time durations.

### 6.1.3.8 Disaster Emergency Response Force

The District is expected to create response capabilities from its existing resources by equipping and training at least one battalion equivalent force for effective management of disasters and necessary training arrangement aligned with disaster management skills in consultation with the National Disaster Response Force. The District Commandants, Home Guards will be in charge of the force at the district level. The Home Guards function in an ever ready state to deal with any disaster.

### 6.1.3.9 Crisis management direction & coordination

The Crisis Management group comprises of the members of the DDMA along with the specific department which might be concerned with the disaster. A typical flow of operational commands in the district is shown in the following flowchart:

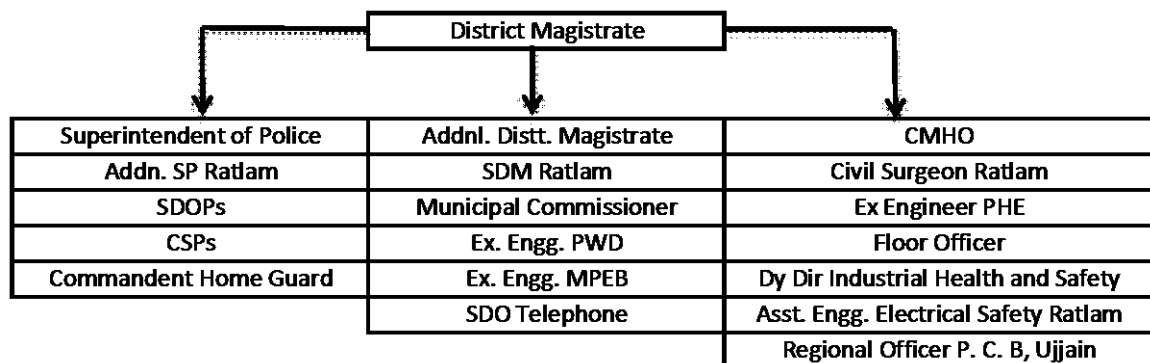


Figure 3: Crisis Management Group

#### 6.1.3.10 Incident Command System (ICS)

A traditional command structure exists in the administrative hierarchy which manages disasters in India. It has been planned to strengthen and professionalize the same by drawing upon the principles of the ICS with suitable modifications. The ICS is essentially a management system to organize various emergency functions in a standardized manner while responding to any disaster. It will provide for specialist incident management teams with an incident commander and officers trained in different aspects of incident management, such as logistics, operations, etc.

All 5 major command functions in Incident command system are to be followed:

- Incident command: The Incident Commander is responsible for all incident activity. Although other functions may be left unfilled, there will always be an Incident Commander.
- Planning section: It is responsible for the collection, evaluation, and display of incident information, maintaining status of resources, and preparing the Incident Action Plan and incident related documentation.
- Operations section: Develops tactical organization and directs all the resources to carry out the Incident Action Plan.
- Logistics section: It provides resources and all other services needed to support the organization.
- Finance/ Admin section: Monitors costs related to the incident, provides accounting, procurement, time recording, cost analysis, and overall fiscal guidance.

#### 6.1.3.11 Rapid damage assessment & reporting

Rapid Damage Assessment Team to be set up immediately after disaster. It should include Z.P. members, agricultural officer to assess the crop damage, executive engineer of PWD to assess the damaged houses, S.P to maintain the law and order situation, NGOs and volunteer organizations, Tahsildar, etc.

This team may immediately assess the damage undergone due to disaster and report it to the concerned department to get the immediate relief material from the government and also the foreign aid. Damage assessment procedures are required to avoid litigations and delays in gratuitous relief and compensation, including insurance.

The current norms for rapid damage assessment in place are for floods. The revenue department along with the agriculture department is responsible to quantify the flood affected areas. The agriculture department is interested in the agricultural area affected while the revenue department has a stake in the damage incurred in monetary terms.

Table 6-2: Initial Assessment Report

Table: Initial Assessment Report

INITIAL ASSESSMENT REPORT											
1	NATURE OF DISASTER:										
2	DATE OF OCCURRENCE:						TIME:				
3	DAMAGE AND LOSS ESTIMATES										
	Name of the Site (Village, Block, Tehsil)	Total Population Affected	People missing	People injured	Severity		Immediate needs	Houses Damaged			Action taken
					H	L		L	M	H	
4	INFRASTRUCTURE DAMAGE										
	Name of the Site (Village, Block, Tehsil)	Housing	Agriculture	Animals	Water source	Road and bridge	Power	Communication	Govt. Building	Others	
5	NEED ESTIMATES										
	Name of the Site (Village, Block Tehsil)	Medical Needs	Population requiring shelter	Clothes	Food	Water	Sanitation	Any Other			
6	ANY OTHER VITAL INFORMATION										
7	SPECIFY IMMEDIATE NEEDS: (With quantity)										
	Food										
	First aid										
	Machinery										
8	Possible Secondary Affects:										
9	NAME THE CONTACT PERSON:										
10	AGENCY/ADDRESS: TELEPHONE NUMBER										
	DATE:					SIGNATURE:					
	FOR OFFICE PURPOSE:					REPORT NO.:					
	ACTION TAKEN:										

## 6.1.3.12 District Search &amp; Rescue Team

Dedicated teams to be formed to lead the search and rescue operations. Team members have to be periodically trained/retrained on the elements of collapsed structure, confined space search & rescue, and rope rescue etc.

#### 6.1.3.13 Medical response

The specialized medical care shall be required to help the affected population. The preventive medication may have to be taken to prevent the outbreak of diseases.

Further, at the district level, dedicated medical teams will be activated at the time of emergency, which will consist of the doctors, nurses, pathologists, etc. Mobile Medical Vans, equipped with emergency requirements, also to be identified.

Members of the medical emergency team to be well trained retrained on triage, advance life support, well versed with golden hour-platinum minutes concept, quick steps of first aid response etc.

#### 6.1.3.14 Logistic arrangements

Details of the good working condition vehicles, allied equipments and its maintenance schedule, to be displayed on line, on board, for reference, in case of any type of emergency. The RTO is the responsible department for such vehicular lists. Such vehicles would be in addition to the existing logistical machinery available with the home department and revenue department.

#### 6.1.3.15 Communications

Since the DEOC is hosted at the Land Records office of the revenue department, the Land records officer is the person in charge for all communications with the concerned officials. The data collection, record keeping, assistance in locating missing persons, information Centre, maintaining IN-message and OUT-message register is also the responsibility of his office. All records concerning the Disaster related activities in the district are maintained in this office.

The DEOC is equipped with telephone, fax, PC, Internet connectivity, Mobiles. Wireless is available in the Police control room and is accessible to the Land record official during disaster time.

#### 6.1.3.16 Temporary shelter management

Temporary Shelter setup is necessary for treating the disaster-affected populace. The Health, Revenue and the PWD department can coordinate to set up temporary shelters where none are available. Temporary shelters are a necessity in case of floods. Such shelters have been identified and have been listed below.

Table 6-3: Temporary shelter management<sup>27</sup>

S.No.	Tehsil	Village	Place	Arrangement of food / free kitchen
1	Alot	Bhojakhedi	School Building	Yes
2		Khajurisolanki	School Building	Yes
3		Gulbalod	School Building	Yes

<sup>27</sup> Source: Ratlam District Disaster Management Authority, District level Disaster Management Work Plan (Flood and Excess Rainfall), Ratlam, 2007.



4		Shishakhedi	Panchayat Building	No
5	Bajna	Jhrniya	School Building	Yes
6		Kanglikhora	School Building	Yes
7		Lukkipada	School Building	Yes
8		Chandragad	School Building	Yes
9	Piploda	Hatnara	Patidar Dharmshala	Yes
10		Machun	Panchayat Building	No
11		Sukheda	Panchayat Building	No
12		Mavta	School Building	Yes
13	Jaora	Uni	School Building	Yes
14	Sailana	Sarvan	Panchayat Building	No

#### 6.1.13.17 Water and Sanitation (WATSAN)

WATSAN is also a very important element, which needs to be addressed on the top priority, as it is directly related to the basic needs, especially in case of the affected population. The Required provisions are to be made by the respective Municipal Commissioners in case of the disaster affected area is in an urban setting and by the respective Tehsildars in case it is a rural setting. The supply of supply of pure drinking water and other needs of water are to be met in connivance with the respective water supply stakeholders. Sanitation requirements have to be dealt with the Municipalities for urban areas. This also includes the maintenance of hygiene, in & around emergency shelters, periodic monitoring and inspection of storm water drains, nallah, adherence of the cleaning schedule of the camps and other places. Nallahs and drainage have to be cleaned before the advent of the monsoon to avoid undue urban flooding

#### 6.1.13.18 Law & order

Maintaining law & order is major responsibility of Police, apart from it other stakeholders are also involved in it. This section will throws light on the coordination amongst the key functionaries and the necessary arrangements to be made at the district level, for maintaining the law & order.

If a disaster situation arises following Police personnel will be informed:

- Police Control Room, Police Headquarters Bhopal
- STS Head, Police Headquarters Bhopal
- STF Head, Police Headquarters Bhopal
- I.G Law and Order, Police Headquarters Bhopal
- G, Ujjain Zone, Ujjain
- D.I.G, Ratlam Range, Ratlam

Apart from these superior functionaries, within the district after receiving the FIR, the SP will be informed, who in turn will inform the Collector about the situation. The Commandant home guards will be informed through the internal channels of the Police department

The Police Forces are one of the key responders to disasters. The police force should be trained in disaster management skills so that they may be upgraded to acquire multi-hazard rescue capability.

#### 6.1.3.19 Public grievances/missing persons search/media management

All public grievances will be handled by the DEOC through telephone. A special telephone number will be made public at the time of the disaster for the common public.

Media is an important stakeholder in all the stages of a disaster. Bringing the media on board from the initial stage will help in conveying accurate and official information to the public. This will help in arresting the spread of rumours.

#### 6.1.3.20 Animal care

Animals both domestic as well as wild are exposed to the effects of natural and manmade disasters. It is necessary to devise appropriate measures to protect animals and find means to shelter and feed them during disasters and their aftermath, through a community effort, to the extent possible. It is pertinent to note that many communities have shown compassion to animals during disasters, and these efforts need to be formalized in the preparedness plans including Carcass Disposal Management Plan by the Departments of Animal Husbandry at the State level.

The animal husbandry departments with necessary equipments in case of cattle death are there in the affected areas for the disposal of carcass with a view to restoration of public life and result oriented work. Make arrangements to treat the injured cattle. To vaccinate the animals against various diseases. Arrangement for pets and cattle should be made separately.

#### 6.1.3.21 Management of deceased

The Health and safety department of the district will constitute a carcass disposal team. There must be strict protocols in place regarding the handling of the dead bodies. Usually the dead bodies are held in storage in the morgue, post an autopsy, till the body is claimed by someone. In case no one comes forward after a fixed number of days, then such bodies may be incinerated in the city incinerator. In case an autopsy cannot be performed or if it is not possible to store the body, then it may be incinerated. The clothes and any other belongings found on the body must be stored for a fixed period of time.

The Carcasses Disposal team is responsible for the clearing of carcasses after the disaster. The team should put in all efforts to check spread of diseases by disposing off the carcasses at the earliest and in the right manner. The health department will immediately start the procedure for post mortem of the dead persons as per the rules. Disposal of dead bodies is to be carried to prevent the outbreak of epidemics. Arrangement should be made to issue death certificates of the deceased to the relatives.

#### 6.1.3.22 Civil Defence and Home Guards

The Civil Defence and the Home Guards will be deployed for emergency response, community preparedness and public awareness. At district level, a culture of voluntary reporting to duty stations in the event of any disasters will be promoted.

Home Guard and Civil Defence volunteers will be enrolled for voluntary services in accordance with the provisions of the Civil Defence Act. The services of HMCD volunteers should be utilized during response to natural disasters.

National Cadet Corps (NCC), National Service Scheme (NSS) and Nehru Yuva Kendra Sangathan (NYKS), Potential of these youth based organisations will be optimised to support all community based initiatives and DM training should be included in their programmes. A culture of voluntary reporting to duty stations in the event of any disasters will be promoted.

#### 6.1.3.23 Role of Private Security

As per the recent private security bill introduced by the State Govt, the private guards and security agencies have to play a very vital role in disaster management, and especially in the disaster response stage. Under the initiatives of the Community Policing the Security guards may be enumerated and taken on board to deal with disasters arising in urban areas.

#### 6.1.3.24 NGOs & Voluntary organizations

Policing, as far as possible and practicable, by the community itself which means that any or all the functions may be performed by the community to the extent they can and the remaining functions to be performed by the police with the assistance and involvement of the community to the maximum extent possible.

The concept of Community Policing started from village Kotwal. Where a person from the community performs the functions of the police in the village. Gradually and unfortunately the concept of Village Kotwal had been undergoing changes where its community character seems to be dwindling. Home-guards were another form of community policing. Even this has now become more a part of police force than of the community.

Civil defence / emergency relief plan developed primarily on involvements and participation of the people in performing the safety, security, relief, and crisis management functions of the police during emergency. But now the idea needs a broader vision, more and regular involvement of Citizens and Police itself.

#### Role of Non-Governmental Organisations

The Non-governmental Organisations (NGOs) are the most effective means of achieving an efficient communication link between the disaster management agencies and the affected community. There are different types of NGOs working at the advocacy as well as the grass roots levels. In typical disaster situations, they could be of help in preparedness, relief and rescue, rehabilitation and reconstruction, and also in monitoring and feedback.

- Ensuring communication links both within the community and with the administration.
- Controlling rumors and panic behavior and undertaking confidence building activities.
- Organizing local work teams for immediate rescue, and relief e.g. cooked food, first aid, and assistance in law and order.
- Assisting the handicapped that need special help.
- Guarding major installations and evacuated properties till the administration takes over.

### NGOs with Dedicated field Operations and Resource Backup

These are large organizations, such as the International Red Cross Society. They have specific areas in which they carry out field operations. They have access to a large resource base, and have the capability to extend material, financial as well as technical support to disaster-affected sites. In emergencies, their role is laudable as they garner support and resources from all over the world and come to the rescue of the affected population almost immediately.

### Interest Group/Voluntary Groups

These are also NGOs, which are multi-purpose in nature having varied interests, such as the Rotary Club. However, such interest groups are very active, and have come forward to help disaster victims in the times of need. They could play a major role in resource mobilization for relief aid and rehabilitation purpose.

The NSS and NCC students' help may be used during disaster for relief and rescue operation of the people. In colleges, such groups are formed and trained every year in disaster management. So, proper coordination should be developed with the college authorities to get timely help from them.

### Association of Local Occupation groups

Such associations are formed on the basis of common occupational backgrounds, and could include groups such as doctors' association, traders' association and Army wives' associations etc. Such groups, just like other interest groups, could play a major role in resource mobilization, and provision of specialized services to the victims in any emergency situation.

Table 6-4: Non Governmental Organisations

Serial No.	Name of NGOs, CSOs
1	Red Cross Society, Ratlam
2	Lions Club Society, Ratlam
3	Rotary Club, Ratlam

#### 6.1.3.25 Relief management planning

Relief management should be done carefully so that all the victims will be benefited from the limited resources and manpower. In this regard the following activities must be assigned to related desks while serving the people in disaster hit areas. Though it is clearly mentioned in the ICS, still the specific functions of the various desks are given below:

#### Functions of Infrastructure Desk

- Shelters for affected people with sanitation facilities
- Temporary structure for storage
- Kitchens
- Medical facilities

- Education facility
- Recreational facility
- Postal facility
- Temporary repairs to damaged infrastructure

#### Functions of Logistics Desk

- Issue Village relief tickets to the affected families
- Organize distribution of Relief Supplies
- Receive, store, secure, relief materials for relief camps and affected villages
- Co-ordinate supplies distributed directly by NGOs and other organizations including private donors
- Ensure proper maintenance of vehicles and equipment
- Ensure optimum utilization of resources such as fuel, food, and other relief materials  
Mobilize and co-ordinate the work of the volunteers ensuring community participation
- Organize facilities for staff and volunteers

#### Functions of Health Desk

- Disposal of dead bodies
- Disposal of carcasses
- Disposal of waste and waste water
- Treatment of the injured and the sick
- Preventive medicine and anti-epidemic actions
- Inspection of food, water supplies, sanitation and disposal of waste

#### Functions of Communication and Information Management Desk

- Data collection
- Record keeping
- Assistance in locating missing persons
- Information centre
- Organization of information for Site Operations Centre and on specific Demands
- Maintaining In-Message and Out-Message Register
- Sending all Out-Messages on behalf of Camp Officer of the Relief Camp

#### Functions of Operation Desk

- Salvage operations
- Feeding Centres for two weeks to be set-up at the earliest

#### Co-ordination with

- Site Operations Centre
- District Control Room
- District administration staff in the area

- NGOs
- Private donors

### Manage

- Dispatch of all information (as per the formats) and subsequent demands to DCR/Site Operations Centre
- Organize shifts for staff and Supervision of the same

### General

- Maintenance of records (date of joining, period of service, leave record, overtime, etc) for all the persons deployed for relief work at operations Centre.
- Get sanction for expenses for reimbursement from the DDM through Site Operations Centre.

### Functions of Services Desk

- Relief supplies to families or to households including water, clothing, and food.
- Arrangements for dry rations and family kits for cooking within two weeks of the disaster.
- Promotive services for mental health.
- Restoration of family (including locating missing children, relatives, friends.)
- Assistance in locating missing cattle.
- Assisting students to continue with their studies.
- Services for the orphans.
- Assisting individuals with special needs (pregnant women, infants, handicapped, old etc).
- Counselling services.

### Functions of Resources Desk

#### Maintenance of

- Books of account for all cash receipts
- Books of account for all cash disbursements
- Stock register for all relief materials
- Issue register for all relief materials
- Dead stock register for all non-consumables (inventory)
- Record of all personnel payment on TA&DA, daily wages and other incidentals made to relief personnel.
- Records of all transfer of funds (as advances) to other government departments (suspense account)
- Records of all cash vouchers and credit vouchers.
- Records of all gratuitous relief.

- Records of all compensation paid.
- Preparation of records relating to finance and accounts as per the formats for dispatch to Emergency Operations Centre.

### General

- All cash donations must be deposited with District Control Room and a receipt for the same should be obtained.
- All material donations must be entered in stock register and made available for inspection to officer from the District Control Room or Site Operations Centre.
- Maintain record of all issue of cash vouchers and credit vouchers for petrol and diesel.

#### 6.1.3.26 Media Management

All levels of government and the news media have a responsibility to provide emergency information to the public that is accurate, timely and consistent. Just when public and media demands for information are at their highest following an disaster, the probability is that most media in the area will not be operational due to power failures. Nevertheless, media will be present to gather information for later local dissemination, and for media outside the disaster area. The media represent the major resource to inform the public about the disaster situation, and some Local Cable TV Network and radio broadcast media have long been oriented to their role. It then follows that the utilization of the media for the benefit of ongoing relief, rehabilitation and restoration activities is essential, and a high level of priority should be set to restore an adequate radio broadcast capability.

### Scope

This Emergency Function in this respect is primarily concerned with creating an effective means of informing the public in the disaster operational area concerning efforts and actions expected of them to reduce risks to life and safety. Secondly, the presentation of a sole point of release for Government information to the media in general is required to prevent confusion on the part of the public, and to make best use of public information/media affairs staff. The emergency functions include, the determination of surviving broadcast media, and provision of assistance to district authority by delivering their emergency announcements and pre- arranged State Government's announcements.

Government media relations activities would likely be conducted on behalf of the District Level Coordination Committee (Public Information Cell). In a major disaster, a Public Information Centre will be established as an integral part of the District Coordination Committee (Public Information Cell) and perform public information and media relations activities and assist in arrangement of tours of the operational Area by the government officials and media persons.

### Immediate Tasks

- Assist in the determination of damage to media public information capabilities;

- Pass prepared and updated public information announcements to the operational media from the District Emergency Operation Centre (DEOC).

#### Tasks during sustained Phase

- Establish the requisite level of emergency public information capabilities; establish the necessary media relations capabilities for release of government information to the general public through the national/international media.
- Control media personnel access through a system of accreditation and access control, in conjunction with the Law and Order function; as capabilities are available, assist media personnel to prepare and send their material from the Operational Area; arrange for official government and media tours of the Operational Area subject to availability of resources; assist district/sub-divisional authorities with their own requirements when requested.

#### Responsibilities

- To provide and collect reliable information on the status of the disaster and disaster victims for effective coordination of relief work at district level
- Not to intrude on the privacy of individuals and families while collecting information
- Coordinate with EOC's at the airport and railways for required information for national relief workers
- Coordinate with all TV and radio networks to send news flashes for specific needs.
- Respect the socio-cultural and emotional state of the disaster.

#### 6.1.3.27 Fire Services

In a larger context of urbanization and industrialization, calamities play a match box role of igniting more dangerous and uncontrollable disasters like fires. During Disaster a large number of buildings that could resist seismic forces can be largely damaged due to post-disaster fires. The 'fire service' provides coverage to only 30 per cent of the community, which is grossly inadequate.

- The Regional Fire Office is located at Ratlam.
- The Regional Fire Officer and the Divisional Fire Officer are responsible to fight and control the fire, leakage, spillage, etc., with proper instructions and guidance.
- Rush to the site of emergency immediate after the receipt of information from the site Controller or on emergency call.
- Establish safe routes in advance for rushing to site and ensure best response time to minimize damage.
- Workout advance plan for requirement of resources like fire tenders, trained personnel, protective equipment and the ways to meet extra requirements if any.
- Assist the onsite emergency personnel in fighting emergency, rescuing injured/affected people trapped in dangerous zones and participate in salvage operation.
- Assist medical/police personnel in imparting first aid.



- Ensure availability of adequate water supply through Water resource and supply Department authorities.

Maintain constant contact and communicate the message to the DDMC with regard to the control measures undertaken, salvage operation, rescue methods, etc. And any other information required by the DDMC on continuous basis. Take any other appropriate actions as deemed necessary in control of emergency.

#### **6.1.4 Recovery and Reconstruction Plan**

As the emergency is brought under control, the affected population is capable of undertaking a growing number of activities aimed at restoring their lives and the infrastructure that supports them. There is no distinct point at which immediate relief changes into recovery and then into long-term sustainable development. There will be many opportunities during the recovery period to enhance prevention and increase preparedness, thus reducing vulnerability. Ideally, there should be a smooth transition from recovery to on-going development.

Recovery activities continue until all systems return to normal or better. Recovery measures, both short and long term, include returning vital life support systems to minimum operating standards; temporary housing; public information; health and safety education; reconstruction; counselling programs; and economic impact studies. Information resources and services include data collection related to rebuilding, and documentation of lessons learned.

Short-term recovery will return the vital life support systems to minimum operating standards while long term rehabilitation will continue till complete redevelopment of the area takes place.

Rehabilitation and reconstruction comes under recovery phase immediately after relief and rescue operation of the disaster. This post disaster phase continues until the life of the affected people comes to normal. This phase mainly covers damage assessment, disposal of debris, disbursement of assistance for houses, formulation of assistance packages, monitoring and review, cases of non-starters, rejected cases, non-occupancy of houses, relocation, town planning and development plans, awareness and capacity building, housing insurance, grievance redressed and social rehabilitation etc.

##### **6.1.4.1 Post Disaster Reconstruction and Rehabilitation**

Post disaster reconstruction and rehabilitation should pay attention to the following activities for speedy recovery in disaster hit areas. The contribution of both government as well as affected people is significant to deal with all the issues properly.

- Damage assessment
- Disposal of debris
- Disbursement of assistance for houses
- Formulation of assistance packages
- Monitoring and review
- Cases of non-starters, rejected cases, non-occupancy of houses
- Relocation

- Town planning and development plans
- Reconstruction as Housing Replacement Policy
- Awareness and capacity building
- Housing insurance
- Address Grievance

### **6.1.5 Restoration of basic infrastructure**

Reconstruction plans and designing of houses need to be participatory process involving the government, affected community, NGO's and the corporate sector. After the planning process is over, whole owner driven construction is a preferred option, participation of the NGOs and corporate sector will be encouraged. Reconstruction programmes will be within the confines and the qualitative specification lay down by the government. Essential services, social infrastructure and intermediate shelters/camps will be established in the shortest possible time. For permanent reconstruction, ideally, the work including the construction of houses must be completed within two to three years. Central Ministries/Departments concerned and the State govt. should create dedicated project teams to speed up the reconstruction process.

Houses should be reconstructed in the disaster hit areas according to the following instructions:

- Owner Driven Reconstruction
- Public Private Partnership Program (PPPP)
- Under the PPPP the houses are reconstructed by the NGOs for the beneficiaries to be registered in the joint names of the husband and wife.
- All the houses should be insured.
- Owner Driven Reconstruction
- Financial, technical and material assistance provided by the government.
- The designs for seismic reconstruction of houses provided by the government.
- The material assistance provided through material banks at subsidized rates.
- Design of 20 model houses provided to the public to choose from with an option to have one's own design.

### **6.1.6 Reconstruction of damaged buildings/social infrastructure**

- Set up an independent project for recovery and rehabilitation. It involves a huge amount of work, which cannot be undertaken in a routine administrative course.
- Announce a recovery and rehabilitation program, based on the assessment of damages.
- Restore all the civic services and critical infrastructure first. Ensure that electricity and water supply are restored, and phones are working. Repair roads and bridges as soon as possible. Check that all the critical irrigation structures in the district are safe and do not threaten flooding.
- Open all the schools as soon as possible. Resumption of schools is very helpful in restoring normalcy.
- Arrange financial assistance and credit to small business, traders, artisans, service-providers, and farmers so that they can resume their agricultural operations.

- Implement labor-intensive schemes, which generate employment.
- Prepare a reconstruction program, which includes components of loans and subsidy.
- Insist upon the inclusion of earthquake-resistant features in Construction.
- Appoint engineers at the local level to supervise the reconstruction program. Train them in earthquake engineering.
- Set up a program for the dissemination of earthquake-resistant technology among people through building Centres, and popular media.
- Develop financial incentives for seismic strengthening of houses.
- A better disaster management with minimum vulnerability is possible only by means of preparedness and mitigation measures. Maximum the disaster preparedness, minimum the vulnerability. Neither a disaster can be prevented nor diverted to any other place. The only possibility is to minimize the effect.

### **6.1.7 Restoration of livelihoods**

Restoration of livelihoods in post disaster phase will be taken care of by the-

- NGO's, Forest department (specifically in tribal areas), Agriculture department by providing them with various incentives in form of free seeds and fertilizers. The relief fund can also be used constructively so that the lives of people are back to normal as soon as possible by floating various schemes, offering less interest on loans, etc.
- Assist artisans and small business owners with cheap credit and trade implements so that they can resume their livelihood.
- Women's Livelihood Restoration Project should be started.
- As far we know flood is a raging disaster in the district it is recommended that there should be a provision of providing financial aid to the fishermen and people living in the vulnerable areas.
- Continue aid and assistance through food supply and drinking water in those areas, where the people are still restricted by flooding.
- Agriculture farmers should be advised alternating cropping pattern/flood resistance crops.
- Drought resistance short duration paddy seeds are made available to farmers.
- To improve people's livelihoods, Ensure Rural development schemes implemented in the State incorporate disaster management

### **6.1.8 Psycho-social interventions**

Disasters cause tremendous mental trauma to the survivors. Psycho-social support and mental health services should be made available immediately in the aftermath of disaster so as to reduce the stress and trauma of the affected community and facilitate speedy recovery. The following measures shall be undertaken by concerned department:

- Rapid needs assessment of psycho-social support shall be carried out by the Nodal Officer/Health Department.

- Trained man power for psycho-social and mental health services shall be mobilized and deputed for psycho-social first aid and transfer of critically ill persons to referral hospitals.
- Psycho-social first aid shall be given to the affected community/ population by the trained community level workers and relief and rescue workers.
- Psycho-social first aid givers shall be sensitized to local, cultural, traditional and ethical values and practices.
- Psycho-social support and mental health Services shall be arranged in relief camps set-up in the post disaster phase.
- Where large number of disaster victims have to be provided psychosocial support a referral system for long term treatment shall be followed.
- The services of NGOs and CBOs may be requisitioned for providing psycho-social support and mental health services to the survivors of his disasters
- Community practices such as mass prayers; religious discourse etc. should be organized for preventive and promotional mental health services.

## **6.2 Cross cutting elements**

### **6.2.1 Community Based Disaster Management**

Communities are always the first responders and hence the initiatives pertaining to Community participation, promote local ownership, address local needs, and promote volunteerism, will be captured. The district level plan will be prepared, by incorporating the information, needs and local vulnerability, keeping in view the community participation at the sub district level, so, the recommendation of Block and village level committees have already given to the DDMA.

#### **6.2.1.1 Needs of the Special vulnerability Groups**

Special needs of highly vulnerable groups including differently able persons, aged, children and women, will be taken care of, while addressing the preparedness and relief requirements of the disaster victims. A specific strategy for addressing the risk reduction needs of these vulnerable groups will be developed by every line department in the district. These include:

- Disabled people
- Artificial limbs fitted to affected persons.
- Modern wheelchairs, supportive devices provided.
- Children
- Orphaned children are fostered.
- Day centres set up
- Orphanages established.
- Child help lines established.
- Paraplegics
- Pension scheme introduced for paraplegics.
- Physiotherapy under continuous supervision of doctors.
- Old People

- Aged persons given pensions.
- Old Age Homes established.
- Women
- Pension sanctioned.
- Women's Livelihood Restoration Project started.
- Self-employment Schemes for Women.

### **6.2.2 Addressing climate induced anthropogenic issues**

Climate change has resulted in the increase in frequency and intensity of many natural disasters and induced anthropogenic effects and hence priority will be given to promote understanding of climate change adaptation strategies, energy efficiency and natural conservation for the mitigation. Ratlam district has perfect fit of culture and climate reflected in agricultural cycle. Already a drought prone area, the Ratlam district suffers from water scarcity from January to June every year. Global climate change seems to have caught up with this forgotten land as the dry spell seems to grow longer and more intense every year.

The condition of Drought and Frost mainly occurs due to the fickle change in Monsoon pattern this is also called climate shift and this mainly causes the maturity and production of agricultural crops we can take the recent example of frost and drought in Ratlam.

#### Nodal Agencies:

Indian Institute of Forest Management  
Nehru Nagar,  
Bhopal - 462003, Madhya Pradesh,  
India  
Phone: 755-2775716, 2773799  
Fax: 755-2772878 Website:- [www.iifm.ac.in](http://www.iifm.ac.in)

Environmental Planning and Coordination Organisation (EPCO)  
Paryavaran Parisar, E- 5, Arera Colony,  
Bhopal, Madhya Pradesh,  
PIN 462016, India  
Phone: +91 755 2466859 , 2466970  
Fax: +91 755 2462136  
E-mail: [epcobpl@sancharnet.ins](mailto:epcobpl@sancharnet.ins)

### 6.3 Standard Operating Procedures (and Checklists)

Standard Operating Procedures will be prepared with objective of making the concerned agencies / persons understand their duties and responsibilities regarding disaster management at all levels. All concerned departments, divisions and agencies shall prepare their own action plans in respect of their responsibilities. Emergency response teams will be kept ready by each department so that they can move to disaster site/affected area on short notice. The Standard operating procedure shall be followed during normal times (Non Disaster Stage), warning stage (Before Disaster Stage), disaster stage (During Disaster Stage) and post disaster stage (After Disaster Stage).

- **Non Disaster Stage– Mitigation:** To identify the existing and potential risks and to reduce potential casualties and damage from disasters.
- **Before Disaster Stage– Preparedness:** To build the capacities of local communities in order to safeguard their lives and assets by taking appropriate action in the face of any disaster and to ensure response agencies are able to reach out to potential damage zones in a prompt and coordinated manner.
- **During Disaster Stage-Response:** To attend the immediate need of the affected population in the minimum time possible.
- **After Disaster Stage- Recovery and Rehabilitation:** To build back better.

#### 6.3.1 SOPs for all concerned Line Departments

SOPs for Revenue, Home, Irrigation Dept, Electricity Dept, Transport, Health, Power, Media, Agriculture Dept, Police, Dept of Industries, District Medical Officer, Public Works Dept, Telecommunication Dept, Rural Water Supply & Sanitation Dept, Veterinary Dept, Fire Service, Civil Defence, Municipal Board, Transport, Town Planning, Food & Civil Supplies Dept. and all other concerned departments, will be prepared and maintained.

Standard Operating Procedures for all relevant departments will be prepared in following format:

The Standard Operating Procedures have been prepared with the avowed objective of making the concerned persons understand their duties and responsibilities regarding disaster management at all levels. All departments, divisions and agencies shall prepare their own action plans in respect of their responsibilities, under the standing orders for efficient implementation. The Ratlam District Disaster Management Authority will ensure coordination of the disaster related activities at district level.

The departments, divisions and agencies will organize proper training of officers and staff so that they can help in rescue, evacuation and relief work at different stage of disaster. Emergency response teams will be kept ready by each department so that they can move to disaster - site/affected area on short notice. The Standard operating procedure shall be followed during normal times, warning stage, disaster stage and post disaster stage.

Standard Operating Procedures for the relevant departments are listed below:

#### 6.3.1.1 Department of Revenue & Relief

The Department of Revenue & Relief plays a critical role in the implementation of the disaster management action plans. The department will be the nodal agency for the activities of the DEOC and also the primary agency in the case of Information and Planning, Relief supplies, Shelter, Help lines and donations emergency support functions.

<p><b>Non Disaster Time</b></p> <ul style="list-style-type: none"> <li>• To appoint a nodal officer in the DEOC. The ADM will be the nodal officer</li> <li>• Establish infrastructure for DEOC and maintain in state of readiness with all equipment in working order and all inventories updated.</li> <li>• Train personnel on operations of DEOC. Various personnel are being trained at the DMI, Bhopal.</li> <li>• Ensure basic facilities for personnel who will work at district level for disaster response.</li> <li>• To coordinate the preparedness functions of all line departments. The meeting of the DDMC to be held once in 2 months</li> <li>• Establish disaster management funding mechanisms to ensure adequate resources for preparedness work, and quick availability of resources for relief and rehabilitation when required.</li> <li>• Ensure that all the gram panchayats, urban bodies and blocks prepare their disaster management plan.</li> <li>• Coordinate with other state departments of state and centre for their disaster management plan at the district level and synchronise the same with the district disaster management plan.</li> <li>• Help District Administrators with additional resources for disaster preparedness, if necessary.</li> <li>• On annual basis report to the SEC of the preparedness activities.</li> <li>• To ensure that funds are being allocated under the District Disaster Mitigation Fund.</li> <li>• To ensure that structural and non-structural mitigation measures are taken by all its department offices.</li> <li>• To conduct a mock drill to make sure that there is a good coordination within all the stakeholder departments</li> </ul>
<p><b>Warning Time</b></p> <ul style="list-style-type: none"> <li>• Maintain contact with forecasting agencies and gather all possible information regarding the alert.</li> <li>• Ensure activation of District EOC in standby mode.</li> <li>• Instruct all ESFs remain in readiness for responding to the emergency.</li> <li>• Advise concerned Tehsildars to carry out evacuations where required, and to keep transport, relief and medical teams ready to move to the affected areas at a short notice.</li> <li>• Dispatch field assessment teams, if required.</li> <li>• Provide assessment report to the DDMA.</li> </ul>

<p><b>During Disaster</b></p> <ul style="list-style-type: none"> <li>• Activate DEOC in full form</li> <li>• To coordinate and plan all activities with the ESFs</li> <li>• Conduct Rapid Assessment and launch Quick Response.</li> <li>• Conduct survey in affected areas and assess requirements of relief</li> <li>• Distribute emergency relief material to affected population.</li> <li>• Coordinate all activities involved with emergency provisions of temporary shelters, emergency mass feeding, and bulk distribution of coordinated relief supplies for victims of disasters.</li> <li>• Coordinate NGO, INGO and support.</li> <li>• Be in contact with the State department</li> </ul>
<p><b>After Disaster</b></p> <ul style="list-style-type: none"> <li>• Organise initial and subsequent technical assessments of disaster affected areas and determine the extent of loss and damage and volume and nature of relief required.</li> <li>• Fix the department responsible for the assessment.</li> <li>• Keep the DDMA informed of the situation.</li> <li>• Ensure supply of food, drinking water, medical supplies and other emergency items to the affected population.</li> <li>• Visit and coordinate the implementation of various rehabilitation programmes.</li> <li>• Coordinate the activities of NGOs in relief and rehabilitation programmes.</li> <li>• Allocate funds for the repair, reconstruction of damaged infrastructure after considering their overall loss and damage.</li> <li>• Inform the State authorities, keep them abreast of the situation at hand</li> </ul>

### 6.3.1.2 Department of Home

Department of Home has an important role of providing security, logistics, and if necessary, assistance in distribution of relief items and provision of equipment for emergency response. It is also the primary agency for Search and rescue.

<p><b>Non Disaster Time</b></p> <ul style="list-style-type: none"> <li>• Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point.</li> <li>• Designate one officer for the DEOC. The District Commandant of the Home Guards could be this liaison officer.</li> <li>• Prepare an operational Plan for responding to any type of disaster. Ensure that this plan is kept updated.</li> <li>• Establish, maintain and train district level search and rescue response team. Incumbents are also being trained at National Civil Defence College, Nagpur as well as the DMI, Bhopal</li> <li>• Impart training to the members of Police Force in first aid, evacuation, rescue and relief operations.</li> <li>• Make sure that refresher trainings are also conducted.</li> <li>• To conduct Search and Rescue training to gram panchayat task forces.</li> <li>• Prepare an inventory of all man power and equipment available.</li> <li>• To prepare an inventory of volunteers who have already completed training courses successfully and can be utilized in the search and rescue operations.</li> <li>• Identify the 'High Risk' and 'Risk' areas for different disasters and instruct the existing police installations located in those areas for keeping themselves in readiness for undertaking emergency rescue, evacuation relief operations.</li> </ul>
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<ul style="list-style-type: none"> <li>• Maintain and operate the DEOC throughout the year in preparedness mode during non-disaster times and in emergency mode during disaster times.</li> <li>• Arrange drills for fire extinguishing, rescue, evacuation and transportation of injured persons and prepare coordinated Action Plans in cooperation with District administration and concerned local agencies</li> <li>• Hold annual drills on disaster preparedness and response.</li> <li>• Make departmental mitigation plan and ensure its implementation.</li> <li>• Organise road safety and fire and festival safety awareness programs for schools and community.</li> </ul>
<p><b>Warning Time</b></p> <ul style="list-style-type: none"> <li>• Depute one liaison officer for disaster management within the department. The officer in charge of the Control room to be given this role.</li> <li>• Representative to be positioned at the DEOC.</li> <li>• Maintain communications with the police installations in the areas likely to be affected by disaster.</li> <li>• Inform nearest police station (from the likely disaster affected area) for dissemination of warning.</li> <li>• Instruct all concerned to accord priority to disaster related wireless messages, if required by appropriate officials.</li> <li>• On receipt of directives from the DEOC for evacuation - organize personnel and equipment for evacuation and undertake evacuation operations.</li> <li>• Earmark reserve task forces, if needed.</li> <li>• Move task forces to the convenient positions, if needed.</li> </ul>
<p><b>During Disaster</b></p> <ul style="list-style-type: none"> <li>• Send task forces in disaster affected areas.</li> <li>• Carry out search &amp; rescue operations.</li> <li>• Carry out fire fighting operations</li> <li>• Maintain law and order, especially during relief distribution.</li> <li>• Keep close watch for any criminal and anti-state activity in the area.</li> <li>• Keep direct contact with different officers like District EOC and Incident command Posts for taking any steps to combat any situation.</li> <li>• Assist local administration in removing the dead bodies and debris in affected areas.</li> <li>• Set up field hospital if required.</li> <li>• Coordinate with other offices for traffic management in and around damaged areas.</li> <li>• Assist the local administration in putting a stop to theft and misuse in relief operation.</li> <li>• Dispatch situation reports to the DEOC.</li> </ul>
<p><b>After Disaster</b></p> <ul style="list-style-type: none"> <li>• Participate in reconstruction and rehabilitation operations, if requested.</li> <li>• Arrange security of government property and installations damaged in a disaster.</li> </ul>

### 6.3.1.3 Department of Transport

During disaster situations, the department would need to take steps to arrange for sending personnel and relief material to the disaster affected area, relocate the affected people, keep access routes operational and inform about alternate routes.

<p><b>Non Disaster Time</b></p> <ul style="list-style-type: none"> <li>• Designate one Liaison Officer of the department as the Focal Point and inform all concerned.</li> </ul>
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<ul style="list-style-type: none"> <li>• Develop and implement disaster management plan for the department.</li> <li>• Carry out survey of condition of all highway systems at state and district level.</li> <li>• Identify and make inventories transport vehicles available with the department and ensure that they are all in good working condition.</li> <li>• Identify and make inventories transport vehicles available with the private operators in the district.</li> <li>• Allocate additional force to possible Disaster prone roads/routes identified</li> <li>• Ensure that the force so allocated are aware of the possible disaster prone spots on these routes along with the possible type of disaster which may happen, as in the case of Petrol and Diesel transport vehicles leading to and from the IOC depot at Bangrod</li> <li>• Make departmental mitigation plan and ensure its implementation.</li> <li>• Enforce the speed limits in the government vehicles regulated by the department and organise departmental awareness programs for the same</li> </ul>
<b>Warning Time</b>
<ul style="list-style-type: none"> <li>• Depute an officer at the DEOC.</li> <li>• Ensure availability of fuel, recovery vehicles and equipment.</li> <li>• Take steps for arrangement of vehicles for possible evacuation of people.</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Establish contact with the DEOC.</li> <li>• Take steps for transportation of relief personnel and material to affected areas.</li> <li>• Take steps for movement of affected population to safer areas.</li> <li>• Collate and disseminate information regarding operational and safe routes and alternate routes, fuel availability etc. to personnel operating in the field.</li> <li>• Launch recovery missions for stranded vehicles.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Assess damage to transportation infrastructure.</li> <li>• Take steps to ensure speedy repair and restoration of transport links.</li> </ul>

#### 6.3.1.4 Department of Public Works

The Department of Public Works has a vital role in provision and maintenance of vital public infrastructure. It plays the role of primary agency for Public works and engineering emergency support function at the DEOC. The department will also act as secondary agency for Transport, Information & Planning, and Relief supplies and Shelter emergency support functions.

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point. The Chief Executive Engineer will be the liaison.</li> <li>• Take precautionary steps for the protection of government property against possible loss and damage during disaster.</li> <li>• Formulate guidelines for safe construction of public works.</li> <li>• Prepare list, with specifications and position, of heavy construction equipment within the district.</li> <li>• Organize periodic training of engineers and other construction personnel on disaster resistant construction technologies.</li> <li>• Inspect all roads, road bridges by a bridge engineer, including underwater inspection of foundations and piers. A full check should be made on all concrete and steelworks.</li> <li>• Inspect all buildings and structures of the state government (including hospital buildings) by a senior engineer and identify structures which are endangered by the impending disaster.</li> <li>• Emergency tool kits should be assembled for each division, and should include:</li> </ul>

- The designation of routes strategic to evacuation and relief should be identified and marked, in close coordination with police and district control room.
- Prepare mitigation plan for the department and enforce the same.
- Advise the district disaster management authority on structural mitigation measures for the district.
- Repair, Maintenance and retrofitting of public infrastructure.
- Identify / prioritize mitigation activities of lifeline buildings and critical infrastructure and coordinate with the DDMA for its implementation.
- Place danger sign boards in the areas highly prone to specific type of disasters, such as road accidents etc.

#### **Warning Time**

- Establish radio communications with DEOC.
- Depute one representative at the DEOC as per the directions from DDMA.
- Instruct all officials at construction sites to keep manpower and materials prepared for protection and repair of public works.
- Direct construction authorities and companies to preposition necessary workers and materials in or near areas likely to be affected by disaster.
- Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary.
- Extra transport vehicles should be dispatched from district headquarters and stationed at safe strategic spots along routes likely to be affected.
- Heavy equipments, such as front-end loaders, should be moved to areas likely to be damaged and secured in a safe place.
- Establish a priority listing of roads which will be opened first. Among the most important are the roads to hospitals and main trunk routes.
- Give priority attention to urgent repair works that need to be undertaken in disaster affected areas.
- Work under construction should be secured with ropes, sandbags, and covered with tarpaulins if necessary.
- Emergency inspection by mechanical engineer of all plant and equipment in the district workshops.

#### **During Disaster**

- Provide assistance to the damage assessment teams for survey of damage to buildings and infrastructure.
- Adequate road signs should be installed to guide and assist the drivers.
- Begin clearing roads. Assemble casual laborers to work with experienced staff and divide into work-gangs.
- Mobilize community assistance for road clearing by contacting community organizations and village disaster management committees.
- Undertake cleaning of ditches, grass cutting, burning or removal of debris, and the cutting of dangerous trees along the roadside in the affected area.
- Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for disaster victims.
- As per the decisions of the District Emergency Operations Centre undertake construction of temporary structures required, for organizing relief work and construction of relief camps, feeding centres, medical facilities, cattle camps and Incident Command Posts.
- If possible, a review of the extent of damage (by helicopter) should be arranged for the field Officer-in-Charge, in order to dispatch most efficiently road clearing crews, and determine the equipments needed.
- If people are evacuating an area, the evacuation routes should be checked and people assisted.
- Identify locations for setting up transit and relief camps, feeding Centres and quantity of construction materials and inform DEOC accordingly.

<ul style="list-style-type: none"> <li>• Take steps to clear debris and assist search and rescue teams.</li> <li>• Provide sites for rehabilitation of affected population</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Carry out detailed technical assessment of damage to public works.</li> <li>• Assist in construction of temporary shelters.</li> <li>• Organize repairs of buildings damaged in the disaster</li> <li>• Prepare detailed programs for rehabilitation of damaged public works.</li> <li>• Arrange technical assistance and supervision for reconstruction works as per request.</li> </ul>

#### 6.3.1.5 Department of Water Resources and Irrigation

The Department is involved in disaster mitigation in relation to drought and floods, as they affect agricultural production, irrigation systems and water supply and management. It is primary agency for Drinking water & sanitation.

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point.</li> <li>• Ensure efficient management of flood forecasting and warning Centres and improve procedure of flood forecasts and intimation to appropriate authorities.</li> <li>• Identify flood prone rivers and areas and activate flood monitoring mechanisms in all flood prone areas</li> <li>• Operate Flood Information Centre in the flood season every year.</li> <li>• Collect all the information on weather forecast, water level of all principal rivers along with the Dholawad (Saroj Sagar) dam.</li> <li>• Inform all concerned about daily weather news and issue regular press bulletins.</li> <li>• Take steps for strengthening of flood protection works and canals before the flood season</li> <li>• Make departmental mitigation plan and ensure its implementation.</li> </ul>
<b>Warning Time</b>
<ul style="list-style-type: none"> <li>• Alert DEOC about floods/flash floods.</li> <li>• Since flash floods get triggered within short time-spans, take steps to alert all through telephone and wireless according to needs.</li> <li>• Mount watch on flood protection works and canal systems.</li> <li>• During Monsoon Season, make sure that all the members of the DDMC are aware prior to the opening of the gates of the Dholawad (Saroj Sagar) dam.</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Transportation of water with minimum wastage (in coordination with the transport department).</li> <li>• Locate drinking water facilities separate from sewer and drainage facilities</li> <li>• Ensure that remaining or unaffected sources of water do not get contaminated and the distribution of water is equal to all victims in the area.</li> <li>• Identify and mark damaged water pipelines and contaminated water bodies and inform disaster victims against using them.</li> <li>• Construct temporary toilets in relief camps and mobile toilet facilities for affected areas.</li> <li>• Ensure hygiene and sanitation of the relief camps and affected areas through disasters.</li> <li>• In Coordination with the Public Health department make sure that enough Water Purification tablets are available where necessary</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Take up sustained programs for rehabilitation of flood protection works and canals.</li> <li>• Restore drinking water supplies for the affected areas.</li> </ul>

### 6.3.1.6 Department of Agriculture

The Department of Agriculture has a role in assessment of damage to agricultural crops, this activity is usually carried out in conjunction with the Revenue department through the assistance of the various Patwaris. Their main role is to provide seeds and necessary planting material and other inputs to assist in early recovery.

<p><b>Non Disaster Time</b></p> <ul style="list-style-type: none"> <li>• Designate a focal point for disaster management within the department.</li> <li>• Identify areas likely to be affected.</li> <li>• Arrange for keeping stock of seeds, fertilizers and pesticides.</li> <li>• A pests and disease monitoring system should be developed to ensure that a full picture of risks is maintained.</li> <li>• Historical data to be gathered on the drought prone areas of Jaora and Piploda</li> </ul>
<p><b>Warning Time</b></p> <ul style="list-style-type: none"> <li>• Provide timely warning to DEOC/DDMA about droughts.</li> <li>• Check available stocks of equipments and materials which are likely to be most needed after the disaster.</li> <li>• Stock agricultural equipments which may be required after a disaster</li> <li>• Determine what damage, pests or diseases may be expected, and what drugs and other insecticide items will be required, in addition to requirements of setting up extension teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly.</li> <li>• Provide information to all concerned, about disasters, likely damages to crops and plantations, and information about ways to protect the same.</li> <li>• All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof</li> </ul>
<p><b>During Disaster</b></p> <ul style="list-style-type: none"> <li>• Depute one liaison officer to the DEOC.</li> <li>• Monitor damage to crops and identify steps for early recovery.</li> <li>• Estimate the requirement of <ul style="list-style-type: none"> <li>Seeds</li> <li>Fertilizers</li> <li>Pesticides, and Labour.</li> </ul> </li> <li>• Organise transport, storage and distribution of the above with adequate record keeping procedures.</li> <li>• Ensure that adequate conditions through cleaning operations are maintained to avoid water-logging in flooded areas.</li> </ul>
<p><b>After Disaster</b></p> <ul style="list-style-type: none"> <li>• Quantify the loss and damage within the quickest possible time and finalize planning of agriculture rehabilitation.</li> <li>• Ensure availability of adequate supply of seeds, seedlings, fertilizers, pesticides and agricultural implements.</li> <li>• Assist farmers to re-establish their contacts with agriculture produce market and ensure that appropriate prices be offered to them.</li> </ul>

### 6.3.1.7 Department of Rural Development

Department of Rural development is one of the main departments that have the mandate to implement vulnerability reduction projects to alleviate poverty and improve people's livelihoods. It is also the secondary agency for Public works and engineering, Information and planning, relief supplies, food and drinking water emergency support functions for the DEOC. At the block level, it is the main agency for preparation of block disaster management plan, especially, the mitigation plan for the block, which will highlight the local specific needs of Gram Panchayats and hence will feed the information on local priorities to this plan.

<p><b>Non Disaster Time</b></p> <ul style="list-style-type: none"> <li>• Designate one Liaison Officer in the department to the DDMA as the Disaster Management Focal Point.</li> <li>• Develop a district disaster management plan for the department.</li> <li>• Prepare maps showing population concentration and distribution of resources.</li> <li>• Encourage disaster resistant technological practices in buildings and infrastructure.</li> <li>• Encourage the people in earthquake prone areas to adopt earthquake resistant technologies.</li> <li>• In coordination with PWD conduct regular training to the engineers of the department.</li> <li>• Appoint one officer as focal point for mitigation activities</li> <li>• On the basis of its developmental responsibility, liaise with other line departments and agencies for a coordinated mitigation approach.</li> <li>• In coordination with the DDMA, conduct building assessments, identification of structural and non structural mitigation activities.</li> <li>• Organise awareness programmes for BDO's, Panchayat secretaries and gram pradhans on structural and non-structural mitigation activities.</li> </ul>
<p><b>Warning Stage</b></p> <ul style="list-style-type: none"> <li>• Focal Point in department to keep in touch with the DEOC.</li> <li>• Alert all concerned about impending disaster.</li> <li>• Make sure that the respective Tehsil level DMC's are informed and ready to deal with the disaster.</li> <li>• Ensure safety of establishments, structures and equipment in the field</li> <li>• Ensure formation of committee for rescue, relief and rehabilitation work and local volunteer teams.</li> </ul>
<p><b>During Disaster</b></p> <ul style="list-style-type: none"> <li>• Ensure information flow from affected gram panchayats, tehsils and maintain regular contact with DEOC (24 hrs).</li> <li>• Support revenue department in establishing ICP's in the affected areas</li> <li>• Ensure availability of drinking water at times of need.</li> <li>• Provide necessary infrastructure to carry out relief works</li> <li>• Assess initial damage</li> </ul>
<p><b>After Disaster</b></p> <ul style="list-style-type: none"> <li>• Quantify the loss/damage</li> <li>• Organize reconstruction of damaged houses on self help basis with local assets and materials received from the government.</li> <li>• Take up repair/reconstruction work of infrastructure damaged by disaster</li> </ul>

### 6.3.1.8 Department of Education

The department will prepare curriculum related to disaster management and conduct training programme for teachers and children. The department will coordinate with the local authority and arrange for mock drills, search and rescue drills.

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Identify one Liaison Officer in the department at district level as Disaster Management Focal Point.</li> <li>• Develop district level disaster management plan for the department</li> <li>• In consultation with DDMA, state education directorate and state education board include disaster related subjects in the curricula in schools, and colleges.</li> <li>• Arrange for training of teachers and students on Dm and school safety activities.</li> <li>• Ensure that all schools and colleges develop their disaster management plans.</li> <li>• Ensure that construction of all educational institutions in earthquake zones is earthquake resistant.</li> <li>• Conduct regular mock drills in the educational institutes</li> </ul>
<b>Warning Stage</b>
<ul style="list-style-type: none"> <li>• Identify structural and non structural mitigation measures and get them implemented.</li> <li>• In coordination with the SSA &amp;/or Public works department assess schools and colleges buildings conditions and place the proposal of retrofitting of the structurally unsafe buildings with the state education department and/or DDMA.</li> <li>• Make departmental mitigation plan and ensure its implementation.</li> <li>• Ensure that earthquake resistant features are included in new school buildings.</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• In the event of disaster, place required number of education institutions and their buildings, under the DEOC for use as emergency shelter and relief centre, if necessary.</li> <li>• Students and staff trained as task forces as part of the school disaster management planning's can provide local voluntary assistance for distribution of relief material and assistance to special needy people in the locality.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Determine the extent of loss in educational institutions and submit the report to DDMA and state education department.</li> </ul>

### 6.3.1.9 Department of Health

The department of Health has a responsibility in the reduction and prevention of suffering during natural and man-made disasters.

The department is primary agency for public health emergency support function for DEOC and is responsible for prevention, protection and control of health related problems of the disaster affected community of natural disasters and man-made disasters, as well as for investigation and response to outbreak of communicable diseases.

<p><b>Non Disaster Time</b></p> <ul style="list-style-type: none"> <li>• Develop a district plan on emergency preparedness and response within the health sector.</li> <li>• Carry out and disseminate a risk evaluation of the population.</li> <li>• Ensure disaster management plans are developed in health Centres and hospitals.</li> <li>• Ensure that all hospital staff have been informed about the possible disasters in the district, likely damages and effects, and information about ways to protect life, equipment and property.</li> <li>• Ensure that orientation and training for disaster response plans and procedures are undertaken. Special skills required during disaster situations are imparted to the officials and the staff.</li> <li>• Ensure adequate availability of Emergency Health Kits in high risk areas</li> <li>• Train volunteers on emergency preparedness programmes such as first aid and preventive measure against diseases in disaster prone areas.</li> <li>• Prepare a list of medical and Para-medical personnel in the district and disseminate it to DDMA, DEOC and all block disaster management committees.</li> <li>• Establish and operate an early warning system for health threats based on the routine health information and in collaboration with other departments.</li> <li>• In coordination with the DDMA, conduct building assessments, identification of structural and non structural mitigation activities.</li> <li>• Prioritize mitigation activities and ensure budget allocation to such mitigation activities.</li> <li>• Organise public awareness programs on dos and don'ts for health especially related to disasters.</li> </ul>
<p><b>Warning Stage</b></p> <ul style="list-style-type: none"> <li>• To prepare and keep ready Mobile Hospitals and stock them with emergency equipment that may be required after the disaster.</li> <li>• Assess likely health impacts and share with DEOC for planning purpose</li> <li>• To ensure pre-positioning of Emergency Health Kits and Personnel in all the areas under the disaster threat.</li> <li>• Direct the activation of health/medical personnel, supplies and equipment as required.</li> </ul>
<p><b>During Disaster</b></p> <ul style="list-style-type: none"> <li>• Designate one liaison Officer to be present at the DEOC.</li> <li>• Appoint one personnel as Nodal Health Officer for the affected area.</li> <li>• Mobilise medical teams and para-medical personnel to go to the affected areas as part of the Rapid Assessment and Quick Response Teams and also at ICP's</li> <li>• Provide medical assistance to the affected population</li> <li>• Provide chlorine tablets to people in affected area.</li> <li>• Special care for women with infants and pregnant women</li> <li>• Carry out technical assessment on health infrastructure availability and need</li> </ul>
<p><b>After Disaster</b></p> <ul style="list-style-type: none"> <li>• Determine the extent of loss in health institutions and prepare plans for their rehabilitation.</li> </ul>



## 6.3.1.10 Forest Department

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Prepare a department disaster management plan for the district.</li> <li>• Depute one liaison officer for disaster management.</li> <li>• Forest Fire prone areas should be identified and extra vigilance be ensured in such cases.</li> <li>• Depute one liaison officer within the department, who will be in contact with the SEOC during disasters.</li> <li>• Every year pre-fire season meetings should be organized to take the stock of the preparedness at Range level</li> <li>• Prepare &amp; maintain forest lines</li> <li>• Organise community awareness programs</li> <li>• Train the Gram panchayat disaster management committees in forest fire prevention, protection and control, especially in those gram panchayats which are located at the fringes of forest areas.</li> <li>• Prepare mitigation plan for the department buildings and infrastructure.</li> </ul>
<b>Warning Stage</b>
<ul style="list-style-type: none"> <li>• A rapid response team will be established at division/sub-division/range level, which will have all tools and equipments readily available.</li> <li>• Information regarding</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Respond within the department as per the department disaster management plan</li> <li>• The liaison officer will coordinate with DEOC for information exchange &amp; also for requirements of resources to &amp; from DEOC</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Damage assessment and sharing of reports with DEOC</li> </ul>

## 6.3.1.11 Department of Urban Development

Department is a secondary agency for Public health & sanitation, Power, public works & engineering, information & planning, food, drinking water and shelter emergency support function for DEOC, especially for the urban areas.

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Designate one Liaison Officer in the department at district level as the Disaster management Focal Point.</li> <li>• Develop a disaster management plan for the department, including the identification of location of camps for different type of disasters, existing locations that can be used as shelters, inventories of agencies that can be used for tent establishment.</li> <li>• To conduct regular training the staff on minimum standards for shelter, relief camps and tent structures.</li> <li>• Prepare department's disaster management plan.</li> <li>• Develop alternative arrangements for population living in structures that might be affected after the disaster.</li> <li>• Designate one Liaison Officer in the department as focal point for the mitigation activities.</li> <li>• Coordinate with the DDMA for implementation of mitigation activities in the urban areas.</li> <li>• Prepare &amp; implement department's mitigation plan</li> </ul>
<b>Warning Stage</b>

<ul style="list-style-type: none"> <li>• In case of damage to offices, assist local authorities to establish and house important telecom equipment and officials at the earliest</li> <li>• Setting up water point in key locations and in relief camps</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Quick assessment of damaged areas and areas that can be used for relief camps for the displaced population</li> <li>• Locate adequate relief camps based on survey of damage</li> <li>• Clear areas for setting up relief camps</li> <li>• Locate relief camps close to open traffic and transport links</li> <li>• Set up relief camps and tents using innovative methods that save time</li> <li>• Provide adequate and appropriate shelter to the entire population</li> <li>• Coordinate with other ESFs in equipping shelter and relief sites with basic needs of communication and sanitation.</li> <li>• Maintaining and providing clean water</li> <li>• Procurement of clean drinking water.</li> <li>• Coordinate with DEOC &amp; ICP's for proper disposal of dead bodies in the urban areas.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Implement recovery &amp; rehabilitation schemes through municipalities for urban areas.</li> </ul>

#### 6.3.1.12 Department of Food, civil supplies and consumer affairs

The department will be responsible for identifying the basic needs of food in the aftermath of a disaster or emergency, to obtain appropriate supplies and transporting such supplies to the disaster area. It is the primary agency for Food emergency support function for DEOC.

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Develop a district disaster management plan for the department &amp; update it annually.</li> <li>• Develop a plan that will ensure timely distribution of food to the affected population.</li> <li>• Maintain a stock of food relief items for any emergency.</li> <li>• Prepare and implement departments mitigation plan</li> </ul>
<b>Warning Stage</b>
Catalogue of available resources of food
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Coordinate with local authorities and other ESFs to determine requirements of food for affected population.</li> <li>• Mobilise and coordinate with other ESFs for air dropping of food to affected site.</li> <li>• Prepare separate food packs for relief camps as well as large quantity containers.</li> <li>• Ensure that food distributed is fit for human consumption</li> <li>• Ensure quality and control the type of food.</li> <li>• Allocate food in different packs that can be given to families on a taken home basis while others that can be distributed in relief camps</li> <li>• Control the quality and quantity of food that is distributed to the affected population.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Establishment of PDS points as per the changed scenario/resettlements (If any)</li> <li>• Issuing of duplicate ration cards to the disaster victims, who lost their papers.</li> </ul>

## 6.3.1.13 Department of Panchayat Raj

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Develop a disaster management plan for the department at district level &amp; update it annually.</li> <li>• Analyse the training needs of the department's personnel, which include its officials and elected representatives of Gram panchayat, panchayat samiti's and zila panchayat and organise trainings with the help of HIDM or other agencies.</li> <li>• Conduct gram panchayat level mock drills as part of preparedness.</li> <li>• Prepare &amp; implement department's mitigation plan</li> <li>• Ensure that all the development schemes of the department have a mitigation component as an integral part.</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Coordinate with local authorities and support the response efforts.</li> <li>• Coordinate the support from unaffected gram panchayats.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Ensure proper distribution of reconstruction schemes and monitoring of the same during Block development committee and zila parishad meetings.</li> </ul>

## 6.3.1.14 Department of Power

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Designate one Liaison Officer of the department as the Focal Point at district level and inform all concerned.</li> <li>• Develop a disaster management plan for the department.</li> <li>• Carry out survey of condition of all power supply at state and district level.</li> <li>• Designate one Officer as nodal officer for mitigation activities...</li> <li>• In coordination with the DDMA, conduct building assessments, identification of structural and non structural mitigation activities.</li> </ul>
<b>Warning Stage</b>
<ul style="list-style-type: none"> <li>• Establish radio communications with the DEOC.</li> <li>• Check emergency toolkits</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Establish contact with the DEOC.</li> <li>• Prepare a First assessment report in conjunction with other ESFs for the DEOC to take further decision.</li> <li>• Assist authorities to reinstate generators for public facilities such as Hospital, water supply, police stations, telecommunication building and meteorological stations.</li> <li>• Dispatch emergency repair teams equipped with tools, tents and food.</li> <li>• Establish temporary electricity supplies for relief material warehouses.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Review total extent o damage to power supply installations.</li> <li>• Take steps to ensure speedy repair and restoration of power supply installations</li> <li>• To facilitate restoration of energy systems after a natural /man made disaster</li> </ul>

## 6.3.1.15 Industrial Health and Safety

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Designate one Liaison Officer in the Department as the Disaster Management Focal Point at district level.</li> <li>• Ensure all possible steps for the security of manpower, implements, stock, installations/factories etc.</li> <li>• Prepare listing and locations of industries and establishments for possible sourcing of relief material during disasters in the district.</li> <li>• Ensure training on preparedness programmes to be adopted at different levels for all manpower employed in factories and establishments in disaster vulnerable areas.</li> <li>• Issue disaster management guidelines to all the industries and ensure on-site and off-site plans for all industries.</li> <li>• Prepare and disseminate guidelines for the labor security and safety.</li> <li>• Prepare and implement rules and regulations for industrial safety and hazardous waste management.</li> <li>• Support the State Pollution Control Board to enforce the law for preventing environmental disaster in chemical industry or industries emitting toxic gases and effluents.</li> <li>• Issue detailed instructions to the employees about their duties and responsibilities in precautionary, disaster and post-disaster stages of normal disaster.</li> <li>• Prepare and disseminate public awareness material related to chemical accidents.</li> <li>• Prepare &amp; implement department's mitigation plan for the district</li> </ul>
<b>Warning Stage</b>
<ul style="list-style-type: none"> <li>• Evacuation of the workers from the Industrial area vicinity</li> </ul>
<b>During Disaster</b>
<ul style="list-style-type: none"> <li>• Request industries to provide emergency relief material such as food products, temporary shelter, medicines and medical equipment and search &amp; rescue equipment.</li> <li>• During any industrial disaster, respond as per the disaster management plan of the respective industry or as per the guidelines for the specific hazard involved in the event.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Take steps to plan for rehabilitation of industries adversely affected by disasters.</li> </ul>

### 6.3.1.16 Indian Red Cross and NGOs

The Indian Red Cross would perform the following duties within the ambit of its own rules and regulations and organisational structure, in association with DEOC. Similarly other state, district or local level NGO's will coordinate with the DEOC and ICP's during disaster times:

<b>Non Disaster Time</b>
<ul style="list-style-type: none"> <li>• Take steps for preparing community based disaster management plans with facilitation from DDMA.</li> <li>• Identify volunteers in disaster prone areas and arrange for their training.</li> <li>• Awareness raising programs, seminars and meetings with the people for improving their capacity to face disasters.</li> <li>• Maintain contacts with District Administrators on its activities.</li> <li>• Ensure road communication and pre-positioning of relief material as close as possible to disaster prone communities.</li> </ul>
<b>Warning Stage</b>
<ul style="list-style-type: none"> <li>• Issue warning notice to all concerned including the preparedness programs Designate a liaison officer for maintaining link with the DEOC of the District.</li> <li>• Keep the survey and relief team of head quarters on stand-by in readiness with required transport and equipment.</li> <li>• Mobilise volunteers and issue instructions for sending them to potential disaster affected areas.</li> <li>• Take part in evacuation programme of population with close cooperation of volunteers</li> <li>• Coordinate with pre identified NGOs for possible joint operations.</li> </ul>
<b>During Disaster :</b>
<ul style="list-style-type: none"> <li>• Ensure survey of loss and damage in affected areas and dispatch of relief teams from concerned Red Crescent Society Units.</li> <li>• Assist the Province Government to determine loss, damage and needs related information.</li> <li>• Give emergency assistance to disaster affected people especially in the following cases:</li> <li>• Help in rescue and evacuation work, temporary shelter, first aid, food and clothing,</li> <li>• Arrange for distribution of relief material received from Red Crescent Unit of areas not affected by disaster and from headquarters.</li> <li>• Send request for requirement of relief and rehabilitation to the International Federation of Red Cross and Crescent Societies (IFRC) after informing about loss and damage due to disaster.</li> </ul>
<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Participate in reconstruction and rehabilitation programmes in special circumstances.</li> <li>• Take steps for correct and effective evaluation of preparedness work and for correcting errors/weakness in such work.</li> <li>• Extend Cooperation to the district EOC for disaster documentation.</li> </ul>

## 6.3.2 Checklist of Various Departments

### 6.3.2.1 Preparedness Checklist for the District Collector

- Prepare of the DDMP with the assistance of DDMC after setting up the DDMA for the district.
- Set up District Control Room.
- Under the DDMP, district level agencies would be responsible for directing field interventions through various agencies right from the stage of warning to relief and rehabilitation.
- At the disaster site, specific tasks to manage the disaster will be performed.
- Collector will be assisted by SOC (site operation control).
- SOC will be headed by a Site Manager.
- Site Manager will co-ordinate the activities at various camp sites and affected areas.
- The site Operations Centre will report to the District Control Room.
- The Collector will co-ordinate all the field responses which include, setting up Transit Camps, Relief Camps and Cattle Camps.

### 6.3.2.2 Preparedness Checklist for the Police Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Adequate warning mechanisms established for evacuation.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed

### 6.3.2.3 Preparedness Checklist for the Health Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- A hospital plan for the facilities, equipment and staff of that particular hospital based on “The Guide to Health Management in Disasters” has been developed.
- Hospital staff is aware of which hospital rooms / buildings are damage proof.
- All the staff of the hospital has been informed about the possible disasters in the district, likely damages and effects, and information about ways to protect life, equipment and property.
- An area of hospital identified for receiving large number for casualties.
- Emergency admission procedures with adequate record keeping developed.
- Field staff oriented about DDMP, standards of services, and procedures for tagging.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.4 Preparedness Checklist for M.P.E.B

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.5 Preparedness Checklist for Water Supply Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- Adequate warning mechanisms for informing people to store an emergency supply of water have been developed.
- Procedures established for the emergency distribution of water if existing supply is disrupted.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.6 Preparedness Checklist for Irrigation Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- Flood monitoring mechanisms can be activated in all flood prone areas
- All staff is well aware of the precautions to be taken to protect their lives and personal property.
- Each technical assistant has instructions and knows operating procedures for disaster conditions.
- Methods of monitoring and impounding the levels in the tanks evolved.
- Methods of alerting officers on other dam sites and the district control room, established.
- Mechanisms evolved for forewarning settlements in the downstream, evacuation, coordination with other dam authorities.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.7 Preparedness Checklist for Telephone Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.

- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.8 Preparedness Checklist for PWD

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- All officers are familiar with pre-disaster precautions and post-disaster procedures for road clearing and for defining safe evacuation routes where necessary.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.9 Preparedness Checklist for Agriculture Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- Information provided to all concerned officers about the disasters, likely damages to crops and plantations, and information about ways to protect the same.
- The NGOs and the other relief organizations are informed about the resources of the department.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.

#### 6.3.2.10 Preparedness Checklist for Animal Husbandry Department

- The department is familiar with the disaster response plan and disaster response procedures are clearly defined.
- Orientation and training for disaster response plan and procedures undertaken.
- Special skills required during emergency operations imparted to the officials and the staff.
- Reviewed and updated the precautionary measures and procedures, the precautions to be taken to protect equipment, the post-disaster procedures to be followed.
- Hospital staff is aware of which hospital rooms / buildings are damage-proof.
- All the staff of the veterinary hospitals and centres have been informed about the possible disasters, likely damages and effects, and information about the ways to protect life, equipment and property.
- An area of the hospital identified for receiving large number of livestock.
- Emergency admission procedures with adequate record keeping developed.
- An Officer has been designated as Nodal Officer for Disaster Management.
- Sources of materials required for response operations have been identified.



## **6.4 Financial Provisions for Disaster Management**

This section will focus on the financial provisions and allocations made at district level in preparing and executing the disaster management plan. All relevant Government Orders (GOs) issued from time to time, contributing to the same, will find a reference here.

### **6.4.1 District Disaster Response Fund**

A National Disaster Response Fund has been constituted as mandated in the DM Act. The National Disaster Response Fund will be applied by the National Executive Committee (NEC) towards meeting the expenses for emergency response, relief and rehabilitation, in accordance with the guidelines laid down by the Central Government in consultation with the NDMA. The proposal of merger of National Calamity Contingency Fund (NCCF) with National Disaster Response Fund shall be as recommended by the Finance Commission from time to time.

### **6.4.2 District Disaster Mitigation Fund**

As mandated by the DM Act (2005), the National Disaster Mitigation Fund (NDMF) may be created for projects exclusively for the purpose of mitigation. NDMF shall be applied by the NDMA and shall be as recommended by the Finance Commission from time to time.

The State Disaster Response Fund (SDRF) and Chief Minister's Relief Funds are also available to meet any emergency requirement, at the district level. In case of any threatening disaster situation or disaster, if the National Authority or the District Authority is satisfied that immediate procurement of provisions or materials or the immediate application of resources are necessary for rescue or relief, then

It may authorize the concerned department or authority to make the emergency procurement and in such case, the standard procedure requiring inviting of tenders shall be deemed to be waived.

A certificate about utilization of provisions or materials by the controlling officer authorized by the National Authority, State Authority or District Authority, as the case may be, shall be deemed to be a valid document or voucher for the purpose of accounting of emergency, procurement of such provisions or materials.

## **6.5 Coordination mechanisms with other stakeholders**

### **6.5.1 Mapping of stakeholders in the District**

The following Stakeholders for the disaster management plan have been outlined:

- Private and Public Sectors
- Governmental Organizations and Community Based Organizations
- Religious Institutions
- Academic Institutions
- International Humanitarian organization

### 6.5.2 Private and Public Sectors

Many private and public sector units have equipments and skilled human resource, which could be used during response and recovery phase. A list of major public and private sector units with facilities available with them is very useful during emergencies. There are many private vendors within district, who can readily supply different relief materials within short notice.

### 6.5.3 Non Governmental Organizations and Community Based Organizations

Local NGOs and CBOs, due to their proximity to the community, can act as a vital link between government and the community particularly during emergencies. They are in a better position to appreciate the area and time specific problems of the people and their flexibility in approach makes them more acceptable in the community. The Role of NGOs and CBOs in disaster management will be in three stages:

#### 6.5.3.1 Preparedness

- Community awareness and capacity building
- Community Based Disaster Management Planning.
- Assisting and participating in preparation of disaster management plans at Block, district, municipal and gram Panchayat levels.
- Support in vulnerability assessment and mapping
- Support in preparing mitigation strategy and plans; assessments for structural and non-structural mitigation.
- Support in policy review on disaster management
- Reviewing and upgrading DM Plans
- Documentation

#### 6.5.3.2 Emergency Response

- Dissemination of warning
- Evacuation, Search and Rescue
- Relief distribution
- Medical aid
- Emergency shelter
- Immediate restoration
- Women and Child care
- Trauma Counseling
- Coordination of Volunteers
- Community mobilization
- Documentation

#### 6.5.3.3 Recovery

- Restoration of damaged community structures (schools, etc.)
- Construction and management of MCS
- Restoration of livelihood
- Rehabilitation of vulnerable groups
- Restoration of environment
- Managing emergent group activities
- Recovery planning, coordination, evaluation

- Documentation

#### 6.5.4 Religious Institutions

There are number of religious institutions with infrastructural facilities and committed work force. These facilities can be used as shelters during disasters and the work force could be used as volunteers during response and recovery activities. Details of all these institutions and allied information are provided below.

Table 6-5: Religious Institutions

Serial No	Religious Place	Serial No	Religious Place
1	Veerupaksh Mahadev Temple, Bilpank.	7	Mahalaxmi Temple, Ratlam.
2	Shipawra Temple, Alot	8	Kalikamata Temple, Ratlam.
3	Dharola Mahadev Temple, Alot	9	Gadkhange Mata Temple, Bajna.
4	Kedareshwar Temple, Shivgarh.	10	Sagod Jain Temple, Ratlam.
5	Amarji Temple, Ratlam.	11	Hussain Tekri, Jaora.
6	Ayana Mahadev Temple, Jaora.	12	Andikalpeshwar Temple, Alot.

#### 6.5.5 Academic Institutions:

Academic institutions within the district and also outside the district could help with subject specific expertise for disaster management planning. Disaster Management Institute (DMI) is currently providing their expertise in disaster management in the district. They are actively participating in generating awareness in the district and providing training to the people and building their capacity. Other institutes like All India Disaster Mitigation Institute, NIDM, etc. can also be contacted for help.

Disaster Management Institute,  
Prayavaran Parisar, E-5, Arera Colony,  
PB No. 563 Bhopal-462016, MP (India)  
Tel:+91-755-2466715, 2461538, 2461348, 293592, Fax: +91-755-2466653,  
E-mail: dmi@dmibhopal.nic.in

#### 6.5.6 International Humanitarian Organizations

There are many international humanitarian organizations that support government agencies worldwide during emergencies. These agencies as per their mandates support during the different phases of the disaster management cycle. In Ratlam the list of International Organizations, that are willing to support the district in case of any unforeseen event, should be prepared and the authorities should keep in touch with them.

The prominent International Humanitarian Organization active in Ratlam is Red Cross society.

#### 6.5.7 Responsibilities of the stakeholders

In order to bring about a paradigm shift from the relief-centric approach to the one covering prevention, preparedness and mitigation, efforts would be made to mainstream prevention and mitigation measures into the developmental plans and programmes by enlisting cooperation from all stakeholders.

The plans prepared by Central Ministries and Departments, States and Districts will incorporate the inputs of all stakeholders for integration into the planning process. The participation of all stakeholders, communities and institutions will inculcate a culture of preparedness. A bottom-up approach needs to be adopted for better understanding and operationalisation of these plans.

State and district authorities will be encouraged to generate a culture of preparedness and quick response. Gradually State Governments will be encouraged to plan a series of exercises for various types of disasters in collaboration with NDMA to enhance the response level of various stakeholders.

The participation of civil society stakeholders will be coordinated by the SDMAs and DDMAAs. Civil Defence, NCC, NYKS, NSS and local NGOs will be encouraged to empower the community and generate awareness through their respective institutional mechanisms. Efforts to promote voluntary involvement will be actively encouraged.

The responsibilities of all the key stakeholders can be stated in a nutshell as.

- Coordinating with the Search and rescue team
- Providing all the available facilities with them to the disaster affected victims
- Volunteering to organize and maintain the relief centres
- Working with the Disaster team in restoration of livelihoods
- Being actively connected with the restoration and reconstruction process

There is a need for putting in place a sound compliance regime, with binding consequences, to ensure the effectiveness of techno-legal and techno-financial provisions. It is important to ensure that monitoring, verification and compliance arrangements are in place both at the national and state level. It will be the responsibility of all stakeholders concerned, to implement these provisions. Adoption of best management practices like self certification, social audit, and an external compliance regime including audit by professional agencies, need to be encouraged through development and design of tools such as IT-enabled monitoring software to suit the DM systems in India, in consultation with various stakeholders and knowledge institutions for adoption after due trial and validation.

## **6.6 Inter- District Coordination Mechanisms – [Standard Operating Procedures / Protocols]**

Excellent support mechanism exists for inter district coordination with the adjoining districts. Ratlam district has tie ups with the Ujjain district which is the divisional head quarters.

Any situation for which it seems that additional help will be required, then Ujjain division is to be contacted first and then aid should be sought from the capital, Bhopal. For Chemical disasters additional fire tenders, and equipments required can be sought from the GAIL India Ltd or Grasim Industries Ltd, located in Nagda, Ujjain.

These 2 industries are the Subject matter experts in dealing with chemical based hazards and have the required man power and the equipments required. If in case any additional man power is required to

manage the stampeded situation, then also Ujjain is to be contacted for additional Home guards or Police force.

During emergencies district may require support from other adjoining districts, which are not affected by disasters. For Ratlam EOC head can seek help from other districts through Divisional Commissioner or State EOC.

### **6.7 Intra- District Coordination Mechanisms – [with Block Headquarters]**

All Block Headquarters already have operational Block level DMAs, they have decent tie ups with the district head quarters. All Block and lower level functionaries are organized in a highly hierarchical manner. This will aid in terms of coordination and communication during a disaster. It is recommended that all blocks make SOPs of their functioning in the style of the SOPs mentioned in this document. These SOPs have to be communicated to the DM and the DDMA.

Coordination mechanisms between the various blocks have to be spelt out and the Block DDMC's should have a copy of the surrounding Blocks' disaster management plans. This will aid in a better and quick decision making process while removing redundancies.

### **6.8 Dissemination of DM Plan**

After the approval of plan by SDMA, the concerned DDMA will be responsible for dissemination of the plan.

The district disaster management plan must be disseminated at three levels:

- National disaster Management Authority (NDMA), multilateral agencies (aid agencies), SDMA/SEC, state line departments and defense services.
- To the district authorities, government departments, NGOs and other agencies and institutions within the district
- Through mass media to the general public.

This section will explain in detail, about the means of dissemination of district disaster management plan at the different levels.

#### **6.8.1 Plan Evaluation**

The purpose of evaluation of DDMP is to determine

- The adequacy of resources
- Co-ordination between various agencies
- Community participation
- Partnership with NGOs

The plan will be updated when shortcomings are observed in

- Organizational structures
- Technological changes render information obsolete

- Response mechanism following reports on drills or exercises
- Assignments of state agencies

Individuals and agencies assigned specific responsibilities within this Plan will prepare appropriate supporting plans and related standard operating procedures, periodically review and update alerting procedures and resource listings, and maintain an acceptable level of preparedness.

### **6.8.2 Plan Update**

The DDMP is a “living document” and the Collector along with all line departments will update it every year taking into consideration

- The resource requirements
- Update of human resources
- Technology to be used
- Co-ordination issues

An annual conference for DDMP update will be organized by the Collector. All concerned departments and agencies would participate and give recommendations on specific issues.

The new plan should be handy and precise. It should be so designed that it will definitely help the officials to take quick actions during the disaster. Apart from it, the plan will be updated when shortcomings are observed in Organizational structures; Technological changes, Response mechanism following reports on drills or periodic exercises, and specific assignments of state agencies.

## Recommendations

- Hazard specific and detailed Hazard Vulnerability and Risk analysis needs to be carried out using modern methods.
- Every disaster provided by the High power committee on Disaster Management needs to be analysed to find out if it is applicable to the district
- GIS technology should be used to assess the potential hazards and the effecting vulnerabilities.
- Institutional arrangements need to be strengthened by capacity building of existing disaster management stakeholders of all departments
- Extension work needs to be carried out in the disaster prone areas of the district to make people aware of evacuation areas and best practices during a disaster to save lives.
- Proper funding channels need to be explored extensively to make sure that mitigation and prevention works are carried out.
- Awareness amongst the District administration regarding the Disaster Management Act of 2005 is very low; this needs to be built via trainings and workshops.
- Fire department personnel have to be trained to deal with Industrial accidents. More Fire tenders need to be procured so as to cover the entire district
- A designated nodal officer is needed to handle all disaster related activities in the district, current staff is over expended.
- Records have to be maintained regarding every disaster which occurs, the DDMA should ensure this happens
- Minutes of Meetings of the DDMA and the DDMC should be maintained diligently.
- The DDMA should meet at least once in 3 months and the DDMC at least once in 6 months time.
- All disaster related literature should be accessible readily to the practitioners and should be well maintained.
- All hazard specific plans and the generalist DDMP should be updated yearly.

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## Appendices

### Appendix 1: Educational Institutions

Table 8-1: Educational Institutions

<b>Serial no</b>	<b>Educational Institution</b>	<b>Place</b>
1	High Secondary School	Raoti
2	High Secondary School	Bajna
3	Jawahar Nehru Model School	Sailana
4	Boys High Secondary	Sailana
5	Girls High Secondary	Sailana
6	High Secondary School	Sarwan
7	Govt.High Secondary	Shivgarh
8	Girls High School	Bajna
9	Govt. High School	Berda
10	Girls High School	Sarwan
11	High Secondary No.1	Ratlam
12	High Secondary No.2	Ratlam
13	Jawah High Secondary	Ratlam
14	Naveen Girls High School	Ratlam
15	Maharani Laxmi Bai	Ratlam
16	High Secondary	Bilpank
17	High Secondary	Bangrod
18	High Secondary	Namli
19	High Secondary	Dharad
20	High Secondary	Birmawal
21	Boys High Secondary	Jaora
22	Girls High Secondary	Jaora
23	High Secondary	Badawda
24	High Secondary	Ringnod
25	Boys High School	Alot
26	Girls High School	Alot
27	Boys High School	Tal
28	Girls High School	Tal
29	High Secondary	Piploda
30	High Secondary	Sukheda
31	High Secondary	Dhonswas
32	High Secondary	Dhamnod
33	Govt. High School	Shivpur
34	Girls High Secondary	Raoti
35	High School	Rattagiri
36	High School	Palsodi
37	High School	Bhilo ki Khedi
38	High School	Kasrawda
39	High School	Rajapura Mataji

40	High School	Riyawan
41	High School	Badayla Mataji
42	High School	Nagra
43	Girls High School	Namli
44	Girls High School	Semliya
45	Girls High School	Bhati Badodiya
46	Katju High School	Jaora
47	High School	Mawta
48	High School	Uparwada
49	High School	Kharwakala
50	Vinoba High Secondary	Ratlam
51	High School	Karadiya
52	Govt. Girls Degree College	Ratlam
53	Govt. Science & Arts College	Ratlam
54	Govt. Vivekanand Commerce College	Ratlam
55	Govt. Polytechnic College	Jaora
56	Govt. Shahid Bhagat Singh College	Jaora
57	Govt. College	Sailana
58	I.T.I.	Ratlam

## Appendix 2: Embankments and Irrigation

Table 8-2: Embankments

Serial no	Medium Projects	Block Name	Kharif in Ha.	Rabi in Ha.	Irrigation Total in Ha.
1	Dholawad	Sailana	1399	5121	6520
Serial no	Minor Projects	Block Name	Kharif in Ha.	Rabi in Ha.	Irrigation Total in Ha.
1	SURAJMAL	Ratlam	0	126	126
2	PIPLIYA SEHORE	Ratlam	0	634	634
3	SHIVGARHBHEDLI	Ratlam	92	400	492
4	RAMSAGAR	Ratlam	0	84	84
5	GOVERDHAN SAGAR	Sailana	0	138	138
6	BODINA	Sailana	0	60	60
7	DHOLKA	Ratlam	0	95	95
8	PREETAMNAGAR	Ratlam	0	53	53
9	BHAMAT	Sailana	162	245	407
10	BHAMORIYA NALLA	Sailana	0	0	0
11	NALL	Sailana	0	500	500
12	BIRMAVAL	Ratlam	0	367	367
13	BHAMNOD	Ratlam	60	253	313
14	KOLVAKHEDI	Ratlam	0	987	987
15	RUPANIYAKHAL	Jaora	400	1592	1992
16	GUDBEHLI	Sailana	22	62	84
17	DHOLAVAD	Ratlam	1399	5121	6520

18	KHEDI	Ratlam	4	40	44
19	DABRI	Sailana	0	144	144
20	REECHHA	Jaora	0	356	356
21	KOLPUR	Sailana	22	160	182
22	MARGUL LIS	Sailana	0	77	77
23	RAMPURIYA	Ratlam	0	70	70
24	DEHRI TRIVENI	Ratlam	0	1941	1941
25	KANERI	Ratlam	0	506	506
26	PELADARI	Jaora	0	215	215
27	SIRWANI JAGIR	Ratlam	0	180	180
28	JAMBUDIA	Sailana	0	87	87
29	MORIYA	Jaora	0	239	239
30	MAKANPURA	Sailana	0	207	207
31	ROJNI NADI STOP DAM	Jaora	0	0	0
32	SEMALKHEDA	Jaora	0	215	215
33	PIPLIPADA	Jaora	0	100	100
34	GADAVADYA	Jaora	0	174	174
35	BHANDARIA	Jaora	0	124	124
36	PADLIAGHAT	Jaora	0	172	172
37	AMARPURA	Jaora	0	400	400
38	MEHANDI	Jaora	0	97	97
39	BERKHEDA KHURD	Jaora	0	205	205
40	AERWAS	Jaora	0	64	64
41	KERWAKHEDI	Jaora	0	70	70
42	MADAVPURA	Jaora	0	60	60
43	MANDAVI	Jaora	0	74	74
44	DIVEL TANK	Jaora	0	80	80
45	TAMBOLIA WEIR	Jaora	0	900	900
46	PATRI	Jaora	0	160	160
47	CHAWLAKHEDI	Jaora	0	700	700
48	SHIVPADA	Jaora	0	153	153
49	GANGAPUR	Jaora	0	250	250
50	SAGALKHO	Jaora	0	135	135
51	MANPURA	Jaora	0	80	80
52	HARIYALKHEDA	Jaora	0	90	90
53	SAMERKHO	Jaora	0	135	135
	Total		3560	24498	28058

### Appendix 3: Major Industries in Ratlam

Table 8-3: Major Industries in Ratlam

Serial No	Industry Name	Phone No.
1	KOTHARI LAMINATION PVT. LTD.	234935
2	S.B. INDUSTRIES.	231246/242787
3	KATARIA WIRES LTD.	235410
4	RATLAM WIRES P. LTD.	235410
5	SHRI RAM SWITCH GEARS.	260164
6	SHRI RAM SWITCH GEARS.	235554
7	TECHNO BEST TRANSFORMERS.	235840
8	MALWA OXYGEN & IND. GASES P. LTD.	23580/230170
9	PURNA GASES P. LTD.	7412260306
10	TIRUPATI PACKO PLAST.	260306
11	AUTO POWER EQUIPMENTS.	231569
12	SHRI RAM FASTNERS.	
13	M/S RELIABLE TRANSFORMERS.	270071
14	M/S IPCA LABORATORIES LTD.	234840
15	AROCHEM INDUSTRIES.	236226
16	MALWA UDHYOG.	234067/279223
17	NAVKKAR WIRES PVT. LTD.	230266
18	DEEPAK WIRES IND.	230193/230310
19	M/S GADIA AUTOCOMPS.	
20	K.S. OIL MILLS LTD.	304300
21	KHATITAN AGRO DOSIGAON	260931
22	AMBICA SOLVEX	07414-220158
23	D.P. PLASTIC RATLAM	260143
24	KATARIYA INDUSTRIES RATLAM	261011
25	JAORA FLOOR & FOODS P. LTD	07414-220543
26	KOTHARI AGRICO JAORA	07414-220968

#### Appendix.4: Police Stations

Table 8-4: Police Station

Serial No	Name of the Police Station	Office Phone	Radio Set Type
1	AJK Ratlam	07412-270471	VHF
2	Alot	07410-230437	VHF
3	Badawada	07414-263250	VHF
4	Bajnaa	07413-275233	VHF
5	Barkheda	07410-242333	VHF
6	Bilpak	07412-282233	VHF
7	Industria Area Jawra	07414-230170	VHF
8	Jaora city	07414-221125	VHF
9	Kalukheda	07414-276207	VHF
10	Manakchouk	07412-270468	VHF
11	Namli	07412-269233	VHF
12	Piploda	07414-262224	VHF
13	PS GRP	07412-235250	VHF
14	Ratlam Industrial Area	07412-270469	VHF
15	Rawati	07413-270233	VHF
16	Ringnod	07414-264233	VHF
17	Sailana	07412-278623	VHF
18	Sarvan	07413-276288	VHF
19	Shivgarh	07413-273086	VHF
20	Station Road	07412-270467	VHF
21	Taal	07410-244755	VHF
22	Traffic	07412-270470	VHF
23	Police Dehat District Ctrl. RTM	NA	HF

## Appendix.5: Police Outposts

Table 8-5: Police Outposts

<b>Serial No</b>	<b>Name of the Outposts</b>	<b>Phone</b>	<b>Radio Set Type</b>
1	Bangrod	07412-262165	VHF
2	Bhojkhedhi	NA	VHF
3	Chandragarh	NA	VHF
4	Dhodhar	07414-274447	VHF
5	Hatpiplaliya	07414-283350	VHF
6	Hussaintekri	NA	VHF
7	Kanadia	NA	VHF
8	Kharwakala	07410-243154	VHF
9	Mavata	07414-270100	VHF
10	Salakhedi	07412-275246	VHF
11	Sarsi	07414-285164	VHF
12	Shukheda	07414-273100	VHF
13	Virmawal	07412-256537	VHF

## Appendix.6: List of Post Offices

Table 8-6: Post Office

Serial No	Sub Division	Name	Category	Contact Details
1	Jaora	Alote LSG	LSG SO	07410-230422
2	Ratlam	Bajna	Class 3	07413 - 275222
3	Ratlam	Bilpank	Class 3	07412 - 282333
4	Jaora	Dhodhar R. S	Class 3	07414 - 274222
5	Jaora	Jaora MDG	MDG	07414 - 230477
6	Jaora	Jaora Choupati	Class 3	07414 - 222302
7	Jaora	Jaora Kutchery	Class 3	07414 - 220599
8	Jaora	Jaora Tower	Class 3	07414 - 222301
9	Jaora	Kalukheda	Class 3	07414 - 276222
10	Jaora	Kharwakala	Class 3	NA
11	Ratlam	Namli	Class 2	07412 - 269222
12	Jaora	Piploda	Class 3	07414 - 262222
13	Ratlam	Ratlam HO	HSG 1	07412 - 236209
14	Ratlam	Ratlam City	Class 3	07412 - 244450
15	Ratlam	Ratlam Collectorate	Class 2	07412 - 238032
16	Ratlam	Ratlam Ghatla Colony	Class 3	07412 - 225607
17	Ratlam	Ratlam Industrial Area	Class 3	07412 - 261106
18	Ratlam	Ratlam Jawahar Nagar	Class 3	07412 - 235650
19	Ratlam	Ratlam Kasara Bazar	Class 3	07412 - 236650
20	Ratlam	Ratlam Naharpura	Class 2	07412 - 238028
21	Ratlam	Ratlam Railway Colony	Class 2	07412 - 240698
22	Ratlam	Ratlam Station Road	Class 1	07412 - 236750
23	Ratlam	Ratlam Surajpole	Class 3	07412 - 236850
24	Jaora	Ringnod	Class 3	07414 - 264362
25	Ratlam	Sailana	Class 2	07413 - 278622
26	Jaora	Sunkheda	Class 3	07414 - 273220
27	Jaora	Tal	Class 2	07410 - 244122

## Appendix.7: Power Plants

Table 8-7: Power Plants

<b>Serial No</b>	<b>Name</b>	<b>Place</b>	<b>Capacity in MW</b>
1	M/s NEPC India Ltd./M/s Southern Wind Farms Ltd., Chennai	Sujapur	4.95
2	M/s SE Energy Park Ltd., Pune	Jaora	4.8
3	M/s Pioneer Wincon Ltd., Chennai	Jaora	4
4	M/s Suzlon Energy Ltd., Pune	Palsodi	32.7
5	M/s Suzlon Energy Ltd., Pune	Palsodi	9.6
6	Southern wind farms Ltd.	Ratlam	6
7	M/s Suzlon Energy Ltd	Ratlam	10.2
8	M/s Suzlon Energy Ltd	Palsodi	6
9	Total		78.25



## Appendix.8: List of Hospitals

Table 8-8: Hospital Information

Primary Health Care Centres				Community Health Care Centres			
Serial No	Block	PHC	Beds	Serial No	Block	CHC	Beds
1	Ratlam	Bilpak	6	1	Ratlam	Namli	30
2		Birmawal	6	2	Sailana	Sailana	30
3		Dhamnod	6	3	Bajana	Bajana	30
4		T.I.T. Raod	6	4	Piploda	Piploada	30
5		Bagrod	6	5	Alot	Taal	30
6		Dharad	6				
7	Sailana	Sakrawada	NA	Civil Dispensary			
8		Berada	NA	Serial No	Block	CD	Beds
9		Shivgarh	NA	1	Ratlam	Mominpura	Nil
10		Sarvan	5				
11	Bajana	Ravati	6	Civil Hospital			
12		Chandragarh	NA	Serial No	Block	CH	Beds
13	Jaora	Bardiagoyal	6	1	Jaora	Jaora	100
14		Badavada	6	2	Alot	Alot	30
15		Ringnod	6				
16		Dhodar	NA	District Hospital			
17	Piploda	Kalukheda	NA	Serial No	Block	DH	Beds
18		Pachewa	NA	1	Ratlam	Ratlam	500
19		Mawata	NA				
20		Sukheda	NA	Trauma Centre			
21	Alot	Karwakala	6	Serial No	Block	TC	Beds
22		Kanadia	NA	1	Ratlam	Ratlam DH	NA
23		Bhojakhedi	NA				
24		Mandawal	NA				
25		Berkhedakala	NA				

Appendix.9: Maps

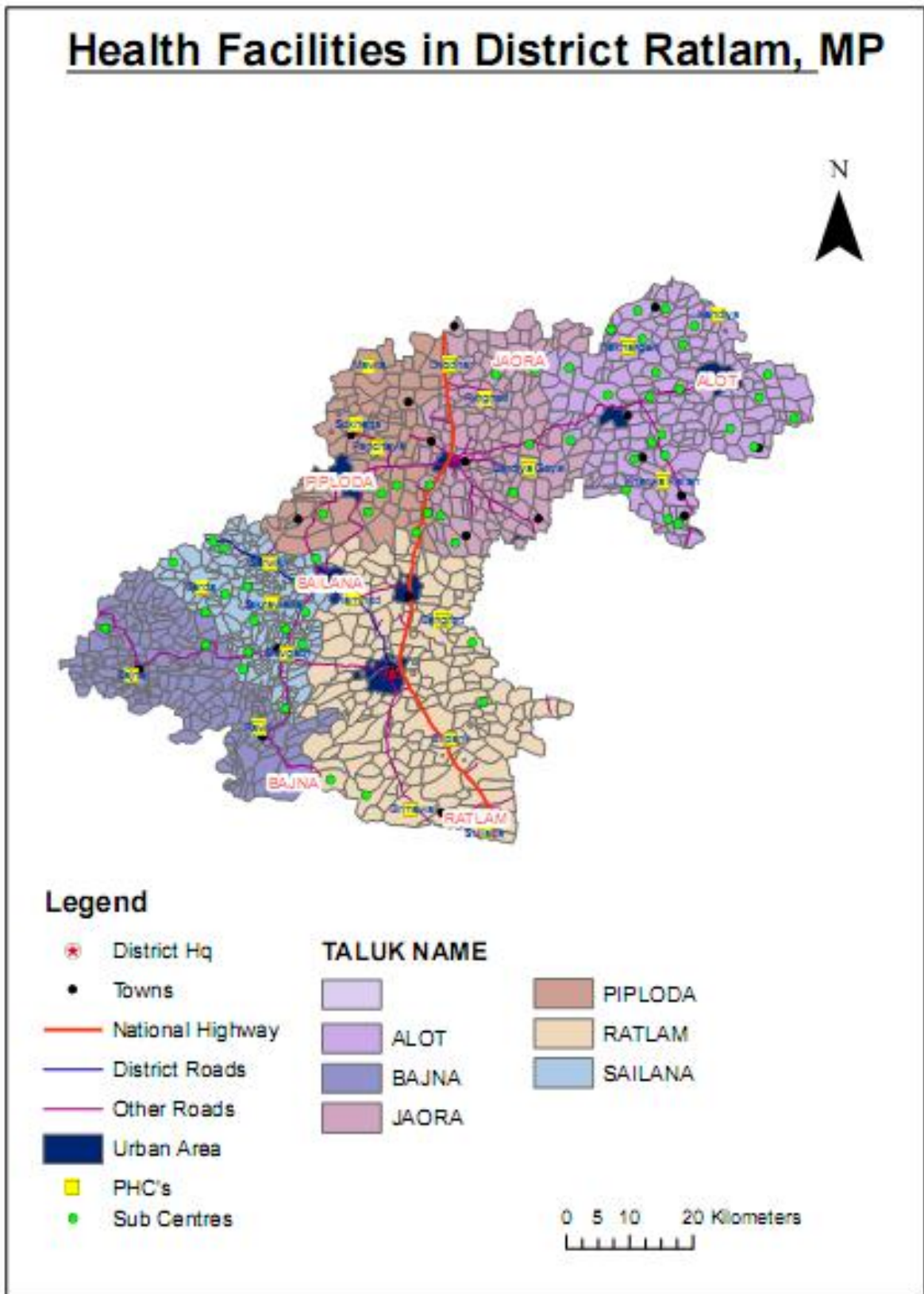
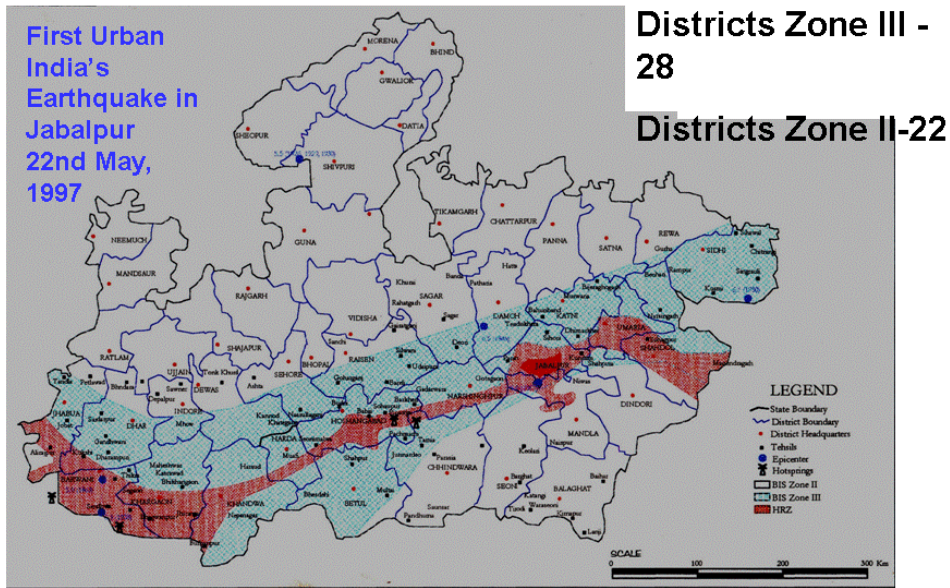


Figure 4: Health Facilities



Figure 5: Political Map of Ratlam

**EARTHQUAKE VULNERABILITY OF MADHYA PRADESH**



**In Madhya Pradesh, 28 districts partly or completely fall under Zone-III, having moderate seismic risk viz. Jabalpur, Khargone, Indore, Khandwa, Dhar, Raisen, Dewas, Sehore, Betul, Sidhi, Shadol, Damoh, Narsinghpur, Hoshangabad, Badwani, Jhabua, Umaria, Chhindwara Harda, Burhanpur, Anuppur, Sagar, Seoni, Mandla, Dindori, Katni Singhroli & Alirajpur**

Figure 6: Earthquake vulnerability

**FLOOD AFFECTED DISTRICTS OF MADHYAPREDESH**

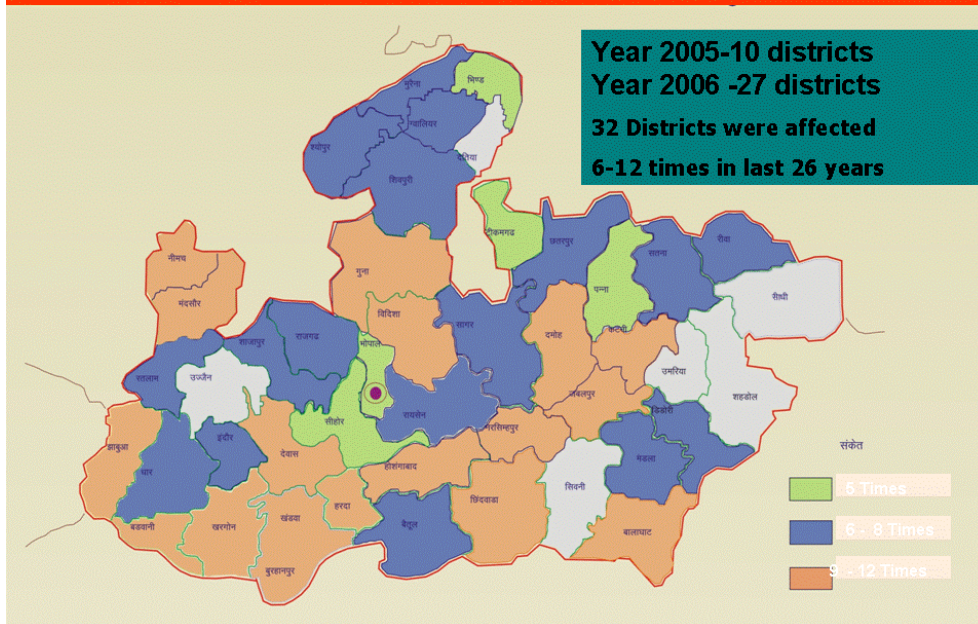


Figure 7: Flood Affected Districts

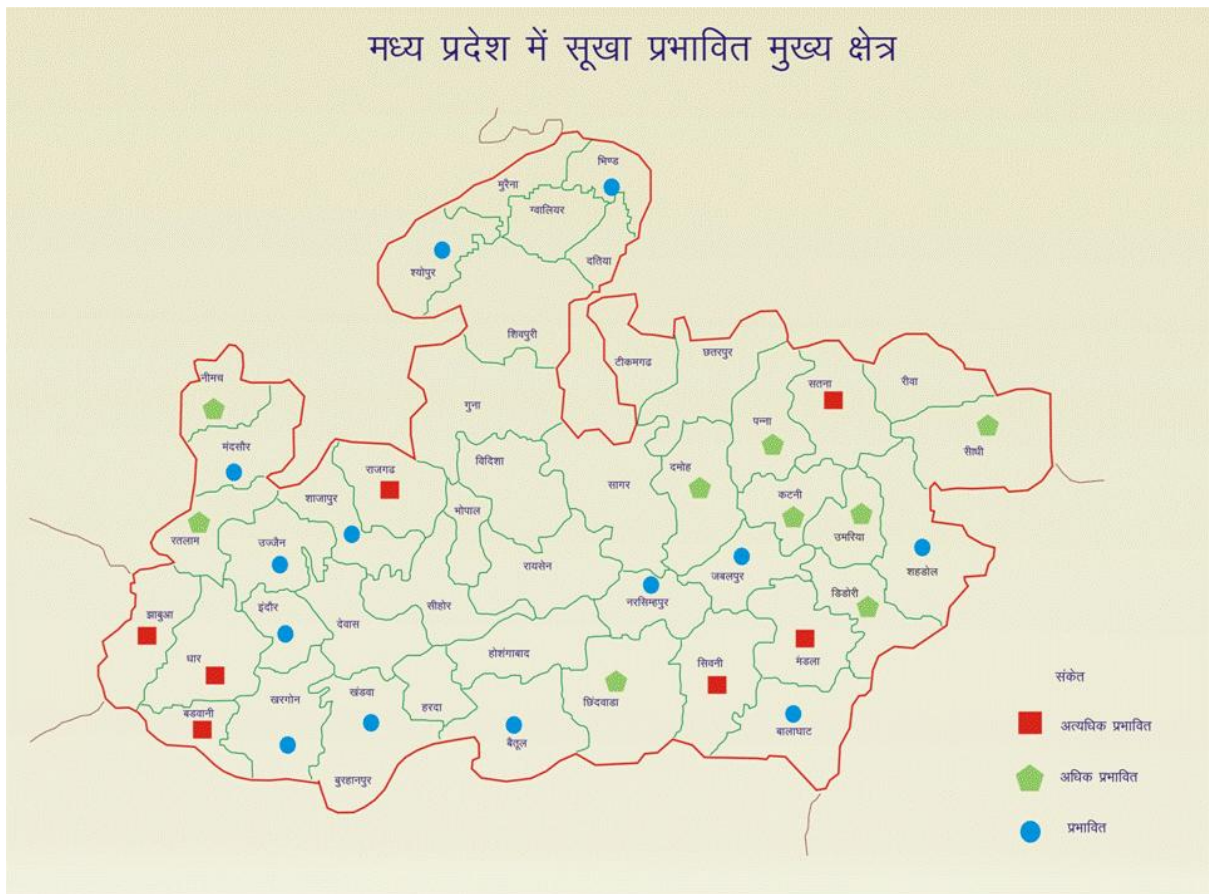


Figure 8: Drought Affected Districts