

District Disaster Management Plan Jhabua

Prepared by

Ramprasad V
Master of Business Administration
Indian Institute of Technology Kanpur
Kanpur

In Consultation with
School of Good Governance & Policy Analysis, Bhopal
Seeds Technical Services
Government of Madhya Pradesh
District Administration, Jhabua

Preface

Jhabua Disaster Management Plan 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. Jhabua is prone to natural as well as man-made disasters. Earthquake, Drought, Flood, 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 an emergency and help in realizing sustainable Disaster Risk Reduction & mitigate/minimizes the losses in the district in the long run.

Acknowledgment

I express my sincere and heartfelt gratitude to School of Good Governance & Policy Analysis, Bhopal, for giving the opportunity to take this unique experience of developing the District Disaster Management Plan for the district of Jhabua.

I would also like to thank the administrative department of Jhabua – Mrs Jayshree Kiyawat(Collector), Mr B.L. Jadiya(ADM), Mr Pratap Singh Chouhan(Deputy collector) Jhabua for their kind support. Special thanks to Mr Hiralal Kanoj(D.I.O NIC), Mr.Amogh Srivatsava (District Manager Lok seva Prabhandhan), Mr.Yogesh Jain, Mr.Vineet Ajanar, Mr.Kapil, Mr. Govind Nayak who helped in every possible way to gather data. I also thank, Mr. Sumat jain (District Commandant) for his support.

I would also thank all the line departments for cooperating and providing me with necessary data.

I would also like to give by thanks to Dr. Rizvi (Director-SGPA), Mr. Gaurav Khare (Project Officer-SGPA) and other staff members of School of Good Governance and Policy Analysis, Bhopal for their valuable suggestion and help during each and every moment of this study

I would also thank SEEDS Technical Team – Mr Amit Tuteja and Mr Sunish Jose for providing me with all possible resources, guidance and support during the course of my study.

I thank my friend Mayank who helped me in all the possible ways and my friends Ankit, Bhushan, Chaitanya, Deepak, Elakki, Gayatri, Mukul, Nishant, Pankaj, Sandeep, Swapnil, Ummed and all other batch mates. Also I thank my parents Vinayagamoorthy and Vanitha Devi who are the ultimate goal of my life, for their moral support and encouragement.

Finally I would thank all those who worked for me directly or indirectly and which has left an everlasting memory in my mind.

(Ram Prasad V)

Table of Figures

Figure 1: Four stages of the Disaster Cycle.....	27
Figure 2: Institutional arrangement of DCR	30
Figure 3: Hazard profile of each block in Jhabua district.....	37
Figure 4: Proposed Institutional arrangement of the DEOC.....	66
Figure 5: Functions of ICS.....	70
Figure 6: Roles of ICS staff	75
Figure 7: Flowchart for Intra District coordination	121
Figure 8: Jhabua District Map.....	153
Figure 9: Road Map of Jhabua District.....	154
Figure 10: Rail Map of Jhabua district	155
Figure 11 : Jhabua Tehsil Map.....	156
Figure 12: Ranapur Tehsil Map	157
Figure 13: Thandla Tehsil Map.....	158
Figure 14: Meghnagar tehsil Map.....	159
Figure 15: Petlawad Tehsil Map	160
Figure 16: Jhabua Earthquake Seismic Zone Map	161
Figure 17: Flood prone Areas of Jhabua district Map	162
Figure 18: Blood bank centers of Jhabua district map.....	163
Figure 19: Diagram of HVJ/GREP/DV Pipeline.....	164

List of Tables

Table 1: Location and administrative divisions	13
Table 2: Geography and Topography	15
Table 3: Demographic and socio economics	16
Table 4: Climate and weather	16
Table 5: Health (Medical).....	17
Table 6: Education	18
Table 7: Agriculture and Land use.....	20
Table 8: Housing Pattern	21
Table 9: Industrial set ups	21
Table 10: Transport and communication network.....	22
Table 11: Power stations and electricity installations.....	23
Table 12: Major historical, religious place, tourist spots.....	24
Table 13: District Disaster Management Authority (DDMA).....	27
Table 14: District Disaster Management Committee (DDMC).....	29
Table 15: Urban Area Disaster Management Committee.....	31
Table 16: Block Level Disaster Management Committee.....	31
Table 17: Gram Panchayat Disaster Management Committee	32
Table 18: Seasonality of hazards	42
Table 19: Block wise vulnerability	43
Table 20: Resource inventory, Block wise	46
Table 21: Potential impact of applicable hazards and existing vulnerabilities.....	48
Table 22: Pre-Disaster Warning, Alerts.....	61
Table 23: Rapid damage assessment & reporting.....	81
Table 24: District Search & rescue Team	82
Table 25: Department of Revenue & Relief	97
Table 26: Police Department:	98
Table 27: Public Health Engineering.....	99
Table 28: Department of Transport.....	99
Table 29: Department of Public Works	100
Table 30: Water Resource Department.....	102
Table 31: Department of Agriculture.....	103
Table 32: Department of Rural Development.....	104
Table 33: Department of Education.....	105
Table 34: Department of Health	106
Table 35: Forest Department	107
Table 36: Department of Urban Development.....	108
Table 37: Department of Food, civil supplies and consumer affairs	109
Table 38: Department of Electricity	110
Table 39: Department Of Fire Service.....	110
Table 40: Department of Industrial Health and Safety	111

Table 41: Department of Telecommunications.....	112
Table 42: Department of Veterinary	112
Table 43: Panchayat Raj	113
Table 44: Home guards Department	114
Table 45: Indian Red Cross and NGOs.....	115
Table 46: List of Police station in Jhabua district.....	122
Table 47: List of Police Outpost in Jhabua district.....	123
Table 48: Details of Medical facilities in Jhabua district – Block wise.....	123
Table 49: Rainfall report for the years 2000-2010.....	125
Table 50: No of Micro scale Industries and their Workforce in Jhabua District.....	126
Table 51: List of Small size dams in Jhabua district	126
Table 52: List of Total No of Schools and Colleges in Jhabua District	127
Table 53: List of Total No of students studying in Schools in Jhabua district	127
Table 54: List of Total No of teachers working in schools in Jhabua district	128
Table 55: List of Type of Wall materials used in households in Jhabua district.....	128
Table 56: List of Type of Roof materials used in households in Jhabua district.....	129
Table 57: List of Small scale industries in Jhabua district.....	129
Table 58: List of No of Wireless station in Jhabua district – Block wise.....	132
Table 59: Resources with Home Guard department	132
Table 60: Trained officials in Home Guard Department	133
Table 61: List of Blood Banks in Jhabua District.....	133
Table 62: List of No of Medical stores (Retail stores alone) in Jhabua district – Block wise.....	134
Table 63: List of No of Medical stores (Wholesale stores alone) in Jhabua district – Block wise ..	134
Table 64: List of No of Medical stores (Wholesale + Retail Medical store) in Jhabua district – Block wise	135
Table 65: List of Private hospitals in Jhabua district.....	135
Table 66: Resources with P.W.D department	136
Table 67: Maintenance workers with P.W.D department.....	136
Table 68: List of resources in fire department Block wise	137
Table 69: List of resources with Sanitation Department	137
Table 70: List of No of Veterinary Hospitals in Jhabua district (Block Wise).....	138
Table 71: List of No of PDS shops in Jhabua district – Block wise	139
Table 72: List of NGOs in Jhabua district Block wise	139
Table 73: List of Telephone Exchanges in Jhabua District	140
Table 74: List of Temporary shelters.....	140
Table 75: List of Central Government Organization and its contact details.....	141
Table 76: List of Public Utility Departments and their contact details.....	142
Table 77: List of State Government Organizations and its contact details.....	142
Table 78: List of Chief Doctors in each Veterinary hospital and their contact details	144
Table 79: Contact details of Medical nodal officers.....	145
Table 80: Contact details of Medical officers during Emergency – Team 1	145
Table 81: Contact details of Medical officers during Emergency – Team 2	145

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
PRI	Panchayat Raj Institutions
ULB	Urban local Bodies
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act (India)
NREGS	National Rural Employment Guarantee Scheme (India)
NRHM	National Rural Health Mission
ASHA	Accredited Social Health Activists
IAY	Indira Awaas Yojana
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
NYKS	Nehru Yuva Kendra Sangathan

ICS	Incident Command System
ESF	Emergency Support function
DICT	District Level Incident Command teams
IDSC	Integrated Disease Surveillance Centre
BRGF	Backward Regions Grant Fund Programme

Table of Contents

Preface	2
Acknowledgment	3
A GENERAL	13
A.1 Overview	13
<i>A.1.1 District Profile</i>	13
A.1.1.1 Location and administrative divisions	13
A.1.1.2 Geography and Topography	15
A.1.1.3 Demographic and socio economics	15
A.1.1.4 Climate and weather	16
A.1.1.5 Health (Medical)	17
A.1.1.6 Education	18
A.1.1.7 Agriculture and Land use.....	19
A.1.1.8 Housing Pattern	21
A.1.1.9 Industrial set ups	21
A.1.1.10 Transport and communication network	22
A.1.1.11 Power stations and electricity installations.....	23
A.1.1.12 Major historical, religious place, tourist spots.....	23
<i>A.1.2 Scopes and Ownership of District Disaster Management Plan</i>	24
<i>A.1.3 Purpose of the Plan</i>	25
<i>A.1.4 Key Objectives</i>	25
<i>A.1.5 District Plan Approach</i>	26
A.2 Institutional Arrangements	27
<i>A.2.1 District Disaster Management Authority (DDMA)</i>	27
<i>A.2.2 District Disaster Management Committee/ Advisory Committee (DDMC/ DDMAC)</i>	29
<i>A.2.3 District Control Room (DCR)</i>	29
<i>A.2.4 District Disaster Information Management System</i>	30
<i>A.2.5 Urban Area Disaster Management Committee</i>	30
<i>A.2.6 Block Level Disaster Management Committee (BDMC)</i>	31
<i>A.2.7 Gram Panchayat Disaster Management Committee (GPDMC)</i>	32
B HAZARD, VULNERABILITY ASSESSMENT AND RISK PROFILING (HVRC)	33

B.1 Hazard Assessment	33
<i>B.1.1 Major applicable hazards.....</i>	33
<i>B.1.2 History of past disasters</i>	38
<i>B.1.3 Seasonality of hazards</i>	42
B.2 Vulnerability Analysis	42
<i>B.2.1 Vulnerability Elements.....</i>	42
<i>B.2.2 Block wise vulnerability.....</i>	43
B.3 Capacity Analysis	46
<i>B.3.1 Resource inventory</i>	46
B.4 Risks Assessment	48
<i>B.4.1 Potential impact of applicable hazards and existing vulnerabilities.....</i>	48
<i>B.4.2 Risk profiling of the district</i>	51
C. DISTRICT LEVEL DISASTER MANAGEMENT PLANNING	56
C.1 District Action Plans	56
<i>C.1.1 Mitigation Plan.....</i>	56
C.1.1.1 Scope of Integrating Risk Reduction in Development Schemes	57
C.1.1.2 Training & Capacity Building	58
C.1.1.3 Community Initiatives	58
C.1.1.4 Risk Management Funding	59
<i>C.1.2 Preparedness Plan.....</i>	59
C.1.2.1 Preparedness before response	60
C.1.2.2 Pre-Disaster Warning, Alerts	61
C.1.2.3 Evacuation preparedness.....	62
C.1.2.4 Organizing mock drills	63
<i>C.1.3 Response Plan.....</i>	63
C.1.3.1 Disaster Emergency Response Force	67
C.1.3.2 Crisis management direction & coordination	67
C.1.3.3 Incident Command System (ICS)	67
C.1.3.4 Rapid damage assessment & reporting	80
C.1.3.5 District Search & rescue Team	82
C.1.3.6 Medical response	83
Nodal Agency for Medical Response	83
Health Department.....	83
Supporting Agency for Medical Response	83

NGOs	83
C.1.3.7 Logistic arrangements	83
C.1.3.8 Communications	84
C.1.3.9 Temporary shelter management.....	84
C.1.3.10 Water and Sanitation (WATSAN)	85
C.1.3.11 Law & order.....	86
C.1.3.12 Public grievances/missing persons search/media management.....	86
C.1.3.13 Animal care	86
C.1.3.14 Management of deceased.....	87
C.1.3.15 Civil Defense and Home Guards	87
C.1.3.16 Role of Private Security	87
C.1.3.17 NGOs & Voluntary organizations	87
C.1.3.18 Relief management planning	88
C.1.3.19 Media Management	90
C.1.3.20 Fire Services.....	91
C.1.4 Recovery and Reconstruction Plan.....	92
C.1.4.1 Restoration of basic infrastructure	93
C.1.4.2 Reconstruction of damaged buildings/social infrastructure.....	93
C.1.4.3 Restoration of livelihoods	93
C.1.4.4 Psycho-social interventions	94
C.1.5 Cross cutting elements.....	94
C.1.5.1 Community Based Disaster Management.....	94
C.1.5.2 Needs of the Special vulnerability Groups	95
C.1.5.3 Addressing climate induced anthropogenic issues	95
C.2 Standard Operating Procedures (and Checklists)	96
C.2.1 SOPs for all concerned Line Departments	97
C.2.1.1 Department of Revenue & Relief	97
C.2.1.2 Police Department:.....	98
C.2.1.3 Public Health Engineering	99
C.2.1.4 Department of Transport.....	99
C.2.1.5 Department of Public Works	100
C.2.1.6 Water Resource Department	102
C.2.1.7 Department of Agriculture.....	103
C.2.1.8 Department of Rural Development.....	104
C.2.1.9 Department of Education	105
C.2.1.10 Department of Health.....	106
C.2.1.11 Forest Department.....	107
C.2.1.12 Department of Urban Development.....	108
C.2.1.13 Department of Food, civil supplies and consumer affairs	109
C.2.1.14 Department of Electricity.....	110

C.2.1.15 Department Of Fire Service	110
C.2.1.16 Department of Industrial Health and Safety	111
C.2.1.17 Department of Telecommunications.....	112
C.2.1.18 Department of Veterinary	112
C.2.1.19 Panchayat Raj.....	113
C.2.1.20 Home guards Department	114
C.2.1.21 Indian Red Cross and NGOs.....	115
C.2.2 Hazard specific SOPs for designated Departments and Teams	116
C.3 Financial Provisions for Disaster Management	116
C.3.1 District Disaster Response Fund.....	116
C.3.2 District Disaster Mitigation Fund.....	117
C.4 Coordination mechanisms with other stakeholders.....	117
C.4.1 Mapping of stakeholders in the District	117
C.4.1.1 Private and Public Sectors:	117
C.4.1.2 Non Governmental Organizations and Community Based Organizations:	118
C.4.1.3 Religious Institutions:	119
C.4.1.4 Academic Institutions:	119
C.4.1.5 International Humanitarian Organizations:.....	119
C.4.2 Responsibilities of the stakeholders.....	120
C.5 Inter- District Coordination Mechanisms – [Standard Operating Procedures / Protocols]	120
C.6 Intra- District Coordination Mechanisms – [with Block Headquarters].....	120
C.7 Dissemination of DM Plan.....	121
C.7.1 Plan Evaluation	122
C.7.2 Plan Update.....	122
C.8 Annexure.....	122
C.8.1 District profile	122
C.8.2 Resources.....	132
C.8.3 Media and information management.....	141
C.8.4 Important Contact numbers.....	141
C.8.5 Do's and don'ts of all possible hazards	145
C.8.6 Detailed Maps.....	153

A GENERAL

A.1 Overview

A.1.1 District Profile

Jhabua district lies in the western part of Madhya Pradesh, Surrounded by Panchmahal and Baroda districts of Gujarat, Banswara district of Rajasthan, and Alirajpur, Dhar and Ratlam districts of Madhya Pradesh. It extends between the latitude 22 degree 31 minute and 23 degree 14 minute N and between 74 degree 22 minute and 75 degree 1 minute Longitudes. The district has an area of 3,596 square kilometers, populated by some 1,024,091 people as of 2011. The district is part of the Indore division and its administrative headquarters is the town of Jhabua.

Jhabua district was divided into two parts in May 2008, namely Alirajpur and Jhabua. Jhabua district is divided into five tehsils grouped into three sub divisions of Jhabua, Thandla and Petlawad. The Jhabua sub division comprises Jhabua and Ranapur tehsils. The Thandla subdivision comprises of Thandla and Meghnagar Tehsils. The Petlawad subdivision comprises of Petlawad tehsil. The district is divided into five tehsils and six community development blocks. The six community development blocks are Jhabua, Meghnagar, Ranapur, Rama, Thandla and Petlawad blocks.

The district is highly drought-prone and degraded waste lands form the face for Jhabua. The women make lovely ethnic items including bamboo products, doll, bead-jewellery and other items that have for long decorated the living rooms all over the country. The men have since ages adorned "Teer-Kamthi", the bow and arrow, which has been their symbol of chivalry and self defence.

In 2006 the Ministry of Panchayati Raj named Jhabua one of the country's 250 most backward districts (out of a total of 640). It is one of the 24 districts in Madhya Pradesh currently receiving funds from the Backward Regions Grant Fund Programme (BRGF).

A.1.1.1 Location and administrative divisions

Table 1: Location and administrative divisions

Location (in degrees) -	Latitude - 22°31'8.5" TO 23°14'57" Longitude - 74°22'51" TO 75°0'42.8"
District Area (in sq. kms.) -	3,596 SQ.K
Administrative information-	
No. of sub divisions:	3 (Jhabua, Thandla, Petlawad)

No. of Tehsils:	5(Jhabua, Thandla, Petlawad, Meghnagar, Ranapur)		
No. of Municipal Boards	5(Jhabua, Thandla, Petlawad, Meghnagar, Ranapur)		
No. of Blocks:	6(Jhabua, Thandla, Petlawad, Meghnagar, Ranapur, Rama)		
No. of Gram Panchayats:	382		
No. of Villages:	799		
No. of Police Stations, Police Chowkees (Block wise):	Block	Police Station	Police Outposts
	Jhabua	3	1
	Petlawad	2	3
	Thandla	2	3
	Ranapur	1	2
	Meghnagar	1	1
	Rama	1	3
	Total	10	13
No. of Post Offices (Block wise):	Block		No of Post offices
	Jhabua		16
	Petlawad		08
	Thandla		16
	Ranapur		09
	Meghnagar		13
	Total		62
Year of district formation:	Jhabua district was divided into two parts in May 2008, namely Alirajpur and Jhabua.		
Name of adjacent districts:	The district lies in the western part of Madhya Pradesh, Surrounded by Panchmahal and Baroda districts of Gujarat, Banswara district of Rajasthan, and Alirajpur, Dhar and Ratlam districts of Madhya Pradesh		

Source: District statistical book 2011- Jhabua, Office of Superintendent of Police - Jhabua, Office of Postal Department - Jhabua Data as on May 2012

A.1.1.2 Geography and Topography

The district's topography is hilly, undulating in a typical fashion known locally as "Jhabua hills topography." As a result, this undulating and uneven terrain does not lend itself to much agricultural productivity. In this type of topography, the difference between the highest and lowest points vary, usually averaging to about 20 to 50 meters. The difference, however, increases as one goes further south. The areas are almost entirely hilly, intersected by narrow valleys and low ranges covered by jungles, as common in Vindhayan topography. The south drains to the Narmada River.

The land is mostly erratic with low fertility, resulting in a lack of forest cover. The top soils are mostly light, with some patches of fertile, medium black variety. These are somewhat threatened by soil erosion and, with the failure of rains at times, can cause vegetation to become sparse. The underlying rock structure is mostly archaean igneous with some deccan trap basaltic and sedimentary formations. Due to the low permeability and porosity of the formations, the groundwater aquifers have poor retention capabilities, resulting in a severe lack of vegetation in most areas.

Table 2: Geography and Topography

Name of rivers and lakes:	Mahi, Anas, Nehdi, Sapan, Sunar, Ladki, Kunda , Tank , Gulab, Kavi, Madhukanya
No. of dams, embankments:	Small dam - 195 dams for irrigation only Check dams – around 3000 dams
Highest elevation (in meters):	783m (Vindhayachal range around mathwar about 7 km east of this place a peak rise to 2568 feet)
Forest cover in the district:	7429 hectare

Source: District statistical book 2011- Jhabua, Water Resource Department Jhabua - Data as on May 2012

A.1.1.3 Demographic and socio economics

According to the 2011 census Jhabua District has a population of 1,024,091, roughly equal to the nation of Cyprus or the US state of Montana. This gives it a ranking of 440th in India (out of a total of 640). The district has a population density of 285 inhabitants per square kilometre (740 /sq mi) . Its population growth rate over the decade 2001-2011 was 30.58 %. Jhabua has a sex ratio of 989 females for every 1000 males, and a literacy rate of 44.45 %.

As per the 2001 census Jhabua district (considering the separation of Alirajpur) had a total population of 784,286, out of which 396,141 were males and 388,145 were females. 91 per cent of the population was rural. 85.60 per cent of the population was tribal and 3 per cent belonged to

scheduled castes. Before separation of Alirajpur, Jhabua district has a sex ratio of 990 and density of population stood at 206 / km².

Jhabua is a predominantly Adivasi district, and suffers from high rates of illiteracy and poverty. Almost half of the population lives below the poverty line. The Bhil and Bhilala peoples inhabit the interior of the district.

Table 3: Demographic and socio economics

Total household:	207,621
Total population:	1,024,091
Male:	514,830
Female:	509,261
Population density:	285 per sq. km
Income -	
Total APL, BPL families:	APL = 76531 BPL = 80084
Occupation -	
Main occupation of people:	Cultivation
Secondary occupation of people:	Agricultural labor

Source: <http://censusindia.gov.in/> and Food Department Jhabua - Data as on May 2012

A.1.1.4 Climate and weather

Climate is generally moderate and seasons are well defined. The summers are hot, winters are short and the monsoon season is generally pleasant. The average rainfall in the district for the last 10 years (2000-2010) is about 831.5mm. Most of the rainfall occurs in monsoon season while there is also a little of rainfall in winter season.

Table 4: Climate and weather

Rainfall-	
Total annual rainfall of last year:	728 mm for (2010)
Average rainfall (last 10 years):	831.5 mm for (2000-2010)
Temperature-	
Average Maximum Temperature:	40°C
Average Minimum Temperature:	12°C
Demarcation of crucial seasons-	
Months of excess rainfall, leading to flood situation:	June, July, August
Months of water scarcity, leading to drought situation:	May, June, July

Source: Land Record Department Jhabua – Data as on May 2012

A.1.1.5 Health (Medical)

Jhabua district has a district hospital at Jhabua. There are a total of 7 Community Health Centres (CHC), 18 primary health centres (PHC) and 190 sub health centres (SC). The district hospital has 200 beds while community health centres and primary health centres have 30 and 10 beds in each centre respectively. There are around 96 registered medical stores in the district.

Table 5: Health (Medical)

Block name	Jhabua	Rama	Ranapur	Thandla	Petlawad	Meghnagar	TOTAL
No of Health Facilities	39	37	25	37	55	27	220
No. of Primary Health Centers	1	3	3	2	7	2	18

(PHCs)							
No. of Community Health Centers (CHCs)	1	2	1	1	1	1	7

Source: Health Dept., Jhabua Data as on May 2012

Apart from above list, there are 2 ambulances with Red Cross society and 1 ambulance with GAIL India ltd. There are 6 private hospitals and nursing homes in Jhabua District. There are **2 blood banks and 2 blood storage centers** in the district, One in District hospital and another in Jeevan Jyoti Hospital (Private Hospital). For more details on medical facilities please refer annexure (Table 48).

A.1.1.6 Education

As per 2011 census, 44.50% population is literate in Jhabua district. Out of the total literate population 54.70% are men and 34.30% are women.

There are a total of 1971 primary schools, 392 middle schools, 64 high schools and 36 higher secondary schools. There are no engineering and medical colleges in the district. There are total 4 non-professional colleges in the district. In primary school, the total numbers of students are 177202, in middle school total numbers of students are 43508, in high school total numbers of students are 16597 and in higher secondary school the total numbers of students are 7835. There are a total of 2969 teachers in primary school, 1340 teachers in middle school, 457 teachers in high school and 207 teachers in higher secondary school.

Table 6: Education

Literacy rate:	44.45%
Total Male:	54.65%
Total Female:	34.29%
No. of High schools:	(Govt. + Private entities) 64
No. of Middle schools:	392

No. of Primary schools:	1971
No. of Anganwaris:	1607
No. of it is/ training centers:	NA
No. of Engineering colleges:	NA
No. of Medical colleges:	NA
No. of Other colleges:	4
Total (Aprox.) Students Strength in all the educational institutions:	248069
Total (Aprox.) Staff Strength in all the educational institutions:	4973

Source: District statistical book 2011- Jhabua

A.1.1.7 Agriculture and Land use

The district belong to the cotton-jowar zone, as it did not possess very fertile land, the crops in the area almost depended on rains, particularly in view of meager irrigation. This position changed appreciably since the implementation of development plans. In the past though crops were raised in both the cropping seasons of kharif and rabi, the former was the more predominant reason with traditionally grown millets like maize and jowar as well as cotton being among the major crops of the area.

The principal kharif crops among cereals were paddy, jowar, maize and bajra. Wheat is the main cereal grown in rabi, cotton the main fiber, often grown with jowar is another important commercial crop of the area.

The district lies on the outside border of the Malwa region. Generally speaking three main kind of soil are found all over the district namely, black soil of different textures, gray or bhuri soil and stony or red coloured soils.

Table 7: Agriculture and Land use

Cropping pattern -	
Type of major crops:	Wheat, Paddy, Jowar, Maize, Gram, Kidney bean, Soyabean, Cotton
Cropping seasons:	Kharif , Rabi
Land classifications-	
Forest land:	7429 hectare
Barren land	18349 hectare
Uncultivated land:	55437 hectare
Cultivated land:	233282 hectare
Arable land:	18349 hectare
Soil classifications	Soils are classified in to Black soil, Gray or bhuri soil, Stony or red color soil
Saline:	Yes
Water logging:	No
Recurrent flood hit area:	No
Drought hit area:	Yes

Source: District statistical book 2011- Jhabua

A.1.1.8 Housing Pattern

According to 2011 census total number of households is 207621. 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 (44.7%). The different materials used for roof are grass/thatch, bamboo, wood, mud, stone, concrete, tiles, etc. Majority household's roof are made up of tiles (74.48%, Handmade tiles = 52.95% and Machine made tiles 21.53%). The different materials used for floor are mud, cement, mosaic floor tiles, 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 8: Housing Pattern

Housing pattern-	
Type of housing construction:	(Kuccha/ pucca houses) Both types are here
Type of material used:	Grass/Thatch/Bamboo, Plastic/Polythene, Mud/Unburnt Brick, Wood, Stone not packed with mortar, Stone packed with mortar,G.I/Metal/Asbestos sheets ,Burnt Brick , Concrete
Flooring types: (Ground and above)	G, G+1, G+2, G+3

Source: <http://censusindia.gov.in/> - Data as on May 2012

A.1.1.9 Industrial set ups

In Jhabua district there are 304 small scale industries. Meghnagar is one among the major industrial area where most of the industries are located. Most of the industries is mining, stone chips, cotton seeds, etc. GAIL (India) Limited has set up a Compressor Station at Jhabua. The natural gas is received from upstream compressor station Vaghodia through, HVJ Pipeline .The pressure of the gas received from upstream pipeline is increased by the booster compressors and is pumped towards into the downstream pipeline. The Pipeline of GAIL India limited is hazardous only if its pipeline was damaged but that too was not more hazardous.

Table 9: Industrial set ups

Total no. of industries (Govt., Semi Govt. and Pvt), Block wise	
--	--

a) No. of Major Accident Hazard Units/ Polluting industries/ Industrial Areas:	GAIL
Total workforce involved in these industrial units:	204
b) No. of Medium and small scale industries :	304
Total manpower involved in these units:	476
Any major accident occurred in any of the industrial units (Loss of life >10, or Financial loss > 1 Crore).	Nil

Source: Industries Department Jhabua - Data as on May 2012

A.1.1.10 Transport and communication network

Jhabua district is entirely dependent on road transport. All the blocks are well connected by road. NH-59 pass through Jhabua district. The nearest Airport is Devi Ahilyabai Holkar Airport in Indore . It is the busiest airport in the state of and is located 8 km south east of Indore. According to the statistics released by the Airports Authority of India, the agency responsible for the airport, it is the 20th busiest airport in India. Indore is 150 km away from Jhabua. But there is only one helipad at Gopalpura in Jhabua block. The nearest Railway station is Meghnagar which is directly connected to Bhopal and from Jhabua there is about 17 Kms drive for Meghnagar. For landline phones the only operator is BSNL. There are a total of 23 telephone exchanges in the district. There are many mobile operators in the district – Airtel, BSNL, Idea, Tata DoCoMo and Reliance. There are a total 23 wireless stations (10 police stations and 13 chowkees) in the district.

Table 10: Transport and communication network

1) Transport Connectivity of each block w.r.t. following networks:	
a) By Road	Yes
b) By Rail	No (Only one station at Meghnagar)
c) By Air	No (1 Helipad in Jhabua at Gopalpura. This can be used during emergency situation.)
d) Waterways	No
2) Communication network	

i) No. of wireless stations in the respective blocks	23
ii) Availability of telephone, mobile services in each block	Yes
iii) Availability of internet facility in the blocks	Yes
iv) No. of HAM Radio Stations in the blocks	Nil

Source: Office of Superintendent of Police Jhabua and BSNL office Jhabua - Data as on May 2012

A.1.1.11 Power stations and electricity installations

There is no power station in Jhabua district. It has 20 number of 33/11KV substations. The percentage of electricity outreach in the district is 83.33%. There is no alternate source for power. They don't have any DG sets in the district.

Table 11: Power stations and electricity installations

List of power stations in the district:	20
Electricity outreach in the district:	83.33%
Available sources of electricity in district, like DG sets etc:	Nil

Source: Madhya Pradesh Electricity Board Jhabua – Data as on May 2012

A.1.1.12 Major historical, religious place, tourist spots

Bhagoria Haat is colourful festival of the Bhils and Bhilalas, particularly in the district of West Nimar and Jhabua, is actually in the nature of a mass svayamvara, a marriage market, usually held on the various market days falling before the Holi festival in March. The Bhagoria haat also coincides with the completion of harvesting, adding to it the dimension of being an agricultural festival as well. If the crops have been good, the festival assumes an additional air of gaiety. In the

life of the Bhils and Bhilalas, Bhagoria is not merely one festival but in fact a series of fairs held one by one at various villages on their specific market days, commencing eight days before Holi.

Deojhiri is 8 km. North-east of Jhabua on Ahmedabad-Indore State Highway No.22. It lies 1 km. To the west of the road, on Sunar river. As the name of the village denotes there is an ancient temple of Lord Shiva(Deo, a diety) and jhiri or a perennial spring. The spring has been built up into a kund. A samadhi of some religious is held on Baisakh Poornima, which falls mostly in the month of april according to Gregarian calender.

Table 12: Major historical, religious place, tourist spots

	Average presence of visitors per day during peak season / festival season
List of historical places in the district:	Deojhiri - Approximately 200 persons
List of religious centers in the district:	Deojhiri - Ancient temple of Lord Shiva Approximately 200 persons Rangpura - Rampanchayat Mandir and a jain Mandir. Approximately 100 persons
List of the tourist spots in the district:	Rajwada - Approximately 300 persons Hanuman Tekri - Approximately 300 persons Anas nursery – Approximately 300 persons Bhagoria Haat Festival – Approximately 1000 persons

A.1.2 Scopes 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 Govt. 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 Govt. 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.

A.1.3 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.

A.1.4 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

A.1.5 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.

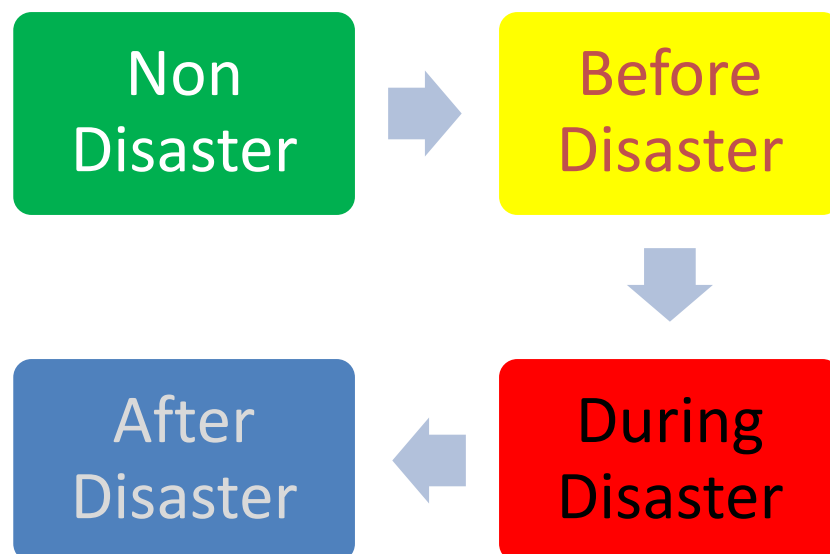


Figure 1: Four stages of the Disaster Cycle.

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

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

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

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

A.2 Institutional Arrangements

A.2.1 District Disaster Management Authority (DDMA)

As per Section 25 of the Disaster Management Act 2005, a DDMA for every district in the State of Madhya Pradesh has to be constituted; the chairperson of DDMA will be Collector/DM of Jhabua district and co-chairperson of DDMA will be the CEO of Jila Parishad. The following structure of DDMA is recommended:

Table 13: District Disaster Management Authority (DDMA)

S.No.	Functionaries	Role in DDMA
1	Collector/DM	Chairperson
2	Additional District Magistrate / Additional Collector	Co-chairperson
3	C.E.O Zilla Panchayat	Member Secretary

4	Superintended Of Police	Member
5	Chief Medical Officer	Member
6	Executive Engineer (WRD)	Member
7	Executive Engineer (PHE)	Member

Roles and Responsibilities of DDMA:

- Implementing disaster management plan
- Reviewing the threat of disasters, vulnerability of the district to such disasters
- Taking preventive and mitigation measures with the help of all the departments for such disasters
- Creating awareness for disaster among community with the involvement of NGO's and optimum utilization of local resources
- To establish relief camp, food centre, cattle camp at time of emergency
- To issue order to all authorized institutions and local authorities regarding preventive and mitigation actions
- Considering the suggestions for improvement of the response document of DDMP
- The District Disaster management authority may in case of large-scale disasters get in touch with the local Defence units for assistance for rescue, evacuation and emergency relief measures
- The District Disaster Management authority will have the authority to requisite resources, materials and equipment from the private sector
- Issue order to all the revenue officers to take note of Primary Facility in disaster prone villages of district
- Issue order of full cooperation from the entire Jan pad Panchayats of district
- Issue order to all the Sub-Divisional Magistrate to ensure stock of basic resources as preparation plan
- Provide Technical support and advice to all the local authorities
- Identification of places, buildings (school, college's community hall) which can be used as relief camps at the time of disaster
- Create a stock of search and rescue material and make available at disaster site in least time
- To motivate NGO's and other organization to work for disaster management activities
- To ensure that communication network works in effective manner

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

District level Disaster Management Advisory Committee will be appointed by the District Disaster Management Authority to take advice on various subject specific fields within the overall context of disaster management.

The committee will comprise of disaster management experts, which may be from government departments, research institutes or NGO's. The proposed District Disaster Management Advisory Committee for Jhabua district will comprise of following:

Table 14: District Disaster Management Committee (DDMC)

S. No.	Functionaries	Designation
1	Collector	Chairperson
2	Additional Collector	Co-Chairperson
3	CEO Zilla Panchayat	Member Secretary
4	Superintended Of Police	Member
5	Chief Medical Officer	Member
6	Executive Engineer (MPEB)	Member
7	Executive Engineer (PWD)	Member
8	Executive Engineer (PHE)	Member
9	Executive Engineer (WRD)	Member
10	District Project officer (DUDA)	Member
11	District Forest Officer	Member
12	District Commandant, Home Guard	Member
13	Officer , RTO	Member
14	District Food Officer	Member
15	District Public Relation Officer	Member
16	District Telecom Engineer	Member

A.2.3 District Control Room (DCR)

There are 3 major control rooms in the following locations in the district.

1. Collectorate
2. Zilla Panchayat
3. Superintendent of police office

Currently control rooms in Zilla panchayat and Superintendent of police office are functioning. Control room for flood control at Zilla level will be opened by 15th June 2011 or immediately with the onset of monsoon, whichever is earlier. If required, control room can be opened at tehsil level. Officer Incharge – Land Record will be made in-charge of the control room. He is completely aware of flood related information and is responsible for providing information to rescue and other teams.

The details of control room in-charge such as the name, telephone no., fax no, etc will be made available to responsible authorities immediately. This information also be published in newspapers so that common man has access to it. This control room functions 24*7 hrs.

Contact No:

Flood Control Room : 07392-244362

Incharge Officer : 07392-243805

A.2.4 District Disaster Information Management System

District Information Flow Chart to be prepared and maintained, as part of the Information Management System.

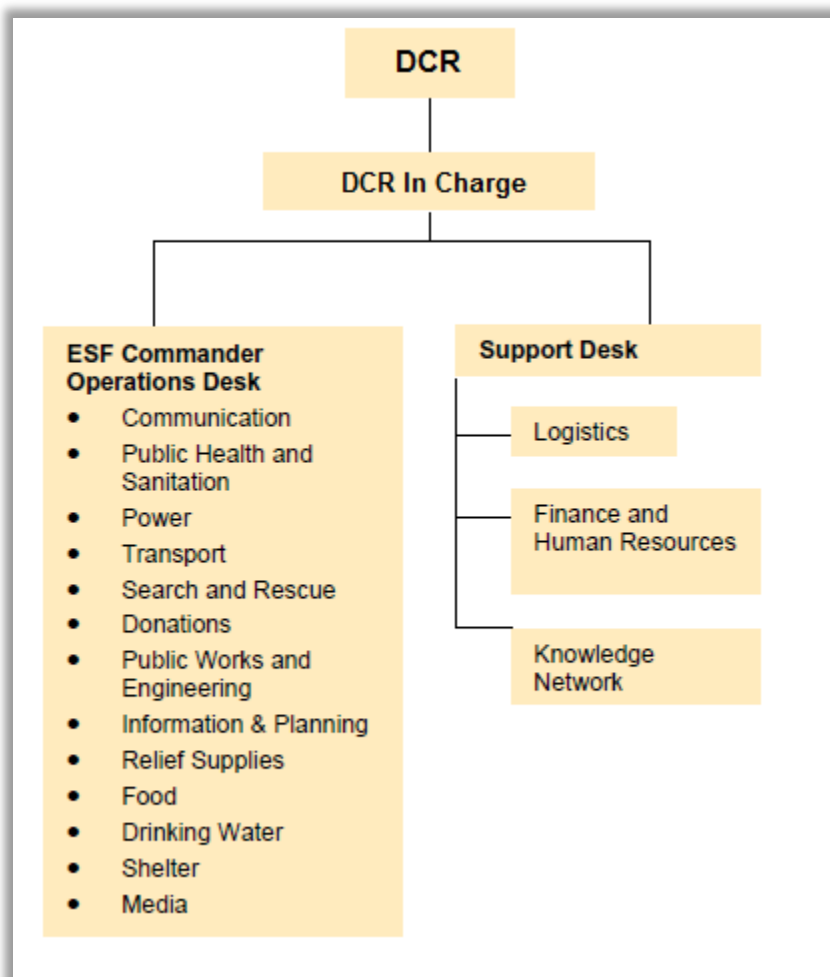


Figure 2: Institutional arrangement of DCR

A.2.5 Urban Area Disaster Management Committee

The proposed structure of Urban Area Disaster Management Committee is (the list is not exhaustive):

Table 15: Urban Area Disaster Management Committee

S.No	Functionaries	Designation
1	Collector	Chairman
2	Additional Collector	Co Chairman
3	CEO Zila Panchayat	Member Secretary
4	Executive Engineer(WRD, PHE)	Member
5	Chief Medical Officer	Member
6	District Project officer (DUDA)	Member
7	Manager, Industry Department	Member
8	In charge Officer Housing Development corporations	Member

Roles and Responsibilities:

- Monitoring of all the developmental activity going on in district and ensure that they satisfy building construction norms and regulations
- Create awareness among community about earthquake, flood resistant structures, harvesting techniques etc.
- Prepare a list of resources (Public and private Sectors) available at short notice in case of emergency

A.2.6 Block Level Disaster Management Committee (BDMC)

The Major tasks for Block Level Disaster Management Committee are as follows:

- I. Planning
- II. Community Awareness
- III. Training and Capacity Building
- IV. Preparedness before response and Mitigation Plan.

The proposed structure of block level disaster management committee is (the list is not exhaustive):

Table 16: Block Level Disaster Management Committee

S.No	Functionaries	Designation
1	Sub Divisional Magistrate	Chairman
2	Tehsildar	Member Secretary

3	SDO Police/ In charge Police Station	Member
4	Block Medical Officer	Member
5	Assistant Engineer (Irrigation)	Member
6	Assistant Engineer (PWD)	Member
7	Platoon Commander, Home Guards	Member
8	Range Officer, Forests	Member
9	Junior Engineer (JTO), Telecom	Member

Roles and Responsibilities:

- Identification of Vulnerable areas at blocks level and create awareness among community
- Prepare a data base of Vulnerable Household, population at block level
- Prepare a list of search and rescue equipment, relief material, and Man power available at short notice
- Ensure capacity building and proper maintenance of equipment
- Create awareness among local community about do's and don'ts at the time of disaster
- Prepare operating procedure for various hazards present in block and update it once a year
- Formation of Advisory committees as per requirement
- Ensure that all the developmental activities in block like construction of dams, storage structures are flood, earthquake resistant

A.2.7 Gram Panchayat Disaster Management Committee (GPDMC)

Subject to the directions of the District Authority, the *Gram Panchayat* Disaster Management committees will be responsible for the development and implementation of GP level disaster management plans. The proposed structure of gram panchayat disaster management committee is (the list is not exhaustible):

Table 17: Gram Panchayat Disaster Management Committee

S.No	Functionaries/Agency/Institutions	Designation
1	Gram Sarpanch	Chairman
2	Patwari	Member Secretary
3	Anganwari Worker	Member
4	ASHA (Health Department)	Member
5	Line man (Electricity and telecommunication)	Member

6	Maintenance officer/ In-charge (PHE, PWD, Irrigation)	Member
7	Kotwar	Member

Roles and Responsibilities:

- Communicate with District and Block level disaster management committee on receipt of any warning
- Create Awareness among communities about vulnerable sites, areas
- Identification of resources available in villages and ensure availability at short notice
- Ensure Training and capacity building with involvement of local villagers
- Formation of Search and Rescue team, Relief Team, Primary Health Team, Disposal of dead body and cleaning team etc. at village level as per requirement

B HAZARD, VULNERABILITY ASSESSMENT AND RISK PROFILING (HVRC)

Hazard, Vulnerability, Risk & Capacity analysis (HVRC) is the most important part of the plan as the entire planning process will be based on its outcome. Any error in identifying the frequency, magnitude and projected impact leads to incorrect identification of major hazard and hence an imperfect plan. The necessary outcomes of the HVRC analysis will be the type of hazards that the district is prone to, history of hazards, impact analysis of the worst case, the area, people and infrastructure that is prone to the risk of these hazards and their vulnerability of being damaged by such disasters due to their vulnerability characteristics. Vulnerability Assessment should deal with the natural, socio-economic vulnerability, housing vulnerability and the environmental vulnerability. The vulnerability atlas of BMTPC can also be referred for this purpose. After knowing the existing hazards and potential vulnerabilities, the risk analysis will be carried out. HVRC analysis will also include resource inventory/capacity analysis, preparedness analysis in terms of network of communication systems, public distribution systems, storage facilities, transportation facilities, medical facilities, fire stations, cyclone shelters with their capacity, presence of NGOs and other volunteers etc so as to enable quick response.

B.1 Hazard Assessment

B.1.1 Major applicable hazards

Flood

Of the various natural disasters floods are the most likely to occur in Jhabua District, Some areas of Jhabua are highly prone to flood the main reason behind this is excessive rainfall and release of water from Mahi dam in near by Dhar district. Mahi dam is built on Mahi River which is highly

prone to flood. The major tributary of Mahi is Anas which also flows through Jhabua district. At the time of Excessive rainfall, areas which are at high risk are as follow:

- **Petlawad Block:** The villages karangarh, Godadiya, Govindpura, Nawapada, Kesarpura, Mor, Ghughri, Gunawad, Chawariya, Deogarh, Hadmatya, Himmatgarh, and other adjacent villages and all other villages on the banks of Mahi river at high risk.
- **Jhabua Block:** The Anas river which is a tributary of Mahi river flows through this block. So the villages in the banks of Anas river are at risk but it is not at high risk similar to the villages on the banks of Mahi river.
- **Rama Block:** The Anas river which is a tributary of Mahi river flows through this block. So the villages in the banks of Anas river are at risk but it is not at high risk similar to the villages on the banks of Mahi river.
- **Thandla Block:** The Anas river which is a tributary of Mahi river flows through this block. So the villages in the banks of Anas river are at risk but it is not at high risk similar to the villages on the banks of Mahi river.
- In other block the effect of flood is not so much as compare to others. Sometimes because of heavy rain, the situation turns into flood situation. But it does not affect much to the particular district.

Earthquake

There are no previous records of earthquake in Jhabua District. It is categorized under Seismic Zone III. 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.

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. Petlawad and Thandla Block are majorly affected by drought. There are hundreds of villages which has drinking water problem.

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.

Road accidents/Fire accidents

Past years figures shows that district is more prone to road accidents. The roads of Jhabua 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.

Stampede in Fair

Large no of fairs are organized in Jhabua 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.

Raipuriya (cattle fair), Khawasa (cattle fair), Thandla (Shambhu Mata Fair), Devjhiri (cattle fair, Shivratri fair).

Bhagoria festival: Bhagoria is celebrated on the first Bazar day before Holi. This function starts one week before Holi. Thousands of people will be participating this festival, so there is some risk of stampede during this festival.

Mining Accidents

Limestone, dolomite, calside etc minerals are found here. Employees working in mining industries are also at risk. Few Mining Industries are present in Jhabua district, so life of people working in those industries is also at risk.

Riots

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

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, Chickenguni in Jhabua 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.

Table 18: Major applicable hazards

Type of applicable hazards	Hazard prone blocks (and also if possible GPs)
Flood	<p>Major in Banks of river Mahi. Also possible in the banks of river Anas. (Petlawad, Jhabua, Thandla, Rama)</p> <p>Villages karangarh, Godadiya, Govindpura, Nawapada, Kesarpura, Mor, Ghughri, Gunawad, Chawariya, Deogarh, Hadmatya, Himmatgarh, and other adjacent villages of Petlawad block. Approximately 60 villages out of 220 villages in Petlawad block are at high risk.</p> <p>Please refer annexure (figure 17) for Map showing regions at high risk due to flood.</p>

Earthquake	<p>Jhabua block : Falls under Seismic zone III</p> <p>Rama block : Falls under Seismic zone III</p> <p>Ranapur block : Falls under Seismic Zone III</p> <p>Meghnagar block : Major part under Seismic zone III and minor part under Seismic Zone II</p> <p>Thandla block : Both Seismic zone III and Seismic Zone II</p> <p>Petlawad block : Major part under Seismic Zone II and minor part under Seismic zone III</p>
Drought	<p>Jhabua block: All 134 villages in Jhabua block were drought prone villages.</p> <p>Rama block: All 122 villages in Rama block were drought prone villages.</p> <p>Thandla block: All 112 villages in Thandla block were drought prone villages. In last 3 years, 2 times they have been affected by drought.</p> <p>Ranapur block: All 99 villages in Ranapur block were drought prone villages.</p> <p>Petlawad block: All 220 villages in Petlawad block were highly drought prone villages. In last 3 years, all the three times they were affected by drought.</p> <p>Meghnagar block: All 112 villages in Meghnagar block were drought prone villages.</p>
Hailstorm	NA
Fire	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
Industrial & chemical disasters	<p>Jhabua, Meghnagar</p> <p>Whole Jhabua district: The pipeline of GAIL India limited pass through 40 villages in Jhabua district which is at moderate risk. But the life of employees working in GAIL is at high risk than the outside villages</p> <p>Meghnagar is one among the major industrial area in the Madhya Pradesh state. But there is no hazardous industries.</p> <p>Please refer annexure (figure 19) for Map showing the Gas pipeline of GAIL India limited</p>
Rail/ road accidents	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
Endemic	<p><u>Malaria</u> - Major in Ranapur, Meghnagar and Kalyanpura (under Jhabua block) blocks. Also present in Petlawad, Thandla and Rama blocks</p> <p>Ranapur block: 40 villages out of 99 villages in Ranapur block are at high risk</p> <p>Rama block : 62 villages out of 122 villages in rama block are at high risk</p> <p>Kalyanpura block : 53 villages out of 134 villages in Kalyanpura block are at high risk</p>

	<p>Meghnagar block : 32 villages out of 112 villages in Meghnagar block are at high risk</p> <p>Thandla block : 55 villages out of 112 villages in Thandla block are at high risk</p> <p>Petlawad block : 37 villages out of 220 villages in Petlawad block are at high risk</p>
	<p>Silicosis</p> <p>Jhabua block : Mainly Kalyanpura area is affected by silicosis</p> <p>Meghnagar block : Patients affected by silicosis are more in this block</p> <p>Remaining block has no record of silicosis patients</p>
Epidemic	NA
Landslide	NA
Environmental hazard	Meghnagar block due to Mining industries and industrial units.
Violence	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
Stampede	Jhabua
Mining blasts	NA
any other hazard	NA

	Jhabua	Meghnagar	Pedlawad	Thandla	Ranapur	Rama
Flood						
Earthquake						
Drought						
Industrial hazard						
Malaria						
Road accidents						
Fire accidents						
Silicosis						

Figure 3: Hazard profile of each block in Jhabua district

B.1.2 History of past disasters

Table 19: History of past disasters (last 30 years / as many years of data as possible)

Type of hazard	Year of occurrence	Area affected	Impact on life	Livelihood	Livestock	Hazard prone zone in district
Drought	2008-2009	Petlawad block, Thandla block	No Loss reported	No Loss reported	No Loss reported	Jhabua, Rama, Petlawad, Ranapur, Meghnagar, Thandla
	2009-2010	Whole Jhabua District is declared drought affected	No Loss reported	No Loss reported	No Loss reported	Jhabua, Rama, Petlawad, Ranapur, Meghnagar, Thandla
	2010-2011	Petlawad block	No Loss reported	No Loss reported	No Loss reported	Jhabua, Rama, Petlawad, Ranapur, Meghnagar, Thandla
Malaria	Every year	Whole Jhabua district	Since 1996 there is no life loss	NA	NA	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2007	Whole Jhabua district	No life loss but 851 affected cases	NA	NA	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2008	Whole Jhabua district	No life loss but 207 affected cases	NA	NA	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama

	2009	Whole Jhabua district	No life loss but 1961 affected cases	NA	NA	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2010	Whole Jhabua district	No life loss but 4971 affected cases	NA	NA	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2011	Whole Jhabua district	No life loss but 4525 affected cases	NA	NA	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
Road Accidents	Every year	Whole Jhabua district	-	-	-	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2008	Whole Jhabua district	93 death cases and 487 injured cases	No Loss reported	No Loss reported	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2009	Whole Jhabua district	61 death cases and 528 injured cases	No Loss reported	No Loss reported	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2010	Whole Jhabua district	94 death cases and 786 injured cases	No Loss reported	No Loss reported	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2011	Whole Jhabua	86 death cases and	No Loss reported	No Loss reported	Jhabua, Petlawad,

		district	680 Injured cases			Ranapur, Thandla, Meghnagar, Rama
	01.01.2012 to 31.05.2010	Whole Jhabua district	35 death cases and 359 injured cases	No Loss reported	No Loss reported	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
Fire Accidents	Every year	Whole Jhabua district	No Loss reported	No Loss reported	No Loss reported	Jhabua, Petlawad, Ranapur, Thandla, Meghnagar, Rama
	2005-2006	Whole Jhabua district	No Loss reported	No Loss reported	61 accident cases reported in Jhabua block	Whole Jhabua district
	2006-2007	Whole Jhabua district	No Loss reported	No Loss reported	69 accident cases reported in Jhabua block	Whole Jhabua district
	2007-2008	Whole Jhabua district	No Loss reported	No Loss reported	83 accident cases reported in Jhabua block	Whole Jhabua district
	2008-2009	Whole Jhabua district	No Loss reported	No Loss reported	101 accident cases reported in Jhabua block	Whole Jhabua district
	2009-2010	Whole Jhabua	No Loss reported	No Loss reported	93 accident	Whole Jhabua district

		district			cases reported in Jhabua block	
Silicosis	2003-2004	Kalyanpura (Jhabua Block) and Meghnagar Block	121 affected cases and 13 death cases	NA	NA	Whole Jhabua district
	2004-2005	Kalyanpura (Jhabua block) and Meghnagar Block	5 newly affected cases and 17 new death cases in this period	NA	NA	Whole Jhabua district
	2005-2006	Kalyanpura (Jhabua block) and Meghnagar Block	9 new death cases in this period	NA	NA	Whole Jhabua district
	2006-2007	Kalyanpura (Jhabua block) and Meghnagar Block	4 newly affected cases and 15 new death cases in this period	NA	NA	Whole Jhabua district
	2007-2008	Kalyanpura (Jhabua block) and Meghnagar Block	10 newly affected cases and 7 new death cases in this period	NA	NA	Whole Jhabua district
	2009-2010	Kalyanpura (Jhabua block) and Meghnagar Block	55 newly affected cases and 27 new death cases in this period	NA	NA	Whole Jhabua district
	2010-2011	Kalyanpura (Jhabua block) and Meghnagar Block	23 newly affected cases in this period	NA	NA	Whole Jhabua district
	2011-2012	Kalyanpura (Jhabua block) and Meghnagar Block	3 newly affected cases and 5 new death cases in this period	NA	NA	Whole Jhabua district

	2012-25.3.2010 till	Kalyanpura (Jhabua block) and Meghnagar Block	5 new death cases in this period	NA	NA	Whole Jhabua district
--	---------------------	---	----------------------------------	----	----	-----------------------

B.1.3 Seasonality of hazards

Table 18: Seasonality of hazards

Hazard	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Drought	-	-	-	-	Yes	Yes	-	-	-	-	-	-
Flood	-	-	-	-	-	Yes	Yes	Yes	-	-	-	-
Malaria	-	-	-	-	-	Yes	Yes	Yes	Yes	Yes	Yes	-
Road Accidents	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fire Accidents	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industrial Hazard	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stampede	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Silicosis	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

B.2 Vulnerability Analysis

B.2.1 Vulnerability Elements

Vulnerability Elements:

Physical Vulnerability: Jhabua district has several physical vulnerabilities. Every year flood like situations are created in the district because of backwaters from dams, over flooding of rivers and also the rainwater collected from its catchment areas present in the district. Physical Vulnerability is

present in all the blocks of the district but the Petlawad block is most vulnerable due to its proximity to the banks of Mahi river.

Natural Vulnerability: The most vulnerable block to this is Meghnagar because of the large area covered by rivers in this block. Also due to poor waste management system and absence of underground sewerage system pollution level of rivers has increased a lot. Other blocks, Jhabua Rama and Thandla are also vulnerable to it due to the river Anas.

Social Vulnerability: Disasters deprive people of their jobs and hence their source of livelihood is lost which forces them to either migrate or switch their jobs. A common practice of short term migration is seen in Meghnagar and Jhabua Blocks. For the same reason they happened to work in Gujarat Quartz crushing industries and get affected by Silicosis which finally lead to death. Each block is socially vulnerable as the district is prone to flood, drought, earthquake, epidemics, fire, etc and so the population is always at risk.

Economic Vulnerability: It is present in all block; As District is prone to epidemic, flood, drought, that directly affects agricultural productivity this decrease livelihood options for villagers and their source of income is not permanent.

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.

B.2.2 Block wise vulnerability

Table 19: Block wise vulnerability

Name of Block	Physical/Infrastructural Vulnerability	Environmental/ Natural vulnerability	Social vulnerability	Economic vulnerability	Institutional vulnerability
Jhabua	Floods due to Anas river, pose a severe threat to the Vulnerable bridges and roads that are prone to get damaged during rains & also earthquake. Since 44.7 % of	Anas river get over flooded during rains. Poor Waste Management System Leads to epidemic.	Many people are illiterate and thus are unaware of the various hazards and thus without proper awareness they may land themselves in trouble.	Houses near river area are at risk. Farmers and Agricultural labors both lose their jobs for a long time and thus the govt. needs	More stress on inter department co-ordination should be given and attempts to be made to refine the existing

	<p>houses walls are made up of mud/unburnt brick, they are vulnerable to floods, rains and earthquakes.</p> <p>The Gas pipeline of GAIL India limited inside and outside the industry.</p>			to seek some way to restore their livelihoods.	structure of the department.
Petlawad	<p>Floods due to Mahi river, pose a severe threat to the Vulnerable bridges and roads that are prone to get damaged during rains & also earthquake.</p> <p>Half the population lives in Kuccha houses which are vulnerable to floods, rains and earthquakes.</p>	<p>Mahi river get over flooded during rains. Poor Waste Management System Leads to epidemic.</p>	<p>Due to frequent drought in this block(last 3 years continuously affected by drought). Short term migration is a common practice that the people have to do because there is no option left with them.</p>	<p>This block is frequently getting affected by drought. Because of this there is huge economical loss. So farmers and Agricultural labors both lose their jobs for a long time.</p>	<p>Absence of Block level , Gram Panchayat level DMC which will lead to serious problem during disaster time. Also</p>
Meghnagar	<p>It is one among the major industrial area of Madhya Pradesh state. Because of this there is a huge threat to surrounding areas. Also earthquake can cause huge damage to these industries.</p>	<p>Pollution due to more small scale industries located in this block. Due to mining industries in this block, it can cause environmental issues which include erosion, formation of sinkholes, loss of biodiversity, and contamination of soil, groundwate</p>	<p>Many people are illiterate and thus are unaware of the various hazards and thus without proper awareness they may land themselves in trouble.</p>	<p>The block suffers from loss of industrial production and thus severe losses are incurred in business.</p>	<p>There is no DDMC in Block level which will lead to serious problem during disaster time.</p>

		r and surface water by chemicals from mining processes.			
Ranapur	Bridges , Roads and houses in this block will get damaged during earthquake	Poor Waste Management System Leads to epidemic.	Population at risk	Daily life of people get affected and there Is no mean for livelihood	There is no DMC in Block level and Gram panchayat level which will lead to serious problem during disaster time. Also there are no institutions for creating awareness for earthquake related issues.
Thandla	Floods due to Mahi river, pose a severe threat to the Vulnerable bridges and roads that are prone to get damaged during rains & also earthquake.	Mahi river get over flooded during rains. Poor Waste Management System Leads to epidemic.	Many people are illiterate and thus are unaware of the various hazards and thus without proper awareness they may land themselves in trouble.	Houses near river area at risk. Farmers and Agricultural labors both lose their jobs for a long time and thus the govt. needs to seek some way to restore their livelihoods.	There is no DDMC in Block level which will lead to serious problem during disaster time. Also there are no institutions for creating awareness for earthquake related issues.
Rama	Floods due to Anas river, pose a severe threat to the Vulnerable bridges and roads that are	Anas river get over flooded during rains. Poor Waste Management	Many people are illiterate and thus are unaware of the various hazards	Houses near river area at risk. Farmers and Agricultural	There is no DMC in Block level and Gram panchayat

prone to get damaged during rains & also earthquake. Half the population lives in Kuccha houses which are vulnerable to floods, rains and earthquakes.	System Leads to epidemic.	and thus without proper awareness they may land themselves in trouble.	labors both lose their jobs for a long time and thus the govt. needs to seek some way to restore their livelihoods.	level which will lead to serious problem during disaster time. Also there are no institutions for creating awareness for earthquake related issues.
---	---------------------------	--	---	---

B.3 Capacity Analysis

B.3.1 Resource inventory

Table 20: Resource inventory, Block wise

Resource Type	Details	Number	Govt, Private	Contact no. of nodal person/s
Equipments used for cutting, Search & Rescue (S&R), grinding m/c etc.	In Home Guard Department Refer Annexure (Table 59) for more details	Refer Annexure (Table 59) for more details	Govt	Mr.Sumit Jain/ District Commandant 9752858851
Temporary shelters, camps	Refer Annexure (Table 74) for details	5	Govt	Refer Annexure (Table 74) for details
Emergency Search lights	With Home Guard Department	1	Govt	Mr.Sumit Jain/ District Commandant 9752858851
Trained manpower, professionals available in specific domain like S&R ,First Aid, Response	In Home Guard Department Refer Annexure (Table 60) for more	20	Govt	Mr.Sumit Jain/ District Commandant 9752858851

Warning, Swimming etc.	details			
First Aid / Medical emergency requirements, equipments to be used	In Health Department	3	Govt	C.M.H.O Dr.Rajni Dawar
Location of key hospitals, blood banks, Doctors, medical stores	Blood Bank Refer Annexure (Table 61 and Figure 18) for more details Blood Storage Centre Medical Store Refer Annexure (Table 62,63,64) for more details	2 2 69	Govt & Pvt Govt Govt & Pvt	Blood Bank Officer Dr. A.K Patel – 9425101106
Availability of equipments like Bulldozers, Hydra, Crane, for clearance, JCB	In PWD and Sanitation Department	Refer Annexure (Table 66, 67) for more details	Govt	Executive Engineer P.W.D Department 07392-244213
Transportation(Fit Vehicles available with nodal agencies, in emergency)	With Police Department and R.T.O	Refer Annexure (Table 69 for more details)	Govt	Superintendent of Police Mrs. Krishna Veni Desawathu
Availability of fire fighting equipments, Fire tenders	With fire Department	Refer Annexure (Table 68) for more details	Govt	Fire officer
List of PDS Shops	With Food Department	257	Govt	Refer Annexure (Table 71) for more details
List of NGOs / CBOs	Refer Annexure (Table 72) for more details	105	Pvt	Refer Annexure (Table 72) for more details
Veterinary Hospitals	Refer Annexure (Table 70,78) for more details	99	Govt	Refer Annexure (Table 70,78) for more details
Telephone Exchange	Refer Annexure (Table 73) for more details	23	Govt	Refer Annexure (Table 73) for more details

B.4 Risks Assessment

B.4.1 Potential impact of applicable hazards and existing vulnerabilities

Table 21: Potential impact of applicable hazards and existing vulnerabilities

Type of hazard	Vulnerable areas *	Vulnerability	Potential Impact	Identified safer places *
Flood	Villages on the River banks of Mahi and Anas. Approximately 60 villages in Petlawad block , Approximately 55villages in Rama and Jhabua block.	Life of 63486 people living in those 60 villages in Petlawad Block, Life of 69336 people living in 55 villages of Jhabua and Rama Block	Huge loss of crops, houses and lives of people.	Govt Mahaveer College in Petlawad, Govt Shahid Chandrshekhar P G College in Jhabua, Govt Girls College in Jhabua, Govt College in Thadla and all other high level places in the blocks and all other nearby blocks.
Earthquake	In Jhabua Whole area 66.4% comes under seismic zone III and 33.6 % comes under seismic zone II. Jhabua block : Falls under Seismic zone III Rama block : Falls under Seismic zone III Ranapur block : Falls under	So out of 1024091 people living in Jhabua district life of approximately 680000 are at moderate risk due to their presence in Seismic zone III and approximately life of 475471 animals in Jhabua district are under threat	Loss of lives of People and animals. Huge Loss of property.	Earthquake resistant buildings and Open area and Blocks like Petlawad which is in Seismic zone III.

	<p>Seismic Zone III</p> <p>Meghnagar block : Major part under Seismic zone III and minor part under Seismic Zone II</p> <p>Thandla block : Both Seismic zone III and Seismic Zone II</p> <p>Petlawad block : Major part under Seismic Zone II and minor part under Seismic zone III</p>			
Drought	Whole Jhabua district experiences drought for the month of May and June every year. Most vulnerable area is Petlawad block which is affected by drought for the last 3 years.	People living in Jhabua district and lives of livestock	Loss of economic activity	Nearby states like Gujarat
Stampede	Jhabua block	Approximately 5% of population attending fairs and festivals	Loss of lives of People and animals. Some loss of property.	NA
Hailstorm	NA	NA	NA	NA
Fire	Whole Jhabua district.	Some percentage of life of people and animals in	Loss of lives of People and animals. Huge Loss of property.	Buildings with good safety measures.

		Jhabua district		
Industrial disaster	Meghnagar which is an industrial area in the Jhabua district. Since the industries are small scale industries and not hazardous unit, this can be threat to only employees working in the industry. In Jhabua , GAIL India limited which has Gas compression station can cause threat to life of employees working in the industry.	Life of 967 employees working in 47 small scale industries. Life of 205 employees working in GAIL India limited.	Loss of lives of People and animals. Huge Loss of property.	Nearby blocks like Petlawad, Thandla and Ranapur.
Accidents	Highways and roads to hilly areas of Jhabua district	Lives of people	NA	NA
Epidemic	NA	NA	NA	NA
Endemic – Malaria	Ranapur block: 40 villages are at high risk Rama block : 62 villages are at high risk Kalyanpura block : 53 villages are at high risk Meghnagar block : 32	Though there is no death cases till 1996, still lives of around 5000 people are at risk.	Some percentage of Population	Clear water bodies and Non water stagnant areas.

	villages are at high risk Thandla block : 55 villages are at high risk Petlawad block : 37 villages are at high risk			
Silicosis	Kalyanpura block : 53 villages are at high risk Meghnagar block : 32 villages are at high risk	Life of 1000s of people working in Gujarat quartz industry is under threat	Some percentage of Population	Any other industry except those quartz crushing industry
Landslide	NA	NA	NA	NA
any other hazard	NA	NA	NA	NA

B.4.2 Risk profiling of the district

Jhabua Block

Applicable hazards in Jhabua block are floods, drought, road accidents, fire, malaria, Industrial hazard and Earthquake.

In case of flood , Anas river which is major tributary of Mahi river, flows through Jhabua block. Since it is not a major river there is only moderate chances of occurrences of flood in Jhabua block. Though there is a moderate chance, control room was set up for checking the level of water in rivers and proper monitoring of water level is in place. In case of Medical facility, Jhabua being district head quarter, it has enough doctors and medicines. But search and rescue equipments in Jhabua block are poor. They have only life buoys and life jackets. There is no stream boat and sufficient trained persons in deep swimming category. Also there is no fire station and trained fire personnel. This is a drawback and it is a major threat during disaster time which will lead to further loss of lives due to lack of preparedness. So Jhabua block is under **moderate risk** in case of **flood**.

In case of drought, for the last 3 years, only once 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 measures should be taken to solve this major problem. For people living in Jhabua block,

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

In case of Earthquake, there is no history of earthquake. As Jhabua block falls under Seismic zone III, it is under moderate risk. Though 44.5% of houses in Jhabua district are built with mud/burnt brick, Jhabua block is comparatively at a better stage with good buildings. But still earthquake resistant design for Seismic zone III buildings should be followed while building houses or any other structures. Also lack of equipments with PWD will be a threat during disaster time. So Jhabua block is under **moderate risk** in case of **Earthquake**.

In case of industrial hazard, there is no history of industrial accidents. GAIL Gas compressor station is the only major industry located in Jhabua block. This station doesn't produce gas, it just transmit gas at high pressure. So there is no huge hazard due to this station. At the maximum level, it has huge threat to its 204 employees. But their strong adherence to their Disaster management plan and following of mock drills every quarter and manual checking of pipelines once in a year and aerial survey of pipeline monthly, keeps everything under control. So Jhabua block is at **low risk** in case of **Industrial hazard**.

In case of **road accidents, fire accidents**, Jhabua block is at **high risk** when compared with other block due its crowded population.

In case of **malaria** 53 villages out of 134 villages (approx. 40% villages) are at **high risk** in Jhabua block.

Rama Block

In case of flood , Anas river which is major tributary of Mahi river, flows through Rama block. Since it is not a major river there is only moderate chances of occurrences of flood in Rama block. Though there is a moderate chance, control room was set up for checking the level of water in rivers and proper monitoring of water level is in place. In case of Medical facility, Rama has enough PHCs and CHCs with doctors and medicines. But search and rescue equipments in Rama block are poor. They have only life buoys and life jackets. There is no stream boat and sufficient trained persons in deep swimming category. Also there is no fire station and trained fire personnel. This is a drawback and it is a major threat during disaster time which will lead to further loss of lives due to lack of preparedness. So Rama block is under **moderate risk** in case of **flood**.

In case of drought, for the last 3 years, only once 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 measures should be taken to solve this major problem. For people living in Rama block, they have very less opportunity for other source of income. So Rama block is under **moderate risk** in case of **drought**.

In case of Earthquake, there is no history of earthquake. As Rama block falls under Seismic zone III, it is under moderate risk area. Since most of houses in Rama block are built with mud/burnt brick, they have more risks. Also earthquake resistant design for Seismic zone III buildings are not followed while building houses or any structures. Also lack of equipments with PWD will be a threat during disaster time. So Rama will be at high risk if **earthquake** occurs. But it is in the **moderate risk** area of seismic zone III.

In case of industrial hazard, there is no history of industrial accidents. There are no industrial units. So Rama block is least prone area and has very **low risk** in case of **industrial hazard**.

In case of **road accidents, fire accidents**, Rama block is at **moderate risk**.

In case of **malaria** 62 villages out of 122 villages (approx. 51% villages) are at **high risk** in Rama block.

Ranapur Block

Applicable hazards in Ranapur block are floods, drought, road accidents, fire, malaria, Industrial hazard and Earthquake.

In case of flood, since there is no major river which flows through this block. So Ranapur block is least prone to flood and under **very low risk** in case of **flood**.

In case of drought, for the last 3 years, only once 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 measures should be taken to solve this major problem. For people living in Ranapur block, they have very less opportunity for other source of income. So Ranapur block is under **moderate risk** in case of **drought**.

In case of Earthquake, there is no history of earthquake. As Ranapur block falls under Seismic zone III, it is under moderate risk area. Since most of houses in Ranapur block are built with mud/burnt brick, they have more risks. Also earthquake resistant design for Seismic zone III buildings are not followed while building houses or any structures. Also lack of equipments with PWD will be a threat during disaster time. So Ranapur will be at high risk if **earthquake** occurs. But it is in the **moderate prone** area of seismic zone III.

In case of industrial hazard, there is no history of industrial accidents. There are no industrial units. So Ranapur block is least prone area and has **very low risk** in case of **industrial hazard**.

In case of **road accidents, fire accidents**, Ranapur block is at **moderate risk**.

In case of **malaria** 40 villages out of 99 villages (approx. 40% villages) are at **high risk** in Rama block.

Meghnagar Block

Applicable hazards in Meghnagar block are floods, drought, road accidents, fire, malaria, Industrial hazard and Earthquake.

In case of flood, since there is no major river which flows through this block. So Meghnagar block is least prone to flood and under **very low risk** in case of **flood**.

In case of drought, for the last 3 years, only once 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 Meghnagar block, since they are living in industrial area, they have other source of income through various opportunities like daily labourers etc. So Meghnagar block is under **moderate risk** in case of **drought**.

In case of Earthquake, there is no history of earthquake. As Meghnagar block falls under Seismic zone III, it is under moderate risk. Though 44.5% of houses in Jhabua district are built with mud/burnt brick, meghnagar block is comparatively at a better stage with good buildings as it is an industrial area. But still earthquake resistant design for Seismic zone III buildings should be followed while building houses, industries and other structures. Also lack of equipments with PWD will be a threat during disaster time. So due to more industrial units Meghnagar block will suffer high loss in case of occurrence of **earthquake** but it is under **moderate risk** prone area.

In case of industrial hazard, there is no history of industrial accidents. But it is one among the major industrial area in Madhya Pradesh state. Most of the industries are mining, stone crushing, cotton seeds etc. There are no hazardous units. So there is no fear of huge industrial disasters. But minor accidents can happen which can be threat to life of employees working in the area. Also there is no fire station or fire vehicle in Meghnagar block. This is a huge threat which will lead to increase in life loss during emergencies. So Meghnagar block is at **moderate risk** in case of **Industrial hazard**.

In case of **road accidents, fire accidents**, Meghnagar block is at **high risk** when compared with other block due its crowded industries.

In case of **malaria** 32 villages out of 112 villages (approx. 29% villages) are at **high risk** in Meghnagar block.

Thandla Block

Applicable hazards in Thandla block are floods, drought, road accidents, fire, malaria, Industrial hazard and Earthquake.

In case of flood , Anas river which is major tributary of Mahi river, flows through Thandla block. Since it is not a major river there is only moderate chances of occurrences of flood in Thandla block.

Though there is a moderate chance, control room was set up for checking the level of water in rivers and proper monitoring of water level is in place. In case of Medical facility, Thandla has enough PHCs and CHCs with doctors and medicines. But search and rescue equipments in Thandla block are poor. They have only life buoys and life jackets. There is no stream boat and sufficient trained persons in deep swimming category. Also there is no fire station and trained fire personnel, only a fire vehicle are stationed at this block. This is a drawback and it is a major threat during disaster time which will lead to further loss of lives due to lack of preparedness. So Thandla block is under **moderate risk** in case of **flood**.

In case of drought, for the last 3 years, it is affected twice. 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. Effective measures should be taken to solve this major problem. For people living in Thandla block, they have very less opportunity for other source of income. So Thandla block is **high risk** prone area in case of **drought**.

In case of Earthquake, there is no history of earthquake. As few part of Thandla block falls under Seismic zone III and few part of it falls under Seismic zone II, it is under low risk area. Since most of houses in Thandla block are built with mud/burnt brick, they have more risks. Also earthquake resistant design for Seismic zone III buildings are not followed while building houses or any structures. Also lack of equipments with PWD will be a threat during disaster time. But still Thandla will be at low risk if earthquake occurs. But it is **low risk** prone area to **earthquake**.

In case of industrial hazard, there is no history of industrial accidents. There are no industrial units. So Thandla block is least prone area and has **very low risk** in case of **industrial hazard**.

In case of **road accidents, fire accidents**, Thandla block is at **moderate risk**.

In case of **malaria** 55 villages out of 112 villages (approx. 49% villages) are at **high risk** in Thandla block.

Petlawad Block

Applicable hazards in Petlawad block are floods, drought, road accidents, fire, malaria, Industrial hazard and Earthquake.

In case of flood, Mahi river, flows through Petlawad block. Since it is a major river there are high chances of occurrences of flood in Petlawad block. Though there is no history of past flood, as there is a high chance of occurrence of flood, control room was set up for checking the level of water in rivers and proper monitoring of water level is in place. In case of Medical facility, Petlawad block has enough doctors and medicines. But search and rescue equipments in Petlawad block are poor. They have only life buoys and life jackets. There is no stream boat and sufficient trained persons in deep swimming category. Also there is no fire station and trained fire personnel, only one fire

vehicle are stationed at Petlawad block. This is a drawback and it is a major threat during disaster time which will lead to further loss of lives due to lack of preparedness. So Petlawad block is under **high risk** in case of flood and it is a highly prone area to **flood**.

In case of drought, for the last 3 years, it is affected all the 3 years. 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. Effective measures should be taken to solve this major problem. For people living in Petlawad block, they have no other source of income. So Petlawad block is under **high risk** in case of **drought** and it is highly prone to drought.

In case of Earthquake, there is no history of earthquake. As Petlawad block falls under Seismic zone II, it is under **low risk** and it is least prone to **earthquake**.

In case of industrial hazard, there is no history of industrial accidents. Since there are no industrial units, it is at **low risk** in case of **Industrial hazard**.

In case of **road accidents, fire accidents**, Petlawad block is at **moderate risk** .

In case of **malaria** 37 villages out of 220 villages (approx. 17% villages) are at **high risk** in Petlawad block.

C. DISTRICT LEVEL DISASTER MANAGEMENT PLANNING

C.1 District Action Plans

C.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.

C.1.1.1 Scope of Integrating Risk Reduction in Development Schemes

It will address and align the pertinent issues of construction (structural & non-structural elements), infrastructure, repair & maintenance, transport, sanitation, research & technology transfer and land use planning.

- Under the National Rural Employment Guarantee Act, provide for strengthening and maintenance of such physical features that may vitally protect/help in rescue of communities during disaster situations. Under this act maintenance and strengthen of dam, ponds etc. will take place and also it will provide the job to unemployed youth. Especially under the construction of smaller dam, stop dam, rural road rural youth can work under MNREGA and reduced the vulnerability. Addition to this during the time of disaster like flood or drought if any plan has been taken by Zila Panchayat for relief and construction of drains for reducing the impact of flood so this job can be implemented under MNREGA. Apart from this Unemployed youth can also work during disaster for relief work under MNREGA so that rescue & relief will be fast.
- Under Indira Awaas Yojana (IAY) all the houses should be advised and instructed to construct earthquake resistant. Special instruction should be provided by district administration to block level and block will guide and instruct to Gram Panchayat for the construction of houses under Indira Awaas Yojana (IAY) for earthquake resistant house construction. Thre training should be provided at gram Panchayat level for construction of small earthquake resistant houses under this scheme. This vulnerability due earthquake can be reduced.
- Under SSA (Serva Siksha Abhiyan) whatever schools are being constructed should be earthquake resistant by following the proper guidelines. This should be instructed from the district SSA office. Also awareness should be spread at Gram Panchayat level about earthquake-resistant house by education department.
- PDS system 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.
- Under NRHM special attention should be given to the diseases like Falaria, Dengu, Chickengunia and jaundice in umaria district so that epidemics can be avoided. Under this scheme proper vaccination should be carried out by the district health administration through CHC and PHC. Apart from Special camp should be arranged at block level or Gram Panchayat level about awareness of diseases and how to be safe. Dotors should be trained to tackles the epedimic in that region. Under this scheme there should be doctors and stock of medicines related to the epidimics by which generally people of these areas are affected.

- The same way, under PMGSY (Pradhanmantri gram Sadak Yojna), proper communication should be established in Akash Koh area of Manpur block where transportation become 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.
- 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.

C.1.1.2 Training & Capacity Building

Regular training of government employs and other stakeholders is recommended. The different government departments have different roles to play in disaster period. Training of each concerned department should be conducted through workshops, lectures with involvement of experts. It should be done on regular basis (at least once a year). For search and rescue operation home guard department is key agency, Mock Drills, First Aid Training, should be included in training module. Training Programme of common people should be programmed for Health care, sanitation and first Aid from village level to district level. Apart from training awareness, program for community should be organized. This can be done by walling, posters, street play, mass rallies, etc.

Capacity building includes procurement of latest search and rescue equipment, man power arrangements etc. More youths should be promoted to join *Nehru Yuva Kendra Sangathan (NYKS)*. Disaster management training is a mandatory subject of the training of the youth clubs who come under Nehru Yuva Kendra. The Disaster Management training is imparted to NSS / NCC/Scout guide students at college/school level, which equips them to help during a disaster. Hence, the number of NCC / NSS/Scout Guide students should be increased and DDMA must keep a check on the quality of the training. Also the vacant positions in Police and Hospitals should be filled up.

C.1.1.3 Community Initiatives

As communities are first responders of any disaster situation, involvement of community and their support to local administration and their awareness for disaster management is very important. So this plan proposes community-led disaster management at panchayat levels.

The idea is to chart out disaster management plan at the grass root level in order to lessen the impact of disasters and to cultivate a culture of disaster mitigation, preparation, and quick responsiveness among members of the community. The proposal calls for a slew of measures including the setting up of disaster management committees and task forces at panchayat level, preparation and execution

of panchayat disaster management plans. Depending upon their vulnerability community specific training and mock drills must be conducted.

Awareness camps for local people need to be organized. In awareness camps information about government initiatives and government expectations at the time of flood, earthquake, drought etc. should be given. Also people should be made aware of do's and don'ts during disaster. NGOs working at village, tehsil level play an important role in community participation because they have strong contact with local community groups like Self Help Groups (SHGs), farmers groups, youth groups, women's groups, village health committees, watershed committees etc.

C.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. In Jhabua, each year a sum of Rs1 lakh is given for mitigation activities and the fund for relief depends on the damage caused by a disaster. Short term provisions are expected to cover the immediate loss, incurred due to disasters. Whereas long term provisions include the setup of fire stations, watershed management, planting trees along the river etc. Hence, proper funding provisions are to be made under the two headers mentioned above.

Apart from the above mentioned funds it is recommended that all the major departments (Home Guards, Police, Health & Medical, Fire, etc.) must have their own emergency fund, as in times of emergency seeking funds from Revenue & Relief department consumes a lot of valuable time.

C.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 are 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.

C.1.2.1 Preparedness before response

At present in Jhabua district there is preparedness for floods. The roles and responsibilities are pre-defined for different line departments to handle flood situation.

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, MSED, Hospital, etc. at taluka and district level should be functional.

2. Plan Updation

Disaster Management Plan needs updation at every interval. It includes the skilled manpower, their addresses and contact numbers, necessary equipments, 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 teams, first aid teams disaster management teams at village, taluka and district level. These teams will provide timely help during any type of disaster. Provision of wireless sets at all Sub-division and Taluka Offices for effective communication of cyclone/heavy rainfall/flood warning should be provided. Fire Brigades at all the Municipal Offices. Setting up of a special Highway Safety Patrol along the Nagpur-Bhopal highway will be acted upon. Effective and stricter implementation of flood zone regulations disallowing construction within 200 m of river banks. 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

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

1. Construction of Earthquake Resistant Structures
2. Retrofitting the weak structures
3. House insurance
4. Construction of embankments for flood control
5. Rehabilitation of people in safe lands
6. Development of plans for shifting people from vulnerable area to safer area

C.1.2.2 Pre-Disaster Warning, Alerts

The existing control rooms for flood relief can be used for disasters like cloud bursts or hail storms with little or no modifications. Here the information desk of the ICS system 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 behavioral 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, Snow Avalanches, Hot & Cold waves 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 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 Home Department to be on standby for rescue and relief operations.
- If required, declare de-warning

Table 22: Pre-Disaster Warning, Alerts

Hazards	Prediction Agencies
---------	---------------------

Drought	Indian Meteorological Department (IMD), Revenue Department, Public Health Department
Floods	IMD, PHE, Irrigation Department and the flood relief cell (State and district)
Human Epidemics	Health department, Agriculture department and Veterinary Division
Animal Epidemics	Animal Husbandry
Road Accidents	Police. RTO
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)
Fires	Fire Brigade, Police, Forest Department
Hot & Cold waves	Indian Meteorological Department
Earthquake	State Earthquake Research Institute (SERI) Geological Society of India (GSI)

C.1.2.3 Evacuation preparedness

- It is important to understand the nature of threat and the procedures to be adopted and must be incorporated as part of the evacuation plan in the Gram Panchayat, Block and Urban areas evacuation plans.
- Safe routes and safe shelters need to be marked for each Gram Panchayat, Block and Urban areas.
- Safe routes and safe shelters needs to be marked in relation to specific hazards, as in case of floods shelters at higher elevations are a must, 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).

C.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.

Mock drills are happening in this district mainly for the Chemical and Industrial disasters. Last Mock drill was performed on 3.12.2011 with coordination from the following 8 departments and 2 administrative officers.

- Police Department
- Health Department
- Public Health Engineering Department
- Madhya Pradesh Electricity Board Department
- Home Guard Department
- Road Transport Office
- Municipal Office
- Gas Authority of India Limited
- Sub Divisional Magistrate
- Tehsildar

Mock drill was conducted and the copy of Photograph, CD, and published news in Newspaper were sent to principal secretary of Madhya Pradesh by the Land record department.

So Mock drills should not be restrained to particular hazard, it should be conducted for all types of hazard so that the district will have trained members and updated equipments for emergency purposes.

C.1.3 Response Plan

Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. A response plan essentially outlines the strategy and resources needed for search and rescue, evacuation, etc. A response plan will be supplemented by relief management planning activities, including relief needs, transportation

routes, coordination with local police, District, State, national and international relief teams, transport vehicles, alternative communication like HAM radios (in case of communication failures).

The Jhabua 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 centers 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 Centers 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 Deputy Commissioner 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.

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 neighboring districts of the affected area
- Coordinating support and aid from state government and other relief agencies.

- Issuing emergency information and instructions specific to departments, consolidation, analysis, and dissemination of Damage Assessment data and preparation of consolidated reports.

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 Deputy Commissioner or the person designated by him as the Chief of Operations. He is the primary role player in the DEOC, and is responsible for the overall coordination and decision making. He will also report the status of the DEOC operations and the disaster situation to the SEC/SEOC and Divisional Commissioner.

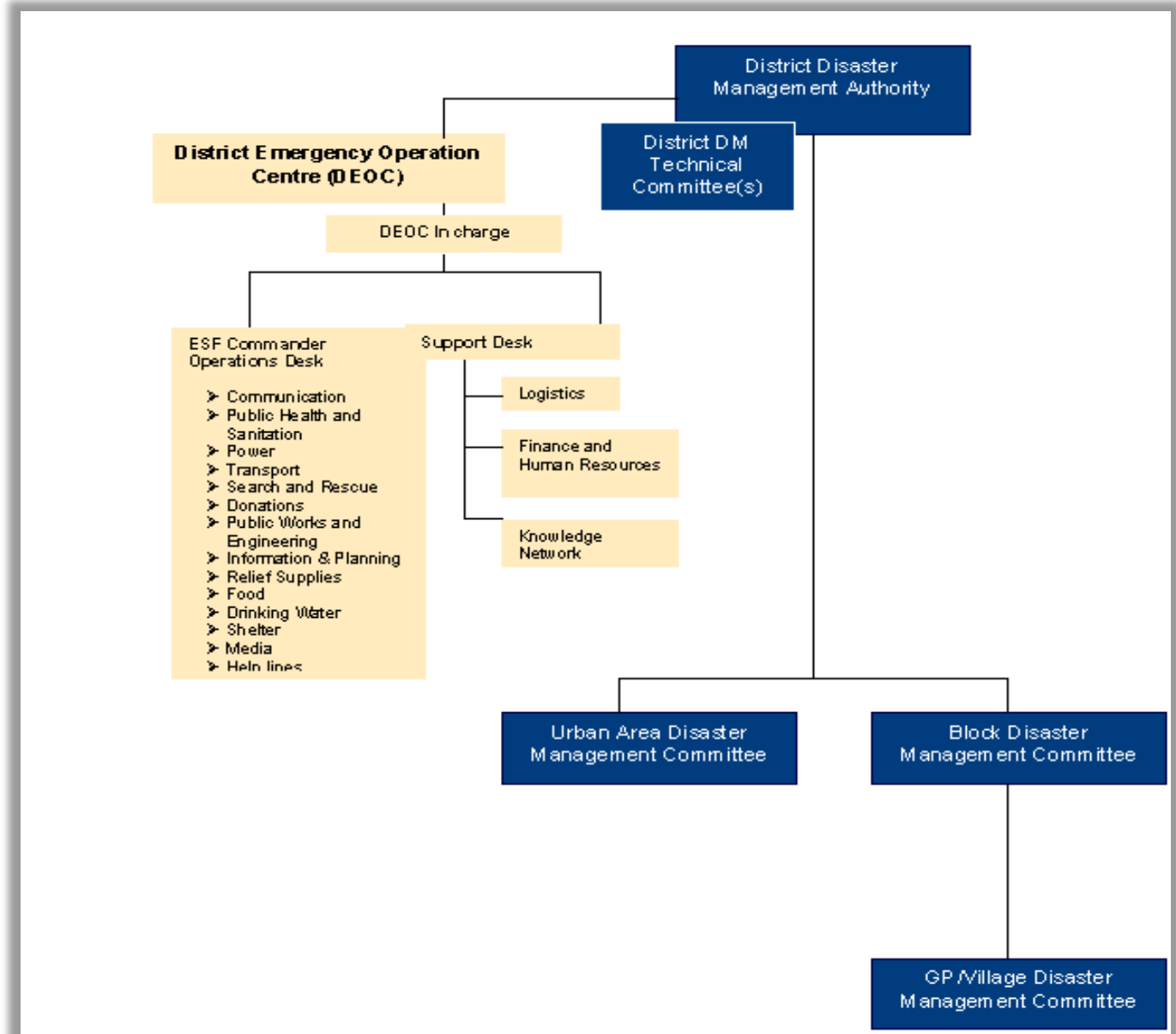


Figure 4: Proposed Institutional arrangement of the DEOC

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
- Department of Power
- Department of Home
- Department of Revenue
- Department of Food, civil supplies and consumer affairs
- Department of Rural development
- Department of Health
- Department of Agriculture
- Department of Urban Development
- Department of Finance
- Department of Industries
- 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 area and assist the DEOC in its response actions under fourteen ESFs

Location of DEOC

It is proposed that the DEOC 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

C.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.

C.1.3.2 Crisis management direction & coordination

For monitoring flood situation every block has a temporary emergency operation centre which gets activated on 15th June till 30th Sept which is in continuous contact with temporary district emergency operation centre. If flood situation arises in any block it will be immediately informed to temporary district emergency operation centre.

C.1.3.3 Incident Command System (ICS)

There is no ICS system in place for the district currently, however the following plan is proposed:

The Incident Command System (ICS) is a management system and an on-scene, all risk, flexible modular system adaptable for natural as well as man-made disasters. The ICS has a number of attributes or system features. Because of these features, ICS has the flexibility and adaptability to be applied to a wide variety of incidents and events both large and small. The primary ICS management functions include:

1. Command
2. Operations
3. Logistics
4. Planning
5. Finance / Administration

The ICS seeks to strengthen the existing disaster response management system by ensuring that the designated controlling/responsible authorities at different levels are backed by trained Incident Command Teams (ICTs) whose members have been trained in the different facets of disaster response management.

The five command functions in the Incident Command System are as follows:

1. Incident Commander

The Incident Commander is responsible for all incident activity. Although other functions may be left unfilled, there will always be an Incident Commander.

2. Operations Section

Develops tactical organization and directs all the resources to carry out the Incident Action Plan.

3. Planning Section

It is responsible for the collection, evaluation, and display of incident information, maintaining status of resources, and preparing the Incident Action Plan and incident related documentation.

4. Logistics Section

It provides resources and all other services needed to support the organization.

5. Finance / Administration Section

Monitors costs related to the incident, provides accounting, procurement, time recording, cost analysis, and overall fiscal guidance.

District Level Incident Response

At the district level, there will be one District Headquarters Team with the primary function of assisting the District Collector in handling tasks like general co-ordination, distribution of relief materials, media management and the overall logistics. Suitable officers from the district administration will be carefully selected and professionally trained for the different ICS positions in order to constitute the District Level

Incident Command Teams. (DICTs). The teams will focus on the operational aspects of response management, duly supported by other functions in ICS, e.g. Planning, Logistics, Finance/Administration, etc. The officers drawn for this assignment will be carefully selected by the District Collector depending upon their fitness, ability and aptitude for any of the DICT positions and they will be professionally trained to fulfill their assigned roles.

Arrangements will also be made for ensuring their mobilization in a time-bound manner for their deployment to the trouble spot. Due consideration for the appropriate level of seniority will be given while constituting the teams. The team personnel may be selected from the General Administration / Revenue Department which traditionally handles disaster response in our country, the option to pick

up willing and capable personnel from any other department for taking up specific positions in the DICT will be left open. For some positions, a suitable number of additional personnel will be trained as reserve for taking care of contingencies like transfers, promotions, etc.

For the position of the Incident commander, a suitable officer of the rank of Additional District magistrate will be preferred. The District Level Incident Command Teams will function under the overall control of the Collector / District Magistrate. The State governments can also deploy the DICTs to other districts depending upon the magnitude of the disaster.

Training And Rank Requirements For District Headquarters Team

Category A

Collector/District Magistrate/Additional District Magistrate/Sub divisional Magistrate, ICS for Executives, Basic/Intermediate ICS, Incident Commander, Advance ICS, Area Command.

Category B

Sr. No.	ICS Position	Rank Requirement	Training Requirement
1	Headquarters Co-coordinator	ADM/Senior Dy. Collector	Basic/Int. ICS, Incident Manager, Advanced ICS, Area Command
2	Dy. Headquarters Co-coordinator	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Incident Manager, Advanced ICS, Area Command
3	Liaison Officer	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Liaison Officer, Advanced ICS.
4	Information Officer	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Information Officer,
5	Planning Section Chief	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Planning Section Chief, Advanced ICS, Area Command
6	Logistic Section Chief	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Logistic Section Chief, Advanced ICS, Area Command
7	Air Operations Officer	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Advanced ICS, Area Command
8	Finance/Adm. Section Chief	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Advanced ICS, Area Command
9	Situation Unit Leader	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Situation Unit Leader
10	Resource Unit Leader	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Resource Unit Leader
11	Receiving and Distributing Branch Director	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Self Study
12	Mobilization Branch Director	Deputy Collector/ Equivalent ranks	Basic/Int. ICS, Self Study
13	Other Positions. (Technical Specialist /	Line representatives department	Basic/Int. ICS, Job Aids Self Study

ICS Organization in Detail

The ICS organization is built around five major functions that are applied to any incident whether it is large or small. Unified Command, which is a management method to use for multi jurisdictional and /or multi-agency events, is a major feature of ICS.

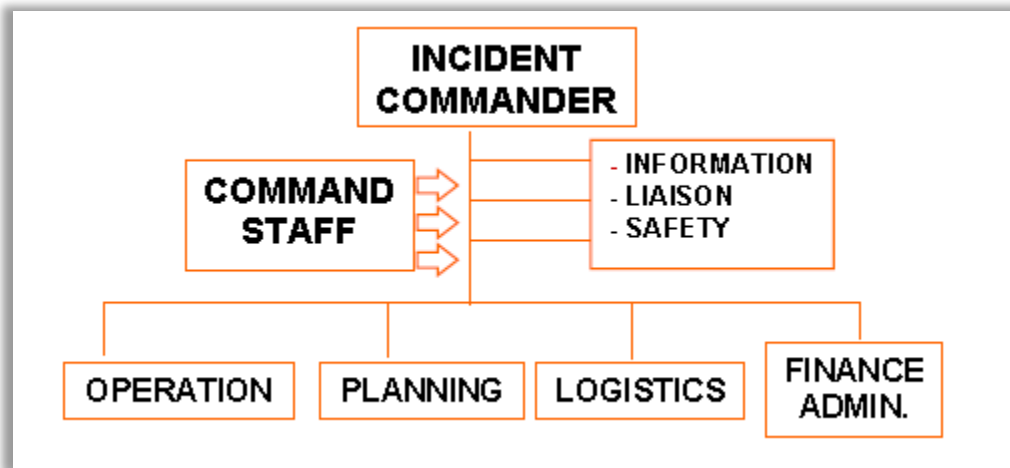


Figure 5: Functions of ICS

Role and Responsibilities of ICS Staff

The following represents the major responsibilities and duties of the Incident Commander. The incident commander's responsibility is the overall management of the incident. The Incident Commander may have a deputy who may be from the same agency, or from an assisting agency.

Incident Commander

Major responsibilities and duties of Incident Commander

1. Assesses the situation and/or obtain a briefing from the prior Incident Commander.
2. Determine incident objectives and strategy.
3. Establish the immediate priorities.
4. Establish an incident command post.
5. Establish an appropriate organization ensure planning meetings are scheduled as required.
6. Approve and authorize the implementation of an Incident Action Plan.
7. Ensure that adequate safety measures are in place.
8. Co-ordinate activity for all Command and General Staff.
9. Coordinate with key people and officials.
10. Approve requests for additional resources or for the release of resources.
11. Keep agency administrator informed of incident status.
12. Approve the use of students, volunteers, and auxiliary personnel.
13. Authorize release of information to the news media.
14. Order the demobilization of the incident when appropriate.

1. Establish an Incident Command Post (ICP)/ DEOC (District Emergency Operations Centre):

The ICP will be wherever the Incident Commander is located. As the incident grows, it is important for the Commander to establish a fixed location for the ICP and to work from that location. The ICP provides a central coordination point from which the Incident Commander, Command Staff and Planning functions will normally operate.

The ICP can be any type of facility that is available and appropriate, e.g., vehicle, trailer, tent, an open area or a room in a building. The ICP may be located at the Incident Base if that facility has been established. Once established, the ICP should not be moved unless absolutely necessary.

It is proposed that the DEOC 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.

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

2. Establish the Immediate Priorities

First Priority is always safety of:

1. People involved in the incident
2. Responders
3. Other emergency workers
4. Bystanders

Second Priority: Incident Stabilization.

Stabilization is normally tied directly to incident complexity.

When considering stabilizing the Incident Commander must:

1. Ensure life safety
2. Ensure Protection of life and property
3. Stay in Command
4. Manage resources efficiently and cost effectively

3. Determine Incident Objectives, Strategy, and Tactical Direction

It is safe to say that all agencies employ some sequence of steps to meet incident-related goals and objectives. Several different approaches have been suggested. Some of these offered below:

A. Know Agency Policy

The Incident Commander may not always be an employee of the agency or jurisdiction experiencing an incident. Therefore he must be fully aware of agency policy. This includes any operating or environmental restrictions, and any limits of authority. Agencies will vary on how this policy is made known to the Incident Commander. Agency policy can affect the establishment of incident objectives.

B. Establish Incident Objectives

Incident Objectives are statements of intent related to the overall incident. For some kinds of incidents the time to achieve the objectives is critical. The following are some single examples of Incident Objectives for several different kinds of incidents.

1. Release all hostages safely with no further casualties.
2. Stop any further flow of toxic material to riverbed.
3. Contain fire within existing structures.
4. Search all structures for casualties.

C. Develop Appropriate Strategy

Strategy describes the general method that should be used either singly or in combination that will result in achieving the incident objective.

D. Execute Tactical Direction

Tactical Direction describes what must be accomplished within the selected strategies in order to achieve the incident objectives.

Tactical Direction consists of the following steps:

1. Establish Tactics

Determine the tactics that are to be used appropriate to the strategy. The tactics are normally established to be conducted within an operational period.

2. Assign Resources

Determine and assign the kind and type of resources appropriate for the selected tactics.

3. Monitor Performance

Performance monitoring will determine if the tactics and resources selected for the various strategies are both valid and adequate.

4. Monitor Scene Safety

Public safety at the scene of an incident is always the top priority. If the incident is complex, or the Incident Commander is not tactical expert in all the hazards present, a Safety Officer should be assigned. Hazardous materials incident requires the assignment of a Safety Officer

5. Establish and Monitor Incident Organization

One of the primary duty of the Incident Commander is overseeing the Management organization. The organization needs to be large enough to do the job at hand, yet resource used must be cost effective.

6. Manage Planning Meetings as Required

Planning meetings and the overall planning process are essential to achieving the incident objectives. On many incidents, the time factor does not allow prolonged planning. On the other hand, lack of planning can be more disastrous. Proactive planning is essential to consider future needs.

7. Approve and Authorize the Implementation of an Incident Action Plan

Plans can be oral or written. Written plans should be provided for multi-jurisdiction or multi-agency incidents, or when the incident will continue for more than one Operational Period.

8. Approve Requests for Additional Resources or for the Release of Resources

On small incidents, the IC will personally determine additional resources needed and order them. As the incident grows in size and complexity, the ordering responsibility for required resources will shift to the Logistics Section Chief and to the Supply Unit if those elements of the organization have been established.

9. Authorize Release of Information to the News Media

The sophistication of modern news gathering methods and equipment make it very important that all incidents have procedures in place for managing the release of information to the media, as well as responding appropriately to media inquiries.

There are three important staff functions that are the responsibility of the Incident Commander unless Command Staff positions are established.

1. Public Information and media relations
2. Maintaining liaison with assisting and co-operating agencies
3. Ensuring safety

Information Officer

The information officer is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations.

Reasons for the IC to designate an Information Officer

1. An obvious high visibility or sensitive incident media demands for information may obstruct IC effectiveness.
2. Media capabilities to acquire their own information are increasing.
3. Reduces the risk of multiple sources releasing information.
4. Need to alert, warn or instruct the public
5. The Information Officer should consider the following when determining a location to work at the incident.

6. Be separate from the Command Post, but close enough to have access to information.
7. An area for media relations and press/media briefings must be established.
8. Information displays and press handouts may be required.
9. Tours and photo opportunities may have to be arranged.

Liaison Officer

Incidents that are multi-jurisdictional, or have several Agencies involved, may require the establishment of the Liaison Officer position on the Command Staff.

The Liaison Officer is the contact for Agency Representatives assigned to the incident by assisting or co-operating agencies. These are personnel other than those on direct tactical assignments or those involved in an Unified Command.

Reasons for the IC to designate a Liaison Officer

1. When several agencies send, or plan to send, agency representatives to an incident in support of their resources.
2. When the IC can no longer provide the time for individual co-ordination with each agency representative.
3. When it appears that two or more jurisdictions may become involved in the incident and the incident will require on-site liaison.

Safety Officer

The Safety Officer's function on the Command Staff is to develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations. Only one Safety Officer will be assigned for each incident. The Safety Officer may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions. Safety assistants may have specific responsibilities such as air operations, hazardous materials, etc. The Safety Officer will correct unsafe situations by working through the chain of command. However, the Safety Officer may exercise emergency authority to directly stop unsafe acts if personnel are in imminent life-threatening danger.

Role and Responsibilities of ICS General Staff

The General Staff consists of the following positions:

1. Operations Section Chief
2. Planning Section Chief
3. Logistics Section Chief
4. Finance/Administration Section Chief

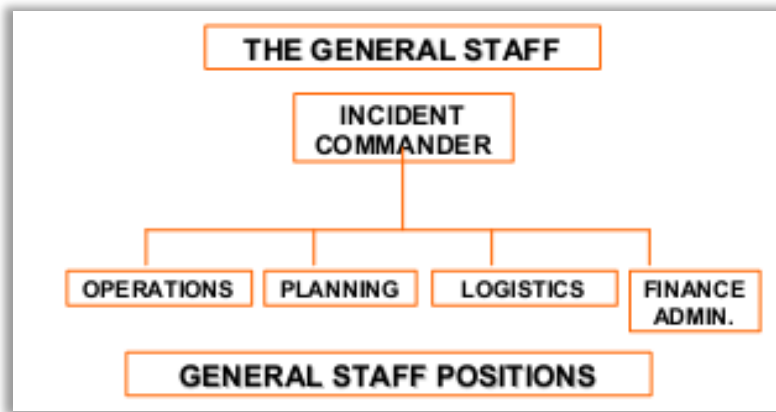


Figure 6: Roles of ICS staff

Operations Section

The Operations Section is responsible for managing all tactical operations at an incident. The build-up of the Operations Section is generally dictated by the number of tactical resources involved and span of control considerations. The Operations Section consists of the following components:

- Ground or surface-based tactical resources
- Aviation (Air) resources – helicopters and fixed-wing aircraft
- Staging Areas

1. Ground or Surface-based Tactical Resources

There are three ways of organizing tactical resources on an incident. The determination of how resources will be used will be determined on the application area and the tactical requirement. Resources can be used as:

- Single Resources
- Task Forces
- Strike Teams

Depending on the need, tactical resources can be placed into an operations organization made up of:

- Resources reporting to the Incident Commander or Operations Section
- Chief
- Divisions or Groups
- Branches

2. Aviation (Air) Resources

Many incidents require the use of tactical or logistical aircraft to support the incident. In ICS, all aviation resources assigned for exclusive use of the incident are assigned to the Operations Section. These include aircraft providing logistical support.

The Operations Section Chief may establish a separate Air Operations Branch when

- The complexity of air operations and/or the number of aircraft assigned to the incident requires additional management support
- The incident requires both tactical and logistical use of air support

- When the air operations organization is formally established on an incident, it will be set up as an Air Operations Branch within the Operations Section.

3. Staging Areas

The third component of the Operations Section is the Staging Area. An ICS Staging Area is a temporary location for placing resources available for incident assignments. All resources within the Staging Area belong to the incident. Resources assigned to a Staging Area are available on a three minute basis to take on active assignment. Staging Area are temporary facilities. They can be set up at any appropriate location in the incident area and moved or deactivated as needed. Staging Area Managers report to the Operations Section Chief or to the Incident Commander.

Planning Section

In ICS, the Planning Section is responsible for managing all information relevant to an incident. When activated, the Planning Section Chief who is a member of the General Staff manages the Section. The Planning Section collects, evaluates, processes, and disseminates information for use at the incident. Dissemination can be in the form of the Incident Action Plan, formal briefings, or through map and status board displays. Some incidents may require personnel with specialized skills to be temporarily assigned to the Planning Section. These persons are called Technical Specialists such as

- Chemist
- Hydrologist
- Geologist
- Meteorologist
- Training Specialist

There are four units within the Planning Section that can be activated as necessary

1. Resources Unit
2. Situation Unit
3. Documentation Unit
4. Demobilization Unit

Common responsibilities of Unit Leaders are listed below:

- Obtain briefing from the Section Chief
- Participate in incident
- Determine current status of unit activities
- Confirm dispatch and estimated time of arrival of staff and supplies
- Assign specific duties to staff, supervise staff
- Develop and implement accountability, safety, and security measures for personnel and resources
- Supervise demobilization of the unit, including storage of supplies
- Provide Supply Unit Leader with a list of supplies to be replenished
- Maintain unit records, including Unit Log

1. Resources Unit

This Unit is responsible for maintaining the status of all assigned resources at an incident. It achieves this through:

- Overseeing the check-in of all resources
- Maintaining a status-keeping system indicating current location and status of all the resources.
- Maintenance of a master list of all the resources, e.g. key supervisory personnel, primary and support resources, etc.

2. Situation Unit

The collection, processing, and organizing of all incident information takes place within the Situation Unit. The Situation Unit may prepare future projections of incident growth, maps, and intelligence information. Three positions report directly to the Situation Unit Leader:

- Display Processor – maintains incident status information obtained from
- Field Observers, resource status reports, etc. information is posted on maps and status boards as appropriate.
- Field Observer – Collects and reports on situation information from the field.
- Weather Observer – Collects current weather information from the weather service or an assigned meteorologist.

3. Documentation Unit

The Documentation Unit is responsible for the maintenance of accurate, up-to-date incident files. Duplication services will also be provided by the Documentation Unit. Incident files will be stored for legal, analytical, and historical purposes.

4. Demobilization Unit

The Demobilization Unit is responsible for developing the Incident Demobilization Plan. On large incidents, demobilization can be quite complex, requiring a separate planning activity. Planning for demobilization should begin at the early stages of an incident, particularly in the development of rosters of personnel and resources, thus ensuring the efficient and safe demobilization of all the resources.

5. Technical Specialists

Certain incidents or events may require the use of Technical Specialists who have specialized knowledge and expertise. Technical Specialists may function within the Planning Section, or be assigned wherever their services are required. In the Planning Section, Technical Specialists may report to the following:

- Planning Section Chief
- Designated Unit Leader

Some examples of the more commonly used specialists are :

- Meteorologist

- Environmental Impact Specialist
- Flood Control Specialist
- Water Use Specialist
- Fuels and Flammable Specialist
- Hazardous Substance Specialist
- Fire Behavior Specialist
- Structural Engineer
- Training Specialist

Logistics Section

The Logistics Section is responsible for the following:

- Facilities
- Transportation
- Communications
- Supplies
- Equipment maintenance and fuelling
- Food Services
- Medical Services
- Ordering Resources

The Logistics Section Chief manages the Logistics Section. On very large incidents, or on incidents requiring a great deal of equipment or facilities, the Logistics Section may be divided into two branches – Service Branch and Support Branch. This is most often done for span of control reasons, resulting in a more manageable organization.

Six Units may be established within the Logistics Section:

- Supply Unit
- Facilities Unit
- Ground Support Unit
- Communications Unit
- Food Unit
- Medical Unit

1. Supply Unit

The Supply Unit is responsible for ordering, receiving, processing and storing all incident-related resources. All off-incident resources will be ordered through the Supply Unit, including:

- Tactical and support resources (including personnel)
- All expendable and non-expendable support supplies.

Two Managers report directly to the Supply Unit Leader:

- Ordering Manager – places all orders for incident supplies and equipment.
- Receiving and Distribution Manager – receives and distributes all supplies and equipment (other than primary tactical resources) and is responsible for the service and repair of tools and equipment.

2. Facilities Unit

This unit is responsible for set-up, maintenance, and demobilization of all incident support facilities except Staging Areas. These facilities are:

- Incident Command Post
- Incident Base
- Camps
- Other facilities within the incident area to be used for feeding, sleeping, and sanitation services.

The Facilities Unit will also provide security services to the incident as needed.

Three managers' report directly to the Facilities Unit Leader. When established at an incident, they have important responsibilities.

- a) Security Manager – provides safeguard necessary for protection of personnel and property from loss and damage.
- b) Base Manager – ensures that appropriate sanitation, security, and facility management services are in place at the Base.
- c) Camp Manager – On large incidents, one or more camps may be established. Activities at the camps may include many of those regularly performed at the Base. Camp Managers are responsible for providing non-technical coordination for all the units operating within the camp.

3. Ground Support Unit

The Ground Support Unit is responsible for the maintenance, service, and fuelling of all mobile equipment and vehicles. The Unit also has responsibility for the ground transportation of personnel, supplies, and equipment and the development of the Incident Traffic Plan.

4. Communications Unit

The Communications Unit is responsible for developing plans for the use of incident communications equipment and facilities, installing and testing of communications equipment, supervision of the Incident Communications Centre, and the distribution and maintenance of communications equipment.

5. Food Unit

The Food Unit is responsible for supplying the food needs for the entire incident, including all remote locations as well as providing food for personnel unable to leave tactical field assignments. Planning is essential to the efficient supply of food. The Food Unit must anticipate the number of personnel to be fed and develop plans for supplying food to all incident areas.

6. Medical Unit

The Unit will develop an Incident Medical Plan, develop procedures for managing major medical emergencies, provide medical aid, and assist the Finance/ Administration Section with processing injury-related claims.

3. Finance / Administration Section

The Finance/Administration Section is responsible for managing all financial aspects of an incident. There are four units, which may be established within the Finance/Administration Section :

- Time Unit
- Procurement Unit
- Compensation /Claims Unit
- Cost Unit

1. Time Unit

The Time Unit is responsible for ensuring the accurate recording of daily personnel time, compliance with specific agency time recording policies, and managing commissary operations if established at the incident.

2. Procurement Unit

All financial matters pertaining to vendor contracts, leases and fiscal agreements are managed by Procurement Unit. The Procurement Unit establishes local sources for equipment and supplies, manages all equipment rental agreements and processes all rental and supply fiscal document billing invoices.

3. Compensation / Claims unit

The Claims Unit is responsible for investigating all claims involving property associated with or involved in the incident. This can be an extremely important function on some incidents.

Two Specialists report to the Compensation / Claims Unit Leader:

- Compensation –for- injury Specialist - Administers financial matters arising from serious injuries and deaths on an incident. Work is done in close cooperation with the Medical Unit.
- Claims Specialist – manages all claims related activities (other than injury) for an incident.

4. Cost Unit

The Cost Unit provides all incident cost analysis. It ensures the proper identification of all equipment and personnel requiring payment, records all cost data, analysis and prepares estimates of incident costs, and maintains accurate records of incident costs.

C.1.3.4 Rapid damage assessment & reporting

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

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

Table 23: 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 (Village, Block, Tehsil)</i>	<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>Govt Building</i>	<i>Others</i>	
5	<i>NEED ESTIMATES</i>										
	<i>Name of the Site (Village, Block, Tehsil)</i>	<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:	

C.1.3.5 District Search & rescue Team

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

Table 24: District Search & rescue Team

S.No.	Team Member
1.	Policemen
2.	Sniffer Dogs
3.	Home guard

4.	Civil Engineers
5.	Disaster Management Specialist
6.	Swimmers
7.	Doctors
8.	Fireman
9.	Local community people who are ready to volunteer for Search & Rescue operation

Nodal Agency for Search & Rescue	Homeguard and Police
---	----------------------

C.1.3.6 Medical response

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

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

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

Refer Annexure (Table 79, 80,81) for Contact details of Medical officers during emergency.

Nodal Agency for Medical Response	Health Department
Supporting Agency for Medical Response	NGOs

C.1.3.7 Logistic arrangements

District R.T.O 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. Also a list of petrol pumps should be marked out on a map

Nodal Agency for Logistic Arrangements	RTO
Supporting Agencies for Logistic Arrangements	PWD, Municipal Department

C.1.3.8 Communications

At present each of the temporary Emergency Operation Centre formed for checking flood situation is equipped with a telephone and a fax machine.

It is recommended that proper arrangements should be done for Data collection, record keeping, assistance in locating missing persons, etc. A proper IN-message and OUT-message register should be maintained and all the information should be routed through the information officer. The latest NDCN (National Disaster Management Communication Network) should be utilized and arrangements should be made for last mile connectivity. The Communication room must have the following:

- Telephones
- Fax
- Intercom units
- VSAT connection
- PC with modem and printer
- Mobiles
- Photocopying machine
- Wireless sets
- Satellite Phone
- Power Backup

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.

C.1.3.9 Temporary shelter management

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

1. Stay in the shelter until the local authorities say it's safe to leave
2. Restrict smoking and ensure that smoking materials are disposed off safely.

3. Cooperate with local authorities and others staying in the shelter.
4. Listen to radio broadcasts
5. Watch out for fires
6. Assist local authorities and volunteers in the management of water, cooked food and other relief supplies including medical care, if required.
7. Make arrangement for pets and cattle before going to a public shelter.
8. Organize recreation for children.
9. Assist local authorities with the assistance of community members to maintain law and order.
10. Immunize the population against epidemics.

Nodal Agency for temporary shelter mgmt.	Revenue Department
Supporting Agencies for temporary shelter mgmt.	Police Department , Municipal Department, NGOs

C.1.3.10 Water and Sanitation (WATSAN)

Water supply is invariably affected in natural disasters. Safe drinking water might not be available particularly in hydro-meteorological disasters. The following measures shall be taken by district administration:

- The State Governments shall identify alternative sources of water and make necessary arrangements for supply to the affected population.
- The State Governments shall ensure that affected people have adequate facilities and supplies to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene.
- It shall be ensured that drinking water supplied conforms to the prescribed quality standards
- It shall be ensured that water made available for personal and domestic hygiene should not cause any risk to health.
- Sanitation services are crucial to prevent an outbreak of epidemics in post disaster phase. Therefore a constant monitoring of any such possibilities will be necessary.
- It should be ensured that disaster-affected households have access to sufficient hygiene measures.
- Soap, detergents, sanitary napkins and other sanitary items should be made available to ensure personal hygiene, health, dignity and well-being.
- In the relief camps, toilets should be sited, designed, constructed and maintained in such a way as to be comfortable, hygienic and safe to use.
- Procure and maintain mobile toilets which can be deployed swiftly in affected areas .

Nodal Agency for water and sanitation	Municipal Department
--	----------------------

C.1.3.11 Law & order

- 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 arranges law and order against theft in the disaster-affected area and co-ordinate with the search and rescue operation through NCC/VTF/NGO.
- It also arranges for security at the relief camps/relief material storages.
- It also maintains law and order at the time of distribution of relief material.
- 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.
- It make all possible arrangements to find out the family members of the deceased. They are responsible to make suitable arrangement for keeping the dead bodies.

The police force should be trained in disaster management skills and should be upgraded to acquire multi-hazard rescue capability.

Nodal Agency for Law and Order	Police Department
---------------------------------------	-------------------

C.1.3.12 Public grievances/missing persons search/media management

In disaster time mainly public complaints are lack of Primary Facility like Health, Sanitation, and Food Stock in relief camps. They are also not satisfied with Search and Rescue Operations, Information Sharing from government regarding Missing Persons, Behaviour of Government officials, etc. A committee at the district level has to be constituted under the chairmanship of the District Collector to handle such situation. Following are the roles and responsibilities of the team:

- Maintain Stock of Food items and ensure transparency in distribution of relief items.
- Ensure Relief camps are not overloaded.
- For Law and Order police is responsible, deploy police in sufficient amount to avoid crime. Women Safety is important issue in relief camps need to be take care off.
- Ensure establishment of Help centre at disaster site, relief camp.
- Provide information concerning the victims of a mass disaster to news media and other concerned persons, both internal and external.
- Ensure Search and rescue operations are done in effective manner.
- Prepare a list of missing persons and made public through Media to avoid rumors, confusion.

C.1.3.13 Animal care

At present in Jhabua relief teams are constituted for flood season only. The department takes care of treatment and vaccination of animals, there is no provision for proper disposal of carcass. The disposal is done with the help of local community people who are voluntary ready to help and

dispose the carcass. It is the responsibility of the department to make sure that animals are sent to elevated areas in case flood situation arises.

Animals both domestic as well as wild are exposed to the effects of natural and man-made disasters. It is therefore recommended to devise appropriate measures to protect animals and find means to shelter and feed them during disasters and their aftermath, through a community effort, to the extent possible. The department must formulate a team for proper disposal of carcass and must ensure periodic vaccination of animals for various diseases. The department should stay in touch with the IDSC (Integrated Disease Surveillance Centre), to keep themselves updated about any disease outbreak.

Nodal Agency	Veterinary Department
Supporting Agencies	NGO

C.1.3.14 Management of deceased

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.

Nodal Agency	Municipal Department
Supporting Agency	Police, Health Department

C.1.3.15 Civil Defense and Home Guards

The Civil Defense 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.

C.1.3.16 Role of Private Security

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

C.1.3.17 NGOs & Voluntary organizations

NGOs and voluntary organizations are the first to respond before any outside assistance can reach the disaster site. In certain disaster prone areas a group of young volunteers are being formed and

trained to undertake essential tasks which would reduce loss of life and property. NGOs and Voluntary organizations would contribute in the following areas:

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

Refer annexure (Table 72) for more details.

C.1.3.18 Relief management planning

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

Functions of Infrastructure Desk

- Shelters for affected people with sanitation facilities
- Temporary structure for storage
- Kitchens
- Medical facilities
- Education facility
- Recreational facility
- Postal facility
- Temporary repairs to damaged infrastructure

Functions of Logistics Desk

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

Functions of Health Desk

- Disposal of dead bodies
- Disposal of carcasses

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

Functions of Communication and Information Management Desk

- Data collection
- Record keeping
- Assistance in locating missing persons
- Information 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.

C.1.3.19 Media Management

At Present the nodal officer who is responsible for providing information to the media in case of disaster is Public Relationship Officer. It is his responsibility to coordinate with the print and electronic media to disseminate the right information. At present he is the person who checks that media does NOT spread any rumours and fake news. They also convey to the public through media about the relief measures taken by the government in case of disaster.

The various aspects of media management planning will include:

- The spokespersons will be given comprehensive training in dealing with the media. Correct reporting of the situation is an important confidence-building measure for the community.

- The messages to be delivered prior to, during, and after an incident will be meticulously planned, including the listing out of the probable clarifications that one can anticipate in disaster situations.
- Identify crucial information and incorporate the same precisely in the initial message so that prompt and appropriate public response is forthcoming during and after the disaster.
- Press and electronic media will be associated throughout the period of response and the post-disaster phase for early and accurate dissemination of information released by the authorities.
- The PRO will determine the modes of dissemination of relevant information. An authorised press release should always be written and handed over to the press so that correct and authentic news is disseminated to the public.
- The district authority will issue continuous and regular updates of the situation for media personnel and agencies.
- Adequate awareness will be generated in the print and electronic media about the various aspects of disaster.
- The media will play a supportive role especially for mobilisation of resources and dissemination of useful information that can help the community in managing the effects of disasters.
 - a) Providing information about relief and rehabilitation measures, medical support sites, routes to be followed or avoided, dos and don'ts for the public.
 - b) Organising relief material and their proper distribution.
 - c) Disseminating the latest information on the status of casualties, based on authentic information from hospitals.
- The entire exercise will be done without impinging upon the independent functioning of the media. The media shall be encouraged to disseminate authentic information only to prevent rumours and panic.

Nodal Agency for Media Management	Public Relation Department
--	----------------------------

C.1.3.20 Fire Services

The Department of Fire Services is one of the crucial responders to disasters. Therefore a dedicated fire department should be in place. The staff of Fire Services should be trained, retrained in disaster management skills, and should be further upgraded to acquire multi-hazard rescue capability, in order to tackle any emergency related to fire or the allied disaster. Also there should be fire brigades in each tehsil. Also it is recommended that there should be fire fighting motorbike in each block so that they can go in narrow roads. Regular maintenance of fire equipment's and fire brigades should be done.

Nodal Agency for Fire Services	Municipal Department
Supporting Agencies for Fire Services	Police, Homeguard, Medical

C.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.

1. Damage assessment
2. Disposal of debris
3. Disbursement of assistance for houses
4. Formulation of assistance packages
5. Monitoring and review
6. Cases of non-starters, rejected cases, non-occupancy of houses
7. Relocation
8. Town planning and development plans
9. Reconstruction as Housing Replacement Policy
10. Awareness and capacity building
11. Housing insurance
12. 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 talukas. 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.

C.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.

C.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:

1. Owner Driven Reconstruction
2. Public Private Partnership Program (PPPP)
3. 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.
4. All the houses should be insured.
5. Owner Driven Reconstruction
6. Financial, technical and material assistance provided by the government.
7. The designs for seismic reconstruction of houses provided by the government.
8. The material assistance provided through material banks at subsidized rates.
9. Design of 20 model houses provided to the public to choose from with an option to have one's own design.

C.1.4.3 Restoration of livelihoods

Restoring employment and income generating opportunities to disaster affected communities is a vital component of post-disaster reconstruction. Livelihood opportunities are severely disrupted by the destruction or loss of essential assets; with the result that people are unable to engage in normal income generating activities; become demoralized and dependent on humanitarian aid. Microfinance Institutions and Banking Institutions also play an important role in livelihood restoration by providing financial assistance at low rates. Various government schemes like MNREGA, JNURM also act as booster in livelihood restoration.

Livelihood recovery is more than just the provision of assets; but needs to be based on:

- Analysis of existing livelihood strategies
- A comprehensive analysis of existing and future risks
- The vulnerabilities of the affected
- The accessibility of linkages to external influences and institutions. Including skills and knowledge
- Involvement of local community in developmental activities after disaster
- Awareness among community regarding alternative crop, livelihood options

C.1.4.4 Psycho-social interventions

There is currently no trauma centre in the district. Doctors at the disaster site try to give preliminary treatment for such cases. However for extreme cases patient is transferred to the medical college.

The level of trauma experienced varies among different types of disasters. Human-induced disasters tend to produce higher levels of stress than those of natural origins. The effect of the evacuation trauma on some populations, such as elder people and children is huge. There is a need to raise awareness of the general population of the trauma of people with disabilities caused by the lack of inclusion in initial planning. Children's responses to stress and stress-related disorders can be quite different from others and there is a need to consider terminology that is reflective of this impact. There is need to Organize workshop, lectures of experts for different groups with the help of (CBO) Community Based Organization.

C.1.5 Cross cutting elements

C.1.5.1 Community Based Disaster Management

In case of disasters, the people at the community level have more to lose because they are the ones directly hit by disasters, whether major or minor. They are the first ones to become vulnerable to the effects of such hazardous events. On the other hand, they have the most to gain if they can reduce the impact of disasters on their community. This concept gave rise to the idea of community-based disaster management where communities are put at the forefront. Through the CBDM, the people's capacity to respond to emergencies is increased by providing them with more access and control over resources and basic social services. It is hoped that communities will be strengthened to enable them undertake any programmes of development including disaster preparedness and mitigation. Under this approach, the local community not only becomes part of creating plans and decisions, but also becomes a major player in its implementation. Although the community is given greater roles in the decision-making and implementation processes, CBDM does not ignore the importance of scientific and objective risk assessment and planning.

The main objectives of Community Based Disaster Management are as follows:

- **Awareness Generation:** An important component of the Programme is awareness generation among the people at the grass root level of the type of the disaster and the most immediate response mechanism towards mitigating the impact of disaster. This will effectively limit the number of losses- both of lives and property- during disaster.
- **Capacity building:** Empowering the people with the skills and knowledge for action on the kind of course to be adopted for disaster management is a capacity building exercise for the community. It also includes wider stakeholders' involvement and participation.
- **Employability:** The Programme also holds great significance because it is a source of employment for the volunteer youths.
- **Disaster Preparedness:** Disaster preparedness is one of the most important criteria for mitigating the impact of disaster. Under the programme, by empowering the community with

capacity and skills for dealing with disaster, disaster preparedness constitutes a critically significant component

C.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.

C.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 Jhabua 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

C.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.

Standard Operating Procedures will be modified and improved upon in light of changing circumstances. The District Magistrate will encourage all the departments to suggest changes in these procedures with a view to enhance the effectiveness of the District Emergency Management Plan

The Standard operating procedure shall be followed during normal times (Non Disaster Stage), warning stage (Before Disaster Stage), disaster stage (During Disaster Stage) and post disaster stage (After Disaster Stage).

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

C.2.1 SOPs for all concerned Line Departments

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

Standard Operating Procedures for all relevant departments are as follows:

C.2.1.1 Department of Revenue & Relief

Table 25: 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.
- Advise 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 of disasters.
- Coordinate NGO, INGO and international agencies interventions/support.

After Disaster

- 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.

C.2.1.2 Police Department:

Police Department 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 26: Police Department:

Non Disaster Time

- Vulnerability map of the block / Tehsil
- Resource Inventory, Capacity analysis.
- List of cut off areas with safe route map for communication.
- Formulation/ Updation of Disaster Plan for the District.

Warning Time

- List of storage facilities, dealers of food.
- Control room setup/assignment of control room duty.
- Pre-positioning of staff for site operation centres.
- Pre-arrangements to be made as per the demand of various departments.

During Disaster

- Arrangement of alternative communication/generator sets etc.
- Arrangement of vehicles/boats of for evacuation.
- Dissemination of warning/coordination with District Control room.
- Monitor the working of various departments and make frequent visits to disaster struck areas to cross-check.

After Disaster

- Estimating the loss and damage and keep a record.
- Share experiences with all the departments.
- Continuous aid & proper arrangements till situation is under control.
- Monitor that the Repair & Restoration work is in progress as planned.
- Examine the performance reports of various departments.
- Examine the reports in order to make amendments and prepare a better strategy by taking inputs from all departments.

C.2.1.3 Public Health Engineering

Table 27: Public Health Engineering

Non Disaster Time
<ul style="list-style-type: none"> • Provide clean drinking water in all areas rural/urban. • Regular cleaning of nals and prevent them from choking. • Facilitate proper drainage in all areas to prevent diseases.
Warning Time
<ul style="list-style-type: none"> • Proper arrangement of water tankers in good condition. • Arrange for generators in advance. • Make necessary arrangements of chlorine tablets for disaster prone/expected areas. • Repair the platforms of tube wells if required and any other necessary repairs if required to avoid damage.
During Disaster
<ul style="list-style-type: none"> • Cleaning water sources and continuous monitoring. • Supply of clean water at hospitals and medical camps. • Provide water through water tankers wherever required. • Provide emergency help to clean and start tube wells & other water sources. • Repair of damaged water sources to be carried out. • Aware people about how to keep the hand pumps free of microbial infections.
After Disaster
<ul style="list-style-type: none"> • Reinforcement & reconstruction of damaged sources and to keep records. • Share experiences with the department. • Training of employees. <p>Formulate a checklist and re-prepare an emergency plan.</p>

C.2.1.4 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.

Table 28: Department of Transport

Non Disaster Time
<ul style="list-style-type: none"> • 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.
- Allocate additional force to possible Disaster prone roads/routes identified
- Ensure that the force so allocated are aware of the possible disaster prone spots on these routes along with the possible type of disaster which may happen, as in the case of Petrol and Diesel transport vehicles leading to and from the IOC depot.
- Make departmental mitigation plan and ensure its implementation.
- Enforce the speed limits in the government vehicles regulated by the department and organize 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

- 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 29: Department of Public Works

Non Disaster Time

- 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.

C.2.1.6 Water Resource Department

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 30: Water Resource Department

Non Disaster Time

- Communication establishment with District and Block/ Tehsil Control Rooms and departmental offices within the district.
- An officer to be appointed as nodal officer.
- Activation of flood monitoring mechanism
- Methods/communication arrangement of alerting officers on various sites established
- Check the preparation level of the department.
- Identify the areas that face the maximum flow of the major rivers and also make the locals aware about it.
- Identify the flood prone areas and demarcate them and also send a flood surveillance team to such areas.

- Mark the maximum safe level of water at all the embankments of rivers, reservoirs and dams.

Warning Time

- Mechanism evolved for forewarning settlements in the down stream/evacuation/coordination with other dam authority.
- Identification of materials required for response operations
- Repairs/ under construction activity are well secured
- Water level gauges marked
- Inlet and outlet to tanks are cleared
- Watch and ward of weak embankments & stock piling of repair materials at vulnerable points
- Guarding of weak embankments
- All staff informed about the disasters, likely damages and effects.
- Procure necessary inventory for flood situations and keep it properly maintained.
- Inventories for the case of breakage of dam/embankments like sand sacks, rocks, etc need to be brought and checked well in advance.

During Disaster

- Surveillance of flood hit/susceptible areas.
- Make announcements about the coming flood.
- Usage of advanced technology like GPS to calculate damage and the areas where maximum damage would occur.
- Safety of equipments of the Irrigation department to be maintained.
- Survey of major dams, embankments, bridges, channels etc is done.
- Emergency help services to areas where bank got broken.

After Disaster

- Estimating the loss and damage and keep a record.
- Surveillance for protection of people.
- Share experiences with the department.
- Formulate a checklist and re-prepare an emergency plan.
- Training of staff to minimize the loss of life/property.

C.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 31: Department of Agriculture

Non Disaster Time

- 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.
- Historical data to be gathered on the drought prone areas.

Warning Time

- 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 teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly.
- 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

- 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.
- Organize 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

- Quantify the loss and damage within the quickest possible time and finalize 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.

C.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 32: Department of Rural Development

Non Disaster Time

- 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.
- Organize 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

C.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 33: Department of Education

Non Disaster Time

- 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

- 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

- 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.

C.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 34: Department of Health

Non Disaster Time

- Check on the tasks done at Zila, Tehsil & Block level
- Demarcate areas prone to epidemics and other similar disasters.

- Coordination with private health organisations
- Demarcate areas where medical camps can be set.
- Take regular inputs from Swastha Kendras about any unwanted/hostile conditions in terms of endemic/epidemic diseases.
- Awareness among people about diseases & how can they be prevented from spreading.
- Generators to be made available in all major hospitals.
- Prepare a list of inventories required in case of disaster(vehicles/equipments/medicines)

Warning Time

- Construction & repair of IEC inventory.
- ORS & other important medicines to be procured as requirement.
- Training of employees and people regarding the basic treatment in case of flood/loo/minor bruises etc.
- Procure necessary medicines for cases that are otherwise rare like snake bite, chlorine for cleaning water etc.
- Prepare mobile units for sensitive & prone to be hit areas.
- Identification of sites in probable disaster areas for site operation areas

During Disaster

- Send task force with necessary medicines to affected areas.
- Procure required medical equipments & medicines in case they fall short of it.
- Strong emphasis to be given to sensitive areas.
- Ensure that appropriate no of Staff/Doctors are present at the affected areas.
- Ensure cleanliness at the medical camps.
- Frequent checks on the Staff/Doctors on duty.
- Postmortem of dead bodies.

After Disaster

- Monitoring against spreading of diseases
- Continuous medical aid & proper arrangements till situation is under control
- Dead/Injured counselling
- Injured/handicapped to be treated and arrangement for healthy living facilities
- Provide healthy rehabilitation to disaster affected people.

C.2.1.11 Forest Department

Table 35: Forest Department

Non Disaster Time

- 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

- A rapid response team will be established at division/sub-division/range level, which will have all tools and equipments readily available.
- Information regarding issue alerts to nearby population

During Disaster

- 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

- Damage assessment and sharing of reports with DEOC

C.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 36: Department of Urban Development

Non Disaster Time

- 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

- 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

- 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

- Implement recovery & rehabilitation schemes through municipalities for urban areas.

C.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 37: Department of Food, civil supplies and consumer affairs

Non Disaster Time

- Make go downs in disaster prone areas in advance.
- Collect necessary resources keeping the type and intensity of disasters that have previously occurred or are expected to occur.
- Make proper arrangements so that the stock in the go downs does not rot/spoil.

Warning Time

- Make necessary arrangements according to the expected requirements and procure the material which the department is short off.
- Form teams and train them on how to ration resources.

During Disaster

- Proper keeping of resources.
- Arrangements made for the distribution like vehicles through help from DDMA or other departments.
- Make an inventory according to the prevailing needs and the estimated time and hence procure the needful.

After Disaster

- Use the equipments/resources from time to time so that they remain in working condition.
- Strict monitoring to keep a check on unauthorized using of resources and legal proceedings to be carried out if required.

C.2.1.14 Department of Electricity

Table 38: Department of Electricity

Non Disaster Time

- Prepare and manage inventory for emergency operations.
- Training of electricity department workers and make sure that proper norms are being followed at the time of installation of various electric units/instruments.
- Make various applicable and implementable schemes regarding the setup and examination of electrical units/instruments.
- Make people aware so as to minimize the damage to life/limb caused due to electricity.

Warning Time

- Make provisions for providing electricity to rehabilitation centers in disaster hit areas & to cut off electric supply from risky areas in case of emergency.
- Follow proper regulations monitor continuously so that in case of wire breakage the current does not spreads.
- Make proper arrangements and follow stringent norms such that in case of a natural calamity, (like earthquake, flood, cyclone etc) the high tension line does not get damaged.

During Disaster

- Cut off electricity immediately after receiving information about any disaster so as to minimize the damage caused.
- Survey the spot and estimate (also help in estimation) the damage caused.
- Be ready to provide electricity in areas where it is needed and can be provided safely.
- Make a plan about how to re supply electricity to important areas, site operation centers, Industries, etc.
- Examine and repair major poles, transformers & wires necessary for getting electricity supply back to areas needed.
- Minimize the damage caused to life by demarcating dangerous areas and cutting electricity in time.
- Restore the electricity facility in affected areas.

After Disaster

- Repair of damaged poles, transformers and conductors etc as soon as possible to restore electricity in the district.
- Surveillance for protection of people.
- Share experiences with the department.
- Formulate a checklist and re-prepare an emergency plan.

C.2.1.15 Department Of Fire Service

Table 39: Department Of Fire Service

Non Disaster Time

- Strict enforcement of laws made for the security of Fire squad and proper proceedings to be done in case the law is violated.
- Regular check of equipments and procuring new ones as and when necessary.
- Demarcating Industries and areas susceptible to fire, events that are susceptible to fire etc.
- Aware people about their safety how to mitigate fire & its effects.
- Training of employees keeping their safety in mind.
- The blueprint of any building/house should not be accepted without proper Fire Safety measures.

Warning Time

- Train people how to mitigate fire in early stages and foremost how to avoid it.
- Training of people on how to react in an emergency situation.
- Train staff and Raj Mistri's about latest Fire Fighting techniques

During Disaster

- Find a safe way to save people trapped in fire in a house/ building/ aero plane/ train/ industry/ boiler etc.
- Get control over fire and minimize damage in case of an explosion.
- Control the situation in case of gas leak or leakage of some dangerous chemical.

After Disaster

- Help other departments in search & rescue and estimation of damage.
- Share experiences with the department.
- Training of employees about new disasters (related to fire) that can occur.
- Formulate a checklist and re-prepare an emergency plan.

C.2.1.16 Department of Industrial Health and Safety

Table 40: Department of Industrial Health and Safety

Non Disaster Time

- Designate one Liaison Officer in the Department as the Disaster Management Focal Point at district level.
- Ensure all possible steps for the security of manpower, implements, stock, installations/factories etc.
- Prepare listing and locations of industries and establishments for possible sourcing of relief material during disasters in the district.
- Ensure training on preparedness programmes to be adopted at different levels for all manpower employed in factories and establishments in disaster vulnerable areas.
- Issue disaster management guidelines to all the industries and ensure on-site and off-site plans for all industries.
- Prepare and disseminate guidelines for the labor security and safety.
- Prepare and implement rules and regulations for industrial safety and hazardous waste management.
- Support the State Pollution Control Board to enforce the law for preventing environmental disaster in chemical industry or industries emitting toxic gases and effluents.

- Issue detailed instructions to the employees about their duties and responsibilities in precautionary, disaster and post-disaster stages of normal disaster.
- Prepare and disseminate public awareness material related to chemical accidents.
- Prepare & implement department's mitigation plan for the district

During Disaster

- Evacuation of the workers from the Industrial area vicinity
- Request industries to provide emergency relief material such as food products, temporary shelter, medicines and medical equipment and search & rescue equipment.
- During any industrial disaster, respond as per the disaster management plan of the respective industry or as per the guidelines for the specific hazard involved in the event.

After Disaster

- Take steps to plan for rehabilitation of industries adversely affected by disasters.

C.2.1.17 Department of Telecommunications

Table 41: Department of Telecommunications

Non Disaster Time

- Communication establishment with District and Block /Tehsil Control Rooms and departmental offices within the division.
- An officer to be appointed as nodal officer.
- Continuous training of staff on the usage of new equipments that are procured.

Warning Time

- Prepare an inventory of resources that would be required and procure the material based on estimation.
- Train staff on quick response to restore the Tele-connectivity of the district.

During Disaster

- Standby arrangements for temporary electric supply or generators.
- Inspection and repair of poles etc.
- Identification of materials required for response operations.

After Disaster

- Repair of damaged poles & lines etc as soon as possible to restore Tele-connectivity in the district.
- Share experiences with the department.
- Training of employees for better performance.

C.2.1.18 Department of Veterinary

Table 42: Department of Veterinary

Non Disaster Time

- Communication establishment with district and Block / Tehsil control rooms and departmental offices within the division.

- Listing of club houses, schools, community centers that can be used as shelter for animals.

Warning Time

- Collect information from different areas and to act accordingly (Assignment of duties).
- Preparation of shelters in clubs, Schools, Halls etc, for animals and shifting them if necessary.
- Tagging the animals to avoid mix up and chaos.
- Getting proper stock of fodder for cattle.

During Disaster

- Veterinary Hospital & Veterinary Dispensary at every important place (thickly cattle populated areas) headed by the Veterinary Assistant/ Surgeon.
- Regular collection of situation report of the risk and vulnerable areas from the officers assign for the purpose.
- Replacement of affected cattle in the shelters/camps, collection of fecal waste and cleaning etc.
- Feeding the animals.

After Disaster

- Veterinary First Aid centre/stockman sub-centre at most of the areas to be made and all the wings should be ready to combat the situation.
- Getting the animals back to their owners and returning the stray ones to Nagar Maha Palika.
- Cleaning of temporary shelters.

C.2.1.19 Panchayat Raj

Table 43: Panchayat Raj

Non Disaster Time

- Develop a disaster management plan for the department at district level & update it annually.
- Analyze the training needs of the department's personnel, which include its officials and elected representatives of Gram Panchayat, Panchayat samiti's and Zila Panchayat and organize trainings with the help of HIDM or other agencies.
- Conduct gram Panchayat level mock drills as part of preparedness.

Warning Time

- Prepare & implement department's mitigation plan
- Ensure that all the development schemes of the department have a mitigation component as an integral part

During Disaster

- Coordinate with local authorities and support the response efforts.
- Coordinate the support from unaffected gram Panchayats.

After Disaster

- Ensure proper distribution of reconstruction schemes and monitoring of the same during Block development committee and Zila Parishad meetings

C.2.1.20 Home guards Department

Table 44: 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 and 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.

Warning Time

- 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.
- 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.

During Disaster

- 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

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

C.2.1.21 Indian Red Cross and NGOs

Table 45: Indian Red Cross and NGOs

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.

C.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.

C.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;

C.3.1 District Disaster Response Fund

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

C.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.

C.4 Coordination mechanisms with other stakeholders

C.4.1 Mapping of stakeholders in the District

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

1. Private and Public Sectors
2. Governmental Organizations and Community Based Organisations
3. Religious Institutions
4. Academic Institutions
5. International Humanitarian organizations

C.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.

C.4.1.2 Non Governmental Organizations and Community Based Organizations:

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

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

C.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. Details of all these institutions and allied information will be provided here.

C.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

C.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.

C.4.2 Responsibilities of the stakeholders

The responsibilities of all the key stakeholders include:

1. Coordinating with the Search and rescue team
2. Providing all the available facilities with them to the disaster affected victims
3. Volunteering to organize and maintain the relief centers
4. Working with the Disaster team in restoration of livelihoods
5. Being actively connected with the restoration and reconstruction process

C.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

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

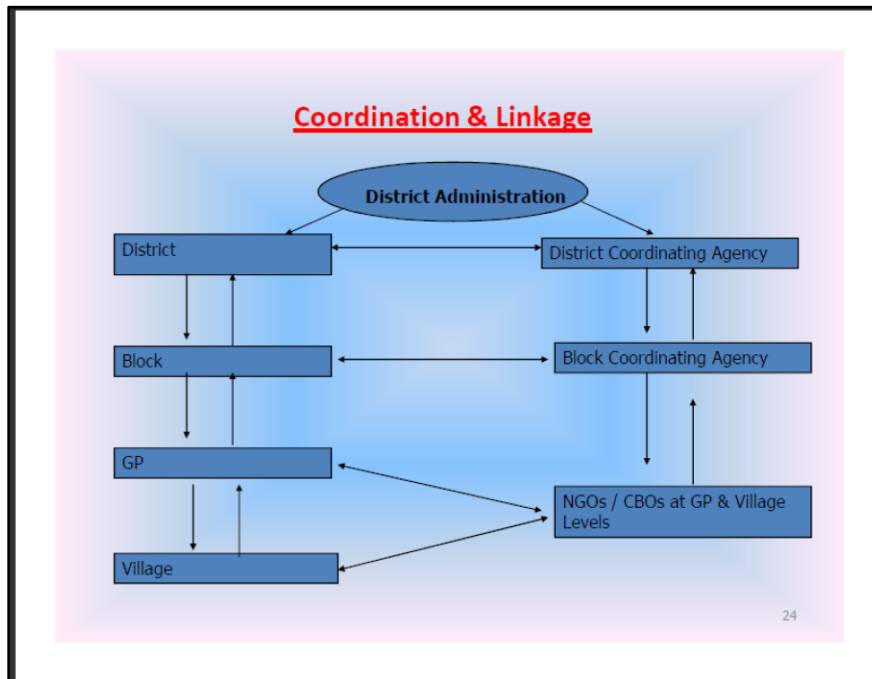


Figure 7: Flowchart for Intra District coordination

C.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.

C.7.1 Plan Evaluation

The purpose of evaluation of DDMP is to determine

1. the adequacy of resources
2. co-ordination between various agencies
3. community participation
4. partnership with NGOs

The plan will be updated when shortcomings are observed in

1. Organizational structures
2. Technological changes render information obsolete
3. Response mechanism following reports on drills or exercises
4. 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.

C.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.

C.8 Annexure

C.8.1 District profile

Table 46: List of Police station in Jhabua district

S.No.	Name of the Police Station	Office Phone
-------	----------------------------	--------------

1	AJK Jhabua	07392-244103
2	Kakanwani	07390-275419
3	Kalayanpura	07392-281221
4	Kalidevi	07392-282234
5	Kotwali Jhabua	07392-243412
6	Meghnagar	07390-284412
7	Petlawad	07391-265333
8	Raipuria	07391-261123
9	Ranapur	07392-283231
10	Thandla	07390-276341

Source: The Office of Superintendent of police Jhabua district - Data as on May 2012

Table 47: List of Police Outpost in Jhabua district

S.No.	Name of the Outposts	Phone
1	Bamniya	07391-264238
2	Chhapri	
3	Hari nagar	07390-275580
4	Jhakanwada	07391-263605
5	Kanjawani	07392-289466
6	Khawasa	07391-260522
7	Kundanpur	07392-270423
8	Machaliya	07392-290685
9	Parwaliya	07390-262325
10	Pitol	07392-285039
11	Rambhapur	07390-286413
12	Sarangi	07391-262822
13	Umarkot	

Source: The Office of Superintendent of police Jhabua district - Data as on May 2012

Table 48: Details of Medical facilities in Jhabua district – Block wise

Jhabua			
	District Hospital 1	No. of Medical officers	33
		No of beds	200
		No of ambulance	02
	Community Health Centre 1	No. of Medical officers	01
		No of beds	30
		No of ambulance	01
	Primary Health Centre 1	No. of Medical officers	01
		Compounder	01
		No of beds	10
	Sub Health Centre 36	No of medical stores	27

		Total No of staff nurses in this block	43	
		Total No of other staffs in this block	39	
		Total No of compounders and lab technicians in this block	10	
Rama	Community Health Centre	2	No. of Medical officers	04
			No of beds	60
			No of ambulance	00
	Primary Health Centre	3	No. of Medical officers	04
			No of beds	10
	Sub Health Centre	32	No of medical stores	07
		Total No of staff nurses in this block	05	
		Total No of other staffs in this block	28	
		Total No of compounders and lab technicians in this block	04	
Ranapur	Community Health Centre	1	No. of Medical officers	02
			No of beds	30
			No of ambulance	01
	Primary Health Centre	3	No. of Medical officers	02
			No of beds	10
	Sub Health Centre	21	No of medical stores	09
		Total No of staff nurses in this block	05	
		Total No of other staffs in this block	21	
		Total No of compounders and lab technicians in this block	03	
Petlawad	Community Health Centre	1	No. of Medical officers	03
			No of beds	30
			No of ambulance	02
	Primary Health Centre	7	No. of Medical officers	07
			No of beds	10
	Sub Health Centre	47	No of medical stores	27
		Total No of staff nurses in this block	03	
		Total No of other staffs in this block	47	
		Total No of compounders and lab technicians in this block	09	
Thandla	Community Health Centre	1	No. of Medical officers	05

	Primary Health Centre	2	No of beds No of ambulance No. of Medical officers No of beds	30 01 05 10
	Sub Health Centre	34	No of medical stores	17
			Total No of staff nurses in this block Total No of other staffs in this block Total No of compounders and lab technicians in this block	03 34 04
Meghnagar	Community Health Centre	1	No. of Medical officers	02
			No of beds No of ambulance	30 00
	Primary Health Centre	2	No. of Medical officers No of beds	01 10
	Sub Health Centre	24	No of medical stores	09
			Total No of staff nurses in this block Total No of other staffs in this block Total No of compounders and lab technicians in this block	04 24 03

Source: District Hospital Jhabua – Data as on May 2012

Table 49: Rainfall report for the years 2000-2010

S.N o.	Station	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1	Jhabua	252.0	553.0	709.2	1137.0	1354.0	740.4	1678.4	1069.8	718.0	721.8	823.0
2	Thandla	423.0	641.2	586.9	1089.5	1069.8	762.0	1546.0	1301.0	461.8	583.9	702.0
3	Petlawad	337.0	674.0	621.0	1290.0	940.5	673.0	1561.0	929.8	656.0	906.4	571.9
4	Ranapur	207.0	525.0	605.0	873.0	1105.0	515.0	1241.0	945.0	580.0	613.0	830.0
5	Meghnagar	510.0	495.0	641.0	1321.0	1197.0	826.0	1489.0	1180.0	608.0	629.0	713.0
	Distt,	345.8	577.6	632.6	1142.1	1133.3	703.3	1503.1	1085.1	604.8	690.8	728.0

Source: Land record department Jhabua – Data as on May 2012

Table 50: No of Micro scale Industries and their Workforce in Jhabua District

Year/Block	Micro Scale Industries		
	No	Workforce	Employment Rs.
2010-2011			
Jhabua	92	110	3062000
Rama	32	50	1020000
Petlawad	43	78	7894000
Thandla	30	33	892000
Meghnagar	56	105	7475000
Ranapur	51	100	1555000
Total	304	476	22298000

Source: District statistical book 2011 Jhabua

Table 51: List of Small size dams in Jhabua district

Name of Dam	Catchment Area in sq.km	Submergence in Th. sq.km	Gross Capacity in Th. Cum	Live Capacity in Th. Cum	Spillway Capacity in Th. Cum	Purpose	City
Pampawati	21.89	1293	6301	5718	225	I/WS	Jhabua
Morjhiri	12.01	513	2170	1933	125	IRR.	Jhabua
Gulabpura	30.83	883	4835	3768	257	IRR.	Jhabua
Surajpura	7.12	314	1339	1194	85	IRR.	Jhabua
Rella	15.53	606	2920	2515	152	IRR.	Jhabua
Nahatra	19.42	931	3140	2650	204	IRR.	Jhabua
Doulatpura	8.84	130	1380	1250	99	IRR.	Jhabua
Chorburari	23.95	1220	5240	4450	105	IRR.	Jhabua
Narsinghpura	22.6	264	2370	2151	211	IRR.	Jhabua
Jhiradiya	3.88	174	780	710	65	IRR.	Jhabua
Rampur	3.2	293	1099	963	95	IRR.	Jhabua
Jhonsli	6.73	238	1310	1192	81	IRR.	Jhabua
LowerJhumka	5.4	2602	1543	1355	85	IRR.	Jhabua
Amba	2.86	130	640	576	48	IRR.	Jhabua
Rangpura	5.18	308	900	800	67	IRR.	Jhabua

BarbetNo.1	10.36	642	2467	1913	112	IRR.	Jhabua
BarbetNo.2	6.73	537	1748	1568	81	IRR.	Jhabua
Bochka	13.36	500	1890	1740	93	IRR.	Jhabua
Mataji	7.77	403	1784	1660	88	IRR.	Jhabua
Bhamat	5.18	325	1316	1131	66	IRR.	Jhabua
Dhamoi	45.95	863	7345	6672	430	IRR.	Jhabua
Kalapipal	9.37	35	2010	1780	104	IRR.	Jhabua
Mehani	4.09	241	798	683	56	IRR.	Jhabua
Badi Baodi	6.97	260	1235	1119	83	IRR.	Jhabua
Dokerwani	5.76	246	1440	1089	73	IRR.	Jhabua

Source: Water Resource Department Jhabua district - Data as on May 2012

Table 52: List of Total No of Schools and Colleges in Jhabua District

Year/Block	Primary schools	Middle Schools	High Schools	High/Higher Schools	Colleges	Professional colleges	Other Schools with Hostel
2010-2011							
Jhabua	346	65	10	07	02	01	12
Rama	303	63	13	04	-	-	10
Petlawad	438	102	12	08	01	-	07
Thandla	336	51	08	07	01	-	06
Meghnagar	262	57	13	05	-	-	07
Ranapur	286	54	08	05	-	-	08
Total	1971	392	64	36	04	01	50

Source: Jhabua District Statistical book 2011

Table 53: List of Total No of students studying in Schools in Jhabua district

Year/Block	Primary Schools	Middle Schools	High Schools	High/Higher Schools	Professional colleges	Other Schools with Hostel	Total
------------	-----------------	----------------	--------------	---------------------	-----------------------	---------------------------	-------

2010-2011							
Jhabua	32568	6811	3127	1517	72	560	44655
Rama	27797	6992	2576	864	-	635	38864
Petlawad	35936	11267	4343	1854	-	400	53800
Thandla	31486	7757	2976	1916	-	280	44415
Meghnagar	25619	5940	1579	656	-	460	34254
Ranapur	23796	4741	1996	1028	-	520	32081
Total	177202	43508	16597	7835	72	2855	248069

Source: Jhabua District Statistical book 2011

Table 54: List of Total No of teachers working in schools in Jhabua district

Year/ Block	Primary Schools	Middle Schools	High Schools	High/ Higher Schools	Total
2010-2011					
Jhabua	448	218	99	47	812
Rama	529	204	64	23	820
Petlawad	728	346	84	50	1208
Thandla	311	191	64	43	609
Meghnagar	491	213	79	29	812
Ranapur	462	168	67	15	712
Total	2969	1340	457	207	4973

Source: Jhabua District Statistical book 2011

Table 55: List of Type of Wall materials used in households in Jhabua district

Total No of households	Grass/ Thatch/ Bamboo	Plastic/ Polythene	Mud/ Unburnt Brick	Wood	Stone not packed with mortar	Stone packed with mortar	G.I/Metal/Asbestos sheets	Burnt Brick	Concrete	Any other material	Total
207621	17138	660	92808	5518	8809	40829	46	41098	583	132	Total
190362	16844	633	88884	5502	8711	40648	37	28711	274	118	Rural
17259	294	27	3924	16	98	181	9	12387	309	14	Urban

Source: <http://censusindia.gov.in/> - Data as on May 2012

Table 56: List of Type of Roof materials used in households in Jhabua district

Total No of households	Grass/ Thatch/ Bamboo /Wood/ Mud	Plastic/ Polythene	Hand made Tiles	Machine made tiles	Burnt Brick	Stone/ Slate	G.I/Metal/Asbestos sheets	Concrete	Any other material	Total
207621	15898	4568	109928	44710	297	4008	11915	15864	433	Total
190362	14748	4501	107968	43741	236	2408	8867	7527	366	Rural
17259	1150	67	1960	969	61	1600	3048	8337	67	Urban

Source: <http://censusindia.gov.in/> - Data as on May 2012

Table 57: List of Small scale industries in Jhabua district

S.No	Name of Unit	Name of Place	Name of Product
1	M/S Harshvardhan Chemicals & Mineral Ltd.	Anterveliya	Sulphuric Acid Olium

2	M/S Aadiwasi Distileries Ltd.	Amarapura	Wine Bottling
3	M/S Appex Electricals Ltd.	Meghnagar	Power Distribution Transformer core coyals Covers
4	M/S Hindustan Kattha Manufacturing	Meghanagar	Kattha Kekas
5	M/S Halan Siremix Pvt.	Meghanagar	Siremix Glazed Tiles
6	M/S Megha Paks Pvt.	Meghanagar	Carogated Paper Boxes & Sheeters
7	M/S Shetal Cables & Covers Pvt.	Meghanagar	DPC Wires Aluminium & Copper Wire & Streeps
8	M/s Avani Eletromacencical febriters Pvt	Meghnagar	C.R.G.O.Lemination core & cowiles
9	M/S Halan Ind.	Bamniya	Coten seeds
10	M/S Bajrang Minerals & Griding Ind.	Malwai	Dolomite griding
11	M/S Ganesh Minerals Griding Ind.	Ambua	Dolomite Griding
12	M/S Ajnar Stone Kreshar Udyog	Udaygarh	Gitti
13	M/S Shri Rang Petrocom End.	Meghnagar	Industrial Salwet
14	M/S Raindrop Petrocom Industries	Meghanagar	Monoclora Acitic Acid
15	M/S Wasmec Ind.	Meghanagar	Acidsleri
16	M/S Sadhna Fertiligers & Griding Ind.	Meghanagar	Rock Fafet
17	M/S Gromor Interprises	Meghanagar	Rock Fafet
18	M/S Puja Cotton Ind.	Petlawad	Cotton Gining
19	M/S Agresen Cotton & Gining Ind.	Bamniya	Cotton Gining
20	M/S Natural Gold Cotton Ind.	Thandla	Cotton Gining
21	M/S Shri Radha Sagar Polypipe Ind.	Ranapur	Polithin Pipe
22	Jay Bajarg Stone Kresar	Devjhri Tah-Jhabua	Gitti
23	Bhabor Stone kresar	Khajuri Tah.Tandla	Gitti
24	Bhuria Stone kresar	Devjhir Tah	Gitti

		Jhabua	
25	Pavar Stone kresar	Aambakua Tah.Ranapur	Gitti
26	Sherani Stone kresar	Navapada Tah- Meghnagar	Gitti
27	Moni Minerals	Meghnagar	Megnis oxide
28	Maruti stone kresar	Pipaldehala Tah.Jhabua	Gitti
29	Netesh Stone kersar	Semalpada	Gitti
30	R-K-Mineral	Meghnagar	Megins oxide
31	Gyan Ganfa Stone kresar	Aanatkei Tah- Petalavd	Gitti
32	Krishna Fascchem pvt-l-	Meghnagar	Benifaket Rock papet
33	Vinamra Potin	Meghnagar	Bekri items
34	Natural Gold & Folur mill	Thandala	Meda;Rava;Suji;Atta
35	Mahalaxmi Faybars	Bamnia Tah- Petalawd	Coten Seed
36	Part Rasayn	Meghnagar	Hadrokarban Indu.Salvent
37	Ankita Inetprises	Meghnagar	Makokeyat Hadrobenjin
38	Sidik vinayak pipe Indu-	Jhabua	RCC pine
39	Mangal Rofing tiyles	NogavaTah.Meg hnagar	Rofing Tiyles
40	Halen Indu-	Bamnia	Coten Seed
41	TirupatiStone Kraesher	Chapari	Stone Chips
42	Vinya Stone Kersar	Mudat Tah.Jhabua	Stone Chips
43	Shri Minils & Cemecals	Meghnagar	Rock Paspap
44	Raj Kumar Stone Kresar	Pipaldehala Tah.Jhabua	Stone Chips
45	Vijay Indu.	Meghnagar	Dalia Aatta
46	Madhya Bhart Fafet pvt.Ltd Unit- 2	Meghnagar	Singal super faspap
47	Shakti Pikart Agency	Devjhair	Hyum pipe

		Tah.Jhabua	
48	Balaji Agro Tec	Meghnagar	MixNPK Aginies
49	Ustsav Pepisaed	Meghnagar	Pepised

Source: <http://www.jhabua.nic.in/> - Data as on May 2012

Table 58: List of No of Wireless station in Jhabua district – Block wise

Block	Wireless Station
Jhabua	4
Petlawad	5
Thandla	5
Ranapur	3
Meghnagar	2
Rama	4
Total	23

Source: Office of Superintendent of Police Jhabua – Data as on May 2012

C.8.2 Resources

- Hazard specific infrastructure and manpower will be covered here
- Usage of IDRN, IDKN, etc (updating them, latest update available etc)

Table 59: Resources with Home Guard department

Resource Type	Number	Govt, Private	Contact no. of nodal person/s
Life Jacket	64	Govt	Mr.Sumit Jain/ District Commandant 9752858851
Life Buoy	45	Govt	Mr.Sumit Jain/ District Commandant 9752858851
Search Light	01	Govt	Mr.Sumit Jain/ District Commandant 9752858851
Stretcher With trolley	05	Govt	Mr.Sumit Jain/ District Commandant 9752858851

Source: Home Guard Department of Jhabua district – Data as on May 2012

Table 60: Trained officials in Home Guard Department

No	Sainik no	Rank	Name	Locaion
1	270	Havildar	Ramanlal	Police Line Flood duty Jhabua
2	197	Naik	Shankarlal	Police Line Flood duty Jhabua
3	94	L.Naik	Balvanth singh	Police Line Flood duty Jhabua
4	41	Sainik	Chen singh	Police Line Flood duty Jhabua
5	85	Sainik	Kunwar Singh	Police Line Flood duty Jhabua
6	87	Sainik	Peter	Police Line Flood duty Jhabua
7	71	Sainik	Kamlesh	Police Line Flood duty Jhabua
8	6	Sainik	Bhur Singh	Police Line Flood duty Jhabua
9	153	Sainik	Rishi	Police Line Flood duty Jhabua
10	301	Sainik	Rajesh	Police Line Flood duty Jhabua
11	266	Sainik	Hade Singh	Home Guard Line Jhabua
12	226	Sainik	Rajesh	Home Guard Line Jhabua
13	321	Sainik	Vijay Singh	D.R.P. Line
14	182	Sainik	Kaalu Singh	Police Station Ranapur
15	47	Sainik	Rathanlal	Police Station Raipuria
16	120	Sainik	Debu	Police Station Thandla
17	274	Sainik	Ambalal	
18	8	Sainik	Dinesh	Police Station Petlawad
19	19	Sainik	Gadude Singh	D.M. Bangla Phone Duty
20	315	Sainik	Roop Singh	Home Guard Line

Source: Home Guard Department of Jhabua district – Data as on May 2012

Table 61: List of Blood Banks in Jhabua District

Block	Details	Number	Govt/Private	Contact No of Nodal Persons
-------	---------	--------	--------------	-----------------------------

Jhabua	Blood bank District Hospital	1	Govt	Blood Bank Officer Dr. A.K Patel – 9425101106 Bio Chemist Mr. Shisodiya V.S – 9425192325
Rama	-	-	-	-
Petlawad	Blood Storage Centre	1	Govt	Mr. Valchand Bhamnia 9424521278
Thandla	Blood Storage Centre	1	Govt	Dr. Markus B.M.O 9425908283
Meghnagar	Blood Bank Jeevan Jyoti Hospital	1	Pvt	Mr. Solanki 9907032261
Ranapur	-	-	-	-

Source: District Hospital Jhabua – Data as on May 2012

Table 62: List of No of Medical stores (Retail stores alone) in Jhabua district – Block wise

Block	Details	Number
Jhabua	Retail Medical store	16
Meghnagar	Retail Medical store	06
Petlawad	Retail Medical store	22
Ranapur	Retail Medical store	06
Rama	Retail Medical store	06
Thandla	Retail Medical store	13
Total		69

Source: District Hospital Jhabua – Data as on May 2012

Table 63: List of No of Medical stores (Wholesale stores alone) in Jhabua district – Block wise

Block	Details	Number
Jhabua	Wholesale Medical store	5
Meghnagar	Wholesale Medical store	1
Petlawad	Wholesale Medical store	2
Ranapur	Wholesale Medical store	0

Rama	Wholesale Medical store	0
Thandla	Wholesale Medical store	1
Total		9

Source: District Hospital Jhabua – Data as on May 2012

Table 64: List of No of Medical stores (Wholesale + Retail Medical store) in Jhabua district – Block wise

Block	Details	Number
Jhabua	Wholesale and retail Medical store	6
Meghnagar	Wholesale and retail Medical store	2
Petlawad	Wholesale and retail Medical store	3
Ranapur	Wholesale and retail Medical store	3
Rama	Wholesale and retail Medical store	1
Thandla	Wholesale and retail Medical store	3
Total		18

Source: District Hospital Jhabua – Data as on May 2012

Table 65: List of Private hospitals in Jhabua district

No.	Hospital Name	Contact Person	Address	Type
1	Sympathy day Clinic	Shrimathi Shanti Devi	58,M.G.Road, Ranapur	Nursing Home
2	M.S. Hospital	Dr.L.S. Rathore	Prathap Road, Masjid Gali, Ranapur	Nursing Home
3	Choyal Hospital	Shri Premaji puraji Choyal	Convent Road, Petlawad	Hospital
4	Mission Hospital	Dr. C. Vinya	Mission Compound, Thandla	Hospital
5	Pranit Hospital	Dr. Chandra prathap Singh	Indore- Ahmadabad Road Pitol	Nursing Home
6	Jeevan Jyothi Hospital	Father Silvester	Station road, Meghnagar	Hospital

Source: District Hospital Jhabua – Data as on May 2012

Table 66: Resources with P.W.D department

Resource Type	Quantity			Govt, Private	Contact no. of nodal person
	Working Condition	Repaired	Total		
Diesel Road Roller	3	4	7	Govt	Executive Engineer P.W.D Department 07392-244213
Truck	1	1	2	Govt	Executive Engineer P.W.D Department 07392-244213
Tractors with trolley	6	0	6	Govt	Executive Engineer P.W.D Department 07392-244213

Source: District Public Works Department Jhabua – Data as on May 2012

Table 67: Maintenance workers with P.W.D department

Resource Type	Department	Quantity	Govt, Private	Contact no. of nodal person/s
Maison	Civil	1	Govt	Executive Engineer P.W.D Department 07392-244213
Carpenter	Civil	1	Govt	Executive Engineer P.W.D Department 07392-244213
Plumber	Civil	1	Govt	Executive Engineer P.W.D Department 07392-244213
Electrician	Electrical	1	Govt	Executive Engineer P.W.D Department 07392-244213
Assistant wireman	Electrical	3	Govt	Executive Engineer P.W.D Department 07392-244213
Assistant Fitter	Mechanical	1	Govt	Executive Engineer P.W.D Department 07392-244213
Helper	Mechanical	1	Govt	Executive Engineer P.W.D Department 07392-244213

Vibrator Operator	Mechanical	1	Govt	Executive Engineer P.W.D Department 07392-244213
-------------------	------------	---	------	--

Source: District Public Works Department Jhabua – Data as on May 2012

Table 68: List of resources in fire department Block wise

Resource Type	Jhabua	Thandla	Petlawad	Ranapur	Rama	Meghnagar	Total
Fire Department	1	-	-	-	-	-	1
Fire Station	Under Construction	-	-	-	-	-	1
Fire Vehicle	3	1	1	1	-	-	6
Fire Extinguisher	4	-	-	-	-	-	4
Fire Fighters	5	2	2	2	-	-	11
Delivery Hose pipe 53mm	10	3	3	3	-	-	19
Section Pipe 100mm	4	2	2	2	-	-	10
Contact Person	Executive Engineer 07392-243328	Executive Engineer 07392-243328	Executive Engineer 07392-243328	Executive Engineer 07392-243328	-	-	NA
Emergency No	101	101	101	101	101	101	NA

Source: District Fire Department Jhabua – Data as on May 2012

Table 69: List of resources with Sanitation Department

Resource Type	Jhabua	Thandla	Petlawad	Ranapur	Rama	Meghnagar	Total
---------------	--------	---------	----------	---------	------	-----------	-------

JCB	1	-	-	-	-	-	1
Tractor	5	2	2	3	-	2	14
Trolley	5	2	2	3	-	2	14
Tanker	8	3	5	4	-	2	22
Tata magic Vehicle	1	1	-	1	-	-	3

Source: District Sanitation Department Jhabua – Data as on May 2012

Table 70: List of No of Veterinary Hospitals in Jhabua district (Block Wise)

Hospital Type	Jhabua	Thandla	Petlawad	Ranapur	Rama	Meghnagar	Total
Veterinary Hospital	1	1	3	1	2	1	9
Veterinary Dispensary	5	4	8	5	2	3	27
Artificial Insemination Centre	1	1	1	-	-	1	4
Artificial Insemination Sub Centre	7	12	16	2	6	7	50
District Veterinary Disease Investigation Laboratory	1	-	-	-	-	-	1
Kadakhnath Poultry Farm	1	-	-	-	-	-	1
Central Semen Station	1	-	-	-	-	-	1
Ranikhet Disease Eradication Scheme	1	-	-	-	-	-	1

Render Pest Unit	1	-	-	-	-	-	1
Mobile Veterinary Unit	1	-	-	-	-	-	1
Ambulatory Clinic	1	-	-	-	-	-	1
Sheep & Wool Extension Centre	-	1	-	1	-	-	2
Total	21	19	28	9	10	12	99

Source: District Veterinary Hospital Jhabua – Data as on May 2012

Table 71: List of No of PDS shops in Jhabua district – Block wise

No	Block	No Of Shops
1	Jhabua	52
2	Meghnagar	41
3	Petlawad	58
4	Thandla	42
5	Ranapur	30
6	Rama	34
Total		257

Source: District Food Department Jhabua – Data as on May 2012

Table 72: List of NGOs in Jhabua district Block wise

No	Block	No Of NGOs
1	Jhabua	59
2	Meghnagar	15
3	Petlawad	08
4	Thandla	12
5	Ranapur	11
6	Rama	0

Total	105
-------	-----

Table 73: List of Telephone Exchanges in Jhabua District

No	Name of Telephone Exchange	Capacity	Working Capacity
1	Bamnia	248	156
2	Bolasa	104	6
3	Jhabua	3000	1426
4	Jhakanwada	168	50
5	Kakanwani	152	44
6	Kalidevi	176	35
7	Kalyanpura	248	192
8	Karwad	200	98
9	Khawasa	248	112
10	Kundanpur	152	55
11	Mandli nathu	152	5
12	Meghnagar	1256	261
13	Mohankot	128	2
14	Para	248	155
15	Parwalia	112	17
16	Petlawad	1448	310
17	Pitol	248	57
18	Raipuria	248	218
19	Rajala	72	4
20	Rambhapur	248	63
21	Ranapur	968	245
22	Sarngi	248	50
23	Thandla	1640	533

Source: BSNL office Jhabua – Data as on May 2012

Table 74: List of Temporary shelters

S.No.	Temporary shelter	Block	Contact Details
1	Govt. Degree College, Jhabua	Jhabua	07392- 243349
2	Girls Degree College, Jhabua	Jhabua	07392- 244420
3	Govt. Polytecnic College, Jhabua	Jhabua	07392- 243352
4	Govt. College, Petlawad	Petlawad	07392- 261451
5	Govt. College , Thandla	Thandla	

C.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.

C.8.4 Important Contact numbers

Table 75: List of Central Government Organization and its contact details

S.No	Name of organization	Designation	Phone	Fax	E-mail address
1.	Telecom District Engineer	TDE	*243800	.	.
2.	Head post office Jhabua	Post Master	244217	07392-243440	.
3.	Doordarshan center	Asstt.Engg.	243326	.	.
4.	Micro Tower	Asstt.Engg.	243337	.	.
5.	GAIL	General Manager	244580	.	.
6.	Information & Broadcasting	Regional publicity Officer	244276	.	.
7.	Central Intelligent Bureau	C.I.O.	243323	.	.
8.	Nehru Youth Centre	.	244298	.	.
9.	N.C.H.S.E.	.	243038	.	.
10.	.I.S.R.O.	Manager	244243	.	.
11.	Telegraphs	S.D.O.	244514	.	.
12.	NIC Distt. Centre *	D.I.O.	243409		mpjha@nic.in

Source: <http://www.jhabua.nic.in/> – Data as on May 2012

Table 76: List of Public Utility Departments and their contact details

S. No.	Name of Department	Phone	Fax	Email
1.	Head Post Office	* 243440	.	.
2.	Branch Manager R.R.B. Jhabua	244318	.	.
3.	Branch Manager L.D.B. Jhabua	231267	.	.
4.	Branch Manager C.C.B. Jhabua	244370	.	.
5.	General Manager D.C.B. Jhabua	243377	.	.
6.	Branch Manager B.B.O. Jhabua	244256	.	.
7.	Branch Manager S.B.I. Jhabua	244376	.	.
8.	Branch Manager S.B.Indore Jhabua	244381	.	.
9.	Manager Zila Thok Upbhokta Bhandar Jhabua	244277	.	.
10.	Telephone Exchange	245000	.	.
11.	C.M. & H.O. Office	243312	.	.
12.	Life Insurance Co. of India	.	.	.
13.	Police Station	243412	.	.
14.	District Hospital	243315	.	.
15.	Asstt. Eng. ,P.H.E. (Anas)	243012	.	.

Source: <http://www.jhabua.nic.in/> – Data as on May 2012

Table 77: List of State Government Organizations and its contact details

S.No.	Name of Organisation	Desig.	Phone	Fax	Email
1	Collectorate	Collector	243401	243330	dmjhabua@nic.in
2	Collectorate	Joint Collector	243805	243330	-
3	Zila Panchayat Jhabua	C.E.O.	244323	243611	ceozpja@mp.gov.in
4	District Treasury	Treasury Officer	243657		
5	Tribal Walfair Dept.	A.C.	244240		-
6	Zila Yojna Mandal	DPO	243661		-

7	District Exise Officer	DEO	243653		-
8	Agriculture Dept.	Dy. Dir.	244241		
9	Panchayat Dept.	Dy.Dir.	244285		
10	Food Deptt.	F.O.	244247		-
11	Women & Children Dept.	DWCDO	244397		
12	Krishi Vgyan Kendra	Training Officer	244367		-
13	S.D. M. Office,Jhabua	S.D.M.	243318		-
14	S.D. M. Office,Thandla	S.D.M.	276341		-
15	S.D. M. Office,Petlawad	S.D.M.	261781		-
16	Tehsil Office,Thandla	Tehsildar	276341		-
17	Tehsil Office,Petlawad	Tehsildar	261447		-
18	Tehsil Office,Meghnagar	Tehsildar	284310		-
19	Tehsil Office,Jhabua	Tehsildar	244262		-
20	Tehsil Office,Ranapur	Tehsildar	283271		-
21	Janpad Panchayat, Thandla	C.E.O	276321		-
22	Janpad Panchayat, Petlawad	C.E.O	265801		-
23	Janpad Panchayat, Meghnagar	C.E.O	284410		-
24	Janpad Panchayat, Jhabua	C.E.O	243050		-
25	Janpad Panchayat, Rama	C.E.O	282310		-
26	Janpad Panchayat, Ranapur	C.E.O	283249		-
27	District Court	D.J.	243350		
28	Police Dept.	S.P.	243410/ 243696	243476	-
29	Wireless Station	R.I.	243092		-
30	Forest Deptt.	DFO(T)	243316		dfotjhab@mp.gov.in
31	Forest Deptt.	DFO(SF)	243837		
32	Health Deptt.	CM & HO	243312		
33	P.W.D. Jhabua	E.E.	244213		-
34	Water Resources Deptt.	E.E	244225		-
35	R.E.S.	E.E.	244548		-
36	P.H.E.	E.E.	244306		
37	M.P.E.B.	Suptt.Eng.	243901		-
38	Education Deptt.	Dy. Dir.	244249		-
39	Information & Publicity DEPT.	PRO	243324		-
40	Stattistical Dept.	DSO	243861		-
41	Antyavaysayi	E.O.	244448		-

42	Education (Adult)	D.A.O.	244201		-
43	District Registrar	D.R.	244532		
44	D.P.E.P.	DPC	243093		
45	Veternary	Dy.Dir.	244354		
46	Dist. Trade & Industry Centre	G.M.	243659		
47	Employment Deptt.	D.E.O.	244393		-
48	Labour	L.O.	244528		-
49	Fishrsh Dept .	Astt.Dir.	244386		-
50	Jila Jail	Suptd.	243321		-
51	Bal Jail	Supdt.	244332		-
52	Home Guard	Distt. Comondent	244304		-
53	Police Station	T.I.	243412		-
54	Sales Tax Dept.	Sales Tax Officer	244267		-
55	M.P. Housing Board		242673		-
56	M.P. Hastshilp		243422		-
57	M.P. State Civil Supply Corpo.		244368		-
58	Milk Chilling Centre	Manager	243327		-
59	MP Adivasi Vitta & Vikas Nigam		243430		-

Source: <http://www.jhabua.nic.in/> – Data as on May 2012

Table 78: List of Chief Doctors in each Veterinary hospital and their contact details

No	Name	Designation	Location	Contact No
1	Dr. L.N. Ayarwal	Deputy Director	Office of Veterinary Department	989376439
2	Dr. Vinodh Shukla	V.A.S	Jhabua	9425102968
3	Dr. Megh singh bahel	V.A.S	Raniheth , Jhabua	9424519717
4	Dr. S.K Dhuriya	V.A.S	Petlawad	9425486882
5	Dr. Naan Singh aghade	V.A.S	Jhabua	9926045124
6	Dr. Dinesh Verma	V.A.S	Jhabua	9907229179
7	Post vacant	V.A.S	Thandla	
8	Dr. Ramsjeevan prajapti	V.A.S	Jhakanwada	8085308278
9	Dr. Rajneesh Sharma	V.A.S	Petlawad	7415320038

10	Dr. Rambaransingh Janaria	V.A.S	Bhamnia	9691001855
11	Dr. Amar singh Diwakar	V.E.O	Petlawad	9926036718
12	Dr. Sholendra Kruson	V.E.O	Ranapur	9770390955
13	Dr. Suresh Kumar Gowda	V.E.O	Meghnagar	9425992222
14	Kunwarsingh Baidia	V.E.O	Jhabua	9424520950

Source: District Veterinary Hospital Jhabua – Data as on May 2012

Table 79: Contact details of Medical nodal officers

No	Name	Designation	Location	Contact No
1	Dr. Rajni Dawar	C.M.H.O	District Hospital Jhabua	07392-243312 9425485854
2	Dr. Rahul Gadaw	N.C.D	District Hospital Jhabua	07392-244113 9981401675

Table 80: Contact details of Medical officers during Emergency – Team 1

No	Name	Designation	Location	Contact No
1	Dr. Sanjay malviya	Medical Specialist	District Hospital Jhabua	07392-243312
2	Dr. S.S. Gatariya	Medical officer	District Hospital Jhabua	07392-243312
3	Dr. Jagdeesh	Child Specialist	District Hospital Jhabua	07392-243312

Table 81: Contact details of Medical officers during Emergency – Team 2

No	Name	Designation	Location	Contact No
1	Dr. Jitendra Bamniya	Medical officer (PGMO)	District Hospital Jhabua	07392-243312
2	Dr. R.G.Kousal	Child Specialist	District Hospital Jhabua	07392-243312

C.8.5 Do's and don'ts of all possible hazards

EARTHQUAKES

What to Do Before an Earthquake

- Repair deep plaster cracks in ceilings and foundations. Get expert advice if there are signs of structural defects.
- Anchor overhead lighting fixtures to the ceiling.
- Follow BIS codes relevant to your area for building standards
- Fasten shelves securely to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items such as bottled foods, glass, and china in low, closed cabinets with latches.
- Hang heavy items such as pictures and mirrors away from beds, settees, and anywhere people sit.
- Brace overhead light and fan fixtures.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks.
- Secure a water heater, LPG cylinder etc., by strapping it to the wall studs and bolting it to the floor.
- Store weed killers, pesticides, and flammable products securely in closed cabinets with latches and on bottom shelves.
- Identify safe places indoors and outdoors.
 1. Under strong dining table, bed
 2. Against an inside wall
 3. Away from where glass could shatter around windows, mirrors, pictures, or where heavy bookcases or other heavy furniture could fall over
 4. In the open, away from buildings, trees, telephone and electrical lines, flyovers, bridges
- Educate yourself and family members
- Know emergency telephone numbers (doctor, hospital, police, etc)

Have a disaster emergency kit ready

- Battery operated torch
- Extra batteries
- Battery operated radio
- First aid kit and manual
- Emergency food (dry items) and water (packed and sealed)
- Candles and matches in a waterproof container
- Knife
- Chlorine tablets or powdered water purifiers
- Can opener.
- Essential medicines
- Cash and credit cards
- Thick ropes and cords
- Sturdy shoes

Develop an emergency communication plan

1. In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school), develop a plan for reuniting after the disaster.
2. Ask an out-of-state relative or friend to serve as the 'family contact' After a disaster, it's often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

Help your community get ready

1. Publish a special section in your local newspaper with emergency information on earthquakes. Localize the information by printing the phone numbers of local emergency services offices and hospitals.
2. Conduct a week-long series on locating hazards in the home.
3. Work with local emergency services and officials to prepare special reports for people with mobility impairments on what to do during an earthquake.
4. Provide tips on conducting earthquake drills in the home.
5. Interview representatives of the gas, electric, and water companies about shutting off utilities.

Work together in your community to apply your knowledge to building codes, retrofitting programmes, hazard hunts, and neighborhood and family emergency plans.

What to Do during an Earthquake

- Stay as safe as possible during an earthquake. Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur. Minimize your movements to a few steps to a nearby safe place and stay indoors until the shaking has stopped and you are sure exiting is safe.

If indoors

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, loadbearing doorway.

- Stay inside until the shaking stops and it is safe to go outside. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.
- DO NOT use the elevators.

If outdoors

- Stay there.
- Move away from buildings, trees, streetlights, and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

If in a moving vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

If trapped under debris

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

After an earthquake

- Keep calm, switch on the radio/TV and obey any instructions you hear on it.
- Keep away from beaches and low banks of rivers. Huge waves may sweep in.
- Expect aftershocks. Be prepared.
- Turn off the water, gas and electricity.
- Do not smoke and do not light matches or use a cigarette lighter. Do not turn on switches. There may be gas leaks or short-circuits.
- Use a torch.
- If there is a fire, try to put it out. If you cannot, call the fire brigade.
- If people are seriously injured, do not move them unless they are in danger.
- Immediately clean up any inflammable products that may have spilled (alcohol, paint, etc).
- If you know that people have been buried, tell the rescue teams. Do not rush and do not worsen the situation of injured persons or your own situation.
- Avoid places where there are loose electric wires and do not touch any metal object in contact with them.

- Do not drink water from open containers without having examined it and filtered it through a sieve, a filter or an ordinary clean cloth.
- If your home is badly damaged, you will have to leave it. Collect water containers, food, and ordinary and special medicines (for persons with heart complaints, diabetes, etc.)
- Do not re-enter badly damaged buildings and do not go near damaged structures.

Flood

Before a Flood to prepare for a flood, you should:

- Avoid building in a flood prone area unless you elevate and reinforce your home.
- Elevate the furnace, water heater, and electric panel if susceptible to flooding.
- Install "check valves" in sewer traps to prevent floodwater from backing up into the drains of your home.
- Contact community officials to find out if they are planning to construct barriers (levees, beams, floodwalls) to stop floodwater from entering the homes in your area.
- Seal the walls in your basement with waterproofing compounds to avoid seepage.

During a Flood If a flood is likely in your area, you should:

- Listen to the radio or television for information.
- Be aware that flash flooding can occur. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
- Be aware of streams, drainage channels, canyons, and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warnings as rain clouds or heavy rain.

If you must prepare to evacuate, you should do the following:

- Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.
- Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.

If you have to leave your home, remember these evacuation tips:

- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive into flooded areas. If floodwaters rise around your car, abandon the car and move to higher ground if you can do so safely. You and the vehicle can be quickly swept away.

Driving Flood Facts

The following are important points to remember when driving in flood conditions:

- Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling.
- A foot of water will float many vehicles.

- Two feet of rushing water can carry away most vehicles including sport utility vehicles (SUV's) and pick-ups.

After a Flood

The following are guidelines for the period following a flood:

- Listen for news reports to learn whether the community's water supply is safe to drink.
- Avoid floodwaters; water may be contaminated by oil, gasoline, or raw sewage. Water may also be electrically charged from underground or downed power lines.
- Avoid moving water.
- Be aware of areas where floodwaters have receded. Roads may have weakened and could collapse under the weight of a vehicle.
- Stay away from downed power lines, and report them to the power company.
- Return home only when authorities indicate it is safe.
- Stay out of any building if it is surrounded by floodwaters.
- Use extreme caution when entering buildings; there may be hidden damage, particularly in foundations.
- Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are serious health hazards.
- Clean and disinfect everything that got wet. Mud left from floodwater can contain sewage and chemicals.

Flood: Know Your Terms

Familiarize yourself with these terms to help identify a flood hazard:

- **Flood Watch:** Flooding is possible. Tune in to Local Radio for Weather Services, commercial radio, or television for information.
- **Flash Flood Watch:** Flash flooding is possible. Be prepared to move to higher ground; listen to Local Radio for Weather Services, commercial radio, or television for information.
- **Flood Warning:** Flooding is occurring or will occur soon; if advised to evacuate, do so immediately.
- **Flash Flood Warning:** A flash flood is occurring; seek higher ground on foot immediately.

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 Defense and Home Guard organization 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 100. 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 Defense / 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.

Don'ts

- Do not encourage rumors.
- Do not blame any community for any crises.
- Do not encourage communal hatred in such situations.

Your Place of Work

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 organize periodic mockup drills for fire fighting and escape routes.
- Drills for bomb blast, threats be organized and practiced.
- Air/Helicopter evacuation be examined and organized from selected rooftops of high rises.
- Firefighting equipment be kept serviceable and periodic check is effected.
- Office societies be organized 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.

Dos

During Transit

- 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'ts

- 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.

C.8.6 Detailed Maps

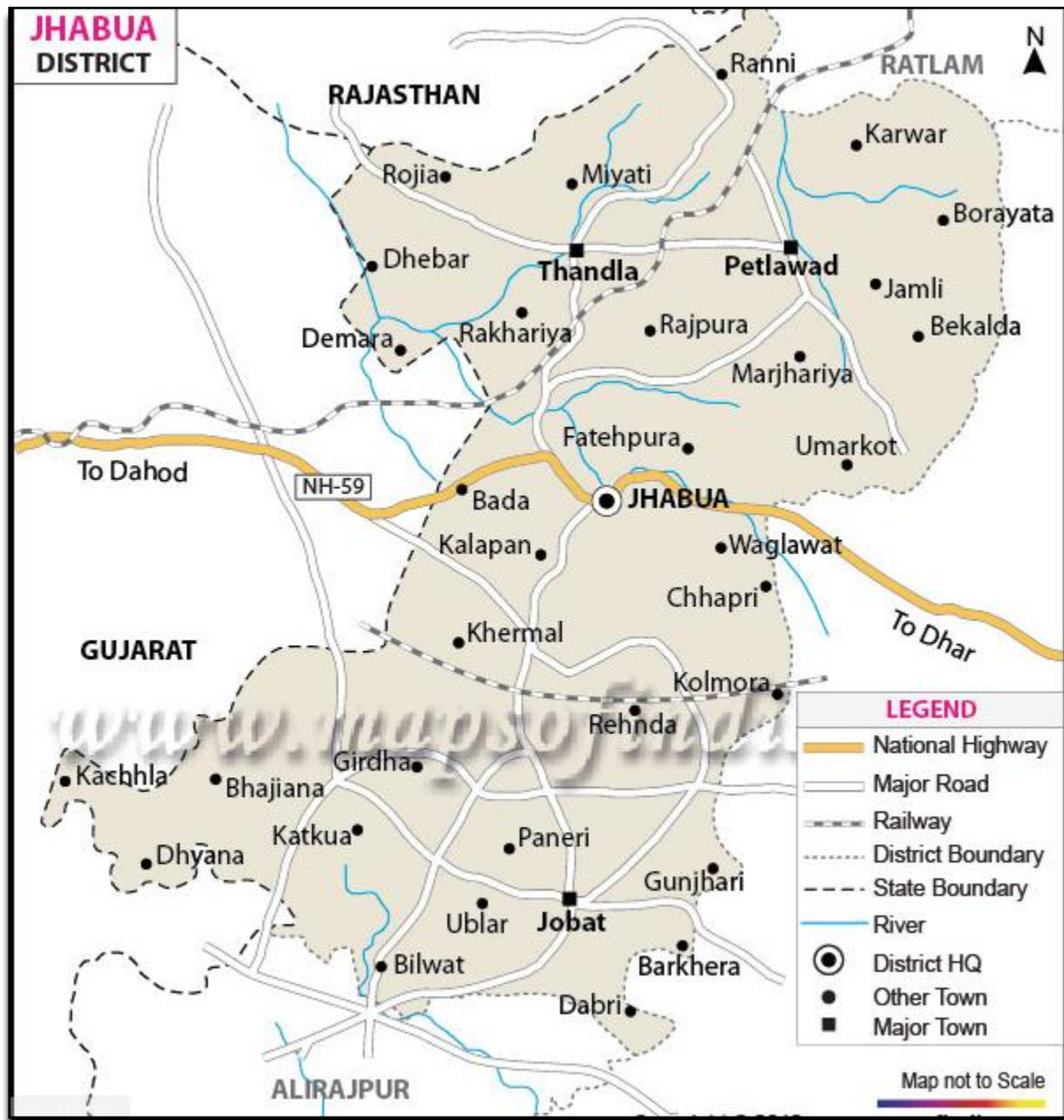


Figure 8: Jhabua District Map

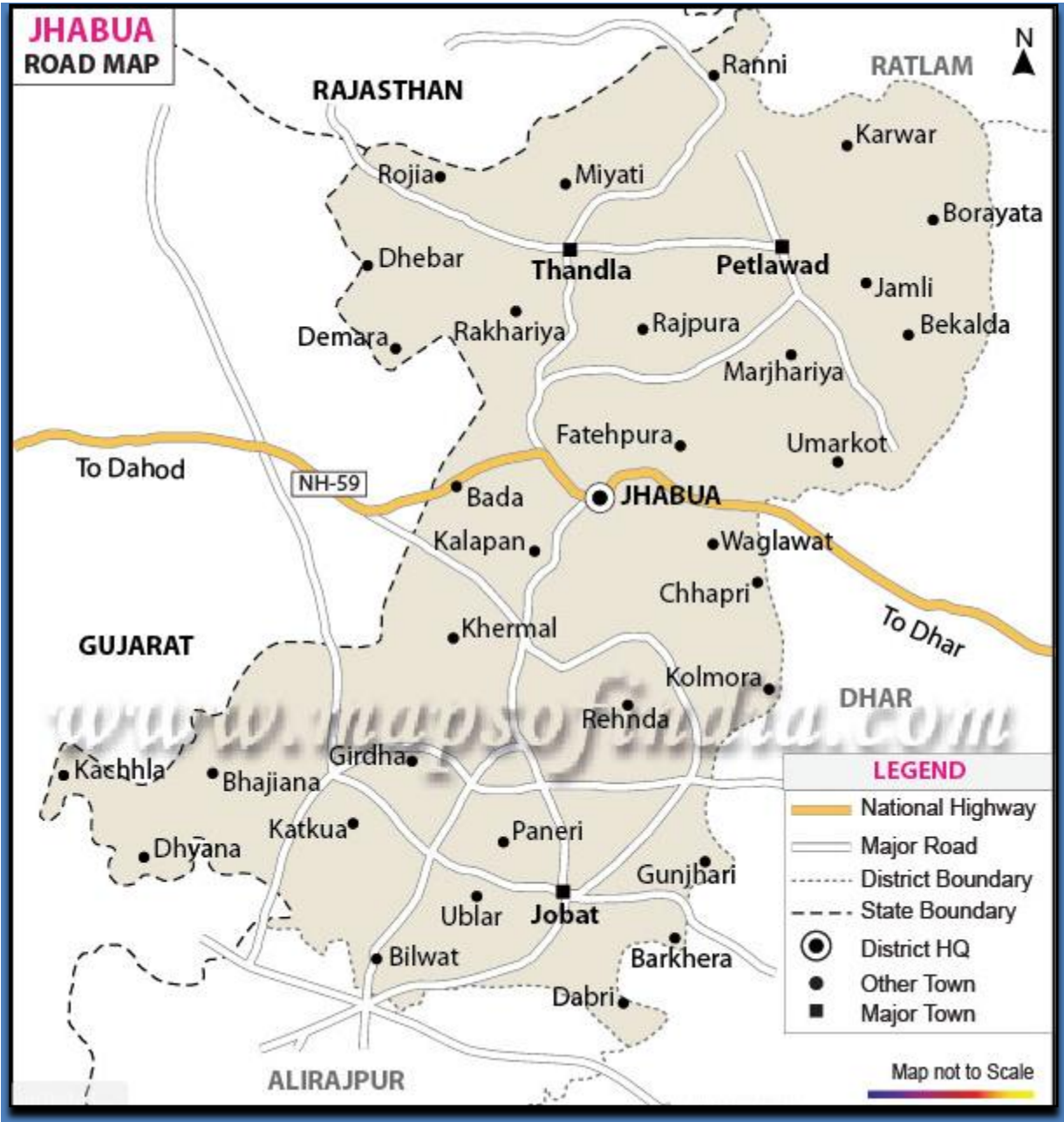


Figure 9: Road Map of Jhabua District

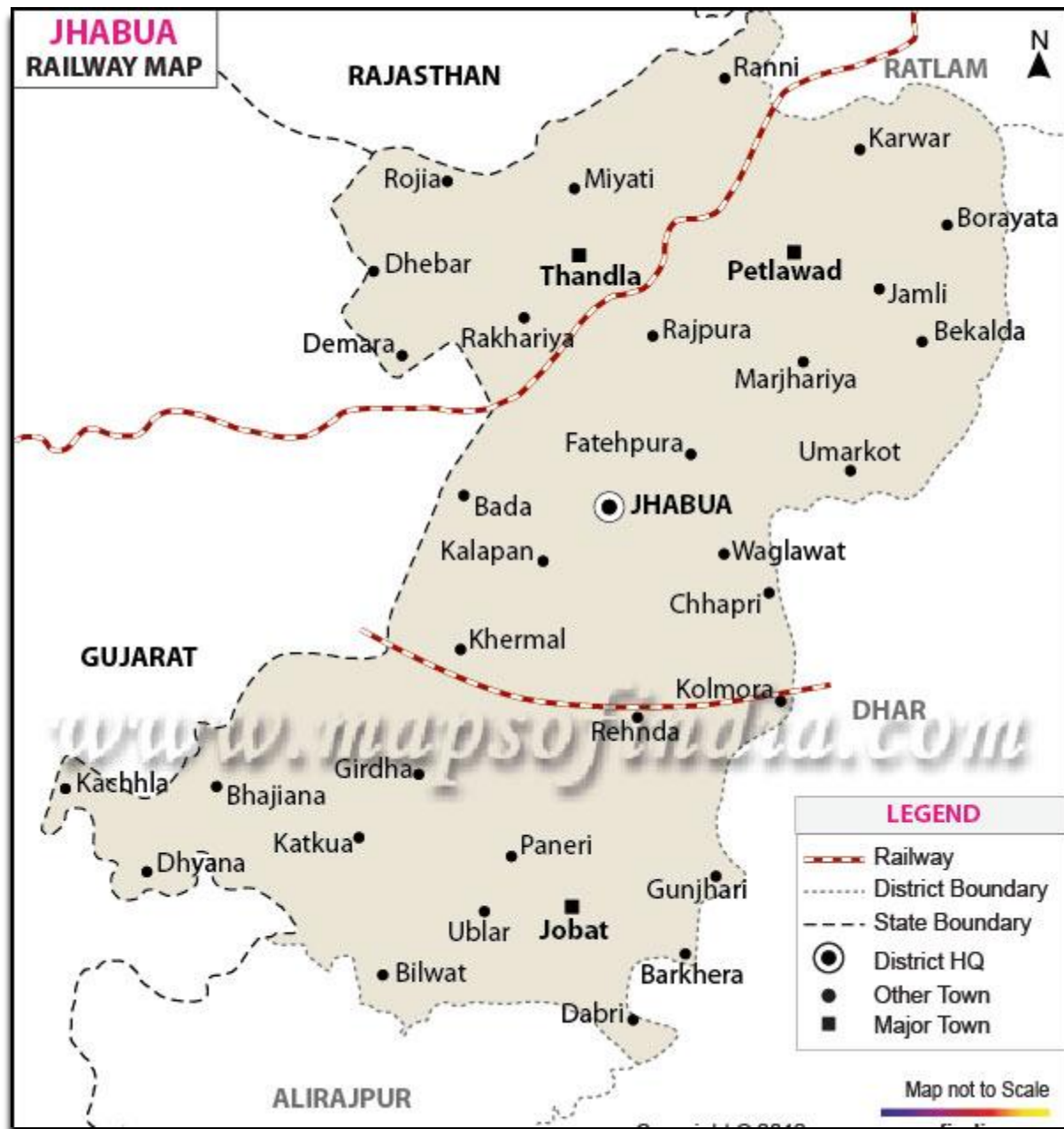


Figure 10: Rail Map of Jhabua district



Figure 12: Ranapur Tehsil Map

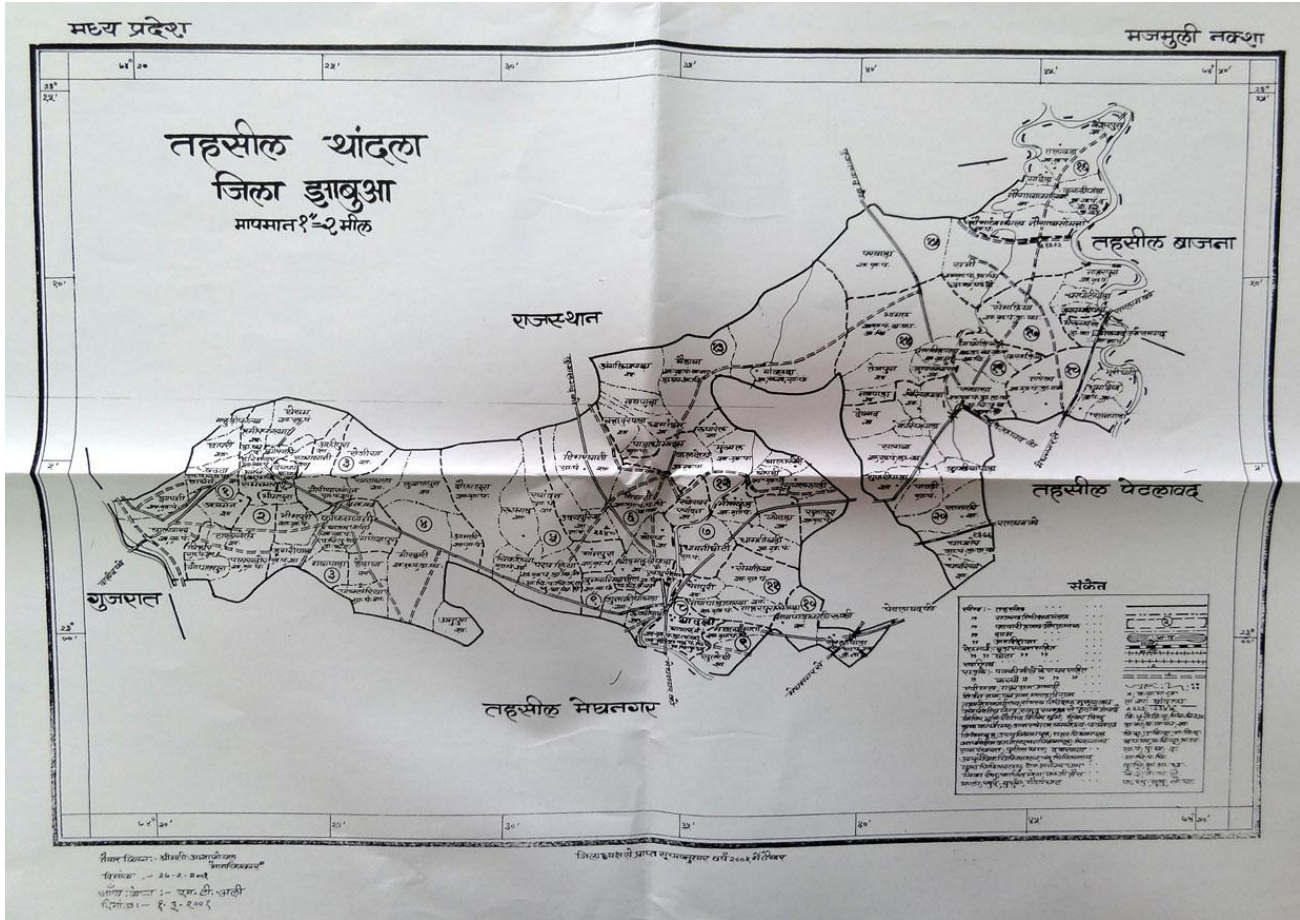


Figure 13: Thandla Tehsil Map

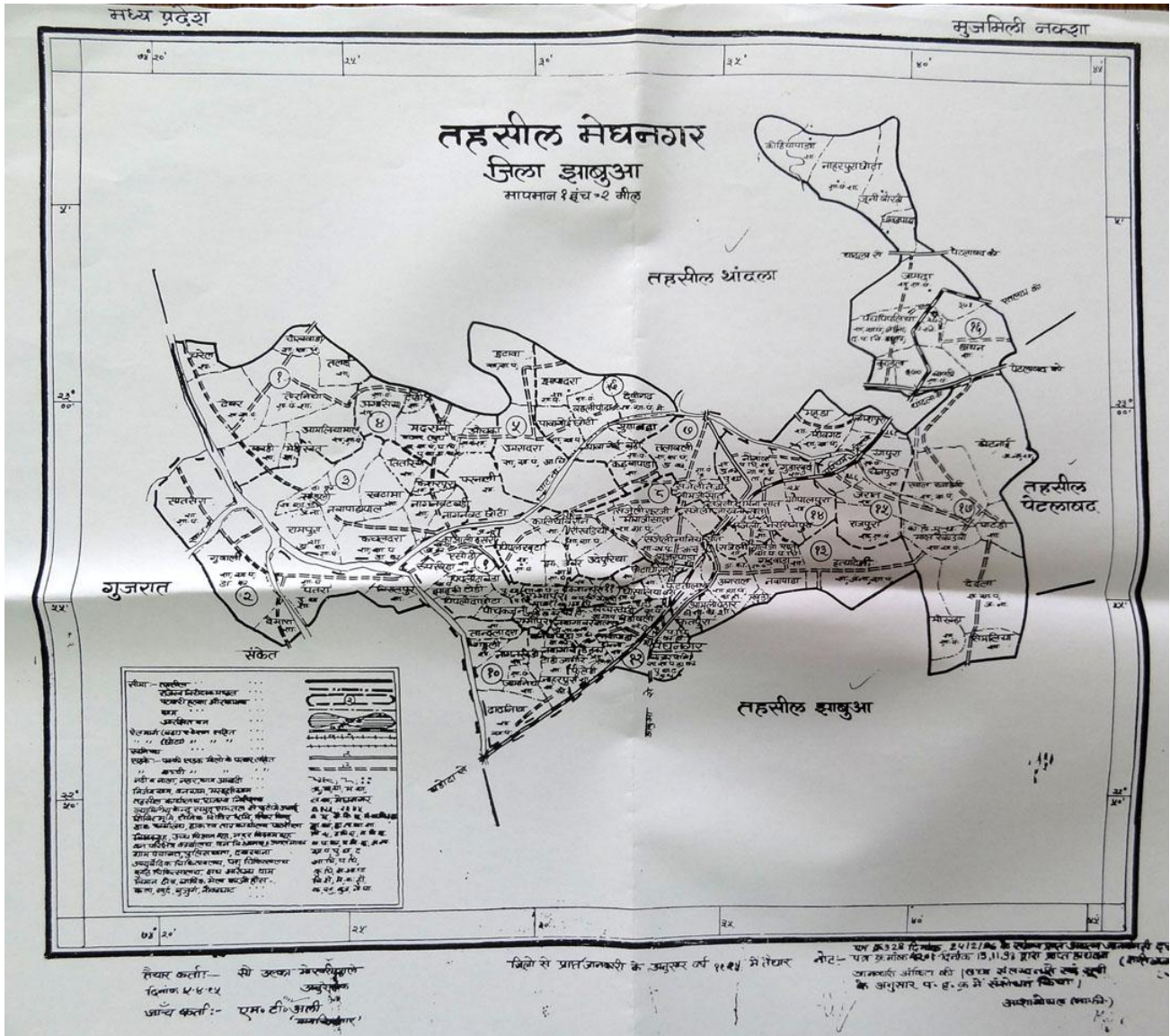


Figure 14: Meghnagar tehsil Map

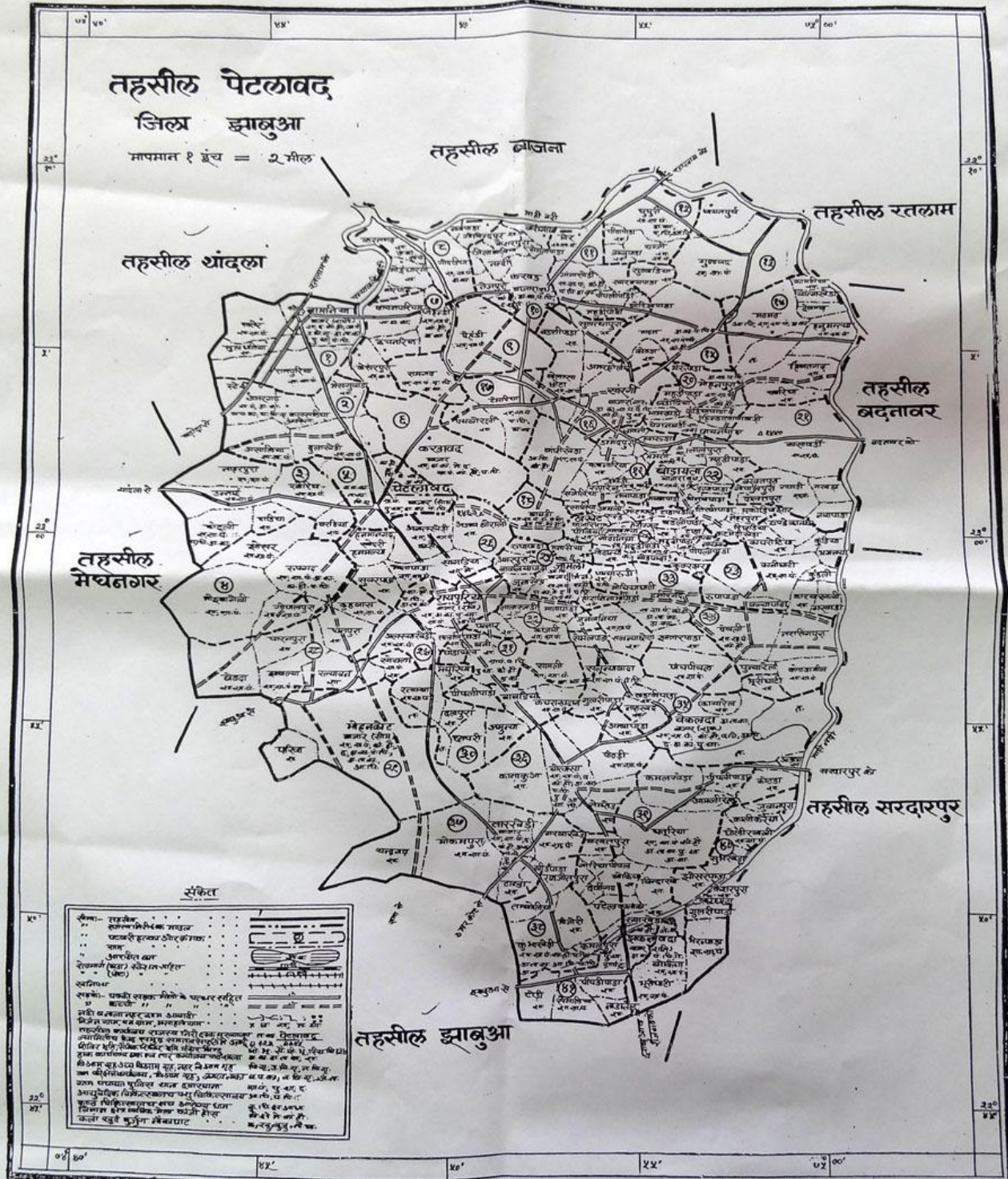


Figure 15: Petlawad Tehsil Map

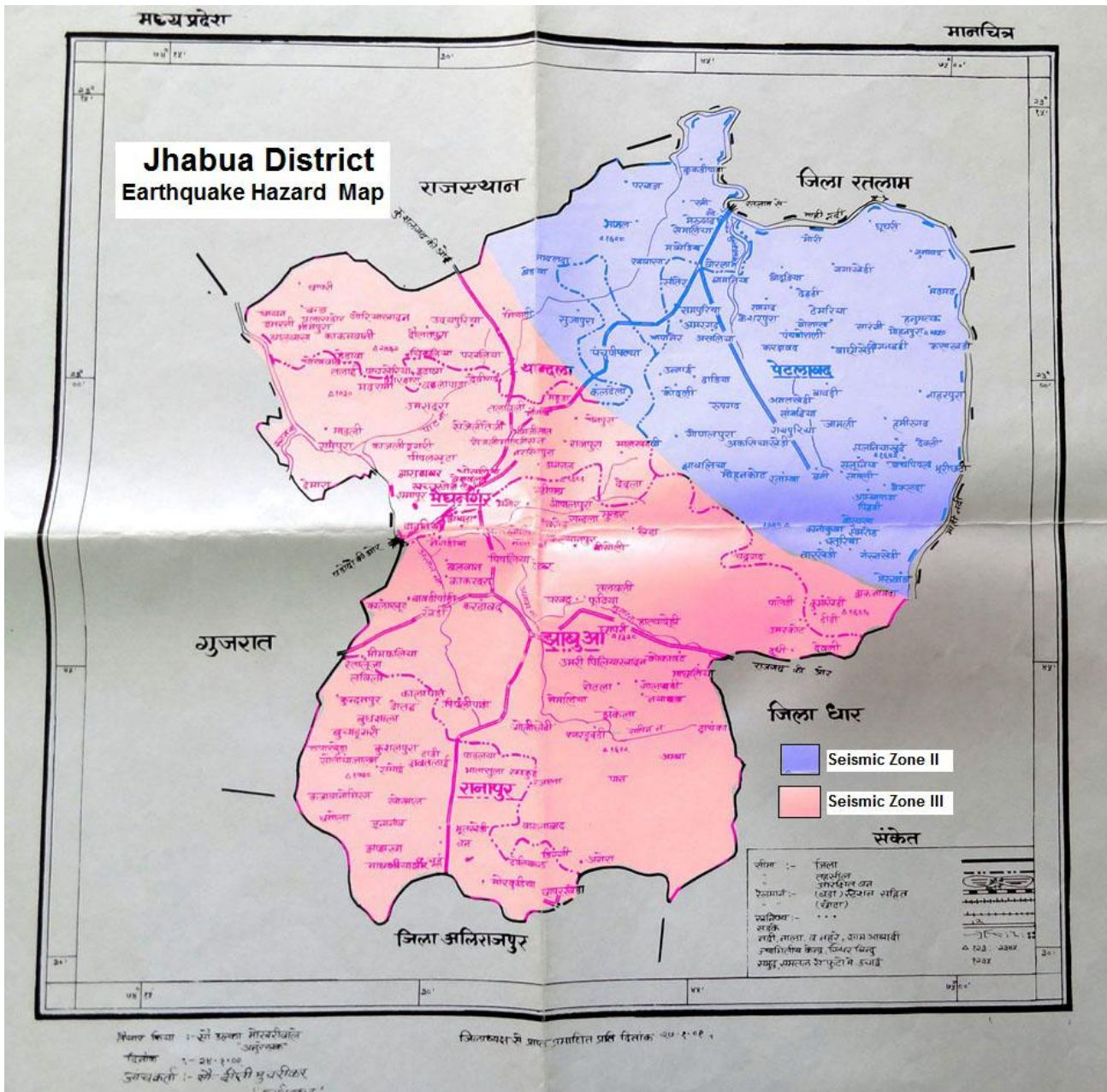


Figure 16: Jhabua Earthquake Seismic Zone Map

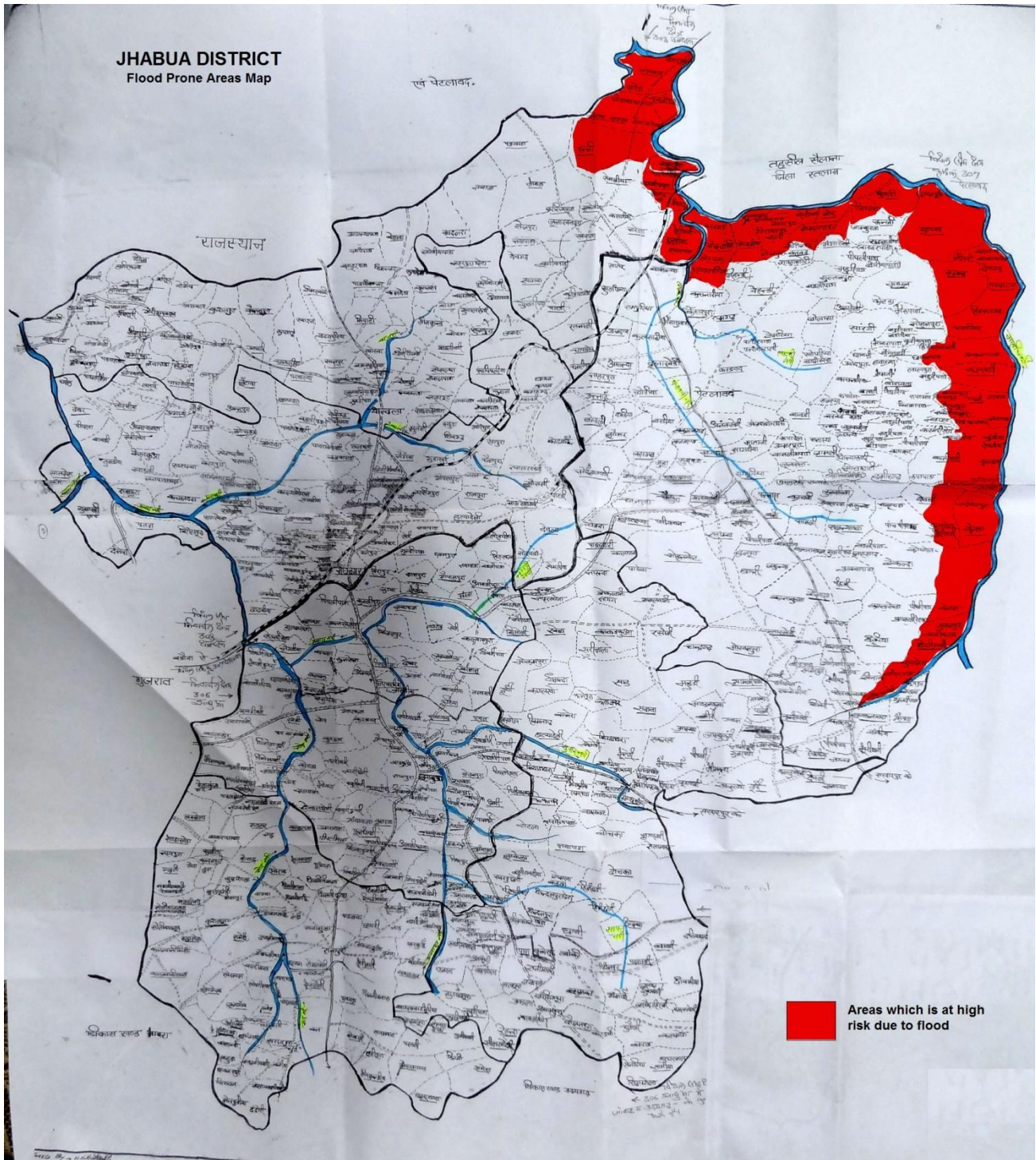


Figure 17: Flood prone Areas of Jhabua district Map

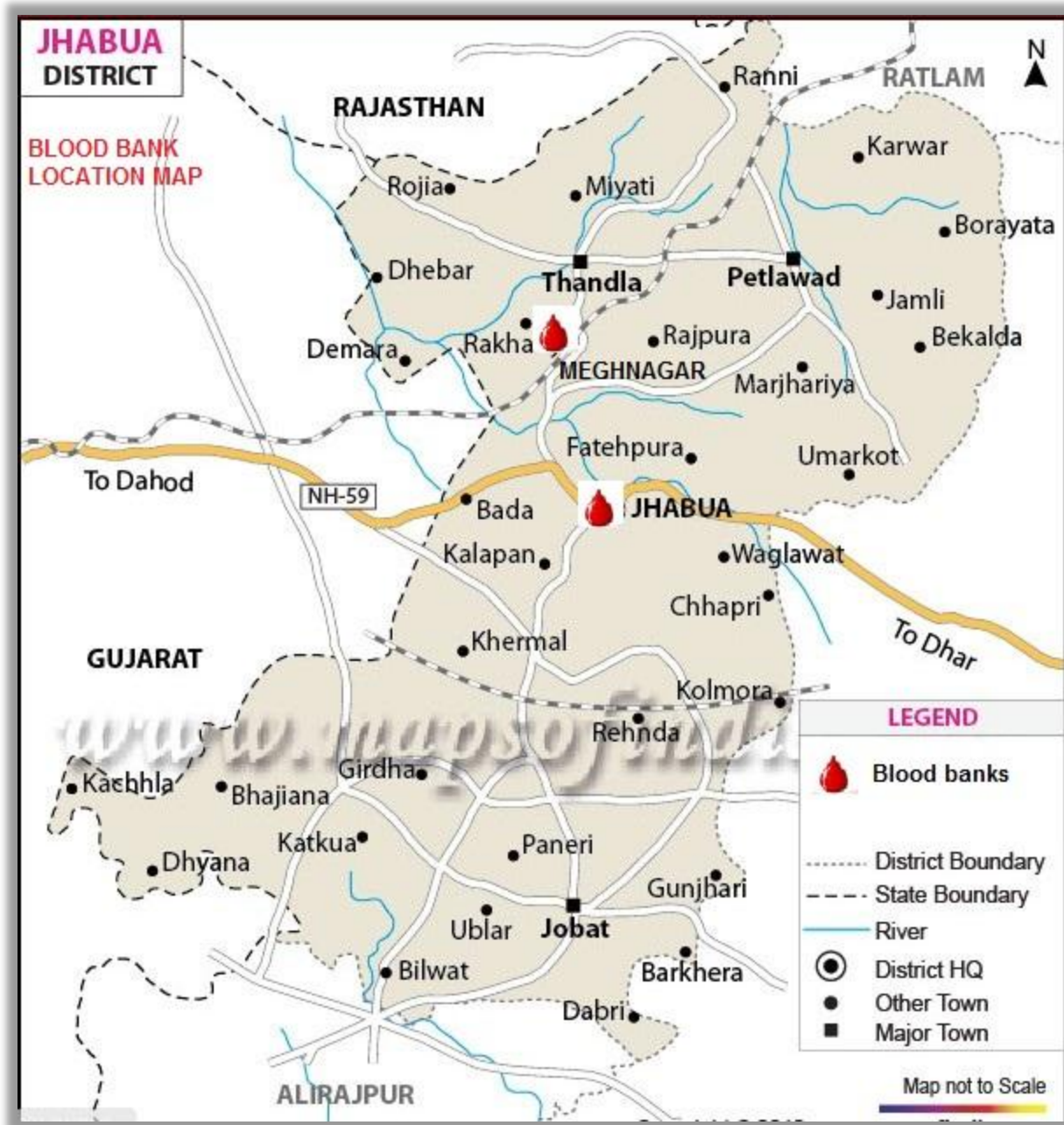


Figure 18: Blood bank centers of Jhabua district map

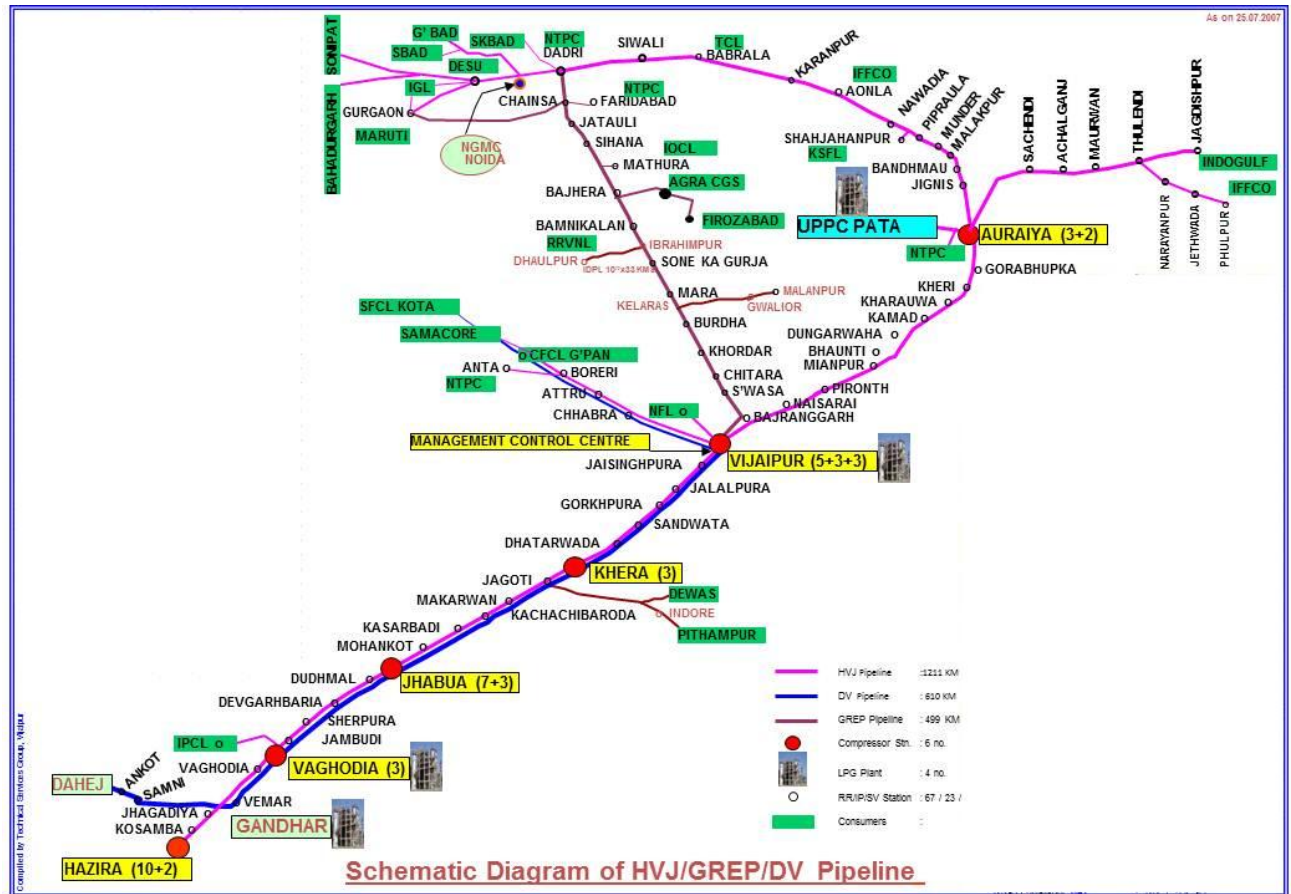


Figure 19: Diagram of HVJ/GREP/DV Pipeline