

District Disaster Management Plan Tikamgarh

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PREFACE

District Disaster Management Plan, Tikamgarh is a part of multi-level planning advocated by the Madhya Pradesh State Disaster Management Authority (MPSDMA) under DM Act of 2005 to help the District administration for effective response during the disaster. Tikamgarh is prone to natural as well as man-made disasters. Flood, Earthquake, Drought, Epidemic (Malaria) are the major Natural Hazards and forest fire, rail/road accidents etc. are the main man-made disaster of the district.

The Disaster Management plan includes facts and figures those have been collected from various departments. This plan is first attempt of the district administration and is a comprehensive document which contains various chapters and each chapter has its own importance. The plan consist Hazard & Risk Assessment, Institutional Mechanism, Response Mechanism, Standard Operating Procedure, inventory of Resources etc. Hazard & Risk Assessment is done on the basis of past thirty year disaster data & is collected from all departments.

It is suggested that the District level officials of different department will carefully go through the plan and if have any suggestions & comments be free to convey the same so that same can be included in the next edition.

It is hoped that the plan would provide concrete guidelines towards preparedness and quick response in case of any emergency and help in realizing sustainable Disaster Risk Reduction & mitigate/minimizes the losses in the district in the long run.

LIST OF FIGURES

Figure 1 Location Map of the Study Area (Tikamgarh)	13
Figure 2 Cycle of Disaster Management	33
Figure 3 DDMA organogram during the disaster	36
Figure 4 District level disaster management organogram	40
Figure 5 District Disaster Information Management System	41
Figure 6 Dynamics of vulnerability, coping mechanisms and drought mitigation	61
Figure 7 Proposed Institutional arrangement of the DEOC	86
Figure 8 Present structure of DDMA	89
Figure 9 Proposed Structure of DDMA Coordination	90
Figure 10 Incident Command System (ICS)	91
Figure 11 Intra-District Disaster Management Execution System	142
Figure 12 Tikamgarh district Profile map	163
Figure 13 Tikamgarh district road map	163
Figure 15 Tikamgarh River Map	164
Figure 16 Tikamgarh River map with flood prone location Vulnerability Location	164
Figure 17 Land use in Tikamgarh	165
Figure 18 Earthquake Disaster Intensity in Tikamgarh	165
Figure 19 Blood bank location in Tikamgarh	166
Figure 20 Location of Fire Station	166

LIST OF TABLES

Table 1 Location and administrative divisions	14
Table 2 Block Wise Area and Population	15
Table 3 Geography and Topography	16
Table 4 Following table shows the area irrigated through different means of irrigation.....	16
Table 5 Demographic and socio economics	17
Table 6 Climate and weather	18
Table 7 Last 10 or more years rain information.....	18
Table 8 Health (Medical)	20
Table 9 Education	22
Table 10 Total no. of schools of various types in different blocks of Tikamgarh district.....	23
Table 11 Total no. of Angabaris in different blocks of Tikamgarh district	24
Table 12 Total no. of Private schools of various types in different blocks of Tikamgarh district:	24
Table 13 Agriculture and Land use	25
Table 14 Housing Pattern	26
Table 15 Industrial set ups	26
Table 16 Following table shows the categories wise industries in the district	27
Table 17 Transport and communication network.....	28
Table 18 A Block wise radio station and wireless services.....	28
Table 19 Power stations and electricity installations.....	29
Table 20 Major historical, religious place, tourist spots	29
Table 21 District Disaster Management Authority (DDMA).....	34
Table 22 Supporting departments:	37
Table 23 District Disaster Management Committee / Advisory Committee (DDMC/ DDMAC)	37
Table 24 District Emergency Operations Center (DEOC) / District Control Room (DCR)	38
Table 25 Urban Area Disaster Management Committee:.....	43
Table 26 Block Level Disaster Management Committee	43
Table 27 Gram Panchayat Disaster Management Committee.....	45
Table 28 History of past disasters	46
Table 29 Type of applicable hazards	50
Table 30 Seasonality of hazards in one year	52
Table 31 Vulnerability Elements With respect to Flood.....	55
Table 32 Vulnerability Elements With respect to Drought	56
Table 33 Vulnerability Elements With respect to Storm and thunder.....	56
Table 34 Vulnerability Elements With respect to Industrial and Chemical Hazards.....	56
Table 35 Vulnerability Elements With respect to Fair Accident.....	57
Table 36 Vulnerability Details block wise.....	57
Table 37 Resource inventory Block wise.....	62
Table 38 Potential impact of applicable hazards and existing vulnerabilities	64
Table 39 Integrating Risk Reduction in Development Schemes.....	73

Table 40 Risk Management Funding for death and injury to human being	77
Table 41 Risk Management Funding for loss of livestock	77
Table 42 Risk Management Funding for Loss/damage to dwelling house	78
Table 43 Pre-Disaster Warning, Alerts agencies and communication mode	81
Table 44 Rapid damage assessment & reporting.....	93
Table 45 District Search & rescue Team.....	94
Table 46 Medical response at Tikamgarh	95
Table 47 Temporary shelter management.....	97
Table 48 NGOs & Voluntary organizations.....	99
Table 49 Department of Revenue & Relief	106
Table 50 Department of Home	108
Table 51 Water Supply Department	110
Table 52 Department of Transport	111
Table 53 Department of Public Works	112
Table 54 Department of Irrigation and Public Health.....	114
Table 55 Department of Agriculture	115
Table 56 Department of Rural Development.....	116
Table 57 Department of Education	118
Table 58 Department of Health	119
Table 59 Forest Department	120
Table 60 Department of Urban Development	121
Table 61 Department of Food, civil supplies and consumer affairs.....	122
Table 62 Department of Power.....	123
Table 63 Department of Finance.....	124
Table 64 Irrigation Department	124
Table 65 Telephone Department	126
Table 66 Animal Husbandry	127
Table 67 State Transport.....	129
Table 68 Home guards Department.....	131
Table 69 Non-Government Organisation.....	133
Table 70 List of Private contractors having equipments.....	136
Table 71 Information about JCB Machine:.....	137
Table 72 Non-Governmental Organizations and Community Based Organisations activities during disaster management cycle	138
Table 73 District Status Resource Report.....	145
Table 74 Distribution of Houses by Predominant Materials of roof and wall and level of Damage risk.....	145
Table 75 Total Item status report with department wise	147
Table 76 District Level Offices and their contact numbers	148
Table 77 Following are the list of Semi Government Offices.....	149
Table 78 Following are the Central Government offices	150
Table 79 Helpful contact no. during disaster	150

Table 80 Nagar Parishad Contacts	151
Table 81 UP Police control room which are near to boundary of Tikamgarh (contact no):	152
Table 82 Other Blocks Ambulance help:	153
Table 83 NGO's contact no in M.P.	153
Table 84 M.P. District Emergency Operation Centers	155
Table 85 Governmental Decided Price shops information with concerned nodal officer block wise:	157
Table 86 Tikamgarh district Fire station availability	157
Table 87 Flooding: Dos and Don'ts.....	159

LIST OF ACRONYMS

DDMA – District Disaster Management Authority

ICS – Incident Command System

DEOC – District Emergency Operation Centre

DDMAC - District Disaster Management Advisory Committee

DCR – District Control Room

M.P. – Madhya Pradesh

NGO – Non-Government Organisation

HVRC - Hazard, Vulnerability Assessment and Risk Profiling

WATSAN – Water and Sanitation

SOP – Standard Operating Procedure

HFL- High Flood Level

SEOC/SEC - Emergency Operations Centres at the State

ICP - Incident Command Post

ESF – Emergency Support Functions

PWD – Public Work Department

TABLE OF CONTENTS

CERTIFICATE	ОШИБКА! ЗАКЛАДКА НЕ ОПРЕДЕЛЕНА.
ACKNOWLEDGMENT	2
PREFACE	3
LIST OF FIGURES	4
LIST OF TABLES	5
LIST OF ACRONYMS	8
A. GENERAL OVERVIEW	13
1. OVERVIEW	13
1.1 District Profile	13
1.1.1 Location and administrative divisions:	14
1.1.2 Geography and Topography	15
1.1.3 Demographic and socio economics:	17
1.1.4 Climate and weather	17
1.1.5 Health (Medical)	19
1.1.6 Education	22
1.1.7 Agriculture and Land use	24
1.1.8 Housing Pattern:	26
1.1.9 Industrial set ups	26
1.1.10 Transport and communication network	27
1.1.11 Power stations and electricity installations	29
1.1.12 Major historical, religious place, tourist spots	29
1.2 Scope and Ownership of District Disaster Management Plan	30
1.2.1 Purpose of the Plan	31
1.3 Key Objectives	31
1.4 District Plan Approach	32

2. Institutional Arrangements	33
2.1 District Disaster Management Authority (DDMA)	34
2.2 District Disaster Management Committee / Advisory Committee (DDMC/ DDMAC)	37
2.3 District Emergency Operations Center (DEOC) / District Control Room (DCR)	38
2.4 District Disaster Information Management System	39
2.5 Urban Area Disaster Management Committee:	42
2.6 Block Level Disaster Management Committee	43
2.7 Gram Panchayat Disaster Management Committee	45
B. HAZARD, VULNERABILITY ASSESSMENT AND RISK PROFILING (HVRC)	46
1. Hazard Assessment	46
1.1 History of past disasters.....	46
1.2 Major applicable hazards.....	48
1.3 Seasonality of hazards in one year	52
2 Vulnerability Analysis:	53
2.1 Vulnerability Analysis Factors	53
2.2 Vulnerability Elements With respect to each Hazard	55
2.3 Vulnerability details block wise	57
2.4 Dynamics of vulnerability, coping mechanisms and drought mitigation (Source: Drought mitigation strategy for Bundelkhand region).....	60
3. Capacity Analysis.....	62
4. Risks Assessment.....	64
4.1 Potential impact of applicable hazards and existing vulnerabilities	64
4.2 Risk profiling of the district.....	69
C. DISTRICT LEVEL DISASTER MANAGEMENT PLANNING.....	71
1. DISTRICT ACTION PLANS	71
1.1 Mitigation Plan.....	71
1.1.1 Scope of Integrating Risk Reduction in Development Schemes	72
1.1.2 Training & Capacity Building	76
1.1.3 Community Initiatives.....	76
1.1.4 Risk Management Funding	77
1.2 Preparedness Plan.....	79
1.2.1 Preparedness before response: General Preparedness Measures.....	79
1.2.2 Pre-Disaster Warning, Alerts.....	81
1.2.3 Evacuation preparedness.....	84
1.2.4 Organizing mock drills.....	85
	10

1.3 Response Plan	85
1.3.1 Disaster Emergency Response Force	88
1.3.2 Crisis management direction & coordination	88
1.3.3 Incident Command System (ICS).....	90
1.3.4 Rapid damage assessment & reporting (Revenue department).....	92
1.3.5 District Search & rescue Team (Police department and Home guard)	94
1.3.6 Medical response (Health department).....	95
1.3.7 Logistic arrangements (Police department and RTO)	96
1.3.8 Communications (BSNL).....	96
1.3.9 Temporary shelter management (PWD and Nagarpalika).....	96
1.3.10 Water and Sanitation (WATSAN) (Nagarpalika and PHE)	98
1.3.11 Law & order (Police department)	98
1.3.12 Public grievances/missing persons search/media management (Police department).....	98
1.3.13 Animal care (Veterinary department).....	99
1.3.14 Management of deceased (Health department)	99
1.3.15 Civil Defence and Home Guards (Police department and Home guard)	99
1.3.16 Role of Private Security (Police department).....	99
1.3.17 NGOs & Voluntary organizations	99
1.3.18 Relief management planning (Police department and District headquarter)	99
1.3.19 Media Management (Public relation officer)	102
1.3.20 Fire Services (Municipal department).....	102
1.4 Recovery and Reconstruction Plan	102
1.4.1 Restoration of basic infrastructure	103
1.4.2 Reconstruction of damaged buildings/social infrastructure.....	104
1.4.3 Restoration of livelihoods	104
1.4.4 Psycho-social interventions	104
1.5 Cross cutting elements	104
1.5.1 Community Based Disaster Management	104
1.5.2 Needs of the Special vulnerability Groups	105
1.5.3 Addressing climate induced anthropogenic issues	105
2. Standard Operating Procedures (and Checklists)	106
2.1 SOPs for all concerned Line Departments	106
2.2 Hazard specific SOPs for designated Departments and Teams	135
3 Financial Provisions for Disaster Management	135
3.1 District Disaster Response Fund	135
3.2 District Disaster Mitigation Fund	135
4. Coordination mechanisms with other stakeholders	136
4.1 Mapping of stakeholders in the District.....	136
4.2 Responsibilities of the stakeholders	140

5. Inter- District Coordination Mechanisms – [Standard Operating Procedures / Protocols]	141
6. Intra- District Coordination Mechanisms – [with Block Headquarters]	141
7. Dissemination of DM Plan	142
7.1 Plan Evaluation	143
7.2 Plan Update	143
8. Annexure.....	145
8.1 District profile	145
8.2 Resources.....	145
8.3 Media and information management.....	148
8.4 Important Contact numbers	148
District Tikamgarh Fire station availability:	157
8.5 Do's and Don'ts of all possible hazards.....	158
8.6 Detailed Maps.....	163

A. GENERAL OVERVIEW

1. OVERVIEW

1.1 District Profile

Tikamgarh is one of the oldest inhabitation of India. It is located in the northwestern part of Sagar Division of Madhya Pradesh. Tikamgarh district lies in the northern part of Madhya Pradesh and covers an area of 5048 Sq.Km. It forms the north-western part of Sagar District. It lies on the Bundelkhand Plateau between the Jamni, a tributary of Betwa and Dhasan rivers. It extends between the latitude 24 degree 26 minute and 25 degree 40 minute N and between 78 degree 26 minute and 79 degree 26 minute Longitudes. The maximum length of the district is about 119 Km. From North to South and width about 80 Km. Tikamgarh District is bounded by Chhatarpur district to east, Lalitpur district Uttar Pradesh to West, Jhansi to North and Sagar to South. The western and Eastern boundaries are formed by two big rivers.

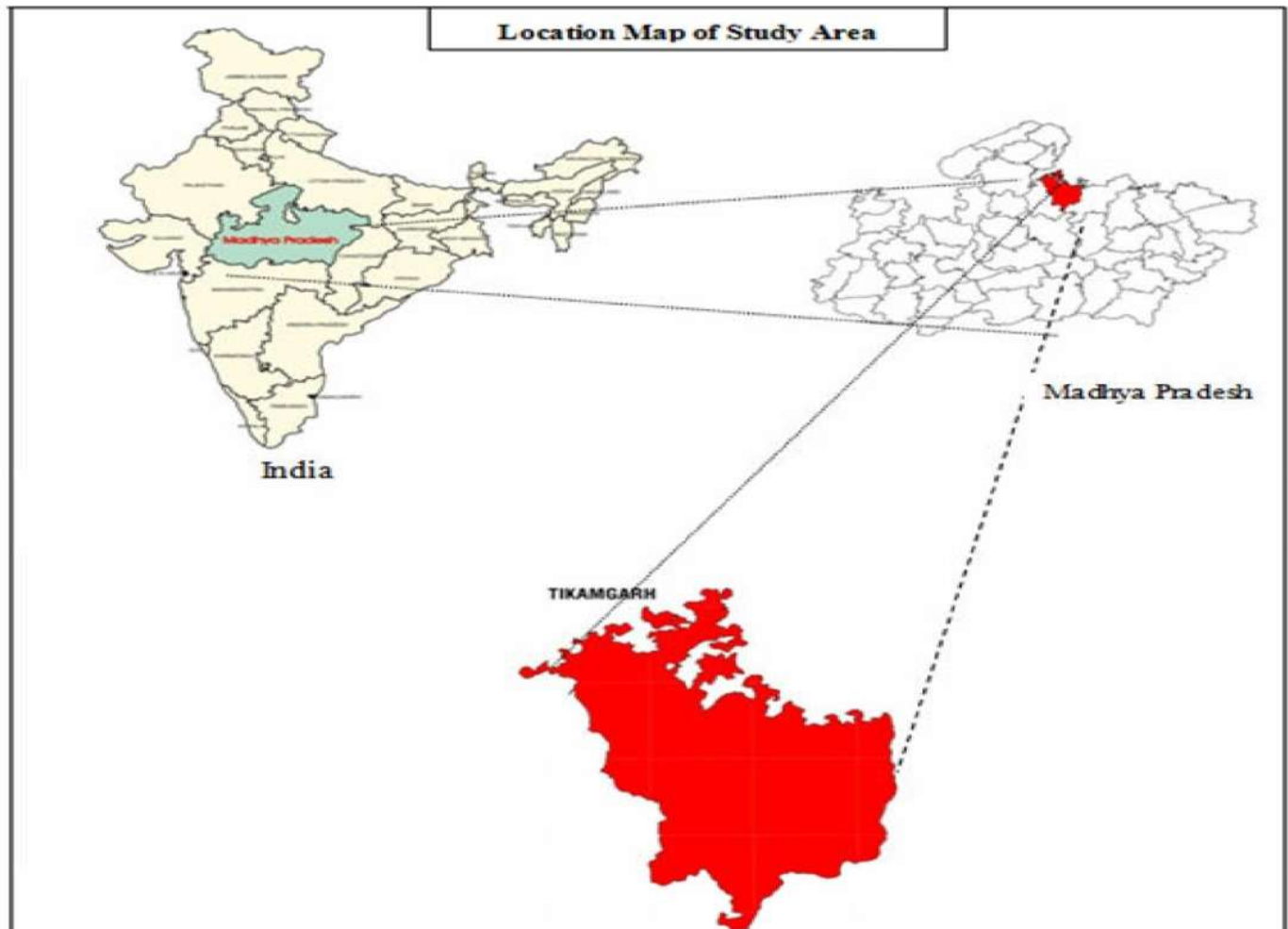


Figure 1 Location Map of the Study Area (Tikamgarh)

Tikamgarh district is divided into six tehsils grouped into three sub divisions of Tikamgarh, Niwari and Jatara. The Tikamgarh sub division comprises Tikamgarh and Baldeogarh tehsils, Niwari and Prithvipur tehsil form Niwari Sub Division whereas Jatara sub division comprises of Jatara and Palera Tehsil. There are six development blocks namely Tikamgarh, Jatara, Baldeogarh, Palera, Niwari and Prithvipur.

The names of Police Stations located in the district are Tikamgarh, Digora, Lidhoura, Palera, Kudila, Baldeogarh, Khargapur, Orchha, Mohangarh, Niwari, Jatara, Budera, Jeron, Badagaon, Teharka, Sendri, Simra, and Prithvipur.

1.1.1 Location and administrative divisions:

Table 1 Location and administrative divisions

Location (in degrees) -	Latitude – 24.26 to 25.40 Longitude - 78.26 to 79.26											
District Area (in sq. kms.) -	5048											
Administrative information-												
No. of sub divisions:	3 (Tikamgarh, Jatara, Nivari)											
No. of Tehsils:	12 (Tikamgarh, Baldevgarh, Kharagapur, Jatara, Mohangarh, Lidhara, Palera, Niwari, Orcha, Prithvipur)											
No. of Municipal Boards	Tikamgarh											
No. of Blocks:	6 - (Tikamgarh, Baldevgarh, Jatara, Palera , Nivari, Prathvipur)											
No. of Gram Panchayats:	459											
No. of Villages:	1003 (including 7 forest village, and 97 Barren village)											
No. of Police Stations, Police Chowkees (Block wise):	<table border="1"> <thead> <tr> <th>Subdivision</th> <th>Police station/Police Chowkees</th> </tr> </thead> <tbody> <tr> <td>Tikamgarh</td> <td>6/4</td> </tr> <tr> <td>Jatara</td> <td>5/4</td> </tr> <tr> <td>Nivari</td> <td>7/3</td> </tr> <tr> <td>Total</td> <td>18/11</td> </tr> </tbody> </table>		Subdivision	Police station/Police Chowkees	Tikamgarh	6/4	Jatara	5/4	Nivari	7/3	Total	18/11
Subdivision	Police station/Police Chowkees											
Tikamgarh	6/4											
Jatara	5/4											
Nivari	7/3											
Total	18/11											
No. of Post Offices(Block wise):	19 Head Offices and 165 Branches											
Year of district formation:	1887											

Name of adjacent districts:	Tikamgarh District is bounded by Chhatarpur district to east, Lalitpur district Uttar Pradesh to West, Jhansi to North and Sagar to South.
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Source: District statistical book 2011

Table 2 Block Wise Area and Population

S. No.	Name Of Tehsil	Area in Sq. Km.	Population		
			Male	Female	Total
1.	Niwari	606.00	98079	86603	184682
2.	Jatara	1008.60	127725	112835	240560
3.	Tikamgarh	867.60	131406	117793	249199
4.	Prithvipur	958.62	84249	74727	158976
5.	Baldeogarh	858.96	91928	81228	173156
6.	Palera	748.22	93888	82523	173158

Source: District statistical book 2011

1.1.2 Geography and Topography

The District lies in the Ganga Drainage system. The Betwa flows along its north-western boundary. The Dhasan, one of its right bank tributaries and a big stream itself, mark the eastern boundary of the district. Both these rivers flow towards the north-east. The natural drainage of the district is diverted in the opposite directions into these rivers, the Dhasan sharing about 75 percent of the waters of the district. The tributaries of the Betwa flowing in the Tikamgarh district are Jamni, Bagri and Barua.

Geomorphological features are directly controlled by the geological formations and their structures. They are can be classified into two broad regions.

1. The hill ranges.
2. The intermountain fertile valleys.

The hill ranges are made up of hard compact and resistant granite masses intruded by quartz reef. The heights of hills range from 200 m to 400 m above mean sea level (amsl). The intermountain valley is fertile and covered by colluvial and detrital of parent rock along with organic material. The thickness of alluvial fill varies from 10-16 meters.

It covers total forest are around 692.32 sq. km. Recently they have started work on sujara dam on Dasan river in Badagaon which is going to be complete in next one year.

The geology of the area is characterized by what is known as the Bundelkhand Gneiss in geological terms. The Bundelkhand Gneiss is a hard grayish pink granitodal rock of simple composition, which

is traversed by conspicuous quartz fields that are integral part of this formation. These rocks are found in the form of sheets and dykes across the district, thus constituting the topography of the district.

Table 3 Geography and Topography

Name of rivers and lakes:	Betwa, Jamuni, Ur, Dhasan and Jamdar
No. of dams, embankments:	Sujara dam On Dasan river in Badagaon Tikamgarh is going to be complete in next few years. Also Tikamgarh district face some issues of flood because of Maatateela dam UP)
Name of existing mountains:	<ol style="list-style-type: none"> 1. Jooramora – Madia valley sloping N-W 2. Majrakachhar to Dighuar Khurd village sloping north – west. 3. Mudeni to Dhoura valley trending northwards. 4. Bachchoda to Khistone valley trending northwards.
Highest elevation (in meters):	426.7 m above the mean sea level.
Forest cover in the district: (in Km ²)	Forest Area - 692.32

Source: District statistical book 2011

Table 4 Following table shows the area irrigated through different means of irrigation

S.No.	Tehsil Name	Canals		Tubewells		Wells		Tanks	
		Number	Area	Number	Area	Number	Area	Number	Area
1	Tikamgarh	30	4889	178	1137	13624	19984	50	1955
2	Baldeogarh	40	452	33	1068	15218	20920	66	1931
3	Jatara	33	3441	898	1653	13800	23497	60	2136
4	Palera	54	440	23	1003	11580	24906	56	1045
5	Niwari	10	1214	378	2497	9704	20089	26	492
6	Prithvipur	8	725	136	113	10667	19885	26	402

1.1.3 Demographic and socio economics:

According to the 2011 census Tikamgarh District has a population of 1,444,920. Male constitute 53% and female 47% of the total population. Its population density is 286 persons per sq. km. Its sex ratio is 886. The rural-urban proportion is 82.32:17.68. Its per capita income is 10947. The main occupation of the district people is farming.

Table 5 Demographic and socio economics

Total household:	
Total population:	1,444,920 (According to Census 2011)
Male:	629,148
Female:	566,012
Population density (per sq. km):	286
Income:	
Per capita income:	10947
Total APL, BPL families: (according to 2008)	163972, 119200
Occupation:	
Main occupation of people:	Farming
Secondary occupation of people:	Own Small business

Source: District statistical book 2011

1.1.4 Climate and weather

The Climate of Tikamgarh district is monsoon type. The year may be divided into four seasons. The winter season starts from December to February followed by the hot season, from March to about the middle of June. The period from about mid-June to the end of September is the rainy season. The months of October and November constitute the post-monsoon or transition season.

There is only one rain gauge station in the district at Tikamgarh. The average rainfall of the district is 1000.2mm. It varies in different parts of the district. It is seen that rainfall in the district in general increases from northwest to southwest. Parts of the Niwari tehsil and Mohangarh of Jatara tehsil also

come in the low rainfall zone. About 90 percent of the annual rainfall in the district is received during the south-west monsoon season - June - September, July being the rainiest month.

There is no meteorological observation in the district. The description which follows is based on the records of the observations in the neighbouring districts which have similar climate. After February, temperature rise progressively. May is generally the hottest month with mean daily maximum temperature at about 47 degree Celsius and low 17.5 degree Celsius. On individual day temperature may raise upto 47 degree Celsius. The relative humidity is high during the monsoon season, it being generally above 70 percent. In the rest of the year the air is comparatively dry. The driest part of the year is summer season when the relative humidity is less than 20 percent the afternoons.

Table 6 Climate and weather

Rainfall:	
Total annual rainfall of last year:	1064.4 mm
Average rainfall (last 10 years):	1000.2 mm
Temperature:	
Average Maximum Temperature (in degree centigrade):	47
Average Minimum Temperature(in degree centigrade):	17.5
Demarcation of crucial seasons:	
Months of excess rainfall, leading to flood situation:	July
Months of water scarcity, leading to drought situation:	May

Source: District statistical book 2011

Table 7 Last 10 or more years rain information

Year 1 June to 31 May	Tikmgarh	Baldeogarh	Jatara	Palera	Niwari	Prithvipur	Orccha	Avg. Rain
97-98	956	1210	1036	1382.8	985.2	1258	1155	1140.4
98-99	1085	1056.5	576	1170	1107.1	1177.2	858	1004.3
99-2000	1206	1284	1135	1361	1354.4	1229.8	990	1225.3
2000-01	803	855.2	439	437	575.1	717.8	765.8	656.1

2001-02	751.2	621	645	808.7	1037.4	1183	884.5	847.2
2002-03	800.9	659	484	729.5	795	655	671	684.9
2003-04	950.5	951	1138	1342	1092	1362(Max.)	1197	1147.5
2004-05	772.4	718	653	716.5	576	728	404	652.5
2005-06	931	545	549	715	619	741	588	669.7
2006-07	810	427	458	586	405	401.1	394(Min.)	497.3
2007-08	275	228	465	545	399	589	408	415.6
2008-09	1457	907	1241	1289	1302	1126	1126	1206.8
2009-10	848	583	737	765.5	667	704	637.8	706
2010-11	605	494	438	575	762	766	559.6	597.4

Source: District statistical book 2011

1.1.5 Health (Medical)

The district hospital, known as Rajendra Hospital, Tikamgarh, started functioning in its present shape from 16th January, 1955. The hospital is located at Civil Lines area on Tikamgarh-Niwari road near circuit house. The hospital has 200 beds. All modern equipment such as X-ray, ECG Machine, Boyles Apparatus, and Dental Unit etc. are available here. An anti-rabic center was opened here in April 1958, In 1961 Public health Laboratory was provided. A family welfare and child health center is attached to this Hospital. The following table shows the number of patients treated here during the past few years. The first aid kits (at least one in every village) are with

- Depot Holders
- MLV (Malaria Linked Volunteers)
- ASHA

These kits have all the needed material for first aid and Medicines.

The **blood bank** availability is only available in Tikamgarh district and in other blocks supply of blood is done by the district headquarters through the help of blood center. The facility of trauma center is not available in the district.

Other details are given in the following table 8 block wise:

Table 8 Health (Medical)

Block name :		No. of Hospitals: No. of mini hospitals/ dispensaries/sub health centres (SHC): No. of Primary Health Centers (PHCs): No. of Community Health Centers (CHCs):			No. of medical officers(MO): No. of nurses(N), compounders(C) (medical/ paramedical staff): No. of available ambulances: No. of beds: No .of trained first aid volunteers in the block: Total No. of medical stores in the block:		
Tikamgarh	1, District Hospital	No. of Staff		Ava. Ambulances		Bed	
		12 MO		3		200	
		22 N					
		4 C					
		No .of trained first aid volunteers in the block: 1					
		Total No. of medical stores in the block: 50					
Badagaon	1 (CHC), 2 PHC, 24 SHC	CHC	PHC	SHC	Ava. Ambulances	Bed	
		3MO	3	Multipurpose worker One Male One Female	1	CHC-6 PHC-20	
		1 N	0				
		1 C	1				
		No .of trained first aid volunteers in the block: 1					
		Total No. of medical stores in the block: 50					
Baldevgarh	1 (CHC), 3 PHC, 27 SHC	CHC	PHC	SHC	Ava. Ambulances	Bed	
		3MO	1	Multipurpose worker One Male One Female	1	CHC-30 CHC-06 (Kharagapur) PHC-30	
		1 N	1				
		1 C	3				
		No .of trained first aid volunteers in the block: 1					

		Total No. of medical stores in the block: 20					
Niwadi	1 (CHC), 4 PHC, 25 SHC	CHC	PHC	SHC	Ava. Ambulances	Bed	
		4MO	3	Multipurpose worker One Male One Female	3	CHC-30 PHC-36	
		2 N	1				
		1 C	1				
		No .of trained first aid volunteers in the block: 1					
		Total No. of medical stores in the block: 20					
Prithvipur	1 (CHC), 3 PHC, 21 SHC	CHC	PHC	SHC	Ava. Ambulances	Bed	
		3MO	1	Multipurpose worker One Male One Female	1	CHC-30 PHC-10	
		4 N	0				
		1 C	0				
		No .of trained first aid volunteers in the block: 1					
		Total No. of medical stores in the block: 15					
Jatara	1 (CHC), 5 PHC, 34 SHC	CHC	PHC	SHC	Ava. Ambulances	Bed	
		2MO	1	Multipurpose worker One Male One Female	1	CHC-30 PHC-30	
		3 N	1				
		0 C	1				
		No .of trained first aid volunteers in the block: N.A.					
		Total No. of medical stores in the block: 20					
Palera	1 (CHC), 3 PHC, 25 SHC	CHC	PHC	SHC	Ava. Ambulances	Bed	
		3MO	2	Multipurpose worker One Male One Female	1	CHC-30 PHC-20	
		3 N	0				
		1 C	2				
		No .of trained first aid volunteers in the block: 1					
		Total No. of medical stores in the block: 15					

Source: District statistical book 2011& District health department (District Collectorate office)

Note: Please find medical stores information from following link:

1. <http://tikamgarh.nic.in/medicalstore.pdf>
2. <http://tikamgarh.nic.in/links.htm>

1.1.6 Education

Due to the efforts made under Sarva Shiksha Abhiyan (SSA), access to primary school is available to every child within 1 km, middle school within 3 km, high school within 5 km and higher secondary school within 8 km radius.

Table 9 Education

Literacy rate:	62.57
Total Male:	73.30
Total Female:	50.71
No. of Secondary schools:	(Government. + Private entities) 137
No. of High/Middle schools:	546
No. of Primary schools:	1773
No. of Anganwaris:	1406
No. of training centers:	1
No. of Engineering colleges:	0
No. of Medical colleges:	0
No. of Other colleges:	<ul style="list-style-type: none"> ➤ Agriculture college, Tikamgarh ➤ Government PG college: <ul style="list-style-type: none"> • Tikamgarh-1, • Niwari-1,

No. of Other schools:	<ul style="list-style-type: none"> • Jatara-1, • Prithvipur-1 ➤ Government Girls college, Tikamgarh ➤ Government B.Ed. College -3 ➤ Poly technique College - <ul style="list-style-type: none"> • Tikamgarh-1, • Niwari-1, • Palera-1, ➤ School for the Cultivation of fine Arts, Music and Dancing, Tikamgarh ➤ Government. Devendra Sanskrit Vidyalaya, Tikamgarh ➤ Jawahar Novodaya Vidayalya (JNV) in every block ➤ Kendriya Vidyalaya in Tikamgarh district ➤ Government Devendra Sanskrit Vidyalaya, Tikamgarh ➤ District Library Devendra Pustakalaya, Tikamgarh
Total (Approx.) Students Strength in all the educational institutions:	96131
Total (Approx.) Staff Strength in all the educational institutions:	3418

Source: District statistical book 2011

Table 10 Total no. of schools of various types in different blocks of Tikamgarh district

Block Name	Primary School	Middle School	High School	High.Secondary School	Total
Baldeogarh	316	94	14	9	433
Jatara	323	100	21	7	451
Tikamgarh	319	105	13	10	447
Palera	296	84	23	4	407
Niwari	225	85	9	10	329
Prithvipur	294	78	5	7	384
Total	1773	546	85	47	2451

Source: District statistical book 2011 & District education department (District Collectorate office)

Table 11 Total no. of Angabaris in different blocks of Tikamgarh district

Block	No. of Angabaris
Baldeogarh	270
Jatara	264
Tikamgarh	235
Palera	217
Niwari	146
Prithvipur	274
Total	1406

Source: District statistical book 2011 & District education department (District Collectorate office)

Table 12 Total no. of Private schools of various types in different blocks of Tikamgarh district:

Block	No. of Private schools and Co-ad school
Baldeogarh	2
Jatara	2
Tikamgarh	19
Palera	5
Niwari	15
Prithvipur	10
Total	53

Source: District statistical book 2011 & District education department (District Collectorate office)

1.1.7 Agriculture and Land use

Agriculture and related pursuits have always been the predominant occupation of the mainly rural area which, though not among the most fertile, has enough to reward well the tradition bound and hardworking farming community of the district.

The main crops of the district are Jowar, Wheat, Paddy, Urad and Till, Soyabean amongst the oilseeds while Sugarcane also is grown to a certain extent. Thus Crop wise, it can be said that both cropping seasons, the Kharif and Rabi are important in the district.

Soils derived from parent rocks are of three types i.e. black humus granitic and yellowish grey colour with kankar soils are derived due to disintegration and decomposition of parent rocks. The

geology of the area is characterized by what is known as the Bundelkhand Gneiss in geological terms. The Bundelkhand Gneiss is a hard grayish pink granitodal rock of simple composition, which is traversed by conspicuous quartz fields that are integral part of this formation. These rocks are found in the form of sheets and dykes across the district, thus constituting the topography of the district.

The land use data gives vital information regarding areas under different uses namely and reserved/open and dense/ degraded forests, plantation, water bodies, waste bodies, waste land etc. In the district, the land under agriculture is 53%. Non- agricultural land is 19% and other waste land is 5%, which make upto a total of 24% of non-utilizable land. Out of the total forests, protected forests constitute 36%, 29% reserved forests and 35% constitute other forests.

Table 13 Agriculture and Land use

Cropping pattern-	
Type of major crops:	Soyabean, Gram, Rice, Wheat, Jawar,Urad, Till, sugarcane
Cropping seasons	Kharif and Rabi
Land classifications- (in Km2)	
Forest land:	692.32
Barren & Uncultivated land:	443.07
Cultivated land:	284.60
Pasture land:	727.67
Soil classifications	<p>Black Humus Granitic & yellowish grey colour with Kankar soils.</p> <p>The soils found in the district are primarily of four types, which are:</p> <ol style="list-style-type: none"> i. Bundelkhand coarse-grained reddish brown soils ii. Bundelkhand coarse-grained grey to greyish brown soils iii. Bundelkhand clay loam black soils iv. Bundelkhand clayey-black soils <p>Locally these soils are known as Rakar, Parua, Kabar and Mar, respectively. The bulk of soil found in the district is the Rakar.</p> <p>Yes</p>

Saline:	Yes
Water logging:	No
Recurrent flood hit area:	Yes
Drought hit area:	

Source: District statistical book 2011

1.1.8 Housing Pattern:

The houses built in the district are of flat roofs as the rains are not heavy, in heavy rainfall areas, slopping roofs are found so as to drain off water. There are also R.C.C. buildings constructed in this area. In rural areas, mostly the houses are of mud or brick walls. There are also some pucca houses in the rural areas. According to 2011 census total number of households is 300105. The different material used for wall includes grass/thatch/bamboo, mud/unburnt brick, stone, burnt brick etc. Most of the households have walls made up of mud/unburnt brick (23.5%). The different materials used for roof are grass/thatch, bamboo, wood, mud, stone, concrete etc. Majority household's roofs are made up of burnt brick walls around 75.3%. The different materials used for floor are mud, cement, RCC etc. Most of the houses have construction up to Ground Floor or 1st floor. Very less Houses have construction up to 2nd and 3rd floors like Hotel, Government department, etc.

Table 14 Housing Pattern

Housing pattern- Type of housing construction:	Kuccha/ pucca houses
Type of material used:	RCC / Brick/ any other 2,123 /1,82,444/114643
Flooring types: (Ground and above)	G, G+1, G+2

Source: http://www.censusindia.gov.in/2011census/hlo/District_Tables/HLO_Distt_Table_MP.html

1.1.9 Industrial set ups

No Industry of any significance seems to have been at work in the Tikamgarh during the past. However, minor village industries of a rudimentary nature which are the inherent part of rural economy existed in this district too. These consisted of wood work units, handlooms weaving, pottery, brick-making, utensil-making, and gold, silver and lac ornaments-making. They are mainly run by the village artisan's class who inherited the skill of their craft. There are total no of industries are around 300 and the workforce who is working in these industries 617. No major hazard had happened in last few decades.

Table 15 Industrial set ups

Total no. of industries (Government., Semi Government. and Pvt)	300
a) No. of Major Accident Hazard Units/ Polluting industries/ Industrial Areas:	0

Total workforce involved in these industrial units:	617
b) No. of Medium and small scale industries :	300
Total manpower involved in these units:	617
Any major accident occurred in any of the industrial units (Loss of life >10, or Financial loss > 1 Crore).	0

Source: District Statistical book 2011

Table 16 Following table shows the categories wise industries in the district

S. No.	Tehsil Name	Small Scale Industries			Medium Scale Industries			Large Scale Industries			Total		
		No.	No. of person Emp.	Invest in Lacks	No.	No. of person Emp.	Invest in Lacks	No.	No. of person Emp.	Invest in Lacks	No.	No. of person Emp.	Invest in Lacks
1	Tikamgarh	67	139	17.56	-	-	-	-	-	-	67	139	17.56
2	Baldeogarh	50	91	2.27	-	-	-	-	-	-	50	91	2.27
3	Jatara	23	62	1.23	-	-	-	-	-	-	23	62	1.23
4	Palera	39	80	3.74	-	-	-	-	-	-	39	80	3.74
5	Niwari	68	150	28.99	-	-	-	-	-	-	68	150	28.99
6	Prithvipur	53	95	2.84	-	-	-	-	-	-	53	95	2.84

Source: District statistical book 2011

1.1.10 Transport and communication network

The district headquarters is not connected by the railway. There is no National Highway in the district Tikamgarh, the State Highway is about 187.40 Km. Of the road length, while the major district roads other district roads, Village roads covers 207.10 Km., 100.2 Km. And 838.70 Km respectively.

- **Public Transport:** The districts headquarter is not connected by the railway. The passenger buses ply regularly on almost all the main roads of the district. All the towns and big villages are directly connected by the bus transport. The passenger buses are run by both MPSRTC and private bus owners.
- **Railway:** District headquarters is not connected by the railway. The broad gauge lines of Jhansi-Manikpur and Jhansi-Bina section traverse the northern and western margin of the

district for about 41 Km. Currently the construction work of Tikamgarh district railway line is being going with the target to complete in year 2014.

- **Air Transport:** There is no facility for air transport in the district. The nearest airport is those at Gwalior and Khajuraho, which are linked by air with Delhi, Bhopal, Indore and Bombay.
- **Posts, Telegraphs and Telephones:** There has been acceleration in the development and expansion of the postal services since independence. At present there are one head Post Office, 19 Sub-post Offices and 164 Branch Offices in the District.

Table 17 Transport and communication network

Transport Connectivity of each block w.r.t. following networks:	
By Road	Yes (passenger buses are run by both MPSRTC and private bus owners.)
By Rail	No (Rail line work is under construction)
By Air	No (nearest airport is those at Gwalior and Khajuraho)
Waterways	No
Communication network-	
i) No. of wireless stations in the respective blocks	Yes
ii) Availability of telephone, mobile services in each block	Yes
iii) Availability of internet facility in the blocks	Yes

Source: District Police department 2011

Table 18 A Block wise radio station and wireless services

Block	Radio station or Wireless services
Tikamgarh	Tikamgarh(4), Oston, Khiriya, Badagaon,

Baldeogarh	Baldeogarh, Deverdha, khargapur, Kudila, Budhera
Jatara	Kanera, Deogara, Mohangarh, Lidhora, Jatara, Bhomukala
Palera	Palera, Khajari
Niwari	Tiharaka, Orccha, Sendhari, Niwari, Narainaka, Chakkarpur
Prithvipur	Simara, Jiron, Prithvipur

Source: District Police department 2011

1.1.11 Power stations and electricity installations

Almost all villages (99.9%) are electrified whereas the state average is 97% and the national average is 86%. Though the scenario of electrification in the district does not look very bad but when the rural and urban consumption of electricity is compared, we find that the urban consumption of electricity (54%) is higher than the rural consumption (45%).

Table 19 Power stations and electricity installations

List of power stations in the district:	56
Electricity outreach in the district:	99.9%
Available sources of electricity in district, like DG sets etc:	Yes

Source: MP State Electricity Board Tikamgarh 2011

1.1.12 Major historical, religious place, tourist spots

Tikamgarh town boasts of ample built and natural heritage but rarely sees any visitors despite the close proximity to the popular Delhi-Agra-Gwalior-Orccha-Khajuraho tourism circuit. Tikamgarh also boasts of regional religious and pilgrimage places- Kundeshwar, receiving thousands of devotees on a single day during religious festivals.

Table 20 Major historical, religious place, tourist spots

<p>List of historical places in the district: /List of religious centers in the district: /List of the tourist spots in the district:</p>	<p>Average presence of visitors per day during peak season / festival season</p>
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<ul style="list-style-type: none"> • Aharji • Kundeshwar • Paporaji • Achhroo Mata • Madkhera • Prithvipur • Baldeogarh • Baldeogarh ki TOP • Orchha • Ramraja Temple • Kudar • Palera • Umri • Badi dargah sharif mau naka • Hanuman Chalisa 	<p>In Kundeshwar:</p> <ul style="list-style-type: none"> ➤ Fair held : Annually ➤ Attended by 50,000 persons ➤ First time Held in pouse/Magh (January) on the occasion of Sankranti. ➤ Second time held on the occasion of BasantPanchimi and ➤ Third time held on the KartikEkadasshi in the month of October/November. <p>In Baldeogarh:</p> <ul style="list-style-type: none"> ➤ Fair held: Annually ➤ An annual seven days Vindhyavasani fair is held here in the month of Chaitra and ➤ Attended by about 10,000 persons. <p>In Orchha:</p> <ul style="list-style-type: none"> ➤ Tourist place so it is visited: Annually ➤ Attended by Around average 10-12 people visit this place. <p>In Paporaji:</p> <ul style="list-style-type: none"> ➤ Attended by 10,000 persons, ➤ Held annually in the month of Kartika sudi Purnima.
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Source: District statistical book 2011

1.2 Scope and Ownership of District Disaster Management Plan

Any type of disaster, be it 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.

The Government. of India, recognized the need to of a proactive, comprehensive, and sustained approach to disaster management to reduce detrimental effects of disasters on overall socio-economic development of country, and came out with Disaster Management (DM) Act 2005, and highlighted the role and importance of District Disaster Management Plan. The Government. of Madhya Pradesh (GoMP) also believes that there is a need for a Disaster Management Plan in every district that articulates its vision and strategy for disaster management in the state. In this context the Madhya Pradesh State Disaster Management Authority (MPSDMA) provides guidelines to various entities involved in disaster management in the state to discharge their responsibilities more effectively.

Further, as per the DM Act, the District Disaster Management Authority to be formed in each district and it will be the nodal agency for preparation, functioning and review of the District Disaster Management Plan (DDMP).

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). The DDMPs can help officials in taking important decisions and also provide guidance to direct subordinates in emergency. The DDMP helps in saving the precious time, which might be lost in the consultations, and getting approval 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.

1.2.1 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.

1.3 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 sectoral and inter-sectoral 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

1.4 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.

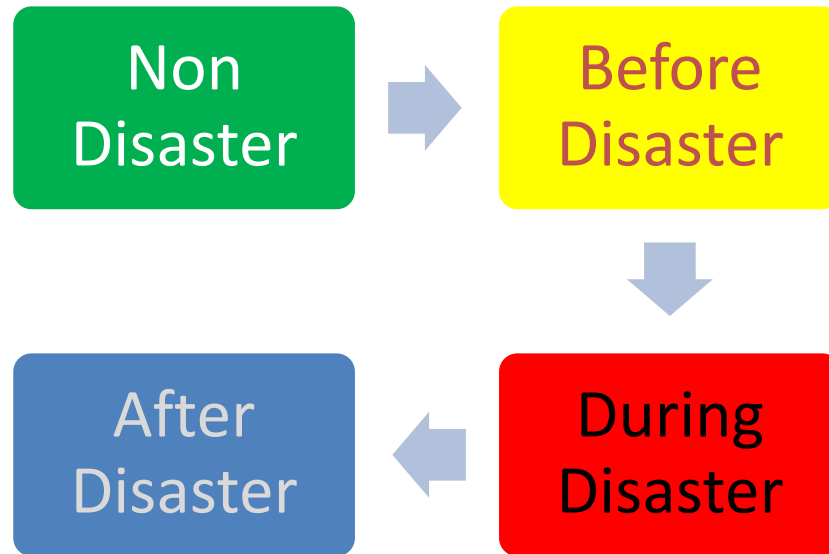


Figure 2 Cycle of Disaster Management

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.

2. Institutional Arrangements

There is no District Disaster Management Authority (DDMA) structure in place in the district as such. As per my discussion with the officials in the District Collector and Deputy Collector, some plan does exist on papers but it is not integrated and the only disaster that they focus on is 'Flood'.

Current Status:

- A single meeting under the head of 'Disaster Management' called every year in the month of May usually prior to onset of Monsoons to discuss Flood related issues.
- As per information received from the Blocks, no structure is set up in the blocks.
- Each of these committees has a control room with an emergency contact number.

A DDMA for every district in the State of Madhya Pradesh has to be constituted, consisting of the following members:

1. District Collector
2. Superintendent Of Police (Member)

3. Chief Medical Officer (Member)
4. Executive Engineer (PWD) (Member)
5. Executive Engineer (Irrigation) (Member)
6. Executive Engineer (PHE) (Member)
7. Chief Engineer (MPEB)/ Executive engineer Member (Member)
8. Chairperson of the Zila Panchayat (Member)
9. District Commandant (Member)

2.1 District Disaster Management Authority (DDMA)

The district has an established District Disaster Management committee which is headed by the District Collector. The Disaster management efforts are supervised and controlled by the District Commandant. However, the district presently does not have any disaster management committees at urban, block and gram panchayat level. There is a specific Disaster management information system in place to manage the hazards in the district. The details are as follows:

Table 21 District Disaster Management Authority (DDMA)

Date of inception of DDMA	2008
Members of DDMA, their name, along with actual designations, and current position in DDMA like Chairman, Secretary or Member etc.	<p>District Collector- Raghuraj Rajendran – Chairman</p> <p>Municipal Corporation- Head – Hargandharwa Singh – Vice Chairman</p> <p>District Panchayat CEO – P.L.Solanki – Vice Chairman</p> <p>District Superintendent of Police– Deepak Verma- Member</p> <p>Chief Medical Officer – K.P.Nag – Member</p> <p>Executive Engineer, PWD – B.S.Gujjar – Member</p> <p>District Commandant – A.S. Kasayap – Member</p> <p>Executive Engineer PHI-N.R. Godiya- Member</p>
Roles and responsibilities of DDMA	The complete responsibilities details are given below:

2.1.1 Roles and responsibilities of DDMA:

- District Magistrate/District Relief Commissioner shall be placed in charge of and be responsible for disaster management operations within the local limits of the district and local Tahsil and villages with the help of all supported departments.

- District Relief Commissioner (DRC) shall supervise, coordinate, discharge the responsibilities and perform functions within their respective territorial jurisdiction as mentioned here in under:
 - To draw up disaster management plans in respect of their territorial jurisdiction for prevention, reduction, preparedness, mitigation, response, warning, emergency operations, rescue, evacuation, relief, recovery and rehabilitation, and to update the same.
 - To organise training programs and exercises.
 - To issue timely warning to state and local officials and also to the people likely to be affected by any disaster regarding risks and hazards.
 - To utilize the services or facilities of local bodies, including Panchayats and Gram Sabhas.
 - To seek support/assistance from any institution, organisation, authority, both government and to identify essential functionaries as may be prescribed.
 - To provide public health and safety information including dissemination of such information.
 - To adopt health and safety measures including constructing temporary bridges.
 - To arrange for distribution of medicine, food and other consumable supplies and emergency assistance.
 - To strive earnestly to save lives and to protect properties.
 - To strive earnestly to protect and improve the natural environment including forest, flora and fauna.
 - To endeavor earnestly to ensure at least a minimum standard of relief and rehabilitation as may be prescribed in this behalf.
 - The District Relief Commissioner shall ensure that medicines and relief equipment are stored at convenient places so that at times of crisis they could be reached to the needy at a short notice. The DRC shall periodically review the validity and ability of medicines, so as to make them readily available in proper condition.
 - DRC shall monitor the registration of daily wage earners to be carried out by their respective employers in disaster prone area so as to facilitate identification of migratory laborers at times of disaster,
 - DRC shall enlist volunteers for HAM (Help All Mankind) and other essential requirements and utilize their services.
 - DRC shall make a first report to the next higher authority as prescribed within 24 hours of the occurrence of a disaster, and a weekly report of the disaster soon after the disaster is over.
 - They shall submit an Annual report (Financial Year) as prescribed regarding the disasters occurring and management thereof within their jurisdictions by the end of the month of June of the following year, to the next higher authority.

2.1.2 Proposed Structure of District Disaster Management Committee:

The district disaster management authority is governed by a chairman (District Magistrate) and the co-chairman is elected member of Zila Panchayat/District Panchayat. The whole disaster management plan is proposed to run through 12 committees. These committees are supported by 26 district level departments which are represented by A-Z alphabets. These committees should be handled by the above DDMA, which will remain the top authority to make suggestion and modification. This structure would make the things smooth during the disaster.

Details for organogram notations:

- (1) Law and order committee.
- (2) Rescue committee.
- (3) Traffic control committee.
- (4) Advisory committee.
- (5) Fire control committee.
- (6) Communication committee.
- (7) Health and welfare committee.
- (8) Water supply committee.
- (9) Transportation arrangement committee.
- (10) On site emergency committee.
- (11) Awareness, education committee.
- (12) Others/Proposed

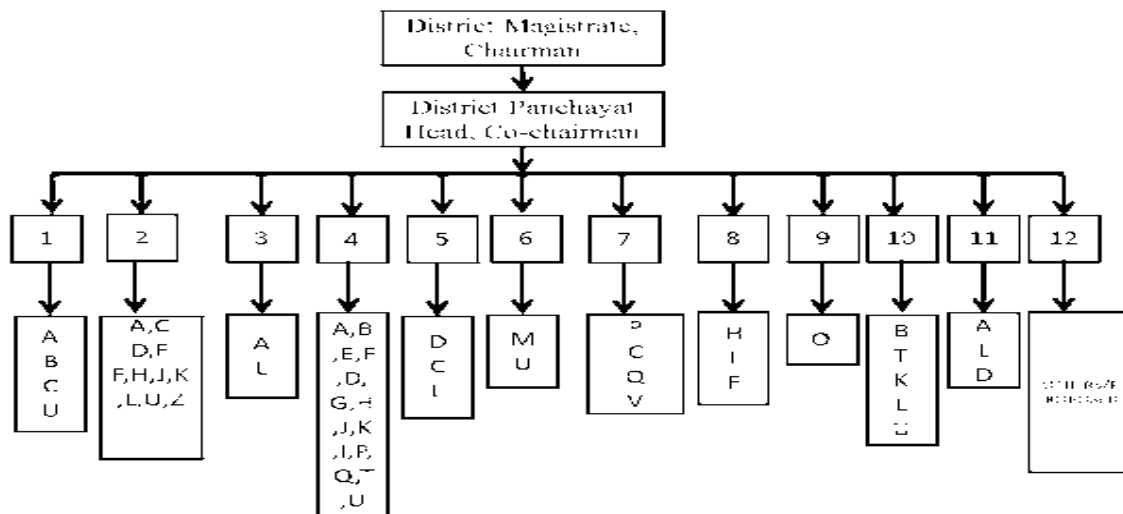


Figure 3 DDMA organogram during the disaster

Table 22 Supporting departments:

A	Police/home	N	Electricity/Power
B	Intelligence	O	Department of Transport (RTO, Railways)
C	Army	P	Health department
D	Fire Brigade	Q	District Industries department
E	Public Works Department (PWD)	R	Petrol/Gas departments
F	Irrigation and Public Health	S	Department of Revenue
G	Municipal Corporation (Nagar Palika)	T	Institutions
H	City Corporation (Nagar Nigam)	U	District Administration
I	Urban/Rural Development Authority	V	Red Cross society
J	Water Board	W	Agriculture Department
K	Media	X	Veterinary Department
L	Non-Governmental Organisations (NGOs)	Y	Education Department
M	Telecommunication	Z	Food, civil supplies and consumer affairs

2.2 District Disaster Management Committee / Advisory Committee (DDMC/ DDMAC)

The district disaster management committee has not been formally constituted at the district. The recommended structure for the same is as follows. The District Collector chairs the committee with district Panchayat CEO and Municipal Corporation Head as the Vice President and others as member. The Officials from various departments are members in the DDMC. The authorised committee members details are as follows:

Table 23 District Disaster Management Committee / Advisory Committee (DDMC/ DDMAC)

Functionaries	Designation	Address	Office contact	Residence contact
DM / DC	Chairman, DDMC	Office of DC	07683-242250	9425925852
Municipal Corporation Head	Vice Chairman	Municipal Corporation Head	07683-245323	9009785002
District Panchayat CEO	Vice Chairman	Office of District Panchayat	07683-242296	9425174724
District Superintendent of Police	Member	Office of District Superintendent of Police	07683-242350	9424791325

Chief Medical Officer	Member	Office of Chief Medical Officer	07683-242354	9424555753
Executive Engineer, PWD	Member	Office of Executive Engineer, PWD	NA	9425754699
District Commandant	Member	Office of District Commandant	07683-245117/245190	9425869141
Superintending Engg. (I&PH)	Member	Office of PHI	07683- 242406	NA
Superintending Engg. (PWD)	Member	Office of PWD	07683- 242320	NA
District Fire Officer	Member	Office of Fire department	NA	9009785019

2.3 District Emergency Operations Center (DEOC) / District Control Room (DCR)

The control room for the disaster management is established at the district Collectorate of the district. The control room is the nodal point for all kinds of warning, search, rescue and relief activities in the event of a disaster. The details are as follows:

Table 24 District Emergency Operations Center (DEOC) / District Control Room (DCR)

Location of the DEOC / DCR:	District Collectorate, Tikamgarh
Roles and responsibilities of the officials / nodal persons (phase wise):	Mr. F.D. Jadhav, Dy. Collector 09424565065 8120459123 Coordination among all respective emergency committees
Equipment installed (software and hardware):	NA

2.3.1 Role of District Control Room:

- The district control room is the nerve centre for the disaster management.
- To monitor, coordinate and implement the actions for disaster management.
- Periodic check to ensure that all warning, communication systems and instruments, are in working condition.

- AN information system on a routine basis from the district departments on the vulnerability of the various places and villages. (Parts of the districts)
- Receive reports on the preparedness of the district level departments and the resources at their disposal to arrange and meet their requirements.
- Upgrade the disaster management action plan according to the changing scenario.
- Maintain an inventory of all resources.
- Provide information to the relief commissioner.
- Furnish information to all those who are seeking and needy.
- Monitor preparedness measures and conduct training programmes.
- Providing information at district level, local level and disaster prone areas through appropriate media.
- Brief the media of the situations and day to day reports during the disaster.
- To report the ground situation and the action taken by the district administration.
- The district control room would be placed under senior officers who have already been trained adequately to handle disasters.
- Duty chart along with all basic facilities to be provided.
- Control room can have many service divisions with assigned duties, example, infrastructure/health/drinking water/logistics/agriculture/communication/resources etc. According to the need it could be expanded.
- The district control room should have all the facilities for effective communication and also to anticipate in case of system failure has alternative, ordinary and mobile phones, e-mail facility etc.
- List of all personnel and trained persons who could be contacted at any time.

2.4 District Disaster Information Management System

Any disaster related information flow happens in both the directions, one from the National Disaster Management Authority and Central Government agencies to the State, District, Block and Gram panchayat level committees and two, in the reverse direction. The Disaster Management Planning system is the planning and monitoring authority whereas the Disaster Management Execution System will be the execution system which actually conducts all the activities and implements the plans of the Planning system.

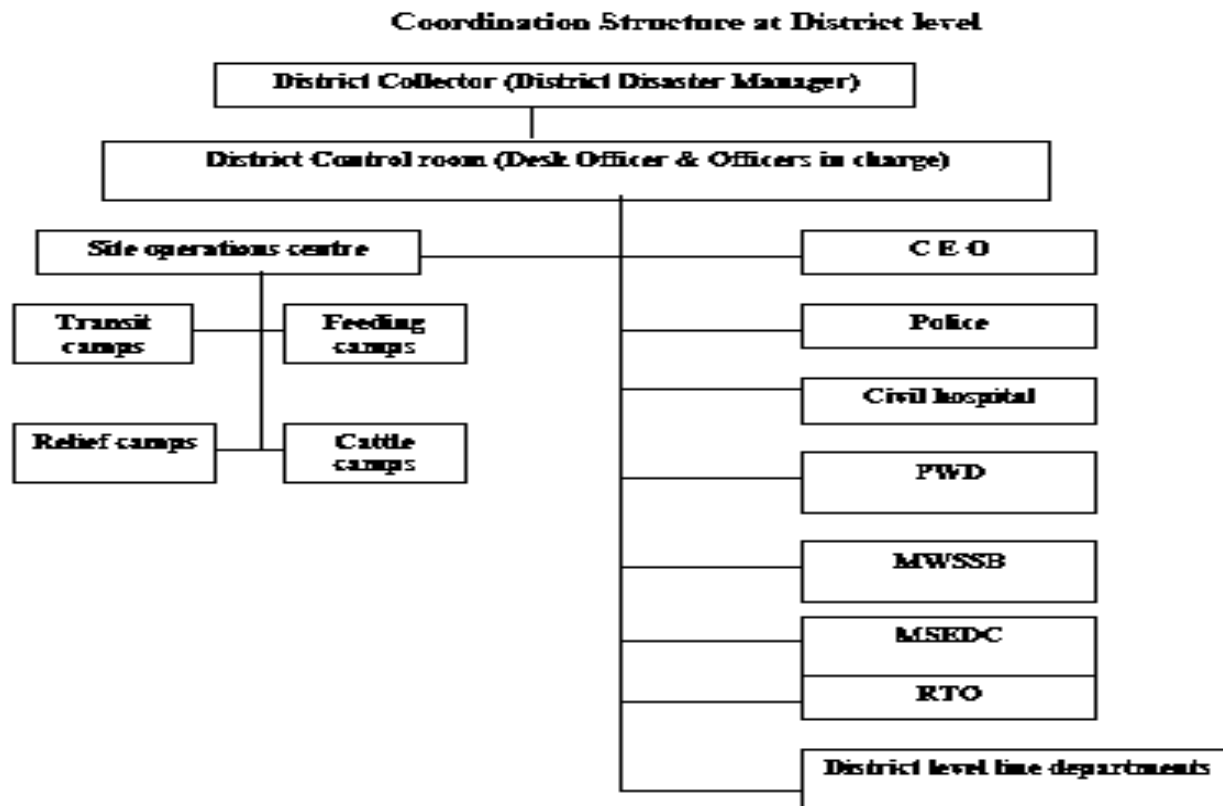


Figure 4 District level disaster management organogram

Disaster Management Planning System

Disaster Management Execution System

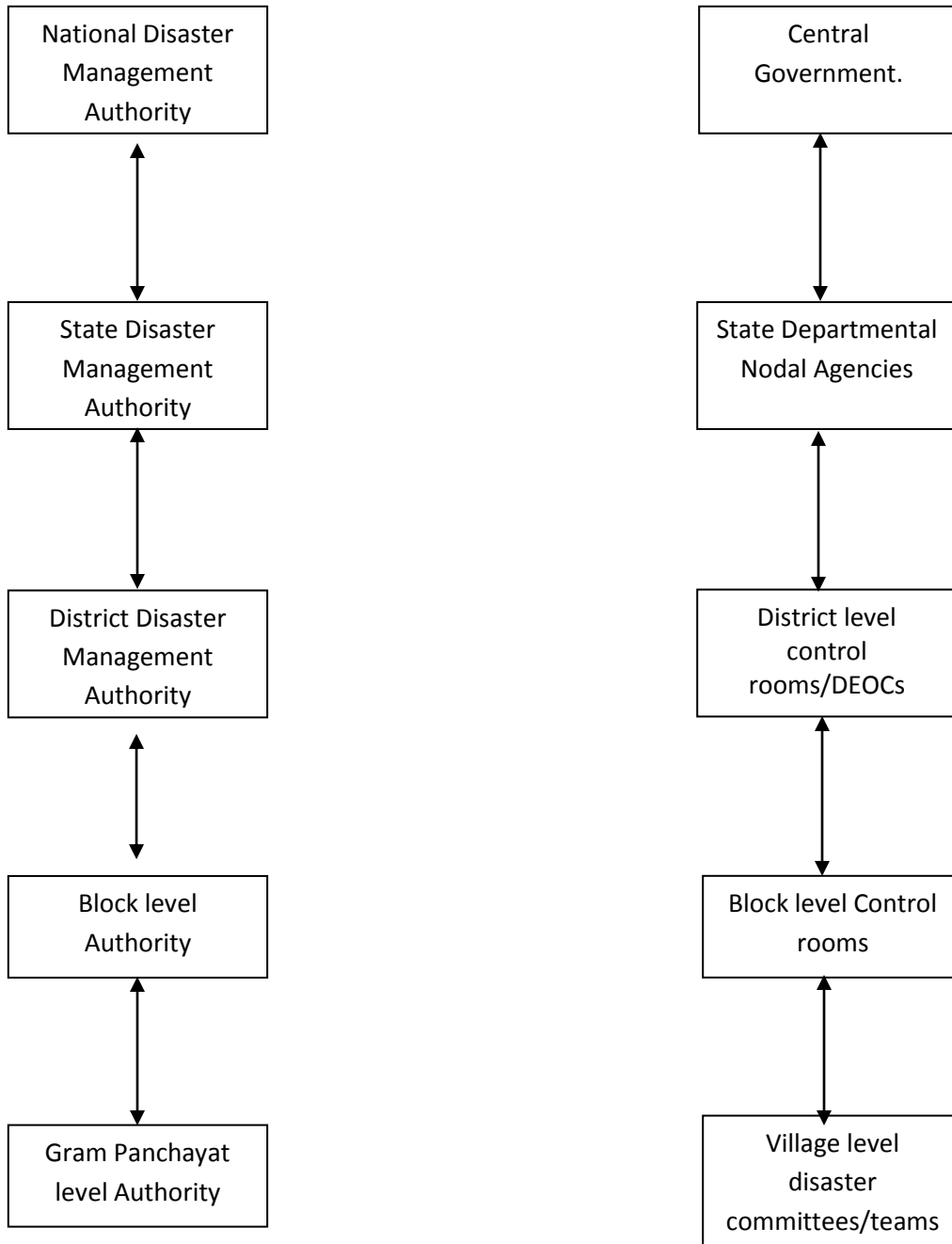


Figure 5 District Disaster Information Management System

*Double headed arrows indicate the flow of information in both directions

2.4.1 Role of District Collector in Disaster Management:

- Preparation of the Disaster Management action plan for the District with the assistance of the Disaster Management Committee and other experts.
- To implement the disaster management action plan.
- Setting up the district control room and making it function effectively.
- Earmarking and entrusting responsibility to the various departments.
- Coordination with all the line departments of the state central and other agencies.
- To liaise with the government periodically about the disaster and the action taken.
- Integrating the MARG (Mutual Aid and Response Group) of the industrial belt with the disaster management committee.
- Before the disaster make the district machinery to equip and to be prepared.
- Setting up the relief camps and transit camps.
- Conducting relief and rescue operations.
- Corresponding with the Defence Ministry Personnel.
- To interact with the donor agencies for relief and rehabilitation.
- Collector is the central authority exercising emergency powers to issue directives to all the departments and to provide emergency response services.
- Organising training and conducting mock drills.
- Maintaining the supply of essential commodities.
- Preparing Memoranda for getting resources for relief.
- Giving adequate and right information to the people.
- Organise post disaster evaluation.
- Liaise with site operation centre. Site operation centre is the centre in the disaster site to be set up and an officer earmarked to be in-charge.
- The officer in-charge will conduct the relief, transit camps, feeding centres, cattle camp; salvage operation, disposal of the dead bodies and carcasses of animals, construction of temporary shed with adequate facilities, medical relief, clearance of debris and repair of damaged infrastructure etc.
- Collect information and activate the district/ state level departments for handling/ getting assistance on need basis.

2.5 Urban Area Disaster Management Committee:

The Urban Disaster Management committee should be constituted at all towns and urban areas of the district to handle the disaster management activities at the respective urban areas. Currently, there is no such arrangement but the recommended structure for Urban Disaster Management Committee is as follows:

Table 25 Urban Area Disaster Management Committee:

Date of inception of Urban DDMC, Location	2008
Members of Urban DDMC, their name, along with actual designations, and current position in DDMC like Chairman, Secretary or Member etc	<ul style="list-style-type: none"> • Nagarpalika Chairman – Chairman • Tehsildar – Vice Chairman • Superintendent of Police – Member • Chief Nagarpalika Officer – Secretary • Block Development Officer – Member • Assistant Engineer/ Junior Engineer (MPEB)- Member • Assistant Engineer, P.W.D – Member
Roles and responsibilities of Urban DDMC	To coordinate, implement, creating awareness, increasing training and capacity, carrying out mock-drills at the urban level

2.6 Block Level Disaster Management Committee

The Block Level Disaster Management committee should be constituted at all the six blocks of the district to handle the disaster management activities at the respective blocks. Currently, there is no such arrangement but the recommended structure for Block level Disaster Management Committee is as follows:

Table 26 Block Level Disaster Management Committee

Date of inception of Block level DMC, Location	2008
Members of Block level DDMC, their name, along with the actual designations, and current position in Block DMC like Chairman, Secretary or Member etc.	<p>Tikamgarh – Tahsildar - Makshud Khan - 9327310352</p> <p>Jatara-Tahsildar - S. C. Murya - 9425049912</p> <p>Baldeogarh – Tahsildar – Anil Talaiya - 9424743001</p> <p>Niwari – Tahsildar - R.R. Verma-9425364118</p> <p>Prithvipur – Tahsildar - Rakesh Sukla - 9425021229</p> <p>Palera-Tahsildar - J. C. Gupta - 9425488045</p> <p>Jatara-SDO-K.K. Rawat-9827799040</p> <p>Tikamgarh-SDM-RajkumarKhatri-942469300,</p> <p>Niwari-SDO-Rakesh Sharma-9425724201</p>

	Chairperson, Panchayat Samiti-Block Executive engineer (PWD) Executive engineer, Public health department(PHE) Janpad Panchayat CEO Revenue Inspector Patwari Sachiv Home guard In charge- Fire Station Junior Engineer (JTO)-Telecom Anganbari workers, Medical Officer In charge - Dispensaries Block Medical Officer (BMO), Education Dept. head Non-Governmental Organization Voluntary Social Welfare Institution
Roles and responsibilities of Block level DMC	The block and local level DMC roles and responsibilities are given below:

2.6.1 Roles and responsibilities of Block level DMC:

- To prepare detailed description of the loss caused by natural disaster and to submit to the District Committee the estimation of means and resources required to the relief and rehabilitation of the victims of natural disaster,
- To organize volunteer's teams according to need and conduct or cause to be conducted the relief work,
- To make necessary arrangements to take the injured in the natural disaster to the nearest hospitals and health posts as soon as possible,
- To make arrangements for the evacuation of the victims of Natural Disaster to a safe place,
- To systematically distribute the cash and kind received in assistance from District Committee and local resources to the families of the victims of natural disaster,
- To conduct an awareness program as a precaution for the prevention and control of the possible events of the natural disaster,
- To hand over the goods and cash balance and the accounts thereof to the District Committee upon completion of natural disaster relief work.

2.7 Gram Panchayat Disaster Management Committee

The Gram Panchayat Level Disaster Management committee should be constituted at all Gram Panchayats of the district to handle the disaster management activities at the respective village level. Currently, there is no such arrangement but the recommended structure for Gram Panchayat level Disaster Management Committee is as follows:

Table 27 Gram Panchayat Disaster Management Committee

Date of inception of Gram Panchayat level DMC, Location	2008
Members of Gram Panchayat level DMC, their name, along with actual designations, and current position in GP level DMC like Chairman, Secretary or Member etc.	Village Head (Sarpanch) – Chairman Sub-Sarpanch– Vice Chairman Patwari - Secretary Panchayat Secretary –Member Gram Kotwal - Member Health Representatives - Member Anganbari workers - Member ASHA workers - Member NGO/CBO/SHG - Member Teacher/Social- Member Worker/Volunteer- Member
Roles and responsibilities of Gram Panchayat DDMC	To make coordination and communication during disaster issues at Gram Panchayat level

2.7.1 Roles and responsibilities of Gram Panchayat DDMC:

- To give necessary suggestions to the block level DMC regarding the formulation of regional level policy on natural disaster relief work and preparation of the progress thereunder.
- To coordinate or cause to be coordinated between District Committees regarding natural disaster relief work.
- To provide information to the District Committee about natural disaster relief work from time to time.
- To work in accordance with the directives of the Central state and district and block Committee.

B. HAZARD, VULNERABILITY ASSESSMENT AND RISK PROFILING (HVRC)

1. Hazard Assessment

1.1 History of past disasters

In last 20-30 years, Tikamgarh district has faced different minor hazards. Tikamgarh district is not known as prone to flood even though in rainy season, excessive rains and release of water from the Matateela dam into the Jamni, Betwa and Dashan river creates flood conditions in the district and thus flood has become the major disaster that the district has to deal with repeatedly in rainy season.

Table 28 History of past disasters

Type of hazard	Year of occurrence	Area affected	Impact on life	Livelihood	Livestock	Hazard prone zone in district
Flood (Heavy rain so may cause Flood situation)	1982	1. Niwari	Damage of	Lack of feed and	Damage to	All villages are described in the next section 1.2 Main applicable Hazards
	1983	2. Baldeogarh	Kaccha house,	drinking water, Disease,	animal species,	
	1991	3. Jatara	Damage to	Migration and	reduction	
	1994	4. Prithvipur	animal species,	concentration,	and	
	1996	5. Tikamgarh	reduction and	Death and injuries,	degradation	
	1996	6. Palera	degradation of	Damage to crops,	of fish and	
	2003		fish and wildlife	buildings, roads, bridges,	wildlife	
2008		habitat, Lack of	and hospitals,	habitat.		
			feed and	Disruption of normal life,	Loss of	
			drinking water,	Poverty, Race, and	crops leads	
			Disease,	isolation(Loss of home	to less food	
			Migration and	and jobs), Increases in		
			concentration,	divorce, suicide and		
			Damager to plant	crime rates, violence		
			species, Loss of	against women and		
			bio-diversity,	increased consumption of		
			Wind and water	alcohol, Destruction of		
			erosion of soil,	educational buildings(
			Air/ Water	students may suffer		
			quality effects,	academically),		
			Reservoir, lake	Destruction of grocery		
			and draw down	stores, restaurants,		
			(including	convenience stores and		

Drought	Mostly Every Year	Every blocks of Tikamgarh district Most drought prone Block-Jatara Least drought prone Block - Tikamgarh	ponds/lakes) Damage to animal species, reduction and degradation of fish and wildlife habitat, Lack of feed and drinking water, Migration and concentration, Damager to plant species, Loss of bio-diversity, Wind and water erosion of soil	retail food establishment, Lack of feed and drinking water, Migration, Poverty, Race, and isolation(Loss of home and jobs), Increase in suicide and crime rates, violence against women and increased consumption of alcohol, Students may suffer academically, Reduction of grocery stores, restaurants, convenience stores and retail food establishment can lead to less availability of facilities to people	Damage to animal species, reduction and degradation of fish and wildlife habitat	Critical: Baldeogarh Palera Jatara Semicritical: Tikamgarh Niwari
Earthquake	2009	Every blocks of Tikamgarh district	Nobody injured and No deaths reported	Lots of houses collapsed	No deaths reported	All the regions of Tikamgarh district

Source: Drought mitigation strategy for Bundelkhand region and district headquarter

- **Recent History of Flood Hazard:** Saturday, June 21, 2008: In Tikamgarh district, water level was on rise in rivers, including Betwa and Jamini, and rivulets. The Mahendra Sagar Dam has been damaged and the water has been entering nearby 24 villages. Rains destroyed 400 mud houses of the district. Traffic movement on Orchha-Jhansi road was disrupted as culverts were submerged. More than 500 'kutcha' houses were damaged during heavy rains in the past four days. Loss caused by rainfall was being estimated. Regional Meteorological Department announced heavy rains in Sagar divisions in the next 24 hours.
Reference:<http://news.oneindia.in/2008/06/22/flood-like-situation-improves-in-bundelkhand-1214145182.html>
- **Recent History of Drought Hazard:** To survive the persistent drought, people in Bundelkhand are compelled to 'mortgage' their wives and daughters to moneylenders. The Uttar Pradesh Congress organized an investigative team, which would reach Jhansi district of Bundelkhand, 300 kilometres west of Lucknow on Tuesday, Sep 8.

About three years ago, Bhagwati Devi and her husband, Chandrabhan killed moneylender Mahesh Chandra in a village in Jhansi district as the latter was exploiting Bhagwati Devi. Again, the police caught some men buying poor women in Tikamgarh district of Bundelkhand. This has been going on for years in the drought-affected and neglected region.

Reference: <http://news.oneindia.in/2009/09/07/bundelkhand-farmers-sell-wives-to-fight-drought.html>

1.2 Major applicable hazards

Of the various natural disasters floods are the most likely to occur in Tikamgarh District, Some areas of Tikamgarh are highly prone to flood the main reason behind this is excessive rainfall and release of water from Matateela dam (Uttarpradesh). Matateela dam is the larger dams in district. Maateela dam is built on Betawa River which is highly prone to flood. Jamani river is also affected because of excess flow of water from the Matateela dam.

At the time of Excessive rainfall, areas which are at high risk are as follow:

- **Niwari Tahsil:** Two rivers which affect mostly the nearby villages of Niwari tehsil are Jamani and Betawa. In Niwari Tehsil, Orchha, Mador Western, Lotna, Singhpura, Chandrapura, Ladpura, Dhimarpura, Iqbalpur, and adjacent villages.
- **Baldeogarh Tahsil:** The river which affects mostly the nearby villages of Baldeogarh tehsil are Ghasan. In Baldeogarh Tehsil, Khargapur, Midawali, Khodera, Harpura, Arora, Bhanpura, Pacher, Kharila, Saipura, Pipara and its adjacent villages are at high risk.
- **Jatara Tahsil:** The river which affects mostly the nearby villages of Jatara tehsil is Jamani. In Jatara Tehsil, Iqbalpura, Pithnora, Piprihar, Saihar, Tapriyan, Bamhori Abda, Tanga, Ramgarh, Jarua, Hanota, Piprat and its adjacent villages are at high risk.
- **Tikamgarh Tahsil:** Mostly the Dasan river affects this district. The Brijpura, Sararwara, Dudatora, Magara, Maukhra, Dharmapura, Bhainswasi, Shivpuri, Pureniya, Sujara and its adjacent villages are at high risk.
- **Palera Tahsil:** The Ghasan and Jamani rivers generally affects the daily life of district people. In this district, Toriya, Bakhatpura, Saipura, Thar, Mabai, Gadari, Laharbujurg, Atarar, Gova, Brana, Khajari, Satwara, Bamhoriya, Sanjaynagar, Kudila, Itayali, Ramnagar, Pureniya, Mahindra Maheba, Budore, Jebar, Karrai, Khera, Chewala, Vijaypur, Bela, Karola, Para, Mararha Baba and its adjacent villages are at high risk.
- **Prithvipur Tahsil:** In this district two rivers which affect mostly the nearby villages of are Jamani and Betawa. In this district, Dirguwa, Majara Kherai, Majara Kachar, Rampura, Digwar Kala, Guleda, Sewari, Sarsora and its adjacent villages are at high risk.

1.2.1 Earthquake

There are no previous records of earthquake in Tikamgarh District. It is categorized under Seismic Zone-I. Very Light Shocks has been experienced before 5-6 years back in the district. Old school, colleges, and Government offices buildings are at high risk in case of high intensity earthquake.

1.2.2 Drought

Drought is a temporary reduction in water or moisture availability significantly below the normal or expected amount for a specific period. This condition occurs either due to inadequacy of rainfall, or lack of irrigation facilities, Due to decrease in rainfall from last few years many of areas of district are drought affected. Jatara and Tikamgarh Tehsil are majorly affected by drought. There are thousand villages which has drinking water problem.

1.2.3 Hailstorm

Hail in a form of precipitation which consists of balls or irregular lumps of ice. Incident of Hailstorm occur because of global warming in last few years it can damage crop, up to large extent depend upon intensity.

1.2.4 Road/Boat accidents

- **Road accident:** Past years figures shows that district is more prone to road accidents. Lot of Construction activity is going on in Tikamgarh district because of these traffic jams problem is common. The roads of Tikamgarh district are in much damaged condition; the size and the quality of roads are very bad and because of these accidents occur in the district.
- **Boat Accident:** Many villagers use waterways in the rivers and dam. Due to sudden increase in level or release of water from dam without announcement leads to large casualty.

1.2.5 Stampede in Fair

Large no of fairs are organized in Tikamgarh district at various religious places. There are high chances of accident, stampede in these fairs due to lack of basic facilities. People visited in these fair are at high risk.

- **Tikamgarh Tehsil:** Three big Melas held at Kundeshwar annually. An important fair attended by 50,000 persons held in pouse/Magh (January) on the occasion of Sankranti. Second held on the occasion of Basant Panchimi and third held on the Kartik Ekadasshi in the month of October/November.
In Paporaji, An important Jain fair, attended by 10,000 persons, held in the month of Kartika sudi Purnima. It is managed by the trust.
- **Baldeogarh Tehsil:** An annual seven days Vindhyaivasani fair is held here in the month of Chaitra and attended by about 10,000 persons.
At Ahar Ji, A Village of Baldeogarh tehsil Ahar lies on the side of Tikamgarh-Chhattarpur road at a distance of 25 Km. from the district headquarters of the district. It is evidently an old village said to have been populated by Jamalpur Ahars, which was once an important Jain

Centre. Several ruins, Old images and temples are located here. The Village contain three old Jain temples one of these temple have an image of Shantinath, having height 20 feet. A tank of Chadella days with a fine dam stands here. Here also thousands of devotees attend the fairs and spiritual place.

- **Niwari Tehsil:** Orchha is famous religious centre of Hindus. It is known for its religious and cultural heritage. The following places are famous in the town and around average 10-12 people visit this place. Total presence of devotees is near about 10000 to 15000.
- **Palera Tehsil:** An important municipal town of Tikamgarh-Nowgaon road, at a distance of about 27 Km. from Jatara. Buses are available to reach this place. The town was originally given to Dharaman God, son of Bhagwan Rao, first chief of Datia. An annual fair held on the occasion of Ramnavmi.
- **Prithvipur Tehsil:** The name of the town derived from Prithvi Singh. Near the town lies Radha Sagar Tank. The Important temples of the town are Somnath temple, Ramjanki temple and Atan ke Hanumanji. The town possess a fort. Total presence of devotees is near about 1000-2000.

1.2.6 Mining Accidents

Employees working in mining industries are also at risk. Large no of Mining Industries are present in Tikamgarh, so nearby areas are also at high risk.

1.2.7 Riots

A Riot is another applicable hazard in Tikamgarh district. More chances of communal riots in Tikamgarh.

1.2.8 Epidemic

Due to dense settlement in slum areas, Poor Waste Management, Discharge of Sewerage into river and lakes and absence of underground sewerage network there is always chance of spread of any epidemic like Swine flu, Malaria, Chickengunia in Tikamgarh district. There are cases of Mass Jaundice in tehsils this year and main reason is contaminated water. In summer season due to scarcity of clean drinking water all tehsil are prone to epidemic like malaria, typhoid, jaundice etc.

When water level is high in Matateela reservoir the areas which may affect are as follows:

Table 29 Type of applicable hazards

Type of applicable hazards	Hazard prone blocks and Villages
Water and Climate Related Disasters	<p>1. Niwari: Orchha, Mador Western, Lotna, Singhpura, Chandrapura, Ladpura, Dhimarpura, Iqbalpur, and adjacent villages</p> <p>2. Baldeogarh: Khargapur, Midawali, Khodera, Harpura, Arora, Bhanpura,</p>

1. Flood	<p>Pacher, Kharila, Saipura, Pipara,</p> <p>3. Jatar: Iqbalpura, Pithnora, Piprihar, Saihar, Tapriyan, Bamhori Abda, Tanga, Ramgarh, Jarua, Hanota, Piprat</p> <p>4. Tikamgarh: Brijpura, Sararwara, Dudatora, Magara, Maukhra, Dharmapura, Bhainswasi, Shivpuri, Pureniya, Sujara.</p> <p>5. Palera: Toriya, Bakhatpura, Saipura, Thar, Mabai, Gadari, Laharbujujg, Atarar, Gova, Brana, KHajari, Satwara, Bamhoriya, Sanjaynagar, Kudila, Itayali, Ramnagar, Pureniya, Mahindra Maheba, Budore, Jebar, Karrai, Khera, Chewala, Vijaypur, Bela, Karola, Para, Mararha Baba</p> <p>6. Prithvipur: Dirguwa, Majara Kherai, Majara Kachar, Rampura, Digwar Kala, Guleda, Sewari, Sarsora</p> <p>Most Flood prone Block - Niwari and Palera Least Flood prone Block – Tikamgarh (Source: Report of Drought mitigation strategy for Bundelkhand region)</p>
2. Drought	<p>Most importantly it is observed that drought situation in Tikamgarh district is prevalent since inception. Here I have given the last 10 years data. Mostly all blocks are affected by the drought situation every year.</p> <p>Most drought prone Block- Jatar Least drought prone Block – Tikamgarh (Source: Report of Drought mitigation strategy for Bundelkhand region)</p>
3. Storm, Thunder & Lightning 4. Cloud Burst	<p>Though thunder & Lightning and cloud burst are not a major problems for the district, but due to recent changes in the global climate, there is an observed change in the natural environment intensity and uniformity in the district, which causes thunder & lightning and cloud burst like situations. So it may happen in any block and village because of global warming.</p>
Accident Related Disasters 1.Serial Bomb Blasts 2.Urban Fires 3.Major Building Collapse 4. Festival related disasters 5. Electrical Disasters and Fires 6. Air, Road and Rail Accidents 7. Village Fire 8. Communal Violence	<p>Apart from the hazard prone geographical conditions, In addition to the natural causes, various manmade activities like Communal violence have also added the multiplier effect and created the imbalance in overall ecology of the area.</p> <p>Ex. of some hazards: September 30, 2011: A blast took place in a home in Tikamgarh district, killing six people and injuring four. Of the six killed, four were children. January 2011: Three people, including a first class judicial magistrate, were killed when the car carrying them collided with a truck on the Raisen-Sagar road. April 2010: A cylinder blast incident happened in Tikamgarh block and some people dead and some injured</p>

<p>Biologically Related Disasters</p> <p>1. Biological Disasters and Epidemics (Malaria, Dengue etc.)</p> <p>2. Pest Attacks</p> <p>3. Cattle Epidemics</p> <p>4. Food Poisoning</p>	<p>Apart from the hazard prone geographical conditions, sometimes biological and epidemics can also create a disaster situation in district.</p> <p>Particularly the flood affected blocks could be prone to these disasters:</p> <p>1. Niwari: Orchha, Mador Western, Lotna, Singhpura, Chandrapura, Ladpura, Dhimarpura, Iqbalpur, and adjacent villages</p> <p>2. Baldeogarh: Khargapur, Midawali, Khodera, Harpura, Arora, Bhanpura, Pacher, Kharila, Saipura, Pipara,</p> <p>3. Jatara: Iqbalpura, Pithnora, Piprihar, Saihar, Tapriyan, Bamhori Abda, Tanga, Ramgarh, Jarua, Hanota, Piprat</p> <p>4. Tikamgarh: Brijpura, Sararwara, Dudatora, Magara, Maukhra, Dharmapura, Bhainswasi, Shivpuri, Pureniya, Sujara.</p> <p>5. Palera: Toriya, Bakhatpura, Saipura, Thar, Mabai, Gadari, Laharbujurg, Atarar, Gova, Brana, Khajari, Satwara, Bamhoriya, Sanjaynagar, Kudila, Itayali, Ramnagar, Pureniya, Mahindra Maheba, Budore, Jebar, Karrai, Khera, Chewala, Vijaypur, Bela, Karola, Para, Mararha Baba</p> <p>6. Prithvipur: Dirguwa, Majara Kherai, Majara Kachar, Rampura, Digwar Kala, Guleda, Sewari, Sarsora</p>
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1.3 Seasonality of hazards in one year

Table 30 Seasonality of hazards in one year

Hazard	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Flood						↔						
Drought	↔											
Storm, Thunder & Lightning, Cloud Burst						↔						
Accident Related Disasters (Fair)	↔								↔			
Biologically Related Disasters (Epidemic, Malar)	↔						↔				↔	

ia, Dengu)

2 Vulnerability Analysis:

2.1 Vulnerability Analysis Factors

The factors which contribute to vulnerability are as follows:

2.1.1 Physical/Infrastructural Vulnerability

It is present in Tikamgarh district, As Every year flood like situation arises in district, some of rivers and dam also present in district. Due to Matateela dam different roads of Niwari Tahsil, Baldeogarh tehsil and Jatara tahsil are also at risk. Physical Vulnerability is also present in other Block like Palera, Prithvipur and others. As we know that in the Tikamgarh district the most Flood prone Blocks are Niwari and Palera, so these blocks are more have infrastructural vulnerability and Tikamgarh district has least Flood prone vulnerability in terms of infrastructural form. The block is also vulnerable for draught and earthquake situation hence housing system of district is most vulnerable especially in villages where the house walls are made up of unburnt bricks, plastic and others plastics.

Following vulnerabilities can be observed during the hazards:

- Human settlements in hazard prone areas
- Poor quality of housing and infrastructure
- Inadequate physical protection
- Rapid urbanization
- Rapid population growth and land use change

2.1.2 Environmental/ Natural vulnerability

It is present in Tikamgarh district, Due to poor waste management system; absence of underground sewerage system pollution level of Betawa and Jamuni river increase lot. Natural Vulnerability is present in other block like Palera, Jatara, and others. As we know that mostly every block is prone to flood situation, the environmental conditions are very prone to bad situation. It creates pollution condition for Dams and canals. The population of the district is most prone to flood situation.

Following vulnerabilities can be observed during the hazards:

- Environment degradation (because of poor environmental practices such as overgrazing and deforestation
- Technology implementation (sometimes is cause threat of harm i.e. a dam protects people from flooding but floods often occur due to failure of dam)

- Rapid population and urban growth
- Migration to risk prone areas

2.1.3 Social vulnerability

It is present in each block, as district is prone to flood, epidemic, communal riots, drought hazards population is always at risk. Block Jatara, Tikamgarh, Baldeogarh, Prithvipur and other blocks are prone to epidemic. Employees of Mining Industries are also at risk. All the hazards create a fear among people of the district leads to poverty, rapid population growth and isolation of people in terms of migration from one village to other village.

Following vulnerabilities can be observed during the hazards:

- Differential access to resources and political power
- Race and isolation (socially isolated people may not have the information or the assistance they need to evacuate themselves from harm's way or to recover in the aftermath of an extreme event)
- Poverty (cause low income and low status persons, homeless people, females the elderly and young children, migrant workers, ethnic minorities, large family, single parent families, old and poorly maintained buildings)
- Rapid population growth, high rates of unemployment/underemployment, high dependency ratio, week housing and lack of nearby medical services
- Social and political instability, lower status for women, and racial/religious conflicts
- Less Social networks/Social capital

2.1.4 Economic vulnerability

It is present in all block; As District is prone to epidemic, flood, drought, earthquake and other hazards that directly affects agricultural productivity this decrease livelihood options for villagers and their source of income is not permanent. All the vulnerability of disaster situation make an impact of the revenue of the district.

Following vulnerabilities can be observed during the hazards:

- Lack of funds reserved for disasters
- Low income
- Poverty
- Unemployment
- Landlessness
- Unequal distribution of land

2.1.5 Institutional vulnerability

There is strong need to create awareness among community regarding health and safety, Absence of relief Team at village level creates a disastrous situation for villagers. Absence of Disaster management Committee at block, tehsil level, gram level creates a disastrous situation. There is no health risk in blocks as Health combat teams are present in each block. Institutional Vulnerability is present in all blocks because of absence of block level disaster management committee.

Following vulnerabilities can be observed during the hazards:

- Lack of availability of public and private institutions
- Lack of capacity and commitment
- Unavailability of effective government policy of disaster management
- Lack of different large water, electricity and other basic needs supply system in city
- Reliance upon simple, low cost intermediate technologies

2.2 Vulnerability Elements With respect to each Hazard

Table 31 Vulnerability Elements With respect to Flood

Vulnerable elements w.r.t. Hazards	Flood
Population	2000-3000 people (50-60 Villages,600-800 Houses) are affected
Roads and Bridges	Due to Matateela dam road connectivity with other tehsils and with other districts of MP is affected
Poverty	No Sources of Income at flood times.
Agriculture	Crop productivity also suffer in case of excess rainfall
River	Dashan, Betawa and Jamani are majorly affected by flood
Animal	Animals are worst affected, Search of Safe Places, Rescue operation is also difficult, water borne disease arises.
Food security	Its major issue for poor family at flood times no livelihood source as most of them employed on daily wages.
Drinking water	Safe Drinking water problem also arises because of breakage of drainage line due to excess rainfall.
Infrastructure	Kuccha houses are at high risk in flood times, older buildings of government school, colleges are vulnerable and also students are at high risk. Matateela Dam level, Breakage of Dams leads to disastrous situation for people living in low line areas.

Table 32 Vulnerability Elements With respect to Drought

Vulnerable elements w.r.t. Hazards	Drought
Population	Villages of all tehsil
Poverty	Affects partially As Primary sources of revenue is agriculture, Less production less source of employment.
Agriculture	Primary occupation of district is agriculture related activity which suffers lot due to drought. Many crops are fully dependent on rain water
River	Huge impact, source of irrigation, drinking water which is no more available.
Animal	Huge Impact, Many animals died because of extreme temperature, less water and fodder available.
Food security	Huge Impact, less production leads to disastrous situation
Drinking water	There are thousand villages which have drinking water problem and this drought creates a vulnerable situation for villagers.
Any other Ponds	These are main source of irrigation, drinking which is no more now.

Table 33 Vulnerability Elements With respect to Storm and thunder

Vulnerable elements w.r.t. Hazards	Storms and thunder
Population	Population at risk if intensity is high
Poverty	NA
Infrastructure Damage	It can destroy or damage farm houses and sheds, snap or uprooted trees, and pick up or move farm vehicles such as tractors and trucks depend on intensity; However such high intensity Hailstorms not experienced in previous years.
Agriculture	Huge Impact on Agriculture productivity

Table 34 Vulnerability Elements With respect to Industrial and Chemical Hazards

Vulnerable elements w.r.t. Hazards	Industrial and Chemical Hazards
Population	Employees in Slate pencil and mining industries are at high risk. Silicosis is cause due to dust arises in Slate pencil Industry.
Poverty	Health Safety is at risk due to poverty, Absence of health insurance also leads to disastrous situation

Infrastructure Damage	Fire in industry due to short circuit or any other reason can damage whole infrastructure, in fact infrastructure at nearby area are also at risk
Health	Release of toxic gas in industrial accident affects whole population

Table 35 Vulnerability Elements With respect to Fair Accident

Vulnerable elements w.r.t. Hazards	Fair Accident
Population	People visited fair are at high risk, chances of stampede is also there because of rumors, Poor Traffic System, Lack of Police force, Communication Problem.
Safety	Chances of major injury in case of stampede

2.3 Vulnerability details block wise

Table 36 Vulnerability Details block wise

Name of Block	Physical/Infrastructural Vulnerability	Environmental/ Natural vulnerability	Social vulnerability	Economic vulnerability	Institutional vulnerability
Tikamgarh	Local colonies, Bus stand at risk Death and injuries, Damage to crops, buildings, roads, bridges, and hospitals, Sufficient hospitals as compared to the population, Roads are mostly in good form and no bridges. The place lies in earth quake zone II, and hence comes under low risk category.	Betwa Pollution level, Poor Waste Management System Leads to epidemic Exposed to Sujara Dam near by community	Population (Increase in suicide and crime rates, consumption of alcohol) Destruction of educational buildings(students may suffer academically) , Destruction of grocery stores, restaurants	Dams, Canals, Houses near river area at risk Property damage an cost of repair or replacement of damaged or destroyed structures, Loss of agriculture, Loss of income and rental costs, Loss from fishery production, Loss to tourism industry, Disruption of water supply, Revenue loss to government	No Block level DMC and no village Panchayat level DMC (as they consider that the block is not vulnerable to any disaster. But there is a provision of creation of such committee in case of a disaster)
Palera	Death and	Damage to	Highest	Property damage	Lack of

	injuries, Damage to crops, buildings, roads, bridges, and hospitals, Disruption of normal life Drains are not well managed due to which water logging takes place during monsoons specially b/w the pond behind Palera bus stand	plant and animal species, Lack of feed and drinking water, Loss of bio-diversity, water erosion of soil	literacy rate and hence one of the lowest unemployment rate	an cost of repair or replacement of damaged or destroyed structures, Loss of agriculture, Loss of income and rental costs, Loss from fishery production, Loss to tourism industry, Disruption of water supply, Revenue loss to government	commitment to system vulnerability (Water, electricity and waste disposal Emergency health care and other vital services), Lack of different large water, electricity and other basic needs supply system in city
Jatara	Roads, houses, hospitals, and other public infrastructure	Damage to plant and animal species, Lack of feed and drinking water, Loss of bio-diversity, water erosion of soil	Mostly exposed to Drought hence population at risk (Increases in suicide and crime rates, violence against women and increased consumption of alcohol)	Rabi crops are sown so they are not very much affected by scarcity of water. Kharif crops are also sown but farmers are not very much dependent on them	Absence of Block and Village level committees hence Lack of commitment to system vulnerability (Water, electricity and waste disposal Emergency health care and other vital services),
Niwari	Death and injuries, Damage to crops, buildings, roads, bridges,	Expose to Jamani river only and highly Damage	Increases in suicide and crime rates, violence	Property damage an cost of repair or replacement of damaged or destroyed	Lack of commitment to system vulnerability (Water,

	and hospitals, Disruption of normal life Houses near Matateela dam at risk	to Tourism industry and animal species, Lack of feed and drinking water at the time of Flood situation, Expose to Dams	against women and increased consumption of alcohol, Destruction of educational buildings(students may suffer academically) , Destruction of grocery stores, restaurants,	structures, Loss of agriculture, Loss of income and rental costs, Loss from fishery production, Loss to tourism industry, Disruption of water supply, Revenue loss to government	electricity and waste disposal Emergency health care and other vital services), Lack of different large water, electricity and other basic needs supply system in city
Prithvipur	Death and injuries, Damage to crops, buildings, roads, bridges, and hospitals, Disruption of normal life Villages at low line at risk	Damage to plants and animal species,	Nearby population at risk	Property damage an cost of repair or replacement of damaged or destroyed structures, Loss of agriculture, Loss of income and rental costs, Loss from fishery production, Loss to tourism industry, Disruption of water supply, Revenue loss to government	Lack of commitment to system vulnerability (Water, electricity and waste disposal Emergency health care and other vital services), Lack of different large water, electricity and other basic needs supply system in city
Baldeogarh	Flood affected villages are at risk, Death and	Damage to animal species, Lack of feed	Lack of hospitals as compared to	Property damage an cost of repair or replacement	Although it is near to Tikamgarh

	injuries, Damage to crops, buildings, roads, bridges, and hospitals, Disruption of normal life	and drinking water, Loss of bio-diversity, water erosion of soil	the population. Roads are mostly Kaccha and no bridges. Drains are not well managed due to which water logging takes place during monsoons specially b/w the pond behind Baldeogarh bus stand	of damaged or destroyed structures, Loss of agriculture, Loss of income and rental costs, Loss from fishery production, Loss to tourism industry, Disruption of water supply, Revenue loss to government	district headquarters but lack of commitment to system vulnerability (Water, electricity and waste disposal Emergency health care and other vital services),
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2.4 Dynamics of vulnerability, coping mechanisms and drought mitigation

(Source: Drought mitigation strategy for Bundelkhand region)

The pro-active mitigating strategy of reducing vulnerability by enhancing coping mechanisms and resilience of the production systems is quite different than the calamity relief. The mitigation is also planned around normal or excessive rainfall years when there is enough precipitation for recharging soil with water, aquifers, surface storage and adequate production to acquire assets. Rainfall is the ultimate source of surface and ground water resources for managing risks and distress associated with spatial and temporal variability in the rainfall and its distribution pattern.

Various coping mechanisms of cultivating drought tolerant dual purpose crops, mixed cropping, farming system, drought hardy millets, sesame, livestock rearing, storing of grains and fodder during normal or excessive rainfall years are quite common. Input intensive advanced technologies and ground water exploitation of Indo Gangetic plains was replicated at the neglect of traditional tanks, ponds and dug wells. Low input and low yielding subsistence farming was less risky. In a mixed system some

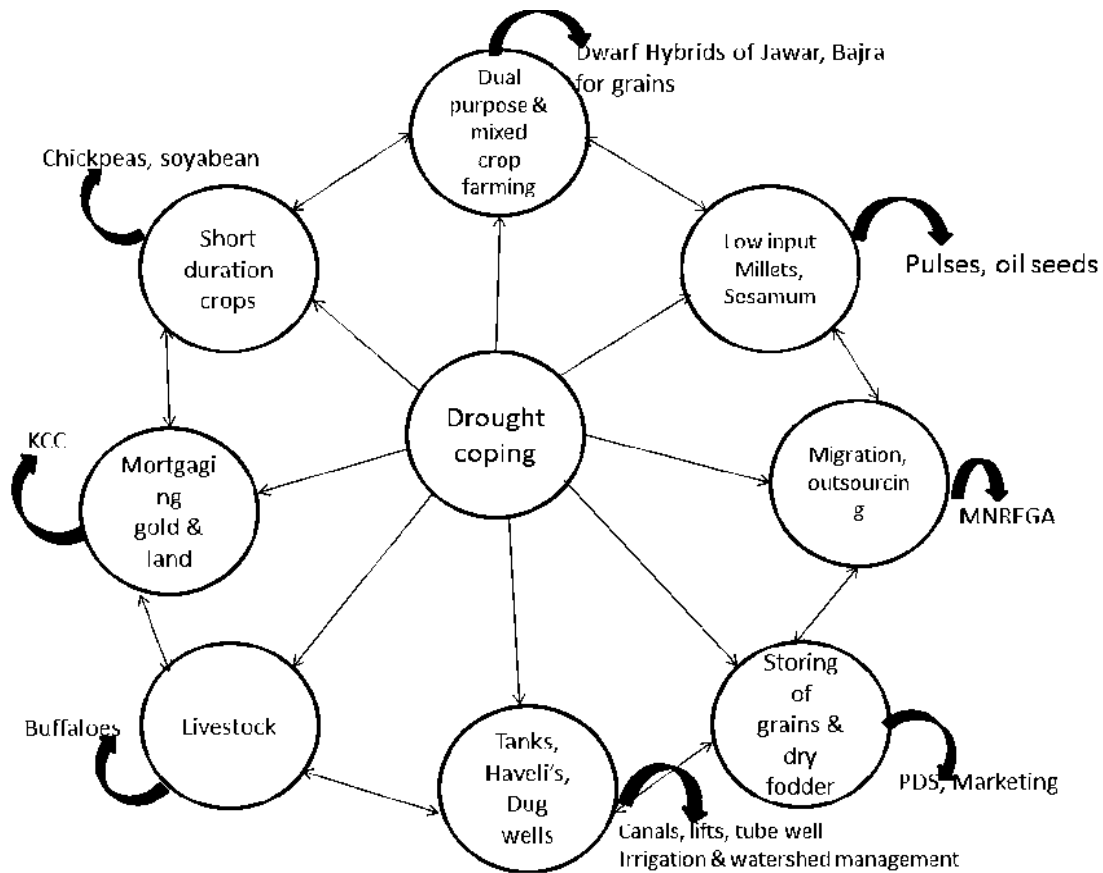


Figure 6 Dynamics of vulnerability, coping mechanisms and drought mitigation

component will give some return without a complete collapsing like Bt. hybrid crops. Mortgaging of gold or land, liquidating assets like selling trees or animals, raising loan, seasonal migration, taking children off the school and outsourcing of income are important for moderating or mitigating adverse effects of drought (Fig.6). However these traditional mechanisms have been altered (shown by **arrows** in Fig.6) by technological changes, market forces, socio - economic shifts, and public policies. Hybrids of Jowar and Bajra have increased productivity of grain at the cost of fodder for animals. Hybrid of sunflower, castor, Bt. Cotton etc. are input intensive and failure of crop or marketing leads to high distress. Drought resistant low input millets have been replaced by oil seed crops especially soyabean and pulses.

Employment guarantee schemes, institutionalized credit and insurance system have also impacted the traditional vulnerability and coping mechanism.

Public distribution system encouraged marketing of surplus production during normal or excessive rainfall years instead of storing for contingencies. Public investments into surface, ground water resources and watershed management led to the neglect of tanks, Haveli cultivation, dug wells and other traditional systems.

Quarantine enforcement has restricted interstate movement of livestock as drought escaping mechanism or outsourcing of the resources. Ground water exploitation, increased availability of crop

residues, fodder and feed led to stall feeding and rearing of buffaloes. Kissan Credit Cards (KCC), institutionalizing credit raising and recent loan waivers may discourage lending from private money lenders.

New varieties of soybean, chickpeas, mustard, sunflower, safflower and oil mills have encouraged diversification in various dimensions. The Tikamgarh does not cultivate some important cash crop except small acreage under oil seeds. About 90% of the geological area of Tikamgarh is a hard rock with very poor yield of aquifer, fast depletion of water table and inadequate rate of replenishment or recharging. Development of ground water resources is not very dependable or attractive and aquifer water should be prioritized and preserved for drinking purpose. Therefore, watershed management, development of surface water resources, improving water use efficiency, enhancing biomass productivity of forest and livestock sector are the most important options of the new strategies.

Watershed management in the upper most forest catchment is the highly prioritized starting point for integrated development of resources from ridge to valley. Therefore, watershed management, development of surface water resources, reviving of traditional dug-wells and tanks, desalting ponds, command area development and efficient micro irrigation systems should get high priority of the investment portfolio.

Intensification of diversification, marketing, value addition, processing and ensuring the risks are also essential to consolidate gains of enhancing productivity and other mitigation effects.

3. Capacity Analysis

Table 37 Resource inventory Block wise

Resource Type	Details	Number	Government, Private	Contact no. of nodal person/s
Equipment used for cutting, Search & Rescue (S&R), grinding m/c etc.	Search light(SL), Lifejacket(LJ), Ring tube(RT), Rope (R), Kanta (K), Boat(B),	SL-2, LJ-59, R-4kg, K-1, Boat-1, RT-40	Government but generally take help of private property also if needed	Revenue officer/SDM/Tahsildar/ other appointed authority like District commandant
Temporary shelters, camps	Schools, Gram Panchayat, Safe nearby area/ place	Arrange according to requirement	Government but generally take help of private property also if needed	SDM/Tahsildar/ Other appointed authority/District commandant

Emergency Search lights	Available at district commandant	2	Government but generally take help of private property also if needed	SDM/Tahsildar/ Other appointed authority/District commandant
Trained manpower, available in specific domain like S&R, First Aid, Response Warning, Swimming etc.	Trained swimmers at District commandant office and nurses in health centres, ASHA's 400 unskilled with Nagar Nigam	Arrange according to requirement	Government but generally take help of others also if needed	SDM/Tahsildar/ Other appointed authority/District commandant
First Aid / Medical emergency requirements, equipment to be used	Available at district headquarter and district hospital CHC, SHC, PHC, Anganwaris	One team available	Government but generally take help of others also if needed	Chief Medical Health Office
Location of key hospitals, blood banks, Doctors, medical stores	Available at District & Block headquarters	Blood bank-1	Government but generally take help of others also if needed	Chief Medical Health Office
Availability of equipment like Bulldozers, Hydra, Crane, for clearance, JCB	Available at PWD office and Nagar Palika JCB	3	Government but generally take help of private property also if needed	Public Works Department
Transportation(Fit Vehicles available with nodal agencies, in emergency)	Available at RTO	Arrange according to requirement	Government but generally take help of private property also if needed	Transportation department head
Total no. of boats (with info about capacity, size, contact)	Available at District commandant	1	Government but generally take help of others also if needed	SDM/ Revenue officer/ District commandant

of Orgn./owner etc)	office			
Availability of fire fighting equipment, Fire tenders	Available at Nagar Palika and Fire department	2	Government	Fire Department head
List of PDS Shops	Available at District Food and supply department	Arrange according to requirement	Yes	Food and supply department
List of NGOs / CBOs	Not available	NA	NA	NA
Veterinary Hospitals	Yes	Block wise 1	Government	CVH
Telephone Exchange	Yes	1	Government	Telephone department Head
List of petrol pumps (if possible)	Yes	Tikamgarh-6 Jatara-1 Palera-1 Badeogarh-1 Karagapur-1 Prithvipur-2 Niwari-1 Badagaon-1	Government but generally take help of others also if needed	Revenue office/SDM/DC

Source: District Collector Office and District commandant Office

4. Risks Assessment

4.1 Potential impact of applicable hazards and existing vulnerabilities

Table 38 Potential impact of applicable hazards and existing vulnerabilities

Type of hazard	Vulnerable areas	Vulnerability	Potential Impact	Identified safer places
Flood	<p>1. Niwari: Orchha, Mador Western, Lotna, Singhpura, Chandrapura, Ladpura, Dhimarpura, Iqbalpur, and adjacent villages</p> <p>2. Baldeogarh: Khargapur, Midawali, Khodera, Harpura, Arora, Bhanpura,</p>	<p>1.Niwari: Life of 1845 people living in those vulnerable 10 villages in Block</p> <p>2. Baldeogarh:</p>	<ul style="list-style-type: none"> • Property damage and cost of repair or replacement of damaged or destroyed structures • Loss to recreational and tourism industry • Disruption of water supply and loss of 	<p>Nearby safe villages and high level area from ground in the same village. We can also use Hostels,</p>

	<p>Pacher, Kharila, Saipura, Pipara,</p> <p>3. Jatara: Iqbalpura, Pithnora, Piprihar, Saihar, Tapriyan, Bamhori Abda, Tanga, Ramgarh, Jarua, Hanota, Piprat</p> <p>4. Tikamgarh: Brijpura, Sararwara, Dudatora, Magara, Maukhra, Dharmapura, Bhainswasi, Shivpuri, Pureniya, Sujara.</p> <p>5. Palera: Toriya, Bakhatpura, Saipura, Thar, Mabai, Gadari, Laharbujurg, Atarar, Gova, Brana, KHajari, Satwara, Bamhoriya, Sanjaynagar, Kudila, Itayali, Ramnagar, Pureniya, Mahindra Maheba, BUdore, Jebar, Karrai, Khera, Chewala, Vijaypur, Bela, Karola, Para, Mararha Baba</p> <p>6. Prithvipur: Dirguwa, Majara Kherai, Majara Kachar, Rampura, Digwar Kala, Guleda, Sewari, Sarsora</p>	<p>Life of 1731 people living in those vulnerable 12 villages in Block</p> <p>3. Jatara: Life of 2405 people living in those vulnerable 11 villages in Block</p> <p>4. Tikamgarh: Life of 2500 people living in those vulnerable 10 villages in Block</p> <p>5. Palera: Life of 5100 people living in those vulnerable 30 villages in Block</p> <p>6. Prithvipur: Life of 1590 people living in those vulnerable 10 villages in Block</p>	<p>drinking water</p> <ul style="list-style-type: none"> • Poverty, Race, and isolation(Loss of home and jobs), • Increases suicide and crime rates, violence against women and increased consumption of alcohol • Destruction of educational buildings(students may suffer academically), • Destruction of grocery stores, restaurants, convenience stores and retail food stores • Death and injuries to lives • Damage to crops, buildings, roads, bridges, and hospitals • Damage to plant and animal species, reduction and degradation of fish and wildlife habitat • Emergency health care and other vital services) • Lack of different large water reservoirs, electricity and other basic needs supply system in city 	<p>Schools, Colleges, government offices and others.</p>
2. Drought	Everywhere in district		<ul style="list-style-type: none"> • Property damage and cost of repair or replacement of damaged or destroyed structures • Loss to recreational and tourism industry 	<p>Nearby safe villages and high level area from ground in the same village. We can also</p>

			<ul style="list-style-type: none"> • Disruption of water supply and loss of drinking water • Poverty, Race, and isolation(Loss of home and jobs), • Increases suicide and crime rates, violence against women and increased consumption of alcohol • Destruction of educational buildings(students may suffer academically), • Destruction of grocery stores, restaurants, convenience stores and retail food stores • Death and injuries to lives • Damage to crops, buildings, roads, bridges, and hospitals • Damage to plant and animal species, reduction and degradation of fish and wildlife habitat • Emergency health care and other vital services) • Lack of different large water reservoirs, electricity and other basic needs supply system in city 	use Hostels, Schools, Colleges, government offices and others.
3. Thunder and Lightning 4. Cloud	Anywhere in district	So out of 1,444,920 people living in Tikamgarh district life of approximately	<ul style="list-style-type: none"> • Property damage and cost of repair or replacement of damaged or destroyed structures 	Nearby safe villages and high level area from ground in the

<p>Burst</p> <p>5. Earthquake</p> <p>Accident Related Disasters</p> <p>1. Serial Bomb Blasts</p> <p>2. Urban Fires</p> <p>3. Major Building Collapse</p> <p>4. Festival related disasters</p> <p>5. Electrical Disasters and Fires</p> <p>6. Road and Rail Accidents</p> <p>7. Village Fire</p>		<p>75% are at moderate risk due to their presence in Seismic zone I and approximately life of 25% animals in Tikamgarh district are under threat</p> <p>People living in Tikamgarh district and lives of livestock</p> <p>Approximately 5% of population attending fairs and festivals</p> <p>Some percentage of life of people and animals in district</p> <p>Though there is no death cases during stampede till 2011, still lives of around 5000-6000 people are at risk</p>	<ul style="list-style-type: none"> • Loss to recreational and tourism industry • Disruption of water supply and loss of drinking water • Poverty, Race, and isolation(Loss of home and jobs), • Increases suicide and crime rates, violence against women and increased consumption of alcohol • Destruction of educational buildings(students may suffer academically), • Destruction of grocery stores, restaurants, convenience stores and retail food stores • Death and injuries to lives • Damage to crops, buildings, roads, bridges, and hospitals • Damage to plant and animal species, reduction and degradation of fish and wildlife habitat • Emergency health care and other vital services) <p>Lack of different large water reservoirs, electricity and other basic needs supply system in city</p>	<p>same village.</p> <p>We can also use Hostels, Schools, Colleges, government offices and others.</p>
<p>Biologically Related</p>	<p>Anywhere in district</p>	<p>People of Tikamgarh district</p>	<ul style="list-style-type: none"> • Property damage and cost of repair or replacement of 	<p>Nearby safe villages and</p>

<p>Disasters</p> <p>1. Biological Disasters and Epidemics</p> <p>2. Pest Attacks</p> <p>3. Cattle Epidemics</p> <p>4. Food Poisoning</p>		<p>Though there are no death cases because of Epidemics, food poisoning, and cattle epidemics till 2011, still lives of people are at risk.</p>	<p>damaged or destroyed structures</p> <ul style="list-style-type: none"> • Loss to recreational and tourism industry • Disruption of water supply and loss of drinking water • Poverty, Race, and isolation (Loss of home and jobs), • Increases suicide and crime rates, violence against women and increased consumption of alcohol • Destruction of educational buildings (students may suffer academically), • Destruction of grocery stores, restaurants, convenience stores and retail food stores • Death and injuries to lives • Damage to crops, buildings, roads, bridges, and hospitals • Damage to plant and animal species, reduction and degradation of fish and wildlife habitat • Emergency health care and other vital services) • Lack of different large water reservoirs, electricity and other basic needs supply system in city 	<p>high level area from ground in the same village</p>
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4.2 Risk profiling of the district

The Tikamgarh district is vulnerable to only heavy rain which may cause flood situation and draught situation because of lack of rain and manmade disasters like dense fire, Terrorism etc. So the major natural hazards to which the district is exposed to are flood and draught. Though flood and drought is not a major problem for the district, but due to recent changes in the global climate, there is an observed change in the rainfall intensity and uniformity in the district, which causes flood and drought like situations.

The entire district comes under Betwa sub-basin of Ganga basin. Dadhni, Janami, Bargi, Ur and Dhasan are the major rivers draining in the district area and ultimately join in the north with Betwa river. Dhasan, Jamni and Sadhni are Perennial Rivers whereas Ur, Bargi, Gorar and Supihar are ephemeral rivers. The overall drainage pattern in the district is dendritic. The Climate of Tikamgarh district, M.P. characterized by a hot summer and general dryness except during the southwest monsoon season.

Of the various natural disasters floods are the most likely to occur in Tikamgarh District, Some areas of Tikamgarh are highly prone to flood the main reason behind this is excessive rainfall and release of water from Matateela dam (Uttarpradesh). Matateela dam is the larger dams in district. Maateela dam is built on Betawa River which is highly prone to flood. Jamani river is also affected because of excess flow of water from the Matateela dam.

In Niwari block two rivers which affect mostly the nearby villages of Niwari tehsil are Jamani and Betawa. In Niwari tehsil, Orchha, Mador Western, Lotna, Singhpura, Chandrapura, Ladpura, Dhimarapura, Iqbalpur, and adjacent villages. Hence it is prone to flood condition every year whenever excessive rainfall observed in block.

In Baldeogarh block the river which affects mostly the nearby villages of Baldeogarh tehsil are Ghasan. In Baldeogarh tehsil, Khargapur, Midawali, Khodera, Harpura, Arora, Bhanpura, Pacher, Kharila, Saipura, Pipara and its adjacent villages are at high risk. Hence it is prone to flood condition every year whenever excessive rainfall observed in block.

In Jatara block the river which affects mostly the nearby villages of Jatara tehsil is Jamani. In Jatara tehsil, Iqbalpura, Pithnora, Piprihar, Saihar, Tapriyan, Bamhori Abda, Tanga, Ramgarh, Jarua, Hanota, Piprat and its adjacent villages are at high risk. Hence it is prone to flood condition every year whenever excessive rainfall observed in block.

In Tikamgarh tehsil mostly the Dasan river affects this district. The Brijpura, Sararwara, Dudatora, Magara, Maukhra, Dharmapura, Bhainswasi, Shivpuri, Pureniya, Sujara and its adjacent villages are at high risk. Hence it is prone to flood condition every year whenever excessive rainfall observed in block.

In Palera tehsil, the Ghasan and Jamani rivers generally affects the daily life of district people. In this block, Toriya, Bakhatpura, Saipura, Thar, Mabai, Gadari, Laharbujurg, Atarar, Gova, Brana, Khajari, Satwara, Bamhoriya, Sanjaynagar, Kudila, Itayali, Ramnagar, Pureniya, Mahindra Maheba,

Budore, Jebar, Karrai, Khera, Chewala, Vijaypur, Bela, Karola, Para, Mararha Baba and its adjacent villages are at high risk. Hence it is prone to flood condition every year whenever excessive rainfall observed in block.

In Prithvipur tehsil, two rivers which affect mostly the nearby villages of are Jamani and Betawa. In this block, Dirguwa, Majara Kherai, Majara Kachar, Rampura, Digwar Kala, Guleda, Sewari, Sarsora and its adjacent villages are at high risk. Hence it is prone to flood condition every year whenever excessive rainfall observed in block.

Due to dense settlement in slum areas, Poor Waste Management, Discharge of Sewerage into river and lakes and absence of underground sewerage network there is always chance of spread of any epidemic like Swine flu, Malaria, Chickengunia in Tikamgarh district. There are cases of Mass Jaundice in tehsils this year and main reason is contaminated water. In summer season due to scarcity of clean drinking water all tehsil are prone to epidemic like malaria, typhoid, jaundice etc.

In case of drought, for the last 20 years, many times it is affected. Though occurrence of drought is not in our hand, mitigation of drought can be done through various watershed programs and suitable irrigation methods. Already few programs are in place but still it couldn't solve the problem. An effective measure should be taken to solve this major problem.

For people living in Tikamgarh block, since they are living in district headquarter, they have other source of income through various opportunities like daily labourers etc. So Tikamgarh block is under moderate risk in case of drought.

In case of Earthquake, there is no history of earthquake. As Tikamgarh district falls under Seismic zone I, it is under minimum risk. Though 23.5% of houses in Tikamgarh district are built with mud/burnt brick, Tikamgarh block is comparatively at a better stage with good buildings. But still earthquake resistant design for Seismic zone I buildings should be followed while building houses or any other structures.

In case of industrial hazard, there is no history of industrial accidents. It has only local business level industries which are not prone to any kind of disaster. So Tikamgarh district is at low risk in case of Industrial hazard.

In case of road accidents, fire accidents, Tikamgarh district is at moderate risk. Large no of fairs are organized in Tikamgarh district at various religious places. There are high chances of accident, stampede in these fairs due to lack of basic facilities. People visited in these fair are at high risk.

Apart from the hazard prone geographical conditions, the district is also vulnerable due to the unplanned developments, rapid urbanization, and alarming growth in the population and temporary settlements in urban areas. In the rural areas of the district it's the lack of awareness among the rural communities and also their remoteness, which makes them more vulnerable to disasters.

C. DISTRICT LEVEL DISASTER MANAGEMENT PLANNING

For efficient execution of the Tikamgarh District Disaster Management Plan, the action Plans have been organized as per earlier defined four stages of the Disaster Cycle.

1. District Action Plans

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. A Training Strategy will be formulated for training major government and non-governmental cadres in the state who can aid in disaster management.

Ex. Structural and Non-Structural Measures of Flood:

Structural measures are in the nature of physical measures and help in “modifying the floods” while Non-Structural measures are in the nature of planning and help in “modifying the losses due to floods.” In structural measures we keep the water away from the people and in Non-structural, we keep the people away from the water. All of these works can be individually divided into long-term measures even though time-taking and costly, must be undertaken, as they are very effective and permanent in nature. Short-term measures serve the purpose in a limited way.

- Embankments
- Channel improvements
- Emergency flood ways and river diversions
- Inter basin transfers
- Bank protection, river training, anti-erosion works
- Village raising and / or construction of community-cum-shelter buildings above High Flood Level (H.F.L.)

Structural Measures:

- Watershed Management
 - An annual basis timely cleaning, desilting or deepening of natural water reservoirs and drainage channels (both rural and urban) must be taken up
 - Coordinate with local bodies

- Reservoirs
 - Ensure that all village panchayats have dug up the village ponds.
 - Encroachments on ponds and tanks or natural drainage channels are to be removed well before the onset of monsoons.
- Natural Water Retention Basins
 - Inspect & strengthen where necessary all flood protection embankments, ring bunds and other bunds.
- Safe Disposal of Surplus Runoff
 - Inspect all drains, link drains through responsible officers and remove congestion.
 - Test pump houses & mobile pumps.
 - Complete necessary repairs before monsoon.

Non-Structural Measures:

- Flood Plain Zoning
 - Guiding principle is to use flood plain and vacate it when river demands it. In flood plan zoning areas are classified as per the frequencies of floods.
 - District administration must ensure that development of new colonies is done by following this principle of flood plain management.
- Flood forecasting and Warning
- Flood Proofing
 - Making of buildings flood-proof by raising it level using earth fill and various other methods.
 - Ring bunds may be constructed around village or group of properties/villages.

1.1.1 Scope of Integrating Risk Reduction in Development Schemes

Disaster management is no more confined to revenue department. It is a subject of all the departments. The following activities have been considered in mainstreaming it into development activities.

- 1) The Disaster Management should be included in school curriculum at CBSE level.
- 2) The Disaster Management is also made compulsory to NSS / NCC students at college level. So that during disasters they can be called upon for certain help.
- 3) Various Disaster Management courses should be offered in different institutions, colleges, universities taking its significance into account.
- 4) In construction work the civil engineers have to follow Bureau of Indian Standards (BIS) to construct resistant structures.
- 5) Special budget at district blocks and village level should be allocated for training of various teams against disaster, purchasing of equipment to save the life and property of the people,

organizing mock drills to create awareness among the people, updating the disaster management plans, etc.

- 6) Government officers, staff are trained under disaster management, so that their skill will be helpful at the time of disaster.

Table 39 Integrating Risk Reduction in Development Schemes

Sectors / Line Departments	Integrating Risk Reduction in Development Schemes
MGNREGA	<ul style="list-style-type: none"> • Facilitate advocacy on special planning with focus in employment generation and asset creation in disaster prone areas. • Micro level planning with DRR integration for creation of assets and infrastructure (road, culvert, escape route, raised tube well for pure drinking water, irrigation structure) and get it approved at the district.
NRHM	<ul style="list-style-type: none"> • Design of training curriculum for ASHA incorporating DRR. • Conduction of Training for ASHA, paramedics, ANM and others health staff on DRR. • Convergence with NRHM has to be established under Emergency Health Management, Mass Casualty Management and on other allied aspects. • NRHM is an Indian health program for improving health care delivery across rural India. The scheme proposes a number of new mechanisms for healthcare delivery including training local residents as Accredited Social Health Activists (ASHA), and the Janani Surakshay Yojana (motherhood protection program). It also aims at improving hygiene and sanitation infrastructure. It can incorporate selection and training of first aid volunteers at district, block and village level. Strengthening of NRHM will directly help in managing the healthcare activities during disasters.
JNNURM	<ul style="list-style-type: none"> • Risk audit to be conducted for water supply, solid waste management, improvement of drains, prevention and rehabilitation of soil erosion and landslides, preservation of water bodies and incorporate the findings to the town plan. • Explore options of urban reform program under JNNURM to advocate with Districts for amending building bylaws for disaster resistant development of built environment in urban areas. • Public awareness on JNNURM and its implication on poverty alleviation among urban poor and relevance of DRR.
Housing, Urban	<ul style="list-style-type: none"> • Advocate retrofitting in existing infrastructure (public buildings for

<p>Development Department, Rural Development Department & Public Works Department</p>	<p>earthquake protection.</p> <ul style="list-style-type: none"> • Structural measures and building code in earthquake and flood zone • Earthquake resistant planning in IAY houses • Facilitate adaptation measures in drainage pattern/sewerage treatment in flood • Training of engineers/ masons • Advocacies in schools and hospital safety program • Generating public awareness on disaster mitigation due to physical development or disastrous impact due to physical development and how the impact assessment has helped to know the pros and cons of it before the development.
<p>Public Health Engineering Department</p>	<ul style="list-style-type: none"> • Construction of high raised tube wells
<p>Agriculture/ Animal Husbandry</p>	<ul style="list-style-type: none"> • Facilitating farmers in doing insurance on Crop and Livestock and Crop diversification as per the agro-climatic zone • Localized weather data through community radio and farmers
<p>Forestry and Environment</p>	<ul style="list-style-type: none"> • Generating public awareness on importance to social forestry and preservation of biodiversity that works as carbon sink • Public awareness on CRZ protection • Public awareness on greenhouse gas emission and its impact on disaster frequency
<p>Education (Sarva Siksha Abhiyan)</p>	<ul style="list-style-type: none"> • Coordinate with NCERT and other syllabus to incorporate DRR basics into curriculum • Exposure of students and teachers to DRR best practices in the same agro-climatic zone • Identify and interact with research institutions to evolve mitigation strategies. • Procedural steps for research, development and promotion of adoption of cost effective buildings should be framed and implemented. • 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. <p>SSA is an Indian Government program aimed at the universalization of elementary education SSA is being implemented in partnership with State Governments to cover the entire country and address the needs of 192 million children in 1.1 million habitations. The</p>

	<p>program seeks to open new schools in those habitations which do not have schooling facilities and strengthen existing school infrastructure through provision of additional class rooms, toilets, drinking water, maintenance grant and school improvement grants. Existing schools with inadequate teacher strength are provided with additional teachers, while the capacity of existing teachers is being strengthened by extensive training, grants for developing teaching-learning materials and strengthening of the academic support structure at a cluster, block and district level. SSA seeks to provide quality elementary education including life skills. SSA has a special focus on girl's education and children with special needs. SSA also seeks to provide computer education to bridge the digital divide.</p>
Zilla Parishad, Panchayat Samiti and Gram Panchayat	<ul style="list-style-type: none"> • Fund allocation should be made by Zilla Parishad, Panchayat Samiti and Gram Panchayat to carry out the following DRM activities:- <ul style="list-style-type: none"> ➤ To train Search and Rescue, First Aid groups ➤ To create awareness among the people ➤ To procure search and rescue materials ➤ To evacuate and set up temporary shelter for disaster victims <p>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.</p>
Indira Awas Yojana	<ul style="list-style-type: none"> • Earthquake resistant principle may be followed in Indira Awas Yojana, lifeline structures, all buildings may be insured by bank, private companies.
Public distribution system Yojana	<ul style="list-style-type: none"> • PDS should be made very efficient and should play a critical role during the time of disaster. As the PDS have sufficient foods in stock for providing food during crisis.
Pradhanmantri Gram Sadak Yojana (PMGSY)	<ul style="list-style-type: none"> • Under PRADHANMANTRI GRAM SADAK YOJANA (PMGSY), proper communication should be established in Karhal block where transportation becomes vulnerable during rainy seasons. It should give special attention to the water logging area which is more affected during the rainy seasons. Roads should be constructed under this scheme in rural area for the proper communication from village to block. There are some are more affected during rainy seasons transportation become very difficult so these areas should get priority.
NFSM	<ul style="list-style-type: none"> • In order to deal with the severe cases of Drought, the components of NATIONAL FOOD SECURITY MISSION (NFSM) should also to

	be linked based on the relevance and according to the needs of the sufferers, in line with the criteria of the mission.
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1.1.2 Training & Capacity Building

It is proposed the establishment of a Tikamgarh District Disaster Management Institution as part of overall mitigation strategy. The Tikamgarh District Institute of Training will be the primary agency for conducting training to all government officials involved in the planning and implementation of the mitigation strategies at the state and district level.

The Institute will organize training for state level and district level officials, officials from line departments, as well as the private sector organizations. At the district level, training programmes will be conducted in coordination with NGOs, and government training/research institutions and Community level trainings and public awareness activities, in partnership with NGOs, Pvt. Sector and Government. Training institutions.

1.1.3 Community Initiatives

Communities are always the first responders and hence the DDMA / District Authority will ensure Community participation through initiatives like Community Based Disaster Management (CBDM) to promote local ownership, address local needs, and promote volunteerism.

Special focused will be given to local contractors and masons, who are the prime responsible for construction work. Training programmes will target the informal construction sector by building their capacities on safe construction practices and retrofitting of existing structures. An institutional arrangement is required to ensure that in the long term, contractors and mason ensure safe construction practices.

Primary agencies for community level training and public awareness are:

- Environment, scientific & technology department
- Technical Education Department
- NGO
- Private sectors

The NGOs, private sector organisations and other government training institutions will, in turn, organise training and simulation exercises at the district and community level, in order to ensure preparedness from the grass-roots.

The community needs to be encouraged to reduce the impact of the next disaster. Demonstration housing units indicating the various technology features and options will be built by the Government/NGOs/Community. This should prioritize buildings like village offices, primary health centres, community centre, schools etc.

The objective of such activity will be to encourage local communities to undertake either at individual, household or community level to avoid loss of life, damage to property and crop.

1.1.4 Risk Management Funding

The short & long term funding provisions for proposed mitigation activities, under the overall objective of risk management at district level is taken care of by the revenue department.

1.1.4.1 Compensation Criteria:

(As per amendment/revision in the Tikamgarh Emergency Relief Manual w.e.f. 06-4-2012)

1. Death and Injury to Human being:

Table 40 Risk Management Funding for death and injury to human being

Provision of Compensation for death and injury:			
S.N.	Nature of calamity	Provision	
A	Ex-gratia payment to families of deceased person of natural calamity/accident.	1,50,000/- per deceased	
B	Ex-gratia payment For loss of a limb or eye in addition to free supply of artificial limb. (a) 40-75% Injury (b) Greater than 75% (c) 40-80% Injury (d) Greater than 80%	40-75% Injury	35000
		Greater than 75%	50000
		40-80% Injury	43500
		Greater than 80%	62500
C	If physical injury is serious and the person is staying in hospital than Ex gratia payment: for the person who is staying <ul style="list-style-type: none"> • one week in hospital • more than one week • less than one week 	one week in hospital	7500
		more than one week	9300
		less than one week	3100
D	Relief to those rendered homeless natural disaster.	Prevailing daily wage of unskilled per day up to maximum of one month.	

2. Loss of Livestock

Table 41 Risk Management Funding for loss of livestock

Provision of compensation for Livestock		
(a) (Crossbreed)	1. Horse/mule and camel, Buffalo, 15000	
1. Horse and camel, Buffalo, cow	cow {Crossbreed}, ox, yak	

{Crossbreed}, ox, yak 2. Child- Horse and camel, Buffalo, cow {Crossbreed}, ox, yak 3. Mule / donkey (b) (Local breed) 1. Cow (Local breed), /Buffalo, Camel 2. Sheep/Goat Maximum relief on livestock to each family (c) Pig (d) Child – Pig, sheep, Goat, Donkey	2. Child- Horse/mule and camel, Buffalo, cow {Crossbreed}, ox, yak	10000
	3. Mule / donkey	10000
	1. Cow (Local breed), /Buffalo, Camel	16400
	2. Sheep/Goat	1650
	Pig	1500
	Child – Pig, sheep, Goat, Donkey	250

3. Loss/Damage to dwelling House

Table 42 Risk Management Funding for Loss/damage to dwelling house

<p>Very less damage (Loss less than 50%):</p> <p>(a) Pacca house - Rs. 2500/-</p> <p>(b) Katcha house - Rs. 1500/-</p> <p>(c) Hut / Jhuggi Jhopari – Rs. 1000/-</p> <p>Partial damage (Loss above 50%):</p> <p>(a) Pacca house Rs 5000/-</p> <p>(b) Katcha house – Rs. 3000/-</p> <p>(c) Hut/ Jhuggi Jhopari – Rs. 2000/-</p> <p>Fully Damaged House:</p> <p>(a) Pacca house Rs. 35000/-</p> <p>(b) Katcha house Rs. 20000/-</p> <p>(c) Hut/Jhuggi Jhopari Rs. 6000/-</p> <p style="text-align: center;">Complete new construction of Kacha house and Pakka house</p>
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4. Loss to Agriculture / Horticulture Crops Loss

Table 44 Risk Management Funding for Loss to agriculture/ Horticulture crops loss

Sericulture (Ari, Sahtut, Tasar)crop loss – Rs. 3200 per hectare Sericulture (Munga) crop loss – Rs. 4000 per hectare Parnial crop loss – > Rs. 1000 Crop loss (Others 1) – Rs. 8000 per hectare Crop loss (others 2) – Rs. 6000per hectare Crop loss (others 3) – Rs. 8100 per hectare

Source: For more information about other scheme please refer the Revenue Book (R.B.C. 6-4) – 06-04-2012

1.2 Preparedness Plan

This protective process embraces measures which enable governments, communities and individuals to respond rapidly to disaster situations to cope with them effectively. Preparedness includes the formulation of viable emergency plans, the development of warning systems, the maintenance of inventories and the training of personnel. It may also embrace search and rescue measures as well as evacuation plans for areas that may be at risk from a recurring disaster.

Preparedness therefore encompasses those measures taken before a disaster event which have aimed at minimizing the loss of life, disruption of critical services, and damage when the disaster occurs. All preparedness planning should be supported by appropriate legislation with clear allocation of responsibilities and budgetary provisions.

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.

So during this activity, 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.

1.2.1 Preparedness before response: General Preparedness Measures

1. Establishment of the Control Rooms

The district administration should ensure the operation of control rooms. The control rooms are presently run by major line departments at revenue, police, district panchayat, Municipal Corporation, Land Records department, MSED, Hospital, etc. at blocks and district level should be functional.

2. Plan Updating

Disaster Management Plan needs updating at every interval. It includes the skilled manpower, their addresses and contact numbers, necessary equipment, medicinal stock, daily necessities, list of flood prone villages etc. All these things have to be updated after a certain interval of time.

3. Communication System

Training is given for search and rescue team, first aid team disaster management team at village, block and district level. These teams will provide timely help during any type of disaster. Provision

of wireless sets at all Sub-division and Block Offices for effective communication of cyclone/heavy rainfall/flood warning should be provided.

Fire Brigades at all the Municipal Offices, effective and stricter implementation of flood zone regulations disallowing construction within 200 m of river banks should be implemented. Widespread community awareness programmes in flood prone villages so that villages are sensitized about the flood hazard and there are no problems when there is need for evacuation.

4. Training for Disaster Management Team Members (DMTs)

Each of the DMTs comprise of groups of women and men volunteers and are assigned with a special task. The Search and Rescue Teams, First Aid Teams formed at the three levels should be provided training from time to time so that their timely help can be used during disaster.

5. Organization of Mock Drills

Mock drill is an integral part of the Community based disaster management plan, as it is a preparedness drill to keep the community alert. Mock drills are organized in all the villages of the district to activate the DMTs and modification of the DM plan. Mock drill is organized once in six months as per the seasonality calendar of natural disaster events that is likely to occur.

6. Community Awareness on Various Disasters

- Construction of Earthquake Resistant Structures
- Retrofitting the weak structures
- House insurance
- Construction of embankments for flood control
- Rehabilitation of people in safe lands
- Development of plans for shifting people from vulnerable area to safer area

It is therefore necessary that with respect to every disaster a responsible officer is designated to issue the warnings.

The District Disaster Management Authority (DDMA) will be the prime agency responsible for issuing the disaster warning at the district level through the District Emergency Operation Centre.

Additionally the local technical agencies authorized to issue warning will also communicate the same to the District Emergency Operation Center (DEOC) and State Emergency Operation Centre (SEC) for further actions.

Agencies responsible to issue the warnings should be issued the warning before any disaster. The respective agencies are described in next section.

However, disasters can also take place without any warning such as Earthquakes, flash floods & human made disaster. The preparedness action plan is crucial in order to safeguard the lives and properties.

During non-disaster time, the DDMA will ensure that the following activities are being carried out in coordination with the concern line departments:

1.2.2 Pre-Disaster Warning, Alerts

The existing control rooms for flood relief and other disaster relief system can be used for disasters like cloud bursts or hail storms with little or no modifications. Here the information desk of the Incident Command System (ICS) will play an important role. It should be ensured that the warning system is easy to operate, reaches a large number of people simultaneously and take little or no maintenance at all. If any electrical equipment is involved, power supply should be ensured and there should be provisions for backup supply. Also, it should be checked at regular interval to ensure its working at the time of need. Often animals exhibit different kind of behavioural patterns prior to the onset of disasters like flood and earthquake. These patterns should be studied and integrated in the awareness program for communities.

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 ESF (Emergency Support Functions) will be asked to conduct a review of the preparedness level of the districts likely to be affected by the disaster, by calling a meeting of District DMCs (Disaster Management Committees).
- Prepare a team for deployment to assess damage and need.
- Inform respective departments to activate respective SOPs
- Inform the recognized national and international 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 DDMA to be on standby for rescue and relief operations. If required, declare de-warning
- Agencies responsible to issue the warnings are as follows:

Table 43 Pre-Disaster Warning, Alerts agencies and communication mode

Hazards	Prediction Agencies	Communication Mode
Drought	Indian Meteorological Department (IMD), Revenue Department, Public Health Department	Phone, SMS, T.V., Wireless, Radio
Floods	IMD, PHE, Irrigation Department and	Phone, SMS, T.V., Wireless,

	the flood relief cell (State and district)	Radio
Human Epidemics	Health department, Agriculture department and Veterinary Division	Phone, SMS, T.V., Wireless, Radio
Animal Epidemics	Animal Husbandry	Phone, SMS, T.V., Wireless, Radio
Road Accidents	Police. RTO	Phone, SMS, T.V., Wireless, Radio
Industrial and Chemical Accidents	Department of Industry, Police, State Pollution Control Board, Mutual Aid and Response Group (MARG) Departments of Industry, Police* Bhabha Atomic Research Centre (BARC)	Phone, SMS, T.V., Wireless, Radio
Fires	Fire Brigade, Police, Forest Department	Phone, SMS, T.V., Wireless, Radio
Hot & Cold waves	Indian Meteorological Department	Phone, SMS, T.V., Wireless, Radio
Earthquake	State Earthquake Research Institute (SERI) Geological Society of India (GSI)	Phone, SMS, T.V., Wireless, Radio

No warning

The DDMA will ensure that all concerned departments will implement their respective preparedness/contingency plans, when disaster period is not prone.

- Micro-Hazard zonation for each hazard.
- Display of warning boards for general public on sensitivity of particular areas towards particular hazards.
- Inventory of human and material resources (government, private, civil society...)
- Training, capacity building of the Search & Rescue Task Forces
- Training, capacity building of the First Aid Task Forces
- Training and capacity building of Civil police, Fire Brigades, NCC, CBOs.

- Medical preparedness – nominate / designate hospitals, doctors and paramedics to cover emergency health management.
- District level and gram Panchayat level mock drills and rehearsals.
- Public Awareness generation.
- Community based disaster management (CBDM).
- Ensure that Gram Panchayats and Blocks develop and maintain its disaster management plans.
- Lifeline buildings – schools, hospitals etc. - awareness, education, mock drills and rehearsal are practice.
- Knowledge management
- Budgetary allocations
- Yearly - Updating of the District Disaster management plan. In case of a disaster the plan will be reviewed right after that.

Important Elements for warning

The following aspects may be considered for dissemination of warning:

- All warning systems and equipment are maintained in good working condition and checked regularly
- Communities in disaster prone areas are made aware of the warning systems and the Gram Panchayat Disaster Management Committees and their Task forces are trained in dissemination of warning to the communities
- Alternate warning systems must be kept in readiness in case of technical failure (e.g., power failure)
- Only the designated agencies/officers will issue the warning.
- Multiple warning systems should be used to ensure the maximum spread.
- The warning should, to the extent possible, be clear about the severity, the time frame, area that may be affected.
- Warning statements should be conveyed in a simple, direct and non-technical language, and incorporate day-to-day usage patterns.
- The do's and don'ts should be clearly communicated to the community to ensure appropriate responses.
- Warning statements should not evoke curiosity or panic behaviour. This should be in a professional language devoid of emotions.
- Rumour control mechanisms should be activated.
- All relevant agencies and organisations should be alerted.
- Wherever possible, assistance of Gram Panchayat Disaster Management Committees and task forces, community leaders and organised groups should be sought in explaining the threat at local level.

- Once a warning is issued, it should be followed-up by subsequent warnings in order to keep the people informed of the latest situations.

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. A special Search and Rescue team consisting of the police department personnel, Home guards, PWD workers and the person having past experience in dealing with disasters should be constituted.

The procedural steps for evacuation of people under threat or likely to be affected by the disasters are as follows:

- Evacuation team should separate into smaller groups targeting individually on different level of casualties.
- The unconscious and severely hurt needs to be given the top most priority and sent for in the ambulances
- The people needing first aid come next who should be treated promptly.
- Activate all the emergency communication mechanisms
- Logistics should be contacted immediately for making the provisions for transportation.
- Temporary relief centers should be set up as soon as possible to house all the affected people or they should be immediately sent for the existing relief centers.
- 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, but for earthquakes even the shelters in lower lying areas will do.
- 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).

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.

Mock drills are advised to conduct once in 6 months.

1.3 Response Plan

The Tikamgarh District Emergency Operation Centre:

The District Emergency operation Center (DEOC) will be 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 which 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/SEC) 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 Magistrate or the designated person by him as the Chief of Operations.
- During non-disaster times, the District Emergency Operations Centre stays operational through-out 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.

Organizational Setup of DEOC:

The DEOC will comprise the following:

1. 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 District Magistrate 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/District Magistrate.

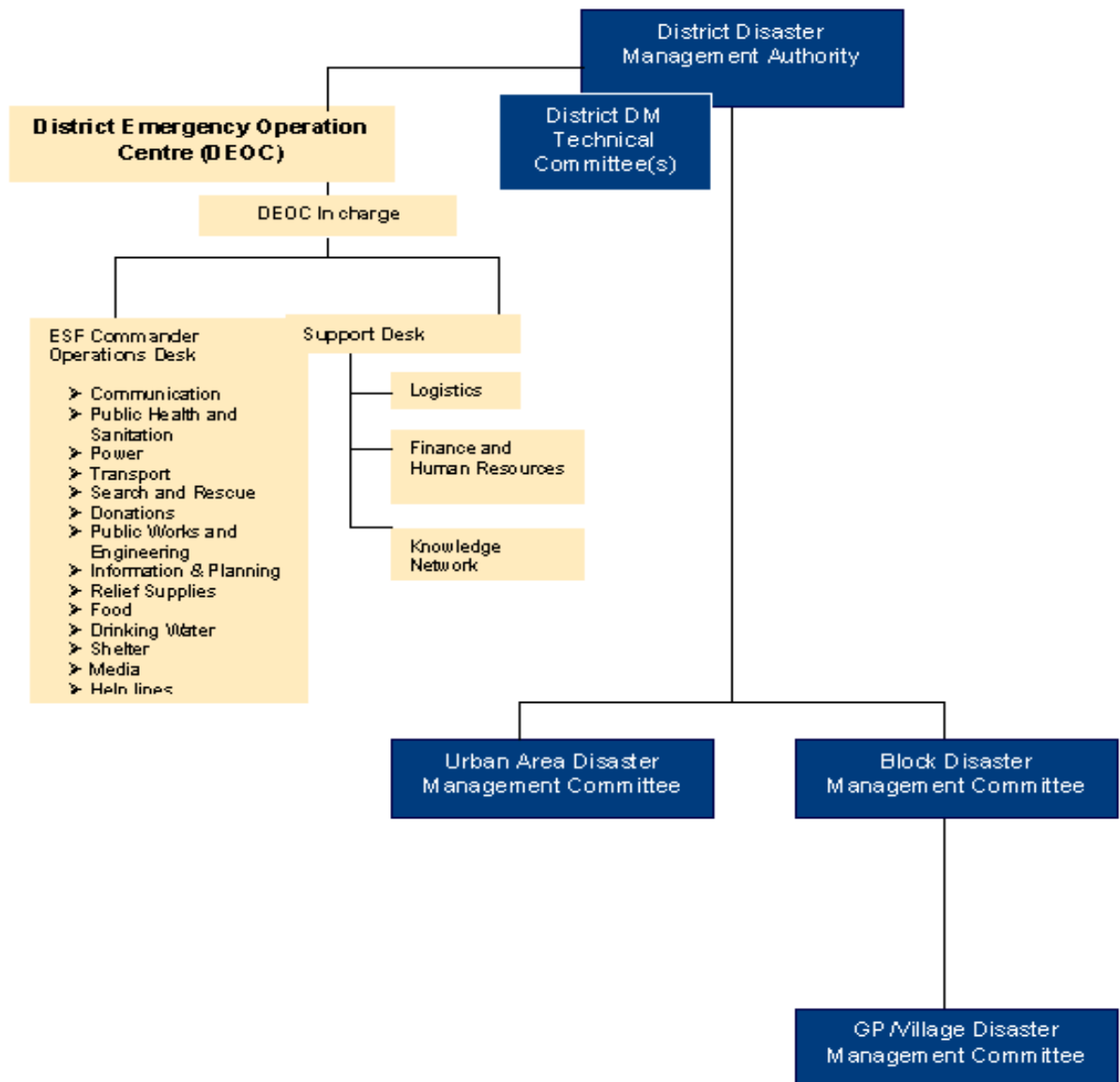


Figure 7 Proposed Institutional arrangement of the DEOC

2. Operations Section

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

- It should handle requests for emergency personnel, equipment and other resources.

- It should designate responsibilities and duties for management of the DEOC.
- It should manage storage, handling and set-up of incoming equipment and personnel.
- It should ensure medical care, feeding and housing for DEOC personnel.
- It should maintain documentation of resource inventories, allocation and availability.
- It should manage finances for DEOC operations.

3. 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 Transport (RTO, Railways)
- Department of Power/Electricity
- Department of Home/ Department of Police
- Department of Fire brigade
- Department of Revenue
- Department of Food, civil supplies and consumer affairs
- Department of Rural development
- Department of Health
- Department of Agriculture
- Department of Urban Development
- Department of Finance
- Department of Industries
- Department of Army
- Department of City Corporation (Nagar Nigam)
- Department of Municipal Corporation (Nagar Palika)
- Department of Petrol and Gas
- Department of Veterinary
- Department of Education
- Media
- Red Cross society
- NGO

Emergency Support Functions (ESF) 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 are and assist the DEOC in its response actions under fourteen ESFs

Location of DEOC

It is proposed that the DEOC needs to be established with the Department of Home since the Civil Defense 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.

1.3.1 Disaster Emergency Response Force

The State 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.

1.3.2 Crisis management direction & coordination

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.
- Centralised district level disaster resource database
- Requesting additional resources during the disaster phase from neighbouring 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.

At present District flood emergency operation center is working, which continued for 5-6 months to handle the flood situation in district. In this system Block level emergency operation center with concerned authority i.e. SDM of Block takes the direct instruction from District authority in-charge. With both district and block level authority, respective department also do their allotted work during the disaster.

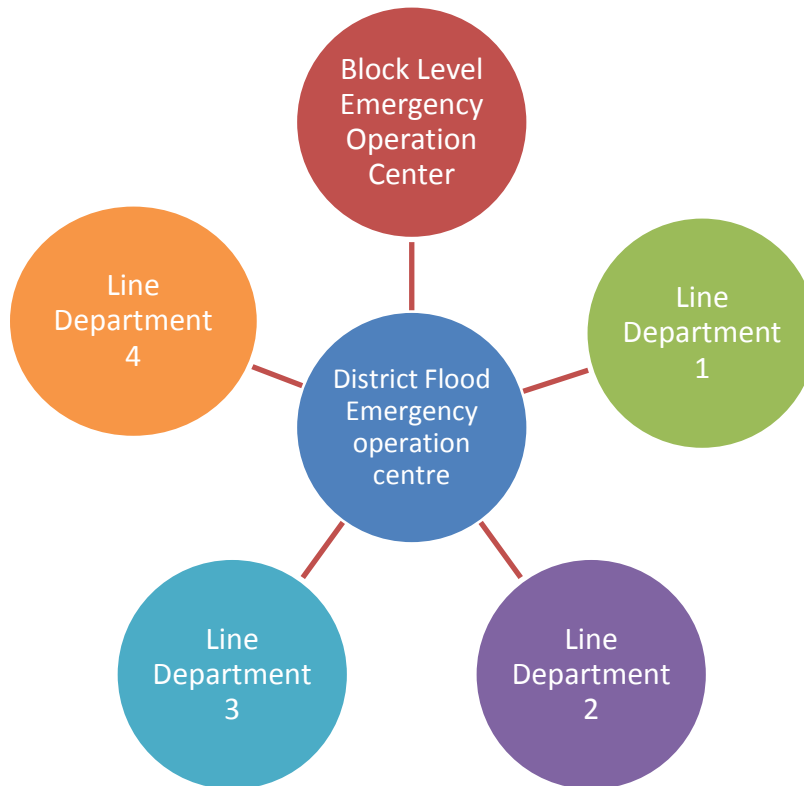


Figure 8 Present structure of DDMA

The coordination of all the authority is organised under the district magistrate. All the authority which is working under the district disaster management plan follows rules and norms of system with coordination.

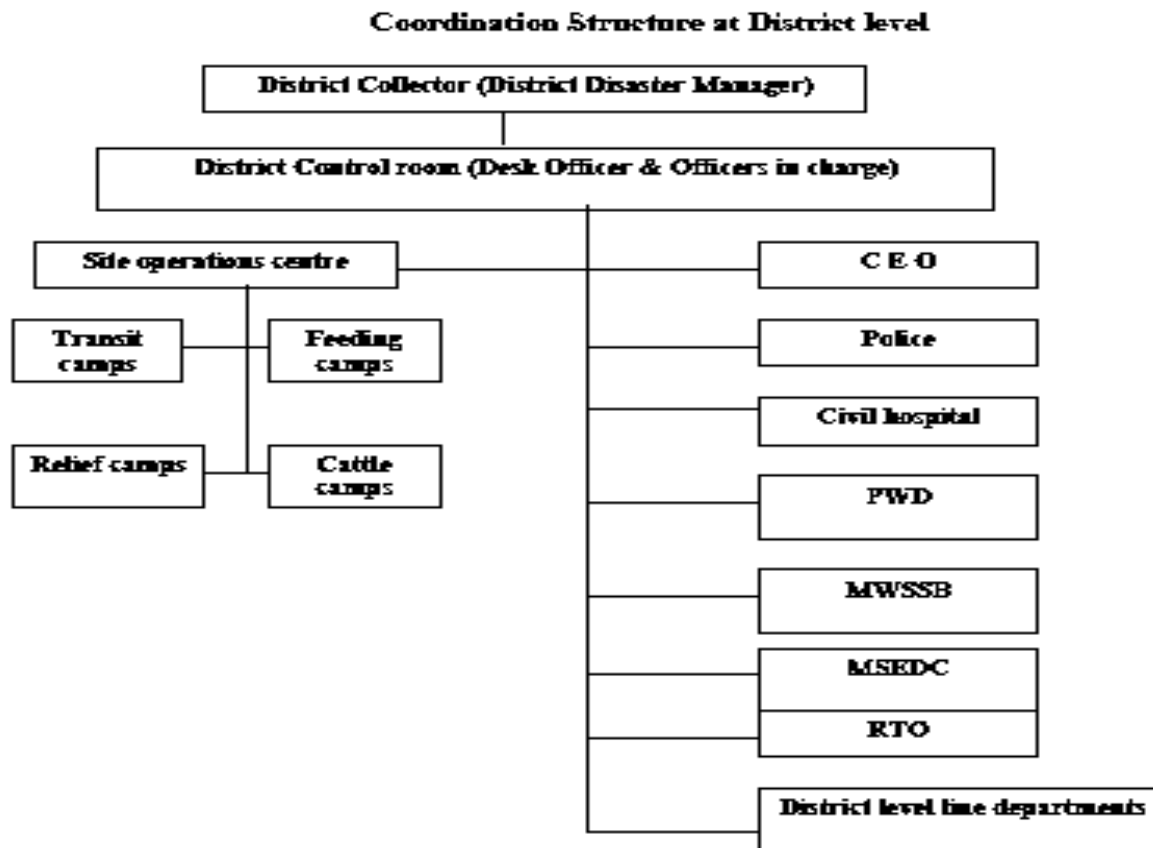


Figure 9 Proposed Structure of DDMA Coordination

1.3.3 Incident Command System (ICS)

All 5 major command functions (mentioned below) in Incident command system, to be followed:

- a) Incident command
- b) Planning section
- c) Operations section
- d) Logistics section
- e) Finance/ Admin section

The local authorities do not have the capacity to play an efficient role at local level to support the DEOC's requirements for field information and coordination. The DEOC will therefore need to field its own field teams and through them establish an Incident Command System. The system will comprise:

- Field command
- Field information collection
- Inter-agency coordination at field level
- Management of field operations, planning, logistics, finance and administration

Rapid Assessment Teams and Quick Response Teams described below will be fielded by the DDMA through the DEOC as part of the Incident Command System.

Overall Command Flow Chart (DEOC and ICPs):

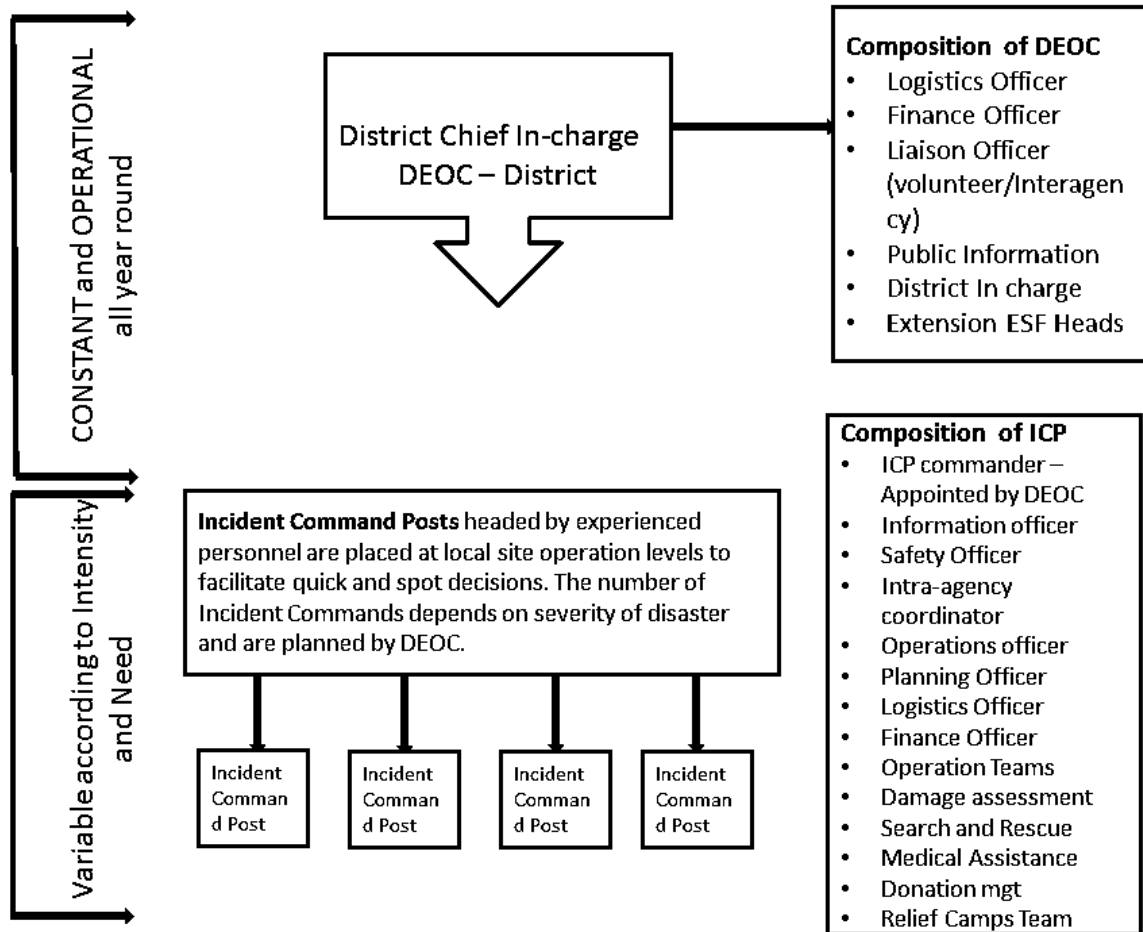


Figure 10 Incident Command System (ICS)

Activities of the DEOC

The responsibilities of DEOC at the district level shall be to provide centralized direction and control of the following activities:

Non disaster time

During non-disaster times, the activities of the DEOC will be under the supervision of the relief commissioner.

Activities to be conducted by the DEOC:

- Ensure that all districts blocks, urban bodies prepare and regularly update their District Disaster Management Plans.

- Encourage districts blocks & urban bodies to prepare area-specific plans for areas prone to specific disasters.
- Monitor training imparted to state level government officials, PRI representatives and community member's private sector and NGOs in coordination with the TIDM.
- Keep record of the State, District, Blocks, Urban areas and gram panchayat disaster management plans.
- Disseminate information about the State District DMP to other departments.
- Ensure that the warning and communication systems and instruments in the DSEOC are in working conditions round the clock.
- Keep and update state district level disaster resource inventory
- Establish functional facility of Toll free emergency numbers.

Activation Procedure of the DEOC:

Once the Sub-Divisional officer/SDM deems a disaster to be beyond the management capacity of local authorities, the District Disaster Management Authority (DDMA) will declare it as a District Level Disaster and activate the DEOC.

Step 1: The District EOC is activated on orders from the DDMA Chairperson/Deputy Commissioner.

On receipt of a disaster warning or a FIR at the DEOC, the DEOC in charge will communicate the same to the Deputy Commissioner, who after verification that the situation merits declaration of a District Disaster; will convene a meeting of the District Disaster Management Authority.

Based on the ratification of the Authority, the Deputy Commissioner, will declare a District Disaster.

Step 2: DEOC is upgraded to emergency mode

The DEOC, till then operating in the preparedness mode, will be upgraded to the emergency mode. Concerned line departments will be informed to post their representatives at the DEOC on a round the clock basis with immediate effect.

DEOC will be activated and all community preparedness measures will be put into operation and the ESF to be on full alert and activate their SOPs.

The activation of the DEOC should be followed after the DDMA declares a major disaster.

Step 3: Field Assessment Reports

The Deputy Commissioner will assume the role of the Chief of Operations for Disaster Management. The Chief of Operations of the DEOC will coordinate for setting up the ESFs and are asked to prepare and send the Field Assessment Report to the DEOC.

The Chief of Operations of the DEOC will spell out the priorities and coordinate services of the ESFs and other agencies.

1.3.4 Rapid damage assessment & reporting (Revenue department)

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.

Table 44 Rapid damage assessment & reporting

INITIAL ASSESSMENT REPORT											
1	NATURE OF DISASTER:										
2	DATE OF OCCURRENCE:						TIME:				
3	<i>DAMAGE AND LOSS ESTIMATES</i>										
	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	<i>INFRASTRUCTURE DAMAGE</i>										
	<i>Name of the Site</i> (Village, Block, Tehsil)	<i>Housing</i>	<i>Agriculture</i>	<i>Animals</i>	<i>Water source</i>	<i>Road and bridge</i>	<i>Power</i>	<i>Communication</i>	<i>Government Building</i>	<i>Others</i>	
5	<i>NEED ESTIMATES</i>										
	<i>Name of the Site</i> (Village, Block, Tehsil)	<i>Medical Needs</i>	<i>Population requiring shelter</i>	<i>Clothes</i>	<i>Food</i>	<i>Water</i>	<i>Sanitation</i>	<i>Any Other</i>			

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:							

1.3.5 District Search & rescue Team (Police department and Home guard)

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.

This search and rescue team is governed by the Land Reforms department under the guidance of the DDMA chief.

Table 45 District Search & rescue Team

S.No.	Name and designation of trained S&R Team member	Address with contact nos.
-------	---	---------------------------

1	Policemen	09425869141(Home guard) 07683-245117/245190
2	Home guards (2 or more)	
3	Swimmers	
4	A construction engineer	
5	Driver of boat and cars	
6	Any person with the prior experience of the disaster	
7	A doctor or nurse or at least a person having first aid training	

1.3.6 Medical response (Health department)

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 minute's concept, quick steps of first aid response etc.

Table 46 Medical response at Tikamgarh

S.No.	Name of team member	Designation	Contact no (off.)
1.	K. P. Nag	Chief Medical Officer	07683-242354 9424355753
2.	Faiyaz Khan Harihar Singh Basantlal Sanjay Rai	Ambulance driver	9993558386 9926599306 - -
3.	Smt. Mamta Vanshkar Smt. Lakshmi Jain	A.N.M.	-
4.	Dharmendra Sharma	Compounder	-
5.	Dr. V. K. Gupta	Nodal Officer	9425145408
6.	A.K. Jain	Data Entry Manager	9425882935
7.	Dr. P.L.Vishwakarma Dr. Rajendara Kumar Jain Dr. Amit Shukla	Medical Officer	07683- 244307
8.	Mahesh Pathak	Bhartaya	-

Source: District Hospital Tikamgarh 20.04.2012

Note: For more information, please refer the enclosed documents of District Hospital Tikamgarh 20-04-2012

1.3.7 Logistic arrangements (Police department and RTO)

It keeps a list of Heavy goods vehicles, Light goods vehicles, tractors, etc. A separate list of vehicles that are in working condition and are easily available at the time of disaster should be compiled so that it can be called for by the search and rescue team during emergency. An emergency stock of fuel for disasters is usually maintained at petrol pumps and this should be made mandatory.

1.3.8 Communications (BSNL)

Sending all Out-Messages on behalf of Camp Officer of the Relief Camp. Data collection, record keeping, assistance in locating missing persons, information centre, organization of information for Site Operations Center and on specific demands, maintaining In-Message and Out-Message register. In addition, the following facilities are available in the communication room:

- Telephones
- Fax
- Intercom units
- VSAT connection
- PC with modem and printer
- Mobiles
- Photocopying machine
- Wireless

The media should handle such sensitive situation carefully as it may affect the victims mentally. It should issue the truest information as far as possible. Rumours should not be spread. The correct numerical data should be published so that the public is not misguided.

1.3.9 Temporary shelter management (PWD and Nagarpalika)

In many emergencies, local authorities would set up public shelters in schools, municipal buildings and places of worship. While they often provide water, food, medicine and basic sanitary facilities.

- Living in Designated Emergency Shelters
- Stay in the shelter until the local authorities say it's safe to leave
- Restrict smoking and ensure that smoking materials are disposed off safely.
- Cooperate with local authorities and others staying in the shelter.
- Listen to radio broadcasts
- Watch out for fires
- Assist local authorities and volunteers in the management of water, cooked food and other relief supplies including medical care, if required.
- Make arrangement for pets and cattle before going to a public shelter.

- Organize recreation for children.
- Assist local authorities with the assistance of community members to maintain law and order.
- Immunize the population against epidemics.

Temporary shelter management are taken care of by-

1. Home departments
2. Fisheries department
3. Local NGO's and CBO's

Table 47 Temporary shelter management

S. No.	Affected Zones	Relief areas
1	Niwari: Orchha, Mador Western, Lotna, Singhpura, Chandrapura, Ladpura, Dhimarpura, Iqbalpur, and adjacent villages near river Jamani and Betwa	Student Hostel, School, Wards, Local and private Government departments
2	Baldeogarh: Khargapur, Midawali, Khodera, Harpura, Arora, Bhanpura, Pacher, Kharila, Saipura, Pipara near Ghasan river	Student Hostel, School, Wards, Local and private Government departments
3	Jatara: Iqbalpura, Pithnora, Piprihar, Saihar, Tapriyan, Bamhori Abda, Tanga, Ramgarh, Jarua, Hanota, Piprat Near Jamuni river	Student Hostel, School, Wards, Local and private Government departments
4	Tikamgarh: Brijpura, Sararwara, Dudatora, Magara, Maukhra, Dharmapura, Bhainswasi, Shivpuri, Pureniya, Sujara near	Student Hostel, School, Wards, Local and private Government departments
5	Palera: Toriya, Bakhatpura, Saipura, Thar, Mabai, Gadari, Laharbujurg, Atarar, Gova, Brana, KHajari, Satwara, Bamhoriya, Sanjaynagar, Kudila, Itayali, Ramnagar, Pureniya, Mahindra Maheba, BUdore, Jebar, Karrai, Khera, Chewala, Vijaypur, Bela, Karola, Para, Mararha Baba near	Student Hostel, School, Wards, Local and private Government departments
6	Prithvipur: Dirguwa, Majara Kherai, Majara Kachar, Rampura, Digwar Kala, Guleda, Sewari, Sarsora	Student Hostel, School, Wards, Local and private Government departments

1.3.10 Water and Sanitation (WATSAN) (Nagarpalika and PHE)

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 to be made by respective municipalities per se supply of pure drinking water, to meet the other needs of water as well as timely noticeable of sanitation requirements. This also includes the maintenance of hygiene, in & around emergency shelters, periodic monitoring and inspection of storm water drainage, nallah, adherence of the cleaning schedule of the camps and other places.

- **Water:**

- Providing clean potable water;
- Drilling wells, capping springs, gravity supply water systems
- Chlorination of bore-wells and hand pumps, pumping water from rivers into tanks for treatment with alum and Chlorine
- Providing distribution systems like tap stands, washing areas for clothes and for bathing.
- Water source protection: Ensuring existing water sources are protected from further contamination.

- **Sanitation:**

- Construction of field latrines and soak pit latrines at relief camps and final disposal of excreta.
- Design and commissioning of drainage facilities.

- **Vector Control:**

- Solid Waste disposal
- Drainage of waste water
- Insecticide spraying against flies & mosquito's & promotion activities to encourage further use

1.3.11 Law & order (Police department)

The Police Department shifts the people to the safer places. It helps the Revenue Department to carry out relief work without any hindrance during disaster period and safeguard the properties of the victim. It will arrange law and order against theft in the disaster-affected area and co-ordinate with the search and rescue operation through NCC/VTF/NGO. It will also arrange for security at the relief camps/relief material storages. It is also responsible to maintain law and order at the time of distribution of relief material. It assists the authorities for evacuation of people to the safe places. It makes due arrangements for post mortem of dead persons, and legal procedure for speedy disposal. It specially protects the children and the women at the shelter places.

1.3.12 Public grievances/missing persons search/media management (Police department)

A committee at the district level has to be constituted under the chairmanship of the District Collector to address the grievances of the public regarding missing persons.

The search and rescue team should search for the missing persons living or dead.

1.3.13 Animal care (Veterinary department)

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

1.3.14 Management of deceased (Health department)

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.

1.3.15 Civil Defence and Home Guards (Police department and Home guard)

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.

1.3.16 Role of Private Security (Police department)

As per the recent private security bill introduced by the State Government, the private guards and security agencies have to play a very vital role in disaster management, and especially in the disaster response stage.

1.3.17 NGOs & Voluntary organizations

The role of NGOs and voluntary organizations, in response situation, will be mentioned here. The responsibility of CSOs and the concept of Citizen Volunteering will also be highlighted here in detail.

Table 48 NGOs & Voluntary organizations

S.No.	Name and address of NGOs, CSOs	Contact nos. of person concerned
1	Mr Abaraham John	(0731) 2436747

Note: Others contact detail is given in the Table A2.8.E

1.3.18 Relief management planning (Police department and District headquarter)

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 center
- Organization of information for Site Operations Center 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 centers for two weeks to be set-up at the earliest

Co-ordination with

- Site Operations Center
- 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 Center
- 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 center.
- Get sanction for expenses for reimbursement from the DDM through Site Operations Center.

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.
- Promote 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).
- Counseling services.

Functions of Resources Desk

- Maintenance of Books of account for all cash receipts
- Maintenance of Books of account for all cash disbursements
- Maintenance of Stock register for all relief materials

- Maintenance of Issue register for all relief materials
- Maintenance of Dead stock register for all non-consumables (inventory)
- Maintenance of Record of all personnel payment on TA&DA, daily wages and other incidentals
- Maintenance of made to relief personnel.
- Maintenance of Records of all transfer of funds (as advances) to other government departments
- Maintenance of (suspense account)
- Maintenance of Records of all cash vouchers and credit vouchers.
- Maintenance of Records of all gratuitous relief.
- Maintenance of Records of all compensation paid.
- Maintenance of Preparation of records relating to finance and accounts as per the formats for dispatch to Emergency Operations Center.

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 Center.
- Maintain record of all issue of cash vouchers and credit vouchers for petrol and diesel.

1.3.19 Media Management (Public relation officer)

Provide strategy for managing mass media such as newspapers and television in terms of dissemination of information at the wake of disasters. Clear guidelines would help the administration in avoiding communication of wrong information and creating panic.

The nodal person will be the Public relation officer and he will coordinate with the local media to disseminate the right information.

1.3.20 Fire Services (Municipal department)

The Department of Fire Services is one of the crucial responders to disasters. The staff of Fire Services will be trained, retrained in disaster management skills, and will be further upgraded to acquire multi-hazard rescue capability, in order to tackle any emergency related to fire or the allied substances.

1.4 Recovery and Reconstruction Plan

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 redressal and social rehabilitation etc.

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
- Grievance redressal

Administrative Relief

The district is the primary level with requisite resources to respond to any natural calamity, through the issue of essential commodities, group assistance to the affected people, damage assessment and administrating appropriate rehabilitation and restoration measures.

The district level relief committee consisting of official and non-official members including the local legislators and the members of parliament review the relief measures.

A district is sub-divided into sub-divisions and tahsils or blocks. The head of a subdivision is called the Sub-Division Officer (SDO) while the head of a Tahsil is known as a Tehsildar.

When a disaster is apprehended, the entire machinery of the district, including the officers of technical and other departments, swings into action and maintains almost continuous contact with each village in the disaster threatened area.

1.4.1 Restoration of basic infrastructure

Based on the degree of damage to the existing structures of houses and other infrastructure, the victim will be issued funds for carrying out the restoration activity.

The PWD will be the nodal agency and also the housing board will take care of the reconstruction plans. Adherence to the zoning laws and other necessary precautions depending on the type and degree of disaster will be ensured while the infrastructure is being restored.

1.4.2 Reconstruction of damaged buildings/social infrastructure

Reconstruction of damaged buildings will be addressed and supported through the advance tools like Insurance, Short-term Loans, and by any other important means, which are affordable.

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.

1.4.3 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.

1.4.4 Psycho-social interventions

Psycho social needs of the affected victims, including women and children will be taken care by special teams in the health department. The provision of trauma handling and social rehabilitation is very necessary from the point of view of restoration to normal life and should be specifically given priority in the after disaster recovery plan.

1.5 Cross cutting elements

1.5.1 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.

The Tikamgarh district Disaster Management Authority will ensure the participation of the local bodies, communities and NGOs to ensure realistic base ground assessments.

1.5.2 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 persons

- 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 Persons

- Aged persons given pensions.
- Old Age Homes established.

Women

- Pension sanctioned.
- Women's Livelihood Restoration Project started.
- Self-employment Schemes for Women.

1.5.3 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.

A report published by the Ministry of Water Resources, Central Ground Water Board, North Central Region Government of MP stated that the ground water level in Tikamgarh is depleting which can lead to drought like situations in many places.

Nodal Agencies:

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

2. 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).

2.1 SOPs for all concerned Line Departments

SOPs for Revenue, Home, Irrigation Dept., Electricity Dept., Transport, Health, Power, Media, Agriculture Dept., Police Dept., 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:

Standard Operating Procedures for the relevant departments are listed below:

2.1.1 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.

Table 49 Department of Revenue & Relief

Non Disaster Time

- To appoint a nodal officer in the DEOC.
- Establish infrastructure for DEOC and maintain in state of readiness with all equipment in working order and all inventories updated.
- Train personnel on operations of DEOC.
- Ensure basic facilities for personnel who will work at district level for disaster response.
- To coordinate the preparedness functions of all line departments.
- Establish disaster management funding mechanisms to ensure adequate resources for preparedness work, and quick availability of resources for relief and rehabilitation when required.
- Ensure that all the gram panchayats, urban bodies and blocks prepare their disaster management plan.
- 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.
- Help District Administrators with additional resources for disaster preparedness, if necessary.
- On annual basis report to the SEC of the preparedness activities.
- To ensure that funds are being allocated under the District Disaster Mitigation Fund.
- To ensure that structural and non-structural mitigation measures are taken by all its department offices.

Warning Time

- Maintain contact with forecasting agencies and gather all possible information regarding the alert.
- Ensure activation of District EOC in standby mode.
- Instruct all ESFs remain in readiness for responding to the emergency.
- Advice concerned District collectors 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.
- Dispatch field assessment teams, if required.
- Provide assessment report to the DDMA.

During Disaster

- Activate DEOC in full form
- To coordinate and plan all activities with the ESFs
- Conduct Rapid Assessment and launch Quick Response.
- Conduct survey in affected areas and assess requirements of relief
- Distribute emergency relief material to affected population.
- Coordinate all activities involved with emergency provisions of temporary shelters, emergency mass feeding, and bulk distribution of coordinated relief supplies for victims

<p>of disasters.</p> <ul style="list-style-type: none"> • Coordinate NGO, INGO and international agencies interventions/support.
<p>After Disaster</p>
<ul style="list-style-type: none"> • 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. • Keep the DDMA informed of the situation. • Ensure supply of food, drinking water, medical supplies and other emergency items to the affected population. • Visit and coordinate the implement of various rehabilitation programmes. • Coordinate the activities of NGOs in relief and rehabilitation programmes. • Allocate funds for the repair, reconstruction of damaged infrastructure after considering their overall loss and damage.

2.1.2 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.

Table 50 Department of Home

<p>Non Disaster Time</p>
<ul style="list-style-type: none"> • Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point. • Designate one officer for the DEOC. • Prepare an operational Plan for responding to any type of disaster. • Establish, maintain and train district level search and rescue response team. • Impart training to the members of Police Force in first aid, evacuation, rescue and relief operations. • To conduct Search and Rescue training to gram panchayat task forces. • Prepare an inventory of all man power and equipment available. • To prepare an inventory of volunteers who have already completed training courses successfully and can be utilized in the search and rescue operations. • 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. • Maintain and operate the DEOC throughout the year in preparedness mode during no-disaster times and in emergency mode during disaster times. • Arrange drills for fire extinguishing, rescue, evacuation and transportation of injured persons and prepare coordinated Action Plans in cooperation with District administration

<p>and concerned local agencies</p> <ul style="list-style-type: none"> • Hold annual drills on disaster preparedness and response. • Make departmental mitigation plan and ensure its implementation. • Organise road safety and fire and festival safety awareness programs for schools and community.
<p>Warning Time</p>
<ul style="list-style-type: none"> • Depute one liaison officer for disaster management within the department. • Representative to be positioned at the DEOC. • Maintain communications with the police installations in the areas likely to be affected by disaster. • Inform nearest police station (from the likely disaster affected area) for dissemination of warning. • Instruct all concerned to accord priority to disaster related wireless messages, if required by appropriate officials. • On receipt of directives from the DEOC for evacuation – organize personnel and equipment for evacuation and undertake evacuation operations. • Earmark reserve task forces, if needed. • Move task forces to the convenient positions, if needed.
<p>During Disaster</p>
<ul style="list-style-type: none"> • Send task forces in disaster affected areas. • Carry out search & rescue operations. • Carry out firefighting operations • Maintain law and order, especially during relief distribution. • Keep close watch for any criminal and anti-state activity in the area. • Keep direct contact with different officers like District EOC and Incident command Posts for taking any steps to combat any situation. • Assist local administration in removing the dead bodies and debris in affected areas. • Set up field hospital if required. • Coordinate with other offices for traffic management in and around damaged areas. • Assist the local administration in putting a stop to theft and misuse in relief operation. • Dispatch situation reports to the DEOC.
<p>After Disaster</p>
<ul style="list-style-type: none"> • Participate in reconstruction and rehabilitation operations, if requested. • Arrange security of government property and installations damaged in a disaster.

2.1.3 Water Supply Department

Table 51 Water Supply Department

Non Disaster Time (Preparedness and Mitigation)
<ul style="list-style-type: none"> • Update the detailed information of available water resources throughout the district. • Set up the control room and make arrangements for the control room operator. • Prepare an alternative contingency plan to provide drinking water in case of failure of regular water distribution system during disaster. • Look after the arrangement of Government. or private tankers to provide water temporary and immediately assign the responsibility as nodal officer to the Executive Engineer or any other officer. • Ensure availability of safe drinking water in the affected areas. • Provide preventive measures for water borne diseases and chlorination of water. • Inform the staff about the disaster.
Warning Time
<ul style="list-style-type: none"> • Make available chlorine tablets in sufficient quantity and arrange to distribute through DMTs. • Organize the teams to check the sources of water / drinking water. • Make standby arrangements of tankers for drinking water through tankers or any other available source.
During Disaster (Response)
<ul style="list-style-type: none"> • Establish contact with the DEOC. • Take steps for transportation of relief personnel and material to affected areas. • Take steps for movement of affected population to safer areas. • Collate and disseminate information regarding operational and safe routes and alternate routes, water availability etc. to personnel operating in the field. • Launch recovery missions for stranded vehicles.
After Disaster (Recovery and Rehabilitation)
<ul style="list-style-type: none"> • Arrange to check the water tanks, overhead tanks, and pumps, reservoirs and other water resources. • Start work for immediate repairing of water pipes in case of damage. • Provide chlorinated water either by activating group water supply schemes individual schemes or through tankers • Contact the electricity authorities to re-establish the electric supply in case of failure. • Provide drinking water to the relief camps / relief kitchens, shelters etc. through available resources. • Implement the alternative contingency plan to provide drinking water in case of failure

of regular water distribution systems during disaster.

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2.1.4 Department of Transport

Table 52 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.

Non Disaster Time (Preparedness and Mitigation)

- Designate one Liaison Officer of the department as the Focal Point and inform all concerned.
- Develop and implement disaster management plan for the department.
- Carry out survey of condition of all highway systems at state and district level.
- Identify and inventories transport vehicles available with the department and ensure that they are all in good working condition.
- Identify and inventories transport vehicles available with the private operators in the district.
- Make departmental mitigation plan and ensure its implementation.
- Enforce the speed limits in the government vehicles regulated by the department and organise departmental awareness programs for the same.

Warning Time

- Depute an officer at the DEOC.
- Ensure availability of fuel, recovery vehicles and equipment.
- Take steps for arrangement of vehicles for possible evacuation of people

During Disaster (Response)

- Establish contact with the DEOC.
- Take steps for transportation of relief personnel and material to affected areas.
- Take steps for movement of affected population to safer areas.
- Collate and disseminate information regarding operational and safe routes and alternate routes, fuel availability etc. to personnel operating in the field.
- Launch recovery missions for stranded vehicles.

After Disaster (Recovery and Rehabilitation)

- Assess damage to transportation infrastructure.

- Take steps to ensure speedy repair and restoration of transport links.

C 2.1.5 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, Relief supplies and shelter emergency support functions.

Table 53 Department of Public Works

Non Disaster Time
<ul style="list-style-type: none"> • Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point. • Take precautionary steps for the protection of government property against possible loss and damage during disaster. • Formulate guidelines for safe construction of public works. • Prepare list, with specifications and position, of heavy construction equipment within the district. • Organize periodic training of engineers and other construction personnel on disaster resistant construction technologies. • 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. • 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. • Emergency tool kits should be assembled for each division, and should include: • 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 landslides, 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 gram panchayat 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 Center undertake construction of temporary structures required, for organizing relief work and construction of relief camps, feeding centers, 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 centers and quantity of construction materials and inform DEOC accordingly.
- Take steps to clear debris and assist search and rescue teams.
- Provide sites for rehabilitation of affected population.

After Disaster

- Carry out detailed technical assessment of damage to public works.
- Assist in construction of temporary shelters.
- Organize repairs of buildings damaged in the disaster
- Prepare detailed programs for rehabilitation of damaged public works.
- Arrange technical assistance and supervision for reconstruction works as per request.

2.1.6 Department of Irrigation and Public Health

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 and secondary agency for Information & planning, relief supplies, shelter and transport emergency support functions for DEOC.

Table 54 Department of Irrigation and Public Health

Non Disaster Time
<ul style="list-style-type: none"> • Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point. • Ensure efficient management of flood forecasting and warning centres and improve procedure of flood forecasts and intimation to appropriate authorities. • Identify flood prone rivers and areas and activate flood monitoring mechanisms in all flood prone areas • Operate Flood Information Centre in the flood season every year. • Collect all the information on weather forecast, water level of all principal rivers in the district. • Inform all concerned about daily weather news and issue regular press bulletins. • Take steps for strengthening of flood protection works and canals before the flood season • Make departmental mitigation plan and ensure its implementation
Warning Time
<ul style="list-style-type: none"> • Alert DEOC about floods/flash floods.

<ul style="list-style-type: none"> • Since flash floods get triggered within short time-spans, take steps to alert all through telephone and wireless according to needs. • Mount watch on flood protection works and canal systems.
During Disaster
<ul style="list-style-type: none"> • Transportation of water with minimum wastage (in coordination with the transport department). • Locate drinking water facilities separate from sewer and drainage facilities • 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. • Identify and mark damaged water pipelines and contaminated water bodies and inform disaster victims against using them. • Construct temporary toilets in relief camps and mobile toilet facilities for affected areas. • Ensure hygiene and sanitation of the relief camps and affected areas through disasters.
After Disaster
<ul style="list-style-type: none"> • Take up sustained programs for rehabilitation of flood protection works and canals. • Restore drinking water supplies for the affected areas.

2.1.7 Department of Agriculture

Agriculture has a role in assessment of damage to agricultural crops, and impact of possible locust attacks. Their main role is to provide seeds and necessary planting material and other inputs to assist in early recovery.

Table 55 Department of Agriculture

Non Disaster Time
<ul style="list-style-type: none"> • Designate a focal point for disaster management within the department. • Identify areas likely to be affected. • Arrange for keeping stock of seeds, fertilizers and pesticides. • A pests and disease monitoring system should be developed to ensure that a full picture of risks is maintained.
Warning Time
<ul style="list-style-type: none"> • Provide timely warning to DEOC/DDMA about droughts. • Check available stocks of equipments and materials which are likely to be most needed after the disaster. • Stock agricultural equipments which may be required after a disaster • 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

<p>teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly.</p> <ul style="list-style-type: none"> • Provide information to all concerned, about disasters, likely damages to crops and plantations, and information about ways to protect the same. • All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof
During Disaster
<ul style="list-style-type: none"> • Depute one liaison officer to the DEOC. • Monitor damage to crops and identify steps for early recovery. • Estimate the requirement of Seeds Fertilizers Pesticides, and Labour. • Organise transport, storage and distribution of the above with adequate record keeping procedures. • Ensure that adequate conditions through cleaning operations are maintained to avoid water-logging in flooded areas.
After Disaster
<ul style="list-style-type: none"> • Quantify the loss and damage within the quickest possible time and finalizes planning of agriculture rehabilitation. • Ensure availability of adequate supply of seeds, seedlings, fertilizers, pesticides and agricultural implements. • Assist farmers to re-establish their contacts with agriculture produce market and ensure that appropriate prices be offered to them.

2.1.8 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 locale specific needs of Gram Panchayats and hence will feed the information on local priorities to the district disaster management plan.

Table 56 Department of Rural Development

Non Disaster Time
<ul style="list-style-type: none"> • Designate one Liaison Officer in the department and the district as the Disaster Management Focal Point. • Develop a district disaster management plan for the department.

- Prepare maps showing population concentration and distribution of resources.
- Encourage disaster resistant technological practices in buildings and infrastructure.
- Encourage the people in earthquake prone areas to adopt earthquake resistant technologies.
- Report activities in periodic meetings of the district disaster management advisory committee and to DDMA.
- In coordination with PWD conduct regular training to the engineers of the department.
- Appoint one officer as focal point for mitigation activities
- On the basis of its developmental responsibility, liaise with other line departments and agencies for a coordinated mitigation approach.
- In coordination with the DDMA, conduct building assessments, identification of structural and non-structural mitigation activities.
- Organise awareness programmes for BDO's, Panchayat secretaries and gram pradhans on structural and no-structural mitigation activities.

Warning Time

- Focal Point in department to keep in touch with the DEOC.
- Alert all concerned about impending disaster.
- Ensure safety of establishments, structures and equipment in the field
- Ensure formation of committee for rescue, relief and rehabilitation work and local volunteer teams.

During Disaster

- Ensure information flow from affected gram panchayats and maintain regular contact with DEOC (24 hrs).
- Support revenue department in establishing ICP's in the affected areas
- Ensure availability of drinking water at times of need.
- Provide necessary infrastructure to carry out relief works
- Assess initial damage

After Disaster

- Quantify the loss/damage
- Organise reconstruction of damaged houses on self help basis with local assets and materials received from the government.
- Take up repair/reconstruction work of infrastructure damaged by disaster

2.1.9 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.

Table 57 Department of Education

Non Disaster Time
<ul style="list-style-type: none"> • Identify one Liaison Officer in the department at district level as Disaster Management Focal Point. • Develop district level disaster management plan for the department • In consultation with DDMA, state education directorate and state education board include disaster related subjects in the curricula in schools, and colleges. • Arrange for training of teachers and students on Dm and school safety activities. • Ensure that all schools and colleges develop their disaster management plans. • Ensure that construction of all educational institutions in earthquake zones is earthquake resistant. • Conduct regular mock drills in the educational institutes • Identify structural and non structural mitigation measures and get them implemented. • In coordination with the SSA &/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. • Make departmental mitigation plan and ensure its implementation. • Ensure that earthquake resistant features are included in new school buildings.
Warning Time
<ul style="list-style-type: none"> • Focal Point in department to keep in touch with the DEOC. • Alert all concerned about impending disaster. • Ensure safety of establishments, structures and equipment in the field • Ensure formation of committee for rescue, relief and rehabilitation work and local volunteer teams.
During Disaster
<ul style="list-style-type: none"> • 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. • 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.

After Disaster

- Determine the extent of loss in educational institutions and submit the report to DDMA and state education department.

2.1.10 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.

Table 58 Department of Health

Non Disaster Time

- Develop a district plan on emergency preparedness and response within the health sector.
- Carry out and disseminate a risk evaluation of the population.
- Ensure disaster management plans are developed in health centers and hospitals.
- 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.
- 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.
- Ensure adequate availability of Emergency Health Kits in high risk areas
- Train volunteers on emergency preparedness programmes such as first aid and preventive measure against diseases in disaster prone areas.
- Prepare a list of medical and Para-medical personnel in the district and disseminate it to DDMA, DEOC and all block disaster management committees.
- Establish and operate an early warning system for health threats based on the routine health information and in collaboration with other departments.
- In coordination with the DDMA, conduct building assessments, identification of structural and non structural mitigation activities.
- Prioritize mitigation activities and ensure budget allocation to such mitigation activities.
- Organise public awareness programs on dos and don'ts for health especially related to disasters.

Warning Time

- To prepare and keep ready Mobile Hospitals and stock them with emergency equipment

<p>that may be required after the disaster.</p> <ul style="list-style-type: none"> • Assess likely health impacts and share with DEOC for planning purpose • To ensure pre-positioning of Emergency Health Kits and Personnel in all the areas under the disaster threat. • Direct the activation of health/medical personnel, supplies and equipment as required.
During Disaster
<ul style="list-style-type: none"> • Designate one liaison Officer to be present at the DEOC. • Appoint one personnel as Nodal Health Officer for the affected area. • 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 • Provide medical assistance to the affected population • Provide chlorine tablets to people in affected area. • Special care for women with infants and pregnant women • Carry out technical assessment on health infrastructure availability and need.
After Disaster
<ul style="list-style-type: none"> • Determine the extent of loss in health institutions and prepare plans for their rehabilitation.

2.1.11 Forest Department

Table 59 Forest Department

Non Disaster Time
<ul style="list-style-type: none"> • Prepare a department disaster management plan for the district. • Depute one liaison officer for disaster management. • Forest Fire prone areas should be identified and extra vigilance be ensured in such cases. • Depute one liaison officer within the department, who will be in contact with the SEOC during disasters. • Every year pre-fire season meetings should be organized to take the stock of the preparedness at Range level • Prepare & maintain forest lines • Organise community awareness programs • 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. • Prepare mitigation plan for the department buildings and infrastructure.
Warning Time

<ul style="list-style-type: none"> • A rapid response team will be established at division/sub-division/range level, which will have all tools and equipments readily available.
During Disaster
<ul style="list-style-type: none"> • Respond within the department as per the department disaster management plan • The liaison officer will coordinate with DEOC for information exchange & also for requirements of resources to & from DEOC
After Disaster
<ul style="list-style-type: none"> • Damage assessment and sharing of reports with DEOC

2.1.12 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.

Table 60 Department of Urban Development

Non Disaster Time
<ul style="list-style-type: none"> • Designate one Liaison Officer in the department at district level as the Disaster management Focal Point. • 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. • To conduct regular training the staff on minimum standards for shelter, relief camps and tent structures. • Prepare department's disaster management plan. • Develop alternative arrangements for population living in structures that might be affected after the disaster. • Designate one Liaison Officer in the department as focal point for the mitigation activities. • Coordinate with the DDMA for implementation of mitigation activities in the urban areas. • Prepare & implement department's mitigation plan
Warning Time
<ul style="list-style-type: none"> • In case of damage to offices, assist local authorities to establish and house important telecom equipment and officials at the earliest • Setting up water point in key locations and in relief camps

During Disaster
<ul style="list-style-type: none"> • Quick assessment of damaged areas and areas that can be used for relief camps for the displaced population • Locate adequate relief camps based on survey of damage • Clear areas for setting up relief camps • Locate relief camps close to open traffic and transport links • Set up relief camps and tents using innovative methods that save time • Provide adequate and appropriate shelter to the entire population • Coordinate with other ESFs in equipping shelter and relief sites with basic needs of communication and sanitation. • Maintaining and providing clean water • Procurement of clean drinking water. • Coordinate with DEOC & ICP's for proper disposal of dead bodies in the urban areas.
After Disaster
<ul style="list-style-type: none"> • Implement recovery & rehabilitation schemes through municipalities for urban areas.

2.1.13 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.

Table 61 Department of Food, civil supplies and consumer affairs

Non Disaster Time
<ul style="list-style-type: none"> • Develop a district disaster management plan for the department & update it annually. • Develop a plan that will ensure timely distribution of food to the affected population. • Maintain a stock of food relief items for any emergency. • Prepare & implement department's mitigation plan.
Warning Time
<ul style="list-style-type: none"> • Catalogue of available resources of food
During Disaster
<ul style="list-style-type: none"> • Determine the critical need of food for the affected area in coordination with DEOC and ICP's • Coordinate with local authorities and other ESFs to determine requirements of food for affected population. • Mobilise and coordinate with other ESFs for air dropping of food to affected site.

- Prepare separate food packs for relief camps as well as large quantity containers.
- Ensure that food distributed is fit for human consumption
- Ensure quality and control the type of food.
- 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
- Control the quality and quantity of food that is distributed to the affected population.
- Ensure that special care in food distribution is taken for women with infants, pregnant women and children.

After Disaster

- Establishment of PDS points as per the changed scenario/resettlements (If any)
- Issuing of duplicate ration cards to the disaster victims, who lost their papers.

2.1.14 Department of Power

Table 62 Department of Power

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

After Disaster

- Review total extent or damage to power supply installations.
- Take steps to ensure speedy repair and restoration of power supply installations.

2.1.15 Department of Finance

Beside normal duties, the department of finance will perform the following responsibilities:

Table 63 Department of Finance

Non Disaster Time
<ul style="list-style-type: none"> • Designate one Liaison Officer in the department as the Disaster Management Focal Point at district level. • Arrange for the necessary funds as per decision of the State Government and DDMA. • Ensure assessment of its district level department buildings for structural and non-structural safety. • Promote awareness programs for department personnel on mitigation.
Warning Time
<ul style="list-style-type: none"> • Establish communications with the DEOC. • Check emergency requirement of money and necessary data.
During Disaster
<ul style="list-style-type: none"> • Ensure quick allocation of funds for meeting relief operations. • Control all accounts under the responsibility of the Government • Start mobilizing resources for construction of infrastructure, public facilities and structures required for recovery.
After Disaster
<ul style="list-style-type: none"> • To monitor international loans and aid assistance to the district • To allocate and monitor government plan expenditure towards relief and rehabilitation of Disaster affected areas.

2.1.16 Irrigation Department

Table 64 Irrigation Department

Non Disaster Time
<ul style="list-style-type: none"> • Get details of irrigation related factors in the district such as rivers, pools canals, large and medium dams, etc. • Prepare a list of contact addresses and phone numbers of all the staff / officers, vehicles

and swimmers of the District.

- Update details of damage prone areas.
- Make control room arrangements and appointment of Nodal Officer.
- Keep supervision over major storage / reservoirs.
- Know the location of water level gauge station for flood situation.
- Disseminate information /warning to the damage prone areas in case of flood situation.
- Provide details of immediate action to be taken in case of leakage in large water storage reservoirs.
- Provide and maintain enough and ultra modern equipments for communication.
- Carry out periodical checking of Dam /Waste veer, canal –tunnel, roads leading to Dams etc. for maintenance during normal time.
- Provide a very clear explanation of disaster and priorities during disasters to all the staff.
- Ensure effective working of control room at every major dam.

Warning Time

- Ensure that communication equipments like telephone, mobile phone, wireless set and siren etc. are in working conditions.
- Keep the technical and non-technical staff under control, ready and alert.
- Get status report of ponds, dam, canal and small dams through technical persons.
- Will take decision to release the water in consultation with the competent authority and immediately warn the people living in low lying areas in case of increasing flow of water or overflow.
- Keep the alternative arrangements ready in case of damage to the structure of dam / check dam to leakage or overflow in the reservoirs.
- Make due arrangements to disseminate the information about the increasing and decreasing water level whatever it may be to the community, media etc.
- A senior office will remain and work accordingly at large storage reservoirs.
- Arrange to provide the dewatering pumps, generators, trucks and bulldozers, excavator, boats for search and rescue operations wherever required.

During Disaster

- Control all accounts under the responsibility of the Government.
- Start mobilizing resources for construction of infrastructure, public facilities and structures required for recovery.

After Disaster

- Assist the local administration to use boats, dewatering pumps, etc. search and rescue operations If there is no possibility and risk, keep the people and media informed about everything is safe.

- If overflow or any leakage is found, he will immediately warn the people living in the low lying areas.
- Will take due care for the transportation of drinking water if drinking water is provided through irrigation scheme.
- Obtain the clear picture of the condition of all the reservoirs through teams of technical officers.
- Ensure about no overflow or no leakage.
- If overflow or leakage is found, start immediate action to avoid adverse effect to the reservoir as per the action plan.

2.1.17 Telephone Department

Table 65 Telephone Department

Non Disaster Time

- Prepare action plan for repairs/alternative arrangement in case of disruption of telephone line and microwave towers.
- Inspect the telephone exchanges/sub-exchanges in the damage prone area at every 3 months.
- Update maps showing the details of telephone exchanges, D.Ps, important telephone lines, hot lines, telex lines, microwave towers with statistical data.
- Get details of the staff members with their contact addresses and telephone numbers.
- Get details of buildings, vehicles and equipments including the contractors and the vehicles and equipments used by them
- Get details of telephone numbers of water supplies, Control Room, hospitals, drainage system, railway stations, bus depots, strategically important places, ports, Army, Air force, Navy camps, Jail, Police Station and other sensitive places, major industrial units, and other communication channels which can be used during emergency.
- Appoint an officer not below the rank of telephone inspector to coordinate the district control room during emergency.
- Ensure that the telephone lines at the shelters, emergency hospitals, police stations, control room and other places of emergency services, which can be used during disaster, are not disrupted.
- Prepare a list of public properties related to the telephone department which are in damage prone areas and will make arrangements to lessen the damage
- Maintain the equipments such as diesel generators, dumpers, generator, cutters, tree cutters, ladder & ropes, flood lights, shovels, axes, hammers, RCC cutters, cable wires, fire equipments, etc; which can be used during emergency and ensure every month that these are in working condition.

Warning Time
<ul style="list-style-type: none"> • Assign work to the subordinate officers as per the DDMP and send them to the sites. • Receive the instructions from the District Liaison Officer and to do the needful. • Ensure availability of resources included in the DDMP and establish contacts for the same during emergency. • Contact the District Control Room and assist in the work. • Ensure that the staff is on duty at the headquarters. • Setup a temporary control room for the exchange of information for emergency work and will appoint a nodal officer.
During Disaster
<ul style="list-style-type: none"> • Ensure allocation of fund for meeting relief operations by different activities. • Start mobilizing communication resources for construction of infrastructure, public facilities and structures required for recovery.
After Disaster
<ul style="list-style-type: none"> • Follow the instructions of District Liaison Officer. • Perform the duties assigned for search and rescue work. • Deploy the resources and manpower available to manage the disaster. • Make arrangements to obtain external help to manage the disaster. • Prepare a primary survey report of damage and to send the same to the District Control Room and also to the administrative head within 6 hours. • Review the situation regarding disconnected telephone lines due to safety measures and re-establish the communication network as soon as possible. • Send the Disaster Management Teams with the necessary equipments for restoration of the telephone lines speedily where the lines are disrupted and to such places, which are strategically important. • Arrange for temporary hotline services or temporary telephone connections at the District Control Room, hospitals, shelters, ports, jails, police station, bus depots, etc. • Prepare an action plan to avail temporarily, technical personnel from the nearby district, staff and vehicles from the district office which are not affected in consultation with the district authority. • Immediately undertake the emergency repairing work. • Make an action plan to avail immediately and timely, telephone poles, D.Ps, transformer to the established the communication system.

2.1.18 Animal Husbandry

Table 66 Animal Husbandry

Non Disaster Time

- Update maps showing the details of animal breeding laboratories, animal vaccination centres, animal husbandry training school with statistical data.
- Record the addresses of members with telephone numbers.
- Get details of veterinary centres, artificial insemination centres, veterinary dispensary, veterinary colleges' buildings, vehicles, mobile dispensaries and equipments and also the details of vehicles and equipments used often by outer source
- Get details of essential facilities to be provided at sensitive place such as important animal husbandry centres, veterinary college campus, training centre etc;
- Arrangement of repairs/alternative arrangements in case the facilities related to animal husbandry and veterinary services are disrupted.
- Maintain the equipments available such as stands to keep animals, sharp instruments, insecticides, diesel generators, dumpers, generator, cutters, tree cutters, ladders, ropes, flood lights, shovels, axes, hammers, RCC cutters, cable wires, fire equipments, de-dusting equipments etc; which can be used during emergency and will also ensure that they are in working condition.
- Make arrangements to necessary medicines, vaccines and other material, for treatment of animals.
- Collect the details of cattle in each village of the taluka, details of safe places for the treatment of animal, milk dairies, other private veterinary doctors and facilities related to it.
- Appoint an employee not below the rank of livestock inspector to coordinate the District Control Room during emergency
- See that essential services related to animal husbandry and Veterinary services are not disrupted at the time of emergencies.
- Prepare a list of public properties related to animal husbandry, which are damage prone areas and will make advance planning to lessen the damage.

Warning Time

- Consult the Liaison Officer to prevent the probable epidemic among the cattle and also for the safety measures.
- Assign the work to be done to the subordinate officers and staff and send them to their sites.
- Immediately contact the District Control Room and will assist in the work.
- Ensure that the staff is on duty at the headquarters
- Receive instructions from the district liaison officer and do the needful.
- Ensure the availability of resources included in the DDMP and will make necessary arrangements to obtain those during emergency.

- Set up a temporary control room for the exchange of information for emergency work and will appoint a nodal officer.
- Make groups having vehicles for emergency work and will assign the areas to them.

During Disaster

- Establish contact with the DEOC.
- Prepare a First assessment report in conjunction with other ESFs for the DEOC to take further decision.
- Assist authorities to reinstate medical facilities for public.
- Dispatch emergency medical teams.

After Disaster

- Contact the State Director of A.H. if additional equipments vehicles, manpower, technical personnel etc; are required for restoration of the cattle related activities.
- Send DMTs 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.
- Arrange to treat the injured cattle.
- Follow the instruction of the District Liaison Officer.
- Deploy the available resources and manpower to manage the disaster.
- Review the matters to restart the milk collection activity where it has been closed for security measures.
- Carry out the duty assigned to him for search and rescue work.

2.1.19 State Transport

Table 67 State Transport

Non Disaster Time

- Prepare action plan regarding repairs/alternative arrangement in case of disruption of transport services.
- Plan alternative routes for the transportation and road network.
- Inspect the damage prone S. T. Depots, pick up stand, control points, garages etc; at the frequency of every three months.
- Plan out for restoration of goods transportation in case of damages observed, to the buses & parcel van.
- Update map showing S.T. depots, pick up stand, control point, S.T. garages and important routes with equipments of communication, telephone line, telex lines, megaphone, amplifiers with statistical data.
- Get details of the staff with contact numbers, details of bus drivers, conductors,

mechanical and supervisory staff.

- Get details of location of buses in all the areas of the district available round the clock.
- Get details of fuel arrangements for buses for emergency work.
- Do's and Don'ts to be observed strictly during emergencies and details of priorities should be given to the staff.
- Make arrangement for additional buses for evacuation of people from the affected areas.
- Get details of buildings, vehicles and equipments under his control and list of contractors with vehicles and equipments used by them.
- Get details of important telephone numbers of water supply schemes, control room hospitals, drainage system, railway stations, bus depots, strategically important places, Army Air force Navy camps and other sensitive places, major industrial units, and other communication channels which can be used during emergency/calamity.
- Prepare an action plan to procure temporary buses, the technical personnel from the nearby district which are not affected.
- Take due care to see that the transportation at shelters and emergency hospital is not disrupted during calamities.
- Prepare a list of public properties related to transport department, which are in the damage prone area and will arrange in advance to minimize the damage.
- Maintain the equipments available such as cranes, diesel generator, earth over machines, de-dusting pumps, cutters, tree cutters, ladders, ropes, flood lights, shovels, axes, hammers, RCC cutters, etc. which can be used during emergency and will ensure that those are in the working conditions.

Warning Time

- Ensure for not allowing passenger buses to move out of the S.T. Depots during final warnings of cyclone, flood etc; to take safety measures for passengers who cannot return back to their home.
- Assist the administration to send the messages of warning to the remote areas through the drivers/conductors on transport routes.
- Ensure the availability of resources included in the DDMP and will make due arrangements to get those during emergency.
- Set up a temporary special control room and information center at the main bus station.
- Immediately contact the district control room and will assist in the work.
- Ensure that the staff at the headquarters is on duty.
- Set up a temporary control room for the dissemination of information for emergency work and will appoint a nodal officer.
- Make available the sufficient number of S.T. buses to the state administration for the evacuation of the people to safe places from the disaster prone areas.

- Assign the work to be done by the subordinate officers and staff regarding transportation under DDMP and to send them to their sites.
- Receive instructions from the district liaison officer and will do the needful.
- Consult the Liaison Officer to close the transportation in the damage prone areas for the safety of the people and the property.
- Make groups having vehicles for emergency work and will assign the areas to them.

During Disaster

- Establish contact with the DEOC.
- Prepare a First assessment report in conjunction with other ESFs for the DEOC to take further decision.
- Assist authorities to reinstate generators for public facilities such as Hospital, water supply, police stations, telecommunication building and meteorological stations.
- Dispatch emergency repair teams equipped with tools, tents and food.
- Establish temporary electricity supplies for relief material warehouses.

After Disaster

- Prepare a primary survey report on damage in the area and will send it to the district control room and also to the administrative head within 6 hours.
- Make temporary arrangement of transportation for control rooms, hospitals, shelters, bus depots etc.
- Engage the resources and manpower available to manage the disaster.
- Review the matter regarding closing of movement of buses for safety reason and see that those are restarted very soon.
- Follow the instructions of District Liaison Officer.
- Carry out the duty assigned for search and rescue work
- Send DMTs with necessary equipments if the transportation is disrupted.
- Immediately undertake repairs needed at the bus stations.
- Collect the details of roads, damaged and will get them repaired in co-ordination with competent authority and will restore the bus services.
- Contact the District Control Room if additional equipments, vehicles, manpower, technical personnel, which are required to restore the transportation related activities.

2.1.20 Home guards Department

Table 68 Home guards Department

Non Disaster Time

- Get details of the staff with their address and phone numbers
- Arrange for details of fuel arrangement for ships-mechanized launches at the time of

emergency.

- Do's and Don'ts to be observed during emergencies and details of priorities should be given to the staff.
- Set up for evacuation of people from affected area of the river side area.
- Details of buildings, vehicles and equipments and list of contractors with vehicles and equipments should be procured.
- Prepare map showing rivers and the important routes
- Maintain communication equipments, telephone line, telex lines, megaphone, amplifiers with statistical data.
- Make a list of details of important telephone numbers of water supplies, control room, hospitals, drainage system, railway stations, bus depots, strategically important places, Army Air force Navy camps and other sensitive places, major industrial units, and other communication channels which can be used during emergency.
- Ensure the arrangement for transportation & evacuation of people from the affected areas.
- Prepare the action plan regarding repairs and alternative ways in case of disruption of transportation.
- Prepare plan showing the alternative routes and arrangement for transportation of goods etc; during emergencies.
- Inspect the garages and control point etc; which are damage prone.
- Make due arrangement for materials to restore the facilities in case the movement of the materials and goods on the ports are damaged.
- Prepare an action plan to avail on temporary bases, the technical personnel from the nearby district which is not affected.
- Collect the details of swimmers in the district.
- Make arrangement for sufficient fuel during emergency.
- Maintain the equipments available such as cranes, diesel generator, earth mover machines, de-dusting pumps, cutters, tree cutters, ladders, ropes, flood lights, shovels, axes, hammers, RCC cutters, etc. which can be used during emergency and will ensure that those are in the working conditions.
- Take due care to see that the transportation at shelters and emergency hospital is not disrupted during calamities.
- Prepare a list of public properties related to transport department, which are in the damage prone area and will arrange in advance to minimize the damage.

Warning Time

- Specifically take action to ensure that the fishermen do not move out for fishing as well as sailing during the final warnings of flood, etc.

- Evacuate the fishermen to a safe place and if they deny, to get it done forcefully.
- Ensure that the warning signals are received in time and shown immediately to the people.
- Undertake the work of search and rescue and also the relief work
- Set up a temporary special control room and information centre at the main bus station.
- Immediately contact the district control room and will assist in the work
- Ensure that the staff is on duty at the headquarters.
- Assign the work to be done by the subordinate officers and staff regarding transportation under DDMP and to send them to their sites.
- Ensure the availability of resources included in the DDMP and will make due arrangements to get those during emergency.
- Consult the liaison officer to close the ports and sailing in the rivers, which is damage prone or dangerous for the safety of the people as well as the property.
- Assist the administration to send the messages regarding warning to the remote area
- Check emergency toolkits

During Disaster

- Establish contact with the DEOC.
- Prepare a First assessment report in conjunction with other ESFs for the DEOC to take further decision.
- Assist authorities to reinstate facilities for public such as medical, water supply etc.
- Dispatch emergency repair teams equipped with tools, tents and food.

After Disaster

- Follow the instructions of District Liaison Officer.
- Carry out the duty assigned for search and rescue work.
- Engage the resources and manpower available to manage the disaster.
- Review the matters regarding closing of movement at the port for safety measures and will ensure that it is restarted very soon.
- To contact the district control room if additional equipments, vehicles, manpower, technical personnel are necessary to restore the port related activities.
- Prepare a primary survey report of damage and send it to the District Control Room and to the administrative head.
- Collect the details of approach roads connecting the damaged area and get them repaired in co-ordination with the competent authority

2.1.21 Non-Government Organisation:

Table 69 Non-Government Organisation

Non Disaster Time

- Take steps for preparing community based disaster management plans with facilitation from DDMA.
- Identify volunteers in disaster prone areas and arrange for their training.
- Awareness raising programs, seminars and meetings with the people for improving their capacity to face disasters.
- Maintain contacts with District Administrators on its activities.
- Ensure road communication and pre-positioning of relief material as close as possible to disaster prone communities.

Warning Time

- Issue warning notice to all concerned including the preparedness programs Designate a liaison officer for maintaining link with the DEOC of the District.
- Keep the survey and relief team of head-quarters on stand-by in readiness with required transport and equipment.
- Mobilise volunteers and issue instructions for sending them to potential disaster affected areas.
- Take part in evacuation programme of population with close cooperation of volunteers
- Coordinate with pre identified NGOs for possible joint operations.

During Disaster

- Ensure survey of loss and damage in affected areas and dispatch of relief teams from concerned Red Crescent Society Units.
- Assist the Province Government to determine loss, damage and needs related information.
- Give emergency assistance to disaster affected people especially in the following cases:
- Help in rescue and evacuation work, temporary shelter, first aid, food and clothing,
- Arrange for distribution of relief material received from Red Crescent Unit of areas not affected by disaster and from headquarters.
- 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.

After Disaster

- Participate in reconstruction and rehabilitation programmes in special circumstances.
- Take steps for correct and effective evaluation of preparedness work and for correcting errors/weakness in such work.
- Extend Cooperation to the district EOC for disaster documentation.

2.2 Hazard specific SOPs for designated Departments and Teams

Hazard Specific SOPs and checklists for all concerned departments, authorities, designated disaster management teams, committees and the sub committees at district and sub district level, will be prepared and maintained.

3 Financial Provisions for Disaster Management

(According to ACT No. 53 of 2005 – the Disaster Management Act, 2005, Chapter IX, Finance, Account and Audit)

The following Funds are recommended to be established for fulfilling the needs during disasters:

Establishment of funds by the State Government

The State Government shall immediately after notifications issued for constituting the State Authority and the District Authorities, establish for the purposes of this Act the following funds, namely:-

- a) The fund to be called the District Disaster Response Fund;
- b) The fund to be called the District Disaster Mitigation Fund;

3.1 District Disaster Response Fund

This will basically cover the disaster response, relief, and rehabilitation part.

3.2 District Disaster Mitigation Fund

This will basically cover the disaster mitigation and preparedness activities.

The State Disaster Response Fund (SDRF) and Chief Minister's Relief Funds are also available to meet any emergency requirement, at the district level.

Emergency procurement and accounting

Where by reason of any threatening disaster situation or disaster, 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, -

- a) 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;
- b) 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.

4. Coordination mechanisms with other stakeholders

4.1 Mapping of stakeholders in the District

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

- Private and Public Sectors
- Non-Governmental Organizations and Community Based Organisations
- Religious Institutions
- Academic Institutions
- International Humanitarian organizations

4.1.1 Private and Public Sectors:

Public Sector: *The Indian Railways* has a strong Disaster Management System in place which can be looked upon as a model for the accident prevention in the district.

Also, it is recommended that coordination with the Railway Department for the District Disaster management plan will give it a more holistic view and a lead to better implementation of the plan.

Private Sectors: Media along with the Public Relation officer who is an important part of the information desk in ICS is recommended to play an important role during time of disasters to provide important information as well as stop rumors.

Hospitals in private sectors can act as essential stakeholders due to their infrastructure and speciality. Padhar Hospital for instance is identified as a major stakeholder in this area.

The following is the list of Private contractors having equipments which can be useful in the face of disaster or for post disaster reconstruction works:

Table 70 List of Private contractors having equipments

Sr. no.	Name of contractor	Details of Machine	Number of equipments
1	M/s Reliable Associate Bhopal	1. Pocklene 2. Water Tanker 3. Tractor	1 2 2
2	M/s Harshidi Cont 222 C.P.Mission Jhanshi	1. Mixer 2. Water Tanker 3. Tractor 4. JCB 5. Pocklene 200	4 6 3 3 2
3.	Nagarpalika Tikamgarh	1. JCB 2. Tractor	1 6

		3. Water Tanker	20
		4. Fire brigade	1
		5. Dumper	1
		6. Water Pump	2

Source: Irrigation Department & Nagar Palika

Table 71 Information about JCB Machine:

Sr. No.	Machine owner address and name
1	Raj Lakshi Construction Jhansi road (MP36/H0236) Tikamgarh
2	Raj Lakshi Construction Jhansi road (MP36/H0238) Tikamgarh
3	Raj Lakshi Construction Jhansi road (MP36/H0237) Tikamgarh
4	Ms. J.R. Builders Nandishwar colony New Civil lines (Jitendra Kumar Jain) Tikamgarh
5	Ashok Jain, Tanay Babulal Jain Civil lines Tikamgarh
6	Ms. Ganesh Prashad Kushwaha Niwari, (9839425801) Tikamgarh
7	Harshwardhan singh Near Thana Jatara Tikamgarh
8	Kailash Narayan Pathak Tiharka Niwari Tikamgarh
9	Parash Stone Crasher P. Devendra Jain Kari Mawai Tikamgarh
10	Ms. Satyam Stone Crasher Kari Mawai Tikamgarh
11	Maa Veshnav Builders Sashikant Tikamgarh
12	Chaturvedi ganiesh nagar Tikamgarh
13	Kailash stone crusher Pratappura Orchha Tikamgarh
14	Paras stone crusher Kari Mawai Tikamgarh
15	Anuj stone crusher Jatara Tikamgarh

4.1.2 Non-Governmental Organizations and Community Based Organisations:

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:

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

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

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

Table 72 Non-Governmental Organizations and Community Based Organisations activities during disaster management cycle

Preparedness Stage		
Key Components	Roles and Key Actions of NGOs and CBOs to facilitate and support	
	Community Level	District Level
Institutional Arrangements	Formation of Task Force	<ul style="list-style-type: none"> • Facilitate formation and participate in district level task forces, • Advocate for establishment of DDMA NGO Advisory Committee
Coordination	<ul style="list-style-type: none"> • Establishment of community level coordination 	<ul style="list-style-type: none"> • Assist in developing and participate in district level GO- NGO and Inter Agency

Mechanisms	Mechanisms	Coordination mechanisms
Contingency Planning	<ul style="list-style-type: none"> Contingency planning at community levels 	<ul style="list-style-type: none"> Assist in development, piloting, validation and updating of the district level contingency and preparedness plans
Capacity Needs Analysis and Standardized Capacity building	<ul style="list-style-type: none"> Detailed assessment of current needs and capacities at community level Training, Simulation and mock drills 	<ul style="list-style-type: none"> Facilitate detailed assessment of current needs and capacities at district levels Facilitate Training and mock drills of different stakeholders
Hazard Monitoring, Forecasting and Early Warning (EW)	<ul style="list-style-type: none"> Establish linkages with stakeholders for hazard monitoring and provide last mile connectivity for EW dissemination 	
Information & Knowledge Management and communication	<ul style="list-style-type: none"> Facilitate, support and establish mechanisms for information dissemination before, during and after disasters Collect, Manage, Process and share Data during and after disaster Research, develop, document and disseminate best practices, including traditional coping strategies for replicability and scale up 	
Response and Recovery Phase		
Phase	Needs and Timely Action	Timeline / Remark
Acute emergency phase or response	Search and rescue, first aid, disposal of dead bodies and animal carcasses, damage and needs assessment, relief mobilisation and distribution, temporary shelter, registration, information management, coordination etc.	1 to 30 days (depending on extent and gravity of disaster) Timely and appropriate response will depend on the preparedness and contingency planning put in place by the Government and NGOs, CBOs and CSOs.
Care, maintenance and recovery phase	Food, water, sanitation, health care, psycho-social care, education, livelihoods, training, coordination	The length of this phase will depend of the type of emergency. In floods this might not exist while in case of big earthquake it might be couple

		of years. This is the phase before affected population can return to normal ways of living. It also called transitional phase
Reconstruction and long term Recovery	‘Durable solution’ for livelihoods, housing, skill building, institution building, coordination etc.	It may take 2 to 5 years to restore the life back to normalcy and establish all the institutions and infrastructure ‘better than pre-disaster days’.

4.1.3 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.

4.1.4 Academic Institutions:

The flood cell enlists many of the schools as relief centers for flood prone areas. The Disaster management Institute, Bhopal can act as the provider of subject specific expertise for disaster management planning. The following agencies can be contacted for further expertise:

1. All India Disaster Mitigation Institute

411, Sakar Five, Near Nataraj Cinema, Ashram Road, Ahmedabad - 380009, Gujarat, India

Phone: +91-79-26586234, 26583607, Fax : +91-79-26582962

E-mail: bestteam@aidmi.org

2. 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

4.1.5 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 this section, a comprehensive list of all the concerned international humanitarian organizations will be prepared, with contact details.

4.2 Responsibilities of the stakeholders

The responsibilities of all the key stakeholders include:

- 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 centers
- Working with the Disaster team in restoration of livelihoods
- Being actively connected with the restoration and reconstruction process

5. Inter- District Coordination Mechanisms - [Standard Operating Procedures / Protocols]

During emergencies district may require support from other adjoining districts, which are not affected by disasters. For this the Distt. EOC head can seek help from other districts through Divisional Commissioner or State EOC. This will be ensured at the disaster management plan formation stage itself by comparing the resource inventories and the vulnerability of the area. The DDMA's of adjoining districts or of all the districts in one subdivision should later integrate their disaster plans so as to have a joint approach when dealing with disasters.

In Tikamgarh district, usually flood is the most frequently occurring disaster due to the Jamni, Betwa and Dhasan river and Matateela dam, Mahendrasagar dam and Govindsagar dams and back waters.. Any abnormally high or low levels of rainfall in Tikamgarh district will hence have an effect on the water levels of Betwa and Jamni river in Tikamgarh district. Hence there is a need to establish proper coordination mechanism with the UP state Mataateela Chief Engineer Water Management board authorities in order to be informed about any kind of flood related disasters.

6. Intra- District Coordination Mechanisms - [with Block Headquarters]

The recommended "integrated disaster management plan" follows 'Top to Bottom' approach i.e. the communities are the first one to response. Then there are disaster management committees on gram panchayat level and block level upto the district level.

On each stage, the nodal contact people are appointed who will ensure the adequacy of resources in dealing with disasters.

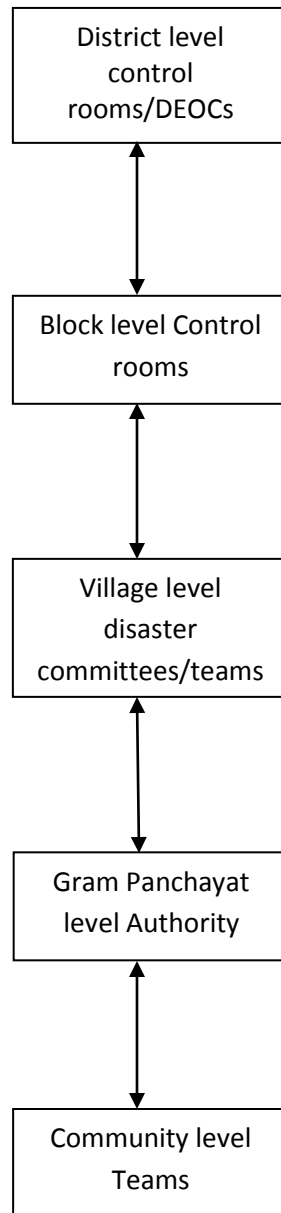
Intra-District Disaster Management Execution System

Figure 11 Intra-District Disaster Management Execution System

7. 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.

The content of the plan should be explained through well designed and focused awareness programmes. The awareness programmes should be prepared in the local language to ensure widespread dissemination.

Media should be extensively used for public awareness programs. These will include

- newspapers, TV
- local cable networks
- radio
- publicity material

Schools, colleges and other public institutions should be specifically targeted.

7.1 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.

7.2 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.

DDMA will update the district disaster management plan every year with inputs from all the updated block disaster management plans and also from the plans of line departments of the district. The plan will be updated for the resource requirements, updates on human resources, technology to be used and coordination issues

A system would be in place to update the plan on an annual basis to ensure that the items requiring updating are considered and are current. This will involve:

- Submission of annually updated disaster management plans by all the block disaster management committees and urban disaster management committees to DDMA.
- Copies of the received updated plans from the the block disaster management committees and urban disaster management committees to be given to the Technical committees, which will be formed as sub-committees of the DDMA and District Disaster Management Advisory Committee for review and suggestions.
- Final annual meeting to be organized by the DDMA, which will be participated by DDMA members and district disaster management advisory committee.
- The updated plan will be placed before SDMA for approval.
- When an amendment is made to a plan, the amendment date would be noted on the updated page of the plan.
- Copies of the amendments made & approved by the SDMA needs to be circulated to all the concerned government departments, block & urban bodies disaster management committees & other relevant agencies.
- All the disaster management liaison officials in every agency would be designated to ensure that all plan-holders are notified of changes as soon as possible.

The frequency of updating the plan (DDMP) will be mentioned (it should be every year, as per DM Act). 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.

8. Annexure

8.1 District profile

Latest data on the geography, demography, agriculture, climate and weather ,roads, railways etc that describes the district will be provided. However, adequate care will be taken to summarize the data so as to not make the plan document bulky.

8.2 Resources

Table 73 District Status Resource Report

State Name	District Name	Records uploaded	No. of Items identified
Madhya Pradesh	Tikamgarh	Total Records = 12	12

Table 74 Distribution of Houses by Predominant Materials of roof and wall and level of Damage risk

Website: <http://www.allimagetool.com>

Distribution of Houses by Predominant Materials of Roof and Wall and Level of Damage Risk

Table No. : MP 08 State : MADHYA PRADESH TIKAMGARH

Wall / Roof		Census Houses		Level of Risk under								Flood Prone Area in %	
		No. of Houses	%	EQ Zone				Wind Velocity m/s					
				V	IV	III	II	55 & 50	47	44 & 39	33		
				Area in %				Area in %					
WALL									100		37.7	62.3	
A1 - Mud	Rural	58,301	19.4										
Unburnt Brick Wall	Urban	10,092	3.4										
	Total	68,393	22.8				L			H	M		
A2 - Stone Wall	Rural	2,073	0.7										
	Urban	152	0.1										
	Total	2,225	0.8				L			M	L		
Total - Category - A		70,618	23.5										
B - Burnt Bricks Wall	Rural	190,196	63.4										
	Urban	35,190	11.7										
	Total	225,386	75.1				VL			M	L		
Total - Category - B		225,386	75.1										
C1 - Concrete Wall	Rural	1,176	0.4										
	Urban	833	0.3										
	Total	2,009	0.7				VL			VL	VL		
C2 - Wood wall	Rural	367	0.1										
	Urban	236	0.1										
	Total	603	0.2				VL			H	M		
Total - Category - C		2,612	0.9										
X - Other Materials	Rural	1,208	0.4										
	Urban	281	0.1										
	Total	1,489	0.5				VL			H	M		
Total - Category - X		1,489	0.5										
TOTAL BUILDINGS		300,105											
ROOF													
R1 - Light Weight Sloping Roof	Rural	1,679	0.6										
	Urban	1,066	0.4										
	Total	2,745	1.0				VL			VH	H		
R2 - Heavy Weight Sloping Roof	Rural	203,247	67.7										
	Urban	20,452	6.8										
	Total	223,699	74.5				VL			M	L		
R3 - Flat Roof	Rural	48,395	16.1										
	Urban	25,266	8.4										
	Total	73,661	24.5										
<i>Damage Risk as per that for the Wall supporting it</i>													
TOTAL BUILDINGS		300,105											

Probable Maximum Precipitation at a Station of the district in 24 hrs is 440 mm

Housing Category : Wall Types

- Category - A :** Buildings in field-stone, rural structures, unburnt brick houses, clay houses
- Category - B :** Ordinary brick building; buildings of the large block & prefabricated type, half-timbered structures, building in natural hewn stone
- Category - C :** Reinforced building, well built wooden structures
- Category - X :** Other materials not covered in A,B,C. These are generally light.

- Notes :**
1. Flood prone area includes that protected area which may have more severe damage under failure of protection works. In some other areas the local damage may be severe under heavy rains and choked drainage.
 2. Damage Risk for wall types is indicated assuming heavy flat roof in categories A, B and C (Reinforced Concrete) building
 3. Source of Housing Data : Census of Housing, GOI, 2001

Housing Category : Roof Type

- Category - R1 - Light Weight** (Grass, Thatch, Bamboo, Wood, Mud, Plastic, Polythene, GI Metal, Asbestos Sheets, Other Materials)
 - Category - R2 - Heavy Weight** (Tiles, Slate)
 - Category - R3 - Flat Roof** (Brick, Stone, Concrete)
- EQ Zone V : Very High Damage Risk Zone (MSK > IX)
 EQ Zone IV : High Damage Risk Zone (MSK VIII)
 EQ Zone III : Moderate Damage Risk Zone (MSK VII)
 EQ Zone II : Low Damage Risk Zone (MSK < VI)
- Level of Risk : VH = Very High; H = High;
 M = Moderate; L = Low; VL = Very Low

Table 75 Total Item status report with department wise

Sr. No.	Item Description	Department Name & Contact
1	Item Name: Truck Description: Mini Truck, Tata-407, 1988 Model	Department Name: E.E. Public Health Engg. Contact: Executive Engg. PHED Telephone:242406,
2	Item Name: 4 wheel drive vehicle Description: Diesel Jeep	Department Name: Executive Engineer Water Resources Contact: Executive Engineer Water Resources Telephone:245359,
3	Item Name: Single sheave snatch block Description: Single sheave snatch block Specific Equipment	Department Name: Home Guards Contact :District Commandant, Tikamgarh Telephone:245117,
4	Item Name: Set of rope tackle (3 sheave - 2 sheave) Description: Rope tackle	Department Name Home Guards Contact: District Commandant, Tikamgarh Telephone:245117
5	Item Name: Stretcher harness (set) Description: Stretcher Harness (set)	Department Name: Home Guards Contact :District Commandant, Tikamgarh Telephone:245117,
6	Item Name: Search and Rescue Teams for Collapsed Structures Description: Search& Rescue teams for Collapsed Structure Human Resource	Department Name: Home Guards Contact: District Commandant, Tikamgarh Telephone:245117
7	Item Name: Lifebuoy Description: Lifebuoy	Department Name: Home Guards Contact: District Commandant, Tikamgarh Telephone:245117,
8	Item Name: Life Jackets Description: Life Jackets	Department Name: Home Guards Contact: District Commandant, Tikamgarh Telephone:245117,
9	Item Name: Fire Tender Description: Fire Tender	Department Name: Nagar Palika, Tikamgarh Contact: CMO, Tikamgarh Telephone:240574
10	Item Name: Matador Description: Matador	Department Name: Nagar Palika, Tikamgarh Contact: CMO, Tikamgarh Telephone:242331
11	Item Name: Tractor Description: Tractor	Department Name: Nagar Palika, Tikamgarh Contact: CMO, Tikamgarh Telephone :242323

12	Item Name: Water Tanker - Medium capacity Description: Water Tanker	Department Name : Nagar Palika, Tikamgarh Contact: CMO, Tikamgarh Telephone :242331
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Sources: www.idrn.gov.in

8.3 Media and information management

A List of location based key news channels, journalists; cable network operators will be available along with contact details.

8.4 Important Contact numbers

Latest important contact numbers of District and Block level key officials AND agencies including EOC, DMTs, DDMOs (District Disaster Management Officers), DDMC members, DC Office, Revenue & Relief deptt, fire, irrigation and flood control, police, and other nodal authorities/ persons will be provided.

Following is the list of various other important district level offices who are stationed in the district:

Table 76 District Level Offices and their contact numbers

S. No.	Office Name	Telephone Details		Fax Number
		Office	Residence	
1	District Collector & D.M.	242250	242251	242297
2	District & Session Judge	242456	242454	-
3	Superintendent of Police	242350	242351	242187
4	Chief Executive Officer Janpad Panchayat	242296	242497	243222
5	Chief Medical Officer	242354	244182	-
6	Civil Surgeon	242307	242373	-
7	Deputy Director Agriculture	242346	242271	-
8	Jawahar Lal Krishi Anushandhan Kendra	242436	242450	-
9	Executive Engineer P.W.D. (B&R)	242320	242321	-
10	Executive Engineer Water Resource	242304	-	-
11	Executive Engineer P.H.E.D.	242406	242476	-
12	Deputy Director Panchayat & Welfare	242383	-	-

13	Company Commandant Home Guard	242417	-	-
14	Assistant Registrar Cooperative Societies	242426	-	-
15	General Manager Industries	242446	242262	-
16	District Organiser Tribal Welfare	242032	-	-
17	District Employment Officer	242261	-	-
18	Deputy Director Education	242387	-	-
19	District Statistical Officer	243114	-	-
20	Superintendent Government Garden	242329	-	-
21	District Excise Officer	242467	242468	-
22	Executive Engineer R.E.S.	244365		-
23	District Planning Officer	242445	242276	-
24	Superintendent Jail	242324	242284	-
25	Deputy Director Veterinary	242414	-	-
26	District Women & Child Development Officer	242257	242529	-
27	District Election Office	242443	242401	-
28	District Forest Office	242315	242343	-
29	CMO Municipal council	265224		
30	Veterinary Hospital	242414	245284	9926293732

Semi Government Offices:

Table 77 Following are the list of Semi Government Offices

S. No.	Name Of the Office	Telephone Detail	
		Office	Residence
1	Manager S.B.I.	242316	242460
2	Manager Allahabad Bank	242363	-
3	Manager Central Bank	242281	-

4	Manager Union Bank	242088	-
5	Lead Bank Office Tikamgarh	242418	-
6	Manager Life Insurance	243409	242209
7	Youth Coordinator Nehru Youth Centre	242502	-
8	Principal Navodaya Vidyalaya	242464	-

Central Government Office:

Table 78 Following are the Central Government offices

S.No.	Name Of the Office	Telephone Detail	
		Office	Residence
1	Post Office	242402	242460
2	Telephone Exchange	242211	242311
3	National Informatics Centre	242185	-
4	Doordarshan Kendra	242303	-

District Disaster Help desk contact numbers:

Table 79 Helpful contact no. during disaster

S. No.	Name Of the Office	Telephone detail
1	Sub-divisional Officer (Revenue) Tikamgarh	242482
2	Sub-divisional Officer (Revenue) Jatara	254170
3	Sub-divisional Officer (Revenue) Niwari	232336
4	Tahsil Office, Tikamgarh	242374
5	Tahsil Office, Niwari	232404
6	Tahsil Office, Baldeogarh	275295
7	Tahsil Office, Jatara	254345

8	Tahsil Office, Palera	252788
9	Tahsil Office, Prithvipur	-
10	Main office of Collectorate	242250
11	District treasury officer	242407
12	District Planning Officer	242445
13	Flood control room – Revenue department M.P.	2441419 , 2579988
14	Smt. Snehlata Shrivastava Principal Secretary Revenue & Relief Commissioner	2441442 (O), 2551585 (R)
15	Shri Ashok Gupta Deputy Relief Commissioner	2441419 (O), 2441254 (R)
16	Shri Manohar Dubey, IAS Executive Director Disaster Management Institute Paryavaran prisar, E-5, Arera Colony, PB No. 563 Bhopal- 462016, MP (India)	Tel: (O) 0755-2461538, 2466715 2464239 Fax: 0755-2464244, 2464239 Website: http://www.dmibhopal.nic.in

District Nagar Parishad Contact Numbers:

Table 80 Nagar Parishad Contacts

S. No.	Name Of the Office	Telephone detail
1	Nagar Palika (Municipal Corporation)	245323
2	Nagar Parishad, Kari	285227
3	Nagar Parishad, Badagaon	257265
4	Nagar Parishad, Kharagapur	276226
5	Nagar Parishad, Niwari	232365
6	Nagar Parishad, Baldeogarh	275223

7	Nagar Parishad, Jatara	254229
8	Nagar Parishad, Palera	252670
9	Nagar Parishad, Prithvipur	233267
10	Nagar Parishad, Lidhora	284629
11	Nagar Parishad, Jeron	253698
12	Nagar Parishad, Tarichar	254209
13	District Planning Officer	242445

UP Police control rooms, which are near to boundary of Tikamgarh (contact no):

Table 81 UP Police control room which are near to boundary of Tikamgarh (contact no):

Sr. No.	UP Police control room which is near to Tikamgarh district	Police Control Room Contact no	The places where the boundary of Tikamgarh touch
1	Babina-Jhanshi	0510-2740058	Orchha
2	Baruasagar –Jhanshi	0510-2725336	Orchha, Niwari
3	Sakrar –Jhanshi	0517-8240058	Niwari
4	Sadarbazar –Jhanshi	0510-2470542	Orchha
5	Premnagar –Jhanshi	09454403656	Niwari
6	Katera-Jhanshi	05178-230056	Niwari, Tiharaka, Lidhora, Prithvipur
7	Uldan –Jhanshi	05171-222355	Sindri, Tiharaka
8	Mauronipur –Jhanshi	05178-240224	Tiharka, Jatara, Palera
9	Saujana- Lalitpur	09464403833	Badagaon
10	Girar – Lalitpur	09454493823	Badagaon
11	Mahroni – Lalitpur	09454493222	Tikamgarh
12	Banpur – Lalitpur	09454403541	Tikamgarh, Mohangarh
13	Purakala – Lalitpur	09454403541	Mohangarh, Simara,

			Jeron
14	Bar – Lalitpur	09454403822	Mohangarh
15	Police control Room Jhansi	0510-2371280	-
16	Police Control Room Lalitpur	05176-272944	-

Other Blocks Ambulance help:

Table 82 Other Blocks Ambulance help:

S. No.	Name of team member	Designation	Contact no (off.)	Contact no (Res.)
1.	Maksud Khan (CHC Niwari)	Ambulance Driver	9179878632	-
2.	Jubair Vaksh (CHC Prithvipur)	Ambulance Driver	9993263097	-
3.	NA (CHC Jatara)	Ambulance Driver	-	-
4.	NA(CHC Palera)	Ambulance Driver	-	-
5.	Fulliram Ahirwar (CHC Baldeogarh)	Ambulance Driver	9826666077	-
6.	Munnalal Saur (CHC Badagaon)	Ambulance Driver	-	-
7.	NA (CHC Orchha)	Ambulance Driver	-	-

NGO Contact Numbers in M.P.:

Table 83 NGO's contact no in M.P.

NGOs	Mr. Abraham John Programme Co-ordinator C.A.S.A. 6 II-C, Street No. 2 New Palasia Indore - 452 001 Madhya Pradesh Phone- (0731) 2436747
	CARE-MP

NishatManzil, Shamla Hill, Bhopal - 462013
Tel : (91 755) 661356, 661462 Fax : (91 755) 661451
Email : cbox-mp@careindiamp.org

UNICEF

E7/831 Arera Colony
Bhopal- 569166
Phone-0755-466568

Actionaid

E-7/88, Lajpat Society, Arera Colony Bhopal - 462016
Tel: (0755) 725324 / 290208, Telefax: 566920
Email : robho@actionaidindia.org

Caritas

SevaSadan, 1250 Quarters
Tulsi Nagar, Bhopal - 462003, M.P
Ph: 0755 - 765493, E-mail: cibhopal@sancharnet.in

Zila Swakharata Samiti (ZSS)

Rewa - 486001 Madhya Pradesh
Collector, D S Roy, President
Phone : 07662 - 40180 Fax : 41145

Red Cross

Dy. Secretary, Red Cross Bhavan
Bhopal Phone: 91-755-550441/552475/ 551657

Nachiketa

Gandhi Bhawan, Shyamala Hills
Bhopal-462002

Eklavya Bhopal Group for Information and Action

E1/208 Arera Colony, Bhopal-462016

Phone: 0755-67150/61380

M.P. District Emergency Operation Centers:

Table 84 M.P. District Emergency Operation Centers

S. No.	Division/District	Code	Office No.	Home No.	Mobile No.
1.	Alirajpur				
2.	Anuppur	07659	-	-	9009255397
3.	Ashok Nagar	07543	225085	252310	9425430031
4.	Badwani	07290	224806	250079	9425042146
5.	Balaghat	07632	241594	247537	9425836639
6.	Betul	07141	238264	238449	9424321176
7.	Bhind	07534	230506	245456	9993477870
8.	Bhopal	0755	2556730	2556967	9754272056
9.	Burhanpur	07325	-	2223865	-
10.	Chhatarpur	07682	248471	-	9425478927
11.	Chhindwara	07162	222316	243090	9425810810
12.	Damoh	07812	222111	-	9425378212
13.	Datia	07522	290361	230072	9425378438
14.	Dewas	07272	222021	225198	9425394745
15.	Dhar	07292	222439	2490780	9479581298
16.	Dindori	07644	234276	234051	9926769808
17.	Guna	07542	252266	252310	9926735265
18.	Gwalior	0751	2490363	2346430	9406614408
19.	Harda	07577	225830	225831	9713942987

20.	Hoshangabad	07574	252153	252553	8085406652
21.	Indore	0731	2499216	2490080	9425516739
22.	Jabalpur	0761	2624850	2428651	9407131553
23.	Jhabua	07392	294305	2490080	9752858851
24.	Katni	07622	297731	2428651	7697947455
25.	Khandwa	0733	2223117	2223865	9425531131
26.	Khargone	07282	231387	250079	9425468732
27.	Mandla	07642	252296	252295	9926769808
28.	Mandsaur	07422	255224	255225	9827096224
29.	Morena	07532	230466	230583	9993477870
30.	Narsinghpur	07792	230246	230255	9424367586
31.	Neemuch	07423	233201	-	9424040021
32.	Panna	07732	252119	245571	9425478927
33.	Raisen	07482	222088	-	9425037897
34.	Rajgarh	07372	282053	-	9329735246
35.	Ratlam	07412	270490	270489	9425136271
36.	Rewa	07662	225103	257011	9425758637
37.	Sagar	07582	267747	267746	9425378212
38.	Satna	07672	223217	257011	9893505072
39.	Sehore	07562	222977	254147	9425437622
40.	Seoni	07692	220569	220570	9425836640
41.	Shahdol	07652	240324	245890	9009255397

42.	Shajapur	07364	227841	229023	9425462538
43.	Sheopur	07530	223418	230072	9993477870
44.	Shivpuri	07492	221241	-	-
45.	Sidhi	07822	252317	245890	9425758637
46.	Singrauli	-	-	-	-
47.	Tikamgarh	07683	245117	245190	9425869141
48.	Ujjain	0734	2527166	2527167	9425950399
49.	Umaria	07653	223140	-	9009255397
50.	Vidisha	07592	232872	2556967	9425460874

Information about PDS:**Governmental Decided Price shops information with concerned nodal officer block wise:**

Table 85 Governmental Decided Price shops information with concerned nodal officer block wise:

Sr. No.	Block	Town	Village	Nodal Officer	Contact No.
1.	Tikamgarh	32	67	D.C. Methayu	9425445464
2.	Baldeogarh	09	62	Mahesh Nayak	9893583590
3.	Jatara	12	70	Chaturbhuja Prajapati	9993385993
4.	Palera	06	49	Vinod Khare	9977863709
5.	Niwari	11	54	Chandrabhan Gupta	9425474601
6.	Prithvipur	11	49	Kailash Chobe	9893679797

District Tikamgarh Fire station availability:

Table 86 Tikamgarh district Fire station availability

Nagarpalika/ Nagar/ Panchayat Name	Vehicle Sr. No.	Driver Name	Contact Number
Nagarpalika, Tikamgarh	HMT – 0004	Sajjan Valmik Nashir Khan Sanju Valmik	9009785019
Nagar Panchayat, Kari	MP – 36 Go- 320	Sudama Tiwari Rohit Tiwari	9993474960 9993103030
Nagar Panchayat, Niwari	NA	Rajendra Dangi Shravan Kumar	9752366398 9009604510
Nagar Panchayat,	NA	Badriprasad Aarya	9752574663

Taricharkala		Hargovind Ahirwar	9755018253
Nagar Panchayat, Prithvipur	MP – 35 GO – 340	Mahesh Raikwar Payare Lal Kushwaha	9993857472 9893883832

8.5 Do's and Don'ts of all possible hazards

A comprehensive list of do's and don'ts for district administration and nodal agencies, in handling the disasters and at various other phases of disaster management will be provided. This list will not be the same as that of general do's and don'ts necessary for common man in managing disasters.

Dos and Don'ts of Disaster Management:

You and Your Family:

Dos:

- Educate your children wife and other family member in respect of natural and manmade disasters and other crises. In case of your being unaware, take help of Civil Defence and Home Guard organisation and other NGOs. Develop habit in you and your children to spare 1% of you busy time to think about Individual security and security interests.
- Keep the phone numbers of the local police station, police control rooms, fire stations, and schools, colleges, TV station, All India Radio, ambulance services and Chemists for emergency use.
- Guide children to remain at schools in emergency.
- Prepare an emergency kit of items and essentials in the house including essential documents and valuables.
- Store food and water for survival in case you had a pre-warning.
- Any suspicious incidents observed be reported to police on 103. Callers do not have to give their identity on the phone. Information of immediate use be conveyed to control rooms to help early relief.
- Carry your identity card, residential telephone number or address or personal card with you. Have your blood group and any medical allergies recorded with you.
- Check information in case of disasters and crises from ward, civil Defence/Home Guard, and BMC, TV and All India Radio Control room.
- Learn to fight such emergencies untidily.
- Support authorities and NGOs.
- Identify scooters, cars, vehicles parked in society and identify vehicles which are unknown and parked for long.
- Organize societies and muhalla committees to educate people.

Donts:

- Do not encourage rumors.
- Do not blame any community for any crises.

- Do not encourage communal hatred in such situations.

Your Place of Work and Transit:

Dos:

- Your mode of travel by car, bus, train and taxi be known to your people.
- High rises buildings must check their electric and water supplies and organise periodic mockup drills for fire fighting and escape routes.
- Drills for bomb blast, threats be organised and practiced.
- Air/Helicopter evacuation be examined and organised from selected rooftops of high rises.
- Fire fighting equipment be kept serviceable and periodic check is effected.
- Office societies be organised and prepared to coordinate such emergencies of fire brigade, medical help and other assistance. Such people be nominated and they should guide relief.
- Everyone must know use of fire extinguisher in emergency.
- Security guards are trained to coordinate in such crises.
- Be concerned and develop habit of surveillance when out of our house. Check your seat in cinema hall, train, bus and air. Have you observed a bird, she jumped around and looks in all directions before selecting a spot on a tree for her security. Do we learn anything from this bird instinct?
- Look for the objects, baggage, at bus stand, railway stations, compartments, airport, which is unclaimed.
- Unknown vehicles parked at airports, Railway Stations and bus stands have to be kept under surveillance by common citizens, and this alertness may help authorities.
- Bus, trains and airlines passengers who notice any suspicious behavior of co-passengers, be brought to the notice of officials,
- Every passenger should identify a friend or relations residence in case of requirement of staying away in emergency. The family should know about such a plan.

Don't

- Do not touch any suspicious object. Report to concerned people.
- Do not crowd the object.
- Passengers should not accept parcels from unknown persons in hurry while boarding train or bus.

Flooding: Dos and Don'ts

Table 87 Flooding: Dos and Don'ts

Do	Don't
Switch off all electrical and gas appliances, and turn services off	Don't walk through flowing water - currents can be deceptive, and shallow, fast moving water can knock you

at the mains.	off your feet.
Take your emergency kit and try to let your friends and family where you are going.	Don't swim through fast flowing water - you may get swept away or struck by an object in the water.
Avoid contact with flood water - it may be contaminated with sewage, oil, chemicals or other substances.	Don't drive through a flooded area - You may not be able to see abrupt drop-offs and only half a metre of flood water can carry a car away. Driving through flood water can also cause additional damage to nearby property.
If you have to walk in standing water, use a pole or stick to ensure that you do not step into deep water, open manholes or ditches.	Don't return to your property until the "All Clear" has been given.
Stay away from power lines - electrical current can travel through water. Report power lines that are down to the power company.	Don't reconnect your power supply until a qualified engineer has checked it. Be alert for gas leaks - do not smoke or use candles, lanterns, or open flames. Never use TVs, VCRs, CRT terminals or other electrical equipment while standing on wet floors, especially concrete.
Look before you step - after a flood, the ground and floors are covered with debris, which may include broken bottles, sharp objects, nails etc. Floors and stairs covered with mud and debris can be slippery.	Don't eat any food that has come into contact with flood water.

During the Earthquake

- Preparations for an earthquake include knowing what to do while it is happening. By learning and practicing what you should try to do, you will be more able to remain calm enough to protect yourself and help others. Know what to do, wherever you are. In summary, you should take cover and stay there.
- If you're inside your home, stay there. Get out of the kitchen safer places are inside hall, in corners, in archways. Take cover under a heavy table, desk or any solid furniture that you can get under and hold onto. Protect your head and face. Doors may slam on you figures if you are in a doorway. Avoid areas near windows.

- If you are in a yard outside your home, stay there and get clear of buildings and wires that could fall on you.
- Don't go outside where you may be hit by falling debris - pavements next to tall buildings are particularly dangerous.
- Avoid lifts - if you are in a lift when an earthquake happens, press all floors buttons and get out when you can. High - rise residents will hear fire alarms go off and electricity may fail.
- If you are in a vehicle, pull over to the side (leave the road clear) away from bridges, over bridges and buildings. Stay in your vehicle.
- If you are in a crowded public place, take cover and watch that you don't get trampled. In shopping centers, take cover in the nearest store and keep away from windows, neon signs and display shelves of heavy objects.
- Remain in protected place until the shaking stops. Anticipate after shocks - they may occur after the first quake.
- Try to remain calm and help others.

After the earthquake

- Preparation of an earthquake also include knowing what to do and not do, after the shaking stops-when there is a danger from aftershocks, fire, falling building materials, debris, etc. Remain calm. You may have to take charge of others. Take care of life threatening situations first. Remember, you may be on your own for 72 hours or more.
- Check your home for structural damage and other hazards.
- Check yourself and others nearby for injuries-administer first aid quickly and carefully.
- If you are evacuating, locate and take your pack of emergency supplies with you.
- Use a torch to check utilities and not shut them off unless damaged. Leaking gas will smell. Don't light matches or turn on light switches-until you are sure there are no gas leaks or flammable liquids.
- Wear sturdy shoes, if there's debris, particularly broken glass.
- Check your neighbor's after looking your own family. Your first help after an earthquake usually will come from family and friends.
- Confine frightened pets.
- Don't flush toilets if you suspect nearby sewer lines are broken.
- Carefully cleanup any spilled hazardous material.
- Secure your home against intruders.
- Turn on your battery-power radio (or car radio) and listen for broadcast emergency instructions.
- Don't use your telephone, expect in an extreme emergency.
- Don't use your vehicle, expect in an extreme emergency.
- Stay at least ten meters from downed power lines.
- Avoid sea line because of the threat of large waves.

8.6 Detailed Maps

Detailed maps will be prepared in line with the applicable hazards, existing vulnerabilities, and available resources / potential capacities.



Figure 12 Tikamgarh district Profile map

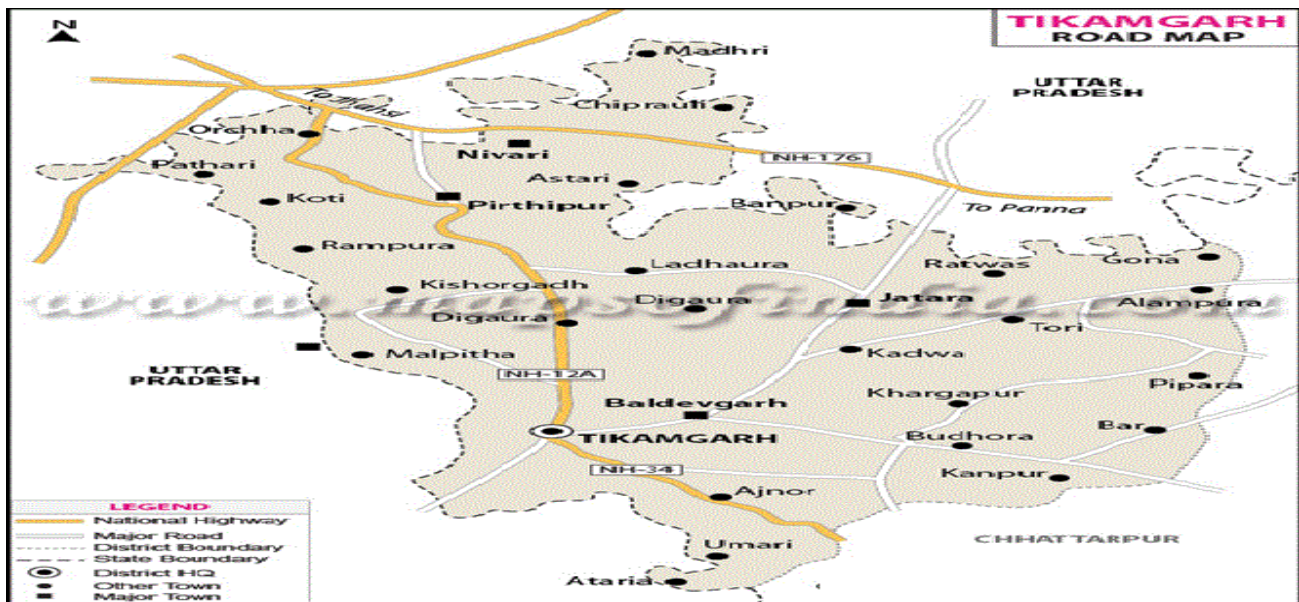


Figure 13 Tikamgarh district road map

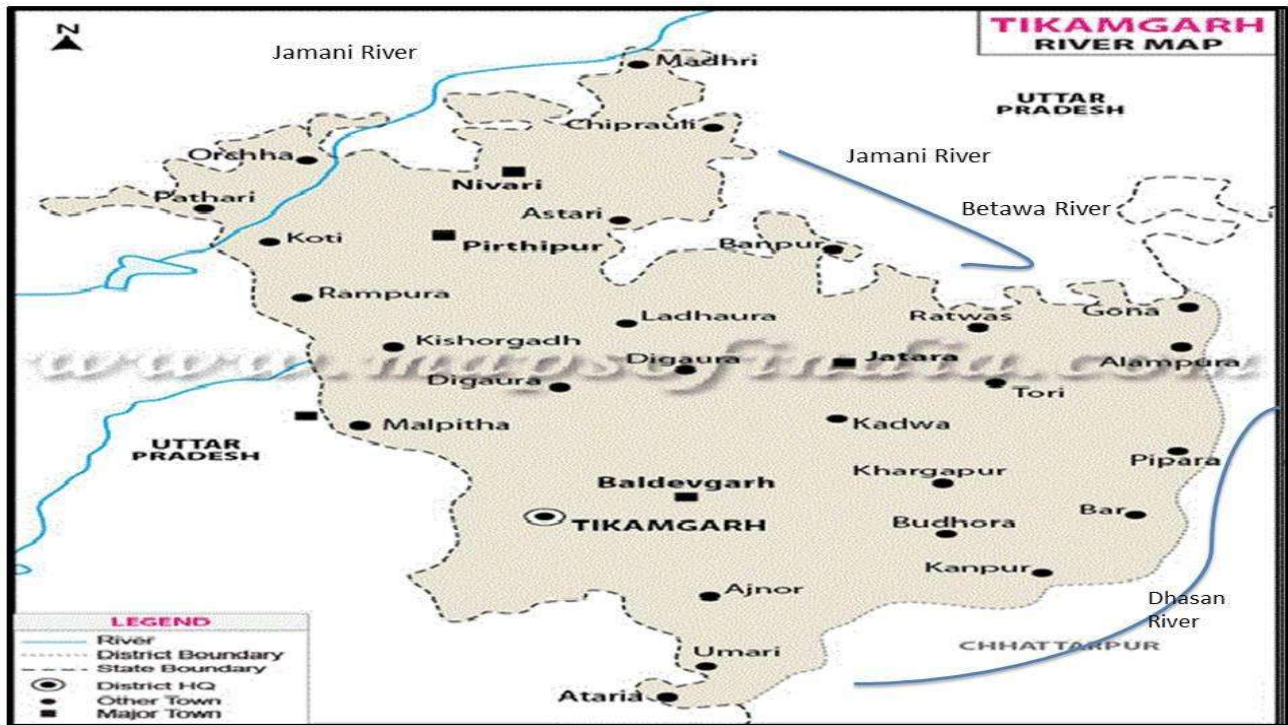


Figure 14 Tikamgarh River Map

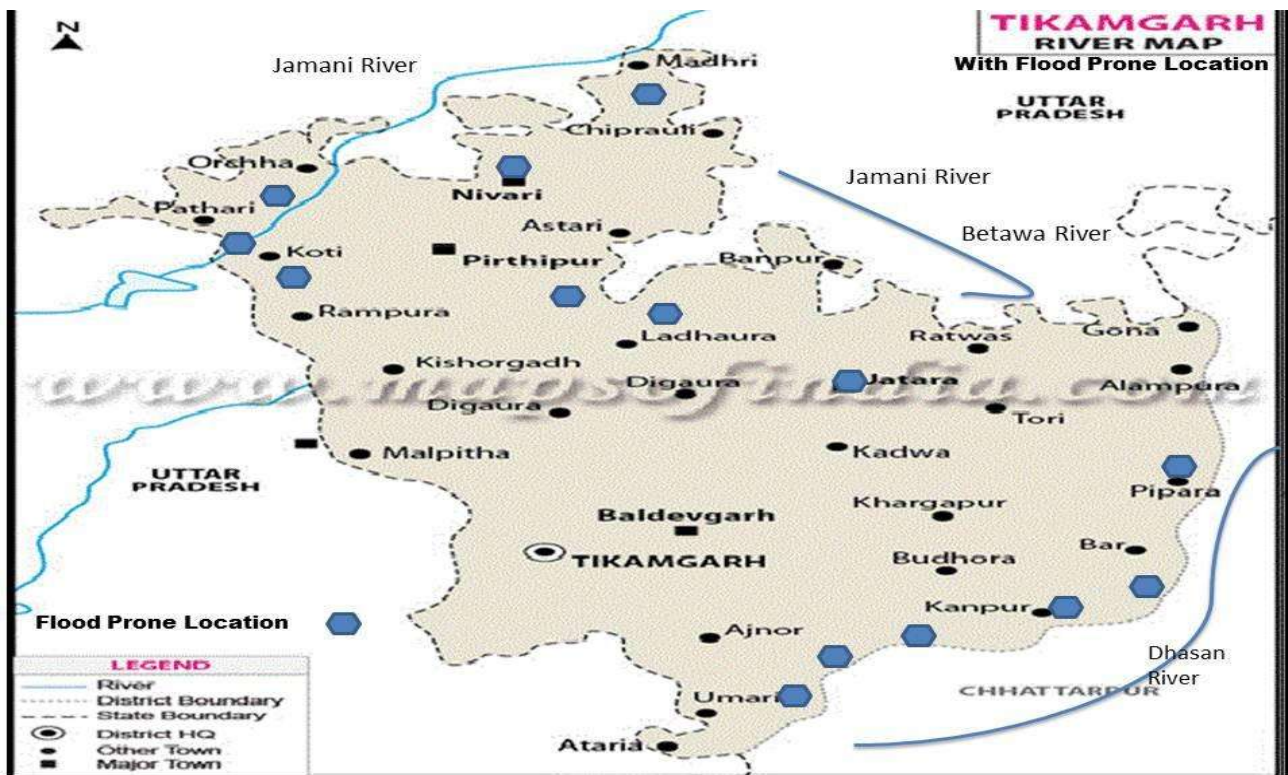


Figure 15 Tikamgarh River map with flood prone location Vulnerability Location



Figure 16 Land use in Tikamgarh

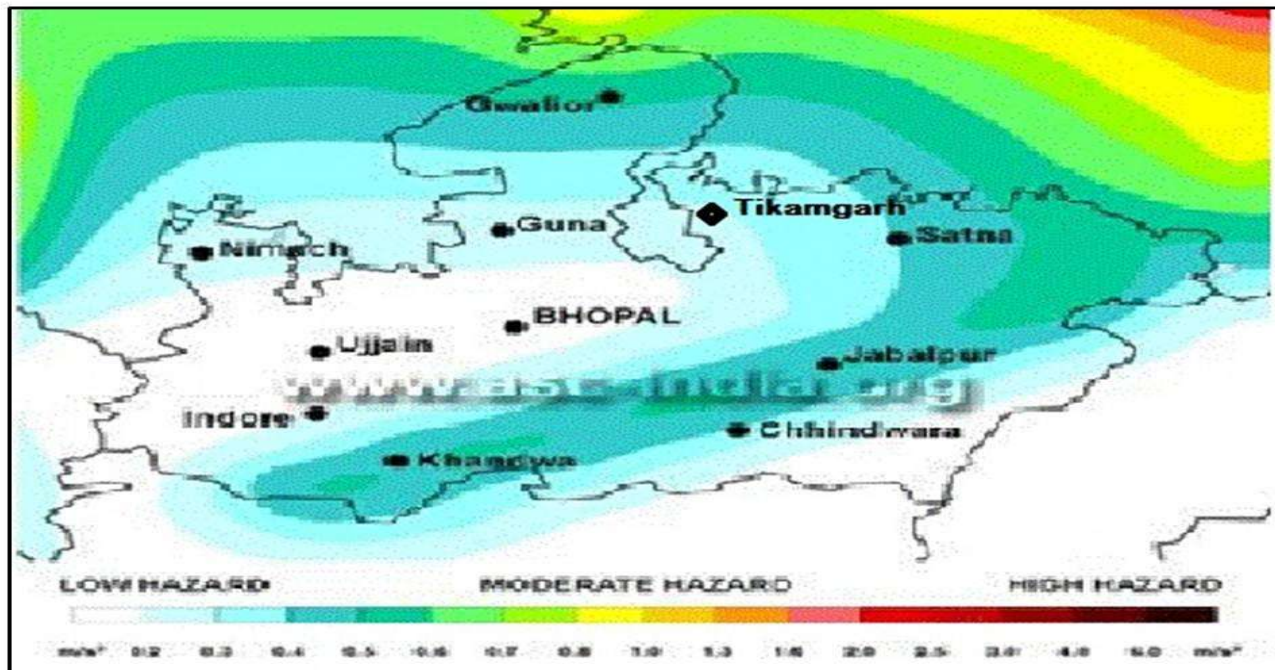


Figure 17 Earthquake Disaster Intensity in Tikamgarh

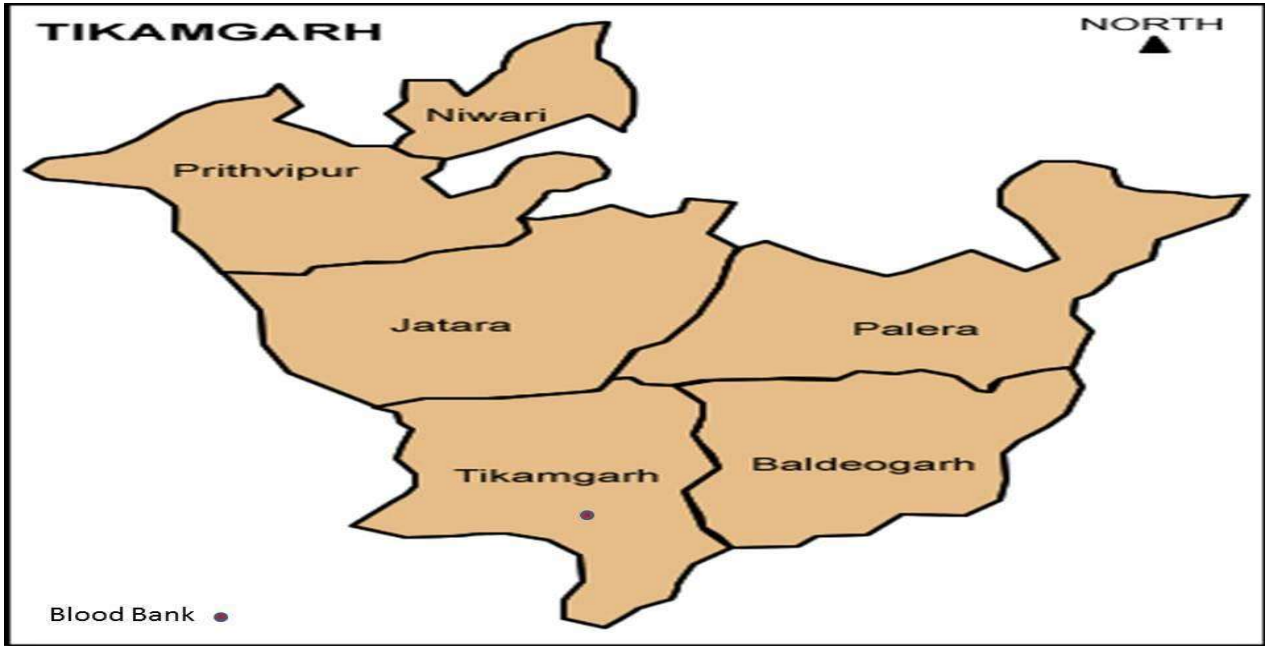


Figure 18 Blood bank location in Tikamgarh

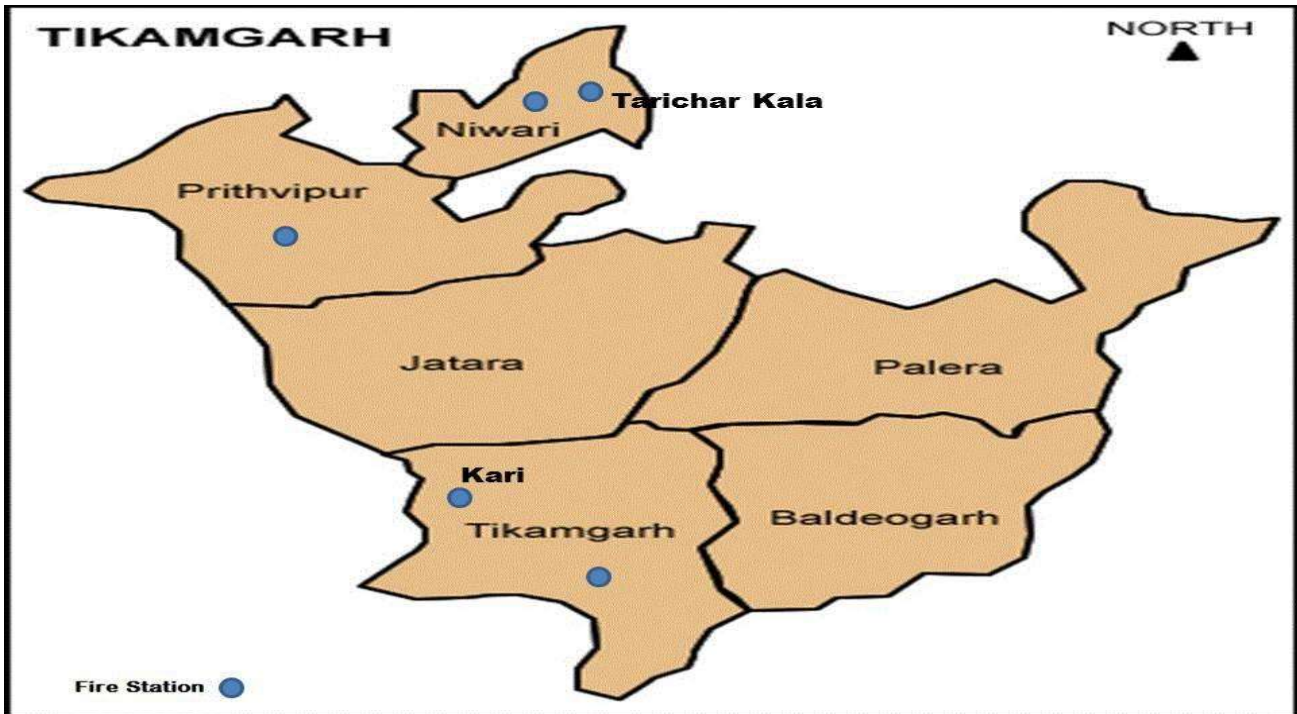


Figure 19 Location of Fire Station