

District Disaster Management Plan Khandwa

For School of Good Governance & Policy Analysis,
Government of Madhya Pradesh, Bhopal

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TABLE OF CONTENTS OF DISTRICT DISASTER MANAGEMENT PLAN

A . GENERAL**8**

1. Overview	8
1.1 District Profile	8
1.1.1 Location and Administrative divisions	8
1.1.2 Geography and Topography	9
1.1.3 Demography and Socio Economics	10
1.1.4 Climate and Weather	10
1.1.5 Health (Medical)	11
1.1.6 Education	12
1.1.7 Agriculture and Land use	14
1.1.8 Housing patterns	15
1.1.9 Industrial set ups	15
1.1.10 Transport and Communication Network	16
1.1.11 Power stations and Electricity installations	16
1.1.12 Major historical, religious places, tourist spots	17
1.2 Scope and Ownership of District Disaster Management Plan	17
1.2.1 Authority of the Plan	17
1.2.2 Responsibility & Accountability of the Plan	17
1.3 Purpose of the Plan	18
1.4 Objectives	18
1.5 Approach	18
2. Institutional Arrangements	18
2.1 District Disaster Management Authority	18
2.2 District Disaster Management Committee	18
2.3 District Emergency Operations Center	19
2.4 District Disaster Information Management System	19
2.5 Urban Area Disaster Management Committee	19
2.6 Block Level Disaster Management Committee	20
2.7 Gram Panchayat / Village Disaster Management Committee	20

B. HAZARD, VULNERABILITY, CAPACITY ASSESSMENT AND RISK PROFILING 21

1. Hazards Assessment	21
1.1 History of past disasters	21
1.2 Major applicable hazards	22
1.3 Seasonality of hazards	22
2. Vulnerability Analysis – [Physical , Social , Economic ,Natural and Institutional]	22
3. Capacity Analysis - [Physical , Social , Economic , Institutional, Natural, Resources]	23
4. Risk Analysis	24
4.1 Potential Impacts of applicable hazards and existing vulnerabilities	24
4.2 Risk Profiling of the district	25

C. DISTRICT LEVEL DISASTER MANAGEMENT PLANNING 26

1. District Action Plans	26
1.1 Risk Mitigation Plan	26
1.1.1 Scope of Integrating Risk Reduction in Development Schemes	26
1.1.2 Training & Capacity Building	27
1.1.3 Community Initiatives	27
1.1.4 Risk Management Funding	28
1.2 Preparedness Plan	28
1.2.1 Preparedness before response	28
1.2.2 Pre-disaster Warning, Alerts	28
1.2.3 Evacuation preparedness	29
1.2.4 Organizing mock drills	29
1.3 Response Plan	30

1.3.1 Disaster Emergency Response Force	
30	
1.3.2 Crisis Management direction and coordination	30
1.3.3 Incident Command System	
30	
1.3.4 Rapid damage assessment and reporting	
31	
1.3.5 Search and rescue	
33	
1.3.6 Medical response	
33	
1.3.7 Logistic arrangements	
34	
1.3.8 Communications	
34	
1.3.9 Temporary shelter management	
34	
1.3.10 Water and Sanitation	
35	
1.3.11 Law and order	
35	
1.3.12 Public grievances/ media management	35
1.3.13 Animal care	36
1.3.14 Management of deceased	36
1.3.15 Civil Defense and Home Guards	36
1.3.16 Role of Private Security	36
1.3.17 NGOs and Voluntary organizations	36
1.3.18 Relief management planning	37
1.3.19 Media management	
37	
1.3.20 Fire Services	
37	
1.4 Recovery and Rehabilitation Plan	
38	
1.4.1 Restoration of basic infrastructure	
38	
1.4.2 Reconstruction of damaged buildings/ social infrastructure	
38	

1.4.3 Restoration of livelihood	38
1.4.4 Psycho-social interventions	38
1.5 Cross cutting elements	39
1.5.1 Community Based Disaster Management	39
1.5.2 Needs of the Special vulnerability Groups	39
1.5.3 Addressing climate induced anthropogenic issues	39
2 Standard Operating Procedures:	40
2.1 General SOPs for each line department	40
2.2 Hazard Specific SOPs	41
3 Financial Provisions for Disaster Management	41
3.1 District Disaster Response Fund	41
3.2 District Disaster Mitigation Fund	41
4 Coordination Mechanisms with Other Stakeholders	42
4.1 Mapping of Stakeholders in the District	42
4.1.1 Public and Private Sectors	42
4.1.2 NGOs and CBOs	42
4.1.3 Religious Institutions	42
4.1.4 Academic Institutions	43
4.1.5 International Humanitarian Organizations	43
4.2 Responsibilities of the Stakeholders	43

5 Inter- District Coordination Mechanisms – [Standard Operating Procedures / Protocols] 43

6 Intra- District Coordination Mechanisms – [with Block Headquarters]
43

7 Dissemination of the Plan
44

7.1 Plan Evaluation 44

7.2 Plan Update 44

8 Annexure:
45

8.1 Important Contact Numbers 45

8.2 District profile support files 45

8.3 Inventory of resources 45

8.4 Media related detailed information 45

8.5 Do's and Don'ts of potential hazards 45

8.6 Detailed maps 45

Structure of District Disaster Management Plan (DDMP)

A. GENERAL

A 1 Overview

A 1.1 District Profile

A 1.1.1 Location and administrative divisions

The district East Nimar Khandwa is located in the centre of India. There are a lot of religious places in Khandwa those including Omkareswar Temple of Mandhata, Famous DADAJI Dhooni Wale, Saint Singaji and Jain temple Siddhwarkoot. Pandit MakhanLal Chaturvedi Ji worked here and this is Iso birth place of famous singer Sh. Kishor Kumar. People of every religion live in harmony with each other.

Table A 1.1.1

Location (in degrees) -	Latitude – 21⁰-33' to 22⁰-25' Longitude - 76⁰-10' to 77⁰-13'
District Area (in sq. kms.) -	8307
Administrative information-	
No. of sub divisions:	3
No. of Tehsil:	3(Khandwa, Pandhana, Harsood)
No. of Municipal Boards	1
No. of Blocks:	7(Khandwa, Punasa, Chegaon, Pandhana, Harsood, Khalwa, Balri)
No. of Gram Panchayats:	422
No. of Villages:	710
No. of Police Stations:	15
No. of Post Offices:	113
Year of district formation:	August,15, 2003 (Burhanpur separated from it)
Name of adjacent districts:	Khargone, Dewas, Harda, Burhanpur, Amrawati

A 1.1.2 Geography and Topography

The district is located in Eastern hemisphere of Globe and South-West corner of M.P. ranging from latitude 21⁰-33' to 22⁰-25' and longitude 76⁰-10' to 77⁰-13'. Area of district is 8307 square km and there are total 710 villages. The neighboring villages are Khargone, Dewas, Burhanpur, Harda and Amravati.

The main river of district is Narmada and its helping rivers are Aabana, Choti Tawa, Sukta and Bham rivers. Two big electricity projects are build on Narmada river naming Indira Sagar and Omkareswar Dam. Satpura and Vindyanchal mountain ranges are there in district.

Table A 1.1.2

Name of rivers and lakes:	Narmada, Tapti, Aabana, Choti Tawa, Sukta and Bham rivers
No. of dams, embankments:	Indira Sagar Dam And Omkareswar Dam
Name of existing mountains:	Satpura mountain range, Vindyanchal Mountain Range
Highest elevation (in meters):	905.56 m
Forest cover in the district:	22773(in Ha)
Any other important element:	Omkareswar shivling is there.

A 1.1.3 Demographic and socio economics

Total population of Khandwa district is 7, 25,97,565 and population density is 236. Main occupation of people is agriculture, animal husbandry and a number of people are involved in industry. There is a big industrial area and further scope of expansion is there due to well connectivity with big cities like Indore and Nagpur and due to central location.

Table A 1.1.3

Total population:	7,25,97,565
Male:	3,76,12,920
Female:	3,49,84,645
Population density:	236
APL families	188386
BPL families	103406
AAAY families	28248
Occupation - Main occupation of people:	Main occupation of majority of people is agriculture
Secondary occupation of people:	Involved in industries(cotton and oil) and service sector

A 1.1.4 Climate and weather

The climate of the District is pleasant and healthy. The District falls in the drier part of India. Average annual rainfall in the District is 980.75 mm. The northern part of the District receives more rainfall than the southern part. The monsoon season starts approximately by 10th June every year and extends up to early October. The days are quite humid. The maximum temperature recorded in the month of May is 42^o C and minimum recorded in the month of December as 10^oC

Table A 1.1.4

Rainfall-	
Total annual rainfall of last year:	808.00
Average rainfall (last 10 years):	834.12
Temperature-	
Average Maximum Temperature:	42
Average Minimum Temperature:	10
Demarcation of crucial seasons-	
Months of excess rainfall, leading to flood situation:	June to October
Months of water scarcity, leading to drought situation:	April to May

A 1.1.5 Health (Medical)

Medical facilities are good in district having one district hospital, 6 CHCs and 30 PHCs with good medical equipments and well qualified team of doctors. A number of private hospitals and medical practitioner also provides medical facilities to people in different parts of district.

Table A 1.1.5

District	No. of Blocks	District Hosp.	No. of Beds	CHC	PHC	SHC	Urban Health Post
Khandwa	7	1	400	6	30	173	14

A 1.1.6 Education

Literacy rate of district is 70 % with 80% male and 60% female literacy rate. There are 1728 schools and 314976 students in all educational institutions. 3121 teachers are appointed at various schools and there are some colleges of professional education teaching engineering, Law and agriculture.

Table A 1.1.6

Literacy rate:	70.63
Total Male:	80.53
Total Female:	60.02
No. of Engineering colleges:	Sri Dadaji Institute of Technology & Science, East Nimar, Khandwa
No. of Other colleges:	MNL Law College Agriculture College Khandwa

Total Students Strength in all the 314976 educational institutions:

Total Staff Strength in all the 3121 educational institutions:

Total No of schools of various types in the State/District and Block

District: **KHANDWA**

Block Name	Primary School (PS)	Middle School	H.S School	High School	Total
PANDHANA	241	81	11	11	344
BALADI	67	23	2	3	95
CHHAIGAONMAKHAN	131	55	5	7	198
HARSUD	114	37	3	7	161
KHALWA	233	80	11	25	349
KHANDWA	163	73	9	16	261
PUNASA	204	94	7	15	320
Total	1153	443	48	84	1728

A 1.1.7 Agriculture and Land use

- Main crops, land classifications (forest land, barren & uncultivated land, cultivated land, pasture land), soil classifications (saline, water logging, recurrent flood hit area, drought hit area).

The main crops of agriculture are Cotton, Wheat, Pulses, and Oil producing crops like til, soybean. Rabi and Kharif are main cropping seasons and 399283 Ha of land is under cultivation in district.

Table A 1.1.7

Cropping pattern -	
Type of major crops:	Cotton, Wheat, rice, bajra, maize, gram, toar, urad, sugarcane, soybean, til, groundnut,
Cropping seasons:	Rabi and Kharif
Land classifications-	
Forest land: (in Ha)	22773
Barren & Uncultivated land:	54059
Cultivated land:	399283
Soil classifications	
Water logging:	Areas near dams are submerged and water more area become water logged during rains.
Recurrent flood hit area:	Areas nears dams face this problem due to more rainfall or water release from dam.

Productivity of major crops is given in following table:

Crop	Production/Ha.	Sown Area (1000 Ha.)
1. Cotton	122.4 Qtls.	120.5
2. Wheat	90 M.T.	73.75
3. Paddy	17 M.T.	24.46
4. Jowar	54 M.T.	65.87
5. Corn	7 M.T.	4.77
6. Pulses	37 M.T.	65.55
7. Sugar cane	15 M.T.	4
8. Soyabean	64 M.T.	121.7
9. Other Oil Seeds	4.5 M.T.	17.27

A 1.1.8 Housing Pattern:

Both Kaccha and Pacca houses are made in district with Kaccha houses more dominant in villages. In villages most of kaccha houses are single story but pucca houses are mostly two or multistory.

Table A 1.8

Housing pattern-	
Type of housing construction:	Kuccha in village areas & Pucca houses in towns
Type of material used:	In villages mud bricks and pucca houses bricks and stones
Flooring types: (Ground and above)	G mostly & G+1

A 1.1.9 Industrial set ups

The district is now developing as industrial district and a number of industries are there. The district is supporting industries mainly because of power availability and connectivity with big cities.

No major accident was observed in industries in past history of 20 years.

Table A 1.1.9

<u>Major Large & Medium Scale Industries In Khandwa District</u>					
S.No.	Name & Address	Estb. Year	Manufactured Product	Production Capacity	Employment
1	2	3	4	5	6
1	M/s. Agrawal Indotex Ltd. Vill. Chhegonemakhan	1995	Synthetic Blended Yarn,	2448 MT	424
		2008	Cotton Blended Yarn	3000 MT	188
2	M/s. Khalsa Oversease Ltd.	1997	Solvent Extracted Oil &	18900MT	150

S.No.	Name & Address	Estb. Year	Manufactured Product	Production Capacity	Employment
	Vill. Chhegonemakhan		Cake	86100MT	
3	M/s. Khandwa Oils (A Unit of IOFL)	1993	Refined Soya Oils,	400 TPD	69
	M/s Khandwa Oils Unit - 2 Vill. Siltiya	2008	Soya Crud Oil & Cake	105000 MT	92
1	2 M/s. Parricott Papper cup India Ltd.	3 2001	5 Paper Cup, Labels	6 5.2 Carror	7 08
1	Vill. Tithiyajoshi			16 Carror	
2	M/s. Amity Polymors I.A.Indore Road Khandwa	2008	Plastic Glass & Cups	85 MT 12000 Nos	08
3	M/s. Hemant Industries I.A.Indore Road Khandwa	1998	Oil, Cake, Gad	450MT 3500MT 50 MT	09
4	M/s. Vainkatt udhyog I.A.Indore Road Khandwa	1996	Khalli, Cotton Seed Oil	2000MT	15
5	M/s. Vikash udhyog Vill. Rahmapur	2006	Atta, Rawa, Maida,	1700 MT 4860MT 1620MT 17820MT	12
6	M/s. Vinod Industries Pandhana Road	2008	Chapad Oil, Cake	8100 MT 600MT 4200MT	10

	M/s. Peak Foods	2008	Oil,	1000MT	12
7	Vill. Dondwada		Cake,	8600MT	
8	M/s. Agrawal Flour Mill	1996	Gad Atta,	300MT 66000MT	07
	Vill. Rahmapur		Rawa,		
9	M/s. Nayan Agro Ltd.	2000	Maida,Suji,Besan Atta,	100 TPD 60 TPD	12
	Vill. Takli Mori		Rawa,		
			Maida,Suji,Brayan		

A 1.1.10 Transport and communication network

The district is well connected to other areas by road and railways. Quite a good number of trains are for Delhi, Mumbai, Varanasi and other big cities of country. Mobile and internet connectivity are also good with covering almost all the major cities of district. The District has road network covering 2328.45 Kms. Major Roadways are -Mortakka -Khandwa, Khandwa -Burhanpur, Burhanpur - Bombay, Burhanpur - Amravati, Khandwa - Harsud,Ujjain-Indore-Aurangabad. The District is also connected by Delhi-Bombay Broad gauge Railway line of Indian Railways and Purna (Maharashtra State) -Jaipur(Rajasthan State) meter gauge line

Table A 1.1.10

<p>Transport Connectivity of each block w.r.t. following networks:</p> <p>North-West part of district is connected to following</p> <p>By Road Badwah to Indore Khargone to Badwani</p> <p>By Rail Indoer-Ajmare Itarsi- Bhopal-delhi Itarsi-Bhopal-Varanasi Bhusawal-Manwar-Mumbai Itarsi-Howrah-Kolkata</p>

North-East part of district is connected to following

By Road

Harda-Hoshangabad-Bhopal

Betul-Nagpur

By Rail

Itarsi- Bhopal-delhi

Itarsi-Bhopal-Varanasi

Availability of telephone, mobile services in each block

All blocks are fully equipped with these facilities and all service providers like BSNL, Airtel, Vodafone, Idea etc. are providing their facilities.

Availability of internet facility in the blocks

Broadband connections are present in every block and village office. These facilities are available to public also.

i) No. of wireless stations in the respective blocks

Two types of control rooms are present in district:

- village control room
- city control room

Wireless stations are available at following police stations:

Pandhana, Chegaon, Dhangaon, Mandhata, Punasa, Indira Sagar, Mondri, Jawar, Harsud, Khalwa, Piplod, Kotwali, Monghat, GRP, AJK thana (special for SC ST).

These all stations have got Very High Frequency Wireless stations.

Details of major highways in district is given below:

Road Name	Length(Kms)
Indore-Mortakka -Khandwa	45.06
Khandwa - Burhanpur	68.35
Burhanpur - Bombay	18.83
Burhanpur Amarawati	71.41
Khandwa - Harsud	61.75
Khandwa-Punasa -Dewas	14.45

A 1.1.11 Power stations and electricity installations**- List of power stations, % of outreach in the district, equation of power generation and consumption, available alternatives like DG sets, if any.**

Power supply is also good in district with two hydroelectric power stations and one thermal power station of capacity 1000MW, 520 MW and 1600 MW each.

Table A 1.1.11

Electricity outreach in the district:		99.52%	
		5 villages without electricity	
Power stations in district are:			
<ul style="list-style-type: none"> • Indira Sagar hydroelectric Power Project (1000MW)NHDC • Omkareswar Hydroelectric Power Project(520MW)NHDC • Dadaji Thermal Power Plant(800*2=1600MW two units) BHEL & MPPGCL • Singaji thermal power (660*2) MPPGCL 			
Particulars	Khandwa Circle	REC Pandhana	Society Khandwa District
No. of Divisions	04	01	05
No. of Sub Divisions	07	01	08
No. of Distribution Centre	32	05	37
Total No. of Consumers	218704		218704
i) High Tension	31		31
ii) Low Tension	218673		37919
No. of Villages (1991)	1060		1060
Electricity By line	1008		1008
Electricity by Solar Pannel	47		47
Percentage of villages Electrified	99.52 %		99.52 %
Un Electrified Villages	5		5
No. of Electric Pump Actually Connected	35068	10930	45998
No. of Lines Provided but pump not Connected	52		52
Total Length of 33KV line in KMs.	996.315		996.315

A 1.1.12 Major historical, religious places, tourist spots

- List of historical paces, religious centers and tourist spots will be required, as these places are usually packed by devotees and tourists. The list will help the Administration, Police deptt. to assess the situation and take call in case of any emergency, especially during the peak season or local festival time.

Table A 1.1.12

List of historical places in the district:	Kishor Kumar Memorial
List of religious centers in the district:	Omkareswar Temple DADAJI Dhooni Wale Saint Singaji Jain temple Siddhwarkoot

Data of total visitors visiting the tourist spot is not available.

But during festivals lakhs of visitors visit Omkareswar temple and Dada ji Dhooni Wale temle.

A 1.2 Scope and Ownership of District Disaster Management Plan

Any type of disaster, be it natural or manmade, leads to immense loss of life, and also causes damage to the property and the surrounding environment, to such an extent that the normal social and economic mechanism available to the society, gets disturbed.

The 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 1.2 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 1.3 Key Objectives

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

- Assess all risks and vulnerabilities associated with various disasters in the district
- Promoting prevention and preparedness by ensuring that Disaster Management (DM) receives the highest priority at all levels in the district.
- Prevention and minimization of loss of human lives and property by gearing up preparedness, prevention & mitigation of disasters
- To provide clarity on roles and responsibilities for all stakeholders concerned with disaster management so that disasters can be managed more effectively
- Assisting the line departments, Block administration, urban bodies and community in developing coping skills for disaster management & Ensuring that community is the most important stakeholder in the DM process.
- To strengthen the capacities of the community and establish and maintain effective systems for responding to disasters
- Developing convergence of action in addressing, preventing and mitigating disasters and to equip with maximum possible relief measures and to resort to pre-disaster, during and post-disaster steps.

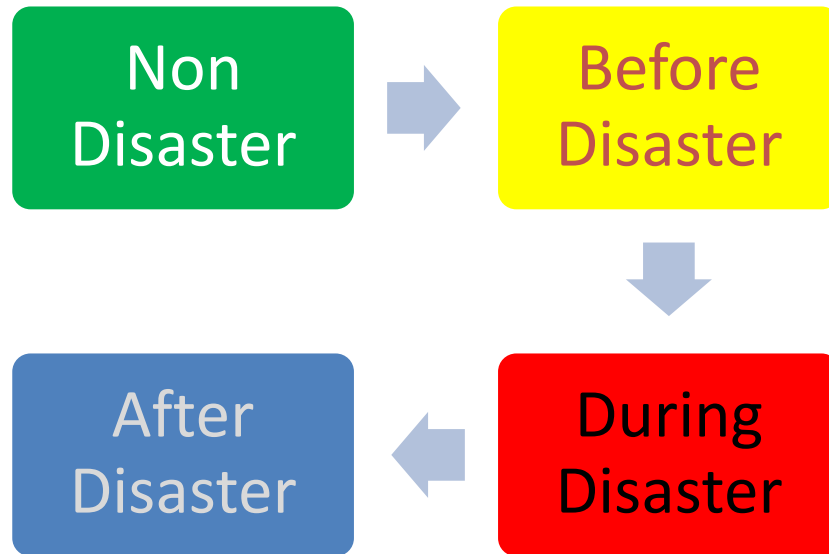
- To establish and maintain a proactive programme of risk reduction, this programme being implemented through existing sectoral and inter-sectoral development programmes and
- Mainstreaming DM concerns into the developmental planning process.
- Encouraging mitigation measures based on state-of-the-art technology and environmental sustainability.
- To address gender issues in disaster management with special thrust on empowerment of women towards long term disaster mitigation
- Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communications and Information Technology support.
- Encourage training and create awareness, rehearsals, dissemination of knowledge, and information on DM among all the citizens living in the district.
- Ensuring relief/assistance to the affected with care, without any discrimination of caste, creed, community or sex
- Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat.
- Undertaking recovery to bring back the community to a better and safer level than the pre-disaster stage
- To develop disaster management as a distinct management discipline and creation of a systematic and streamlined disaster management cadre

A 1.4 District Plan Approach

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

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

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



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

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

A 2.1 District Disaster Management Authority (DDMA)

Table A 2.1

Collector and District Magistrate	Chairman
Chairman Zila Panchayat	Co-chairman
Mayor Municipal Corporation Khandwa	Co-chairman
SP East Nimar, Khandwa	Member
CHMO	Member
Executive Engineer, PWD	Member
Chief Executive Officer, Zila Panchayat Khandwa	Member
Upper Collector, Khandwa	Member(Secretary)

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

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

Capture the detail of existing DEOC/ DCR in terms of location, and the operational and support functions, roles & responsibilities of nodal officers (phase wise).

Table A 2.3

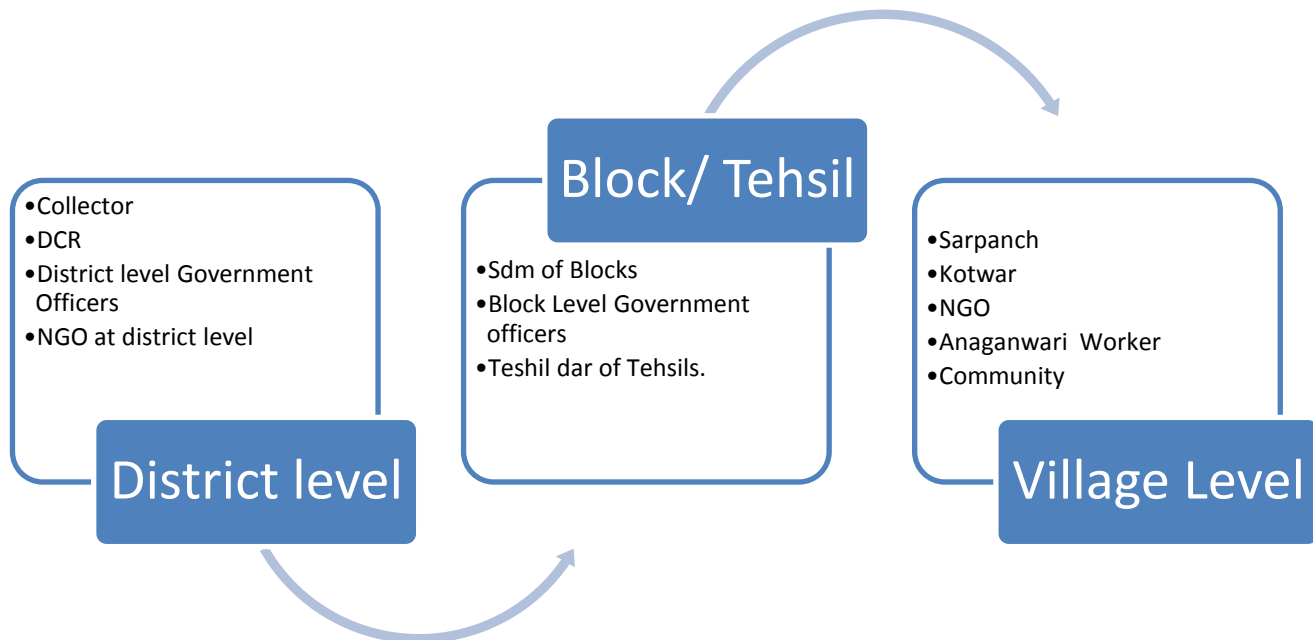
Location of the DEOC / DCR:

<p>Involved agencies in DEOC / DCR, Roles and responsibilities of the officials / nodal persons (phase wise):</p>	<p>Officer in charge: Collector, East Nimar, Khandwa</p> <p>Helping Officers: S.P. Khandwa Chief Executive Officer, Zila Panchayat CHMO, Khandwa Land Acquisition And Rehabilitation Officer District Commandant, Home Guards, Khandwa DFO, Forest Division Khandwa District In charge, N.C.C. Khandwa District Cadre, N.S.S. Khandwa</p>
<p>Equipments installed (software and hardware):</p>	<p>Control rooms have got CCTV cameras installed helping round the clock observation of the area e.g. In Omkareswar the Police station Mandhata have this facility.</p>

Main responsibilities of DEOC/DCR are:

- Collect all information from disaster affected area.
- Communicate the orders from control room to affected place and to higher level, also keep continuous communication.
- To guide and control the troops.
- Make coordination between the troops.
- Scrutinize the expenses on resources of troops and also provide them external help.
- Analyze continuously the severity and spread of disaster & also of rescue and relief work.

A 2.4 District Disaster Information Management System



A 2.5 Section Level Control Room:

Table A 2.5

Executive Officer	Sectional Officer(Revenue)
Assistant Officers	Sectional Officer(Police)
	Sectional Officer(Forest)
	Sectional Officer(PWD)
	Chief Municipal Officer

A 2.6 Janpad Level Control Room:

Table A 2.6

Executive Officer	Tehsildar / Nayab Tehsildar
Assistant Officers	Chief Executive Officer Janpad Panchyat
	Block Medical Officer
	Block Education Officer
	Police Station In charge
	Panchayat Supervisor
	Heads of Local NGOs

A 2.7 Village Level Control Room:

Table A 2.7

Nodal Officer	Patwari of village
Assistant Officer	Village Agriculture Employees
	Assistant Development & Expansion Officer
	V.F.O.
	Forest Guards
	Local Teachers
	Panchayat Secretary
	Teachers
	Members of Village Security Council

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

B 1. Hazard Assessment

Table B.1.1 History of past disasters

Type of applicable hazards	Hazard prone districts
Flood,	Surrounding areas of Indira Sagar Reservoir In Harsood and Khandwa tehsil
earthquake,	11th Dec.1998 to 05 April 1999 in 24 villages of Pandhana Tehsil
drought,	Khalwa block is mainly affected from drought and only one crop is grown here
hailstorm, fire, industrial & chemical disasters, rail/ road accidents,	No industrial disaster reported till data
epidemic, landslide,	After rainfall there are chances of occurrence of diseases like Typhoid, Cholera(Water born diseases)
environmental hazard, violence, stampede or any other hazard	During religious fairs in Omkareswar ji due to release of water from Omkareswar Dam (because of more water in it) there are sometimes incidences of drowning of people and surrounding areas boats & other resources

Table B.1.2 Major applicable hazards

Type of hazard	Year of occurrence	Area affected	Impact on life	Livelihood	Livestock	Hazard prone zone in district
Earthquake	1998-99	pandhana			Loss or injury to livestock	25(approx.) districts of pandhana tehsil

Flood	2007,also during peak monsoon	Harsood, Mandhata, Khandwa	A lot of people die due to drownin g	Livelihood of boatmen affected	Drowning of livestock and death due to diseases	Areas near Indira Sagar Dam, Omkareswar temple ghats and surrounding habitants
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Table B.1.3 Seasonality of hazards

Hazard	Jan	F e b	M a r	A p r	M a y	June	July	Aug	Sept	Oct	No v	Dec
Earthquake	Any time of year											
Flood Disaster in Omkareswar ghats						During rains	During rains	Mostly	Mostly			

1. **Encroachment by people in flood vulnerable land. Government action can be taken to avoid it and save loss of life and damage to buildings.**



2. **Resettlement of people in restricted villages.** It is a problem faced by district administration that people migrate and settle in evacuated areas, though they are paid compensation for their land and property. During rains there is more water in dam and these areas get submerged. So a lot of people are affected and compensation needed to be paid by government. It is a serious problem and the issue needs to be taken seriously.
3. **Earthquake and seismic activities:** Based on past record, Khandwa and adjoining areas has experienced about 7 earthquakes of magnitude 4 to 6.5 on Richter Scale between the year 1847 & 1992. out of these, two were of the magnitude more than 6. Hence, an earthquake of magnitude between 6 & 6.5 can be expected in the area. In addition to earthquakes of moderate to high magnitude micro- earthquakes have been recorded in Taklikalan (1993-95), Silawal (1992), Kusumari (1986-1992),

Ghanora(1992), Borlai(1992), Ratlaam, Sehore(1993) & Ahmedpur- Khaigaon (1994).

Geological Survey of India (GSI) & Indian Meteorological Department (IMD) did intensive study of the micro-earthquakes of Taklikalan between 1993-95, according to which a total of 460 such micro-earthquakes were recorded, the highest magnitude being that of 29th Nov. 1993, with focus at a depth of 10Kms. The highest frequency of micro shocks was recorded to be 29 on 05th Jan 1994.

Recently, since Sep'1998 in **Pandhana and thereby 24 villages of Pandhana Tehsil** has been experiencing similar micro-earthquake activities in which about 1200 tremors' occurred in 3 months out of which about 15 tremors' having magnitude more than 3 Rh. and about 100 of more than 2 Rh., followed by sub-surface rumbling sound. Maximum of them have occurred between 11th Dec.1998 to 05 April 1999. District administration is carefully watching the seismic activities and prepared to minimize the lose due to occurrence of any disaster.

B 2 Vulnerability Analysis

Vulnerability means inability to resist a hazard or respond when a disaster has occurred. It depends on several factors such as people's age and state of health, local environmental and sanitary conditions, as well as on the quality and state of local buildings and their location with respect to any hazards. There are various types f vulnerabilities:

- 1) Physical vulnerability (Ex: roads, bridges, hospitals, houses embankments)
- 2) Social Vulnerability (Ex: population, inclusion)
- 3) Economic vulnerability (Ex: poverty, agriculture, and livelihood)
- 4) Environmental vulnerability (Ex: rivers, canals, animals, minerals)
- 5) Institutional vulnerability (Ex; lack of institutional support, absence of DDMCs etc)

Table B.2

- Block wise vulnerability**

Name of Block	Physical/Infrastructural Vulnerability	Environmental/ Natural vulnerability	Social vulnerability	Economic vulnerability	Institutional vulnerability
Khandwa	Submerged villages of block	Flooding of villages	Rehabilitation and property loss	Moderate vulnerability	Damage to govt. property
Pandhana	Buildings of govt. and people	Damage of ecosystem balance and species	Damage and rehabilitation of people	Loss of crop, livestock and life	Damage to govt. property
Harsood	Submerged villages	Water fills during rains, loss of biodiversity	People resettled at evacuated villages	Loss of life and property	Damage to peoples house and land
Punasa	Omkareswar ghats and surrounding area	Flooding, loss of biodiversity of area due to dams	Encroachment of people around ghats	Life and property loss	

B 3 Capacity Analysis**Table B 3.1 Resource inventory**

Sr. No.	Item Name	Item No.	Department Name	Contact Number
1	Gas Cutter	1	Nagar Panchayat Omkareswar	07280271233
2	Electric Drill	1	MPPWD Sub Division Khandwa	07332227114
3	Jack with 5 Ton Lift	6	MPPWD Sub Division Khandwa	07332227114
4	Set of Rope Tackle	3	MPSEB Circle Khandwa	07332224125
5	Rubber Gloves up to 25000 V	1	MPSEB Circle Khandwa	07332224125
6	Stretcher harness (set)	2	District Home Guard Khandwa	07332223865
7	Blankets	100	District Home Guard Khandwa	07332223865
8	Lifting tackle - 3 ton	3	MPSEB Circle Khandwa	07332224125
9	Search and Rescue Teams for Collapsed Structures	8	District Home Guard Khandwa	07332223865
10	Lifebuoy	4	District Home Guard Khandwa	07332223865

11	Life Jackets	6	District Home Guard Khandwa	07332223865
12	Motor Boats	1	District Home Guard Khandwa	07332223865
13	Divers Teams	12	District Home Guard Khandwa	07332223865
14	Divers Teams	1	MPSEB Circle Khandwa	07332224125
15	Breathing Apparatus Compressor	1	Nagar Panchayat Pandhana	07320237242
16	Pump – high pressure, portable	2	Nagar Panchayat Pandhana	07320237242
17	Extension Ladder	1	MPPWD Sub Division Khandwa	07332227114
18	Fire Tender (1500L)	1	Nagar Panchayat Mundi	07326286762
19	Fire Tender (2000L)	1	Nagar Panchayat Chhanera (New Harsood)	07327272356
20	Stretcher normal	14	CHIEF MEDICAL & HEALTH OFFICER	07332223238
21	Stretcher normal	2	District Home Guard Khandwa	07332223865
22	Incubators for children	5	CHIEF MEDICAL & HEALTH OFFICER	07332223238
23	Water tank	2	MPPWD Sub Division Khandwa	07332227114
24	Water tank	5	Nagar Panchayat Chhanera (New Harsood)	07327272356
25	Vaccines	22860	CHIEF MEDICAL & HEALTH OFFICER	07332223238
26	Anti snake venom	5	CHIEF MEDICAL & HEALTH OFFICER	07332223238
27	Chlorine tablets	180000	CHIEF MEDICAL & HEALTH OFFICER	07332223238
28	General physician	18	CHIEF MEDICAL & HEALTH OFFICER	07332223238
29	Surgeon	8	CHIEF MEDICAL & HEALTH OFFICER	07332223238
30	Anesthetist	1	CHIEF MEDICAL & HEALTH OFFICER	07332223238
31	Gynecologist	1	CHIEF MEDICAL & HEALTH OFFICER	07332223238
32	Paramedics	28	CHIEF MEDICAL & HEALTH OFFICER	07332223238
33	4 wheel drive vehicle	6	CHIEF MEDICAL & HEALTH OFFICER	07332223238
34	Truck	1	MPPWD Sub Division Khandwa	07332227114
35	Truck	1	MPSEB Circle Khandwa	07332224125

36	Truck	1	Forest Department General, Khandwa	07332223686
37	Truck	1	Forest Department Khandwa	07332223686
38	RTV	1	CHIEF MEDICAL & HEALTH OFFICER	07332223238
39	RTV	1	MPPWD Sub Division Khandwa	07332227114
40	Mini Bus	1	District Home Guard Khandwa	07332223865
41	Mini Bus	2	CHIEF MEDICAL & HEALTH OFFICER	07332223238
42	Bus	15	MP Road Transport Corporation Surajkund Khandwa	07332227273
43	Tractor	2	Nagar Panchayat Mundi	07326286762
44	Tractor	2	Nagar Panchayat Pandhana	07320237242
45	Tractor	7	MPPWD Sub Division Khandwa	07332227114
46	Tractor	2	Nagar Panchayat Harsud	07327272356
47	Tractor	2	Nagar Panchayat Chhanera (New Harsood)	07327272356
48	Trailer	7	MPPWD Sub Division Khandwa	07332227114
49	Light Ambulance Van	3	CHIEF MEDICAL & HEALTH OFFICER	07332223238
50	Medium Ambulance Van	5	CHIEF MEDICAL & HEALTH OFFICER	07332223238
51	Water Tanker Medium capacity	- 2	EPPHE Division Khandwa	07332223292
52	Water Tanker Medium capacity	- 2	Nagar Panchayat Harsud	07327232355
53	Water Tanker Medium capacity	- 1	Nagar Panchayat Pandhana	07320237242
54	Water Tanker Large capacity	- 1	Nagar Panchayat Pandhana	07320237242
55	Water Tanker Large capacity	- 1	Nagar Panchayat Harsud	07327232355
56	Water Tanker Large capacity	- 1	Nagar Panchayat Chhanera (New Harsood)	07327272356

Reference from www.idrn.gov.in

B 4. Risks Assessment

Table B.4.1 Potential impact of applicable hazards and existing vulnerabilities

Type of hazard	Vulnerable areas	Vulnerability	Potential Impact
Flood	Harsood, Mandhata, Khandwa,	Life of people, buildings, property, crops, livestock.	Crop and livestock loss Building damage
Earthquake	Approximately 25 villages of pandhana tehsil	Buildings and people	Loss of life, livestock
Drought,	Mainly Khandwa and Punasa area affected	People, livestock, crops	Damage to crops, social problems
industrial disaster	Khandwa block	Industrial area and surrounding population	Damage to property, loss of life
accidents,	Indore highway	Vehicles and people travelling along the highway	Loss of life, vehicles damage
epidemic,	All district after rainy season	People and livestock	Diseases to people, death of people, economic loss

B 4.2 Risk profiling of the district

District Khandwa is prone to flood, earthquake, industrial disaster, epidemics, accidents and drought, as per the previous record history of the district. And has faced all these, many a times in the recent past.

Khandwa district is also susceptible to the different types of vulnerabilities including physical, social, environmental, economic and institutional aspects. Through the analytical research and data collection, the sub district level vulnerability analysis was carried out.

Based on the analysis, it was found out that Khandwa district blocks, including Pandhana, Harsood, Punasa, are risk prone due to the applicable hazards (flood, earthquake, drought, chemical industries and epidemics), existing vulnerabilities, and potential capacities.

C . DISTRICT LEVEL DISASTER MANAGEMENT PLANNING

C 1 District Action Plans

C 1.1 Mitigation Plan

As main hazards in district are earthquake, flooding of villages nearby dams, drought in most part of the district and loss of life Omkareswar temple area during big festivals and on special occasions. So Mitigation Plan should be made keeping these major disasters in mind. The Mitigation Plan may have following points in it:

- Construction of new buildings should be regulated by Panchayat and Urban Governing authority so that new buildings are made as per standards given by NDMA.
- Stories of building should be limited in earthquake prone areas and well regulated.
- Review of existing DM Plan of district and make appropriate modifications in it.
- Proper warning system should be installed in hazard prone areas and people should be warned immediately or well in advance before expected disaster.
- Government should take initiative in making earthquake proof buildings (offices and community halls) that can serve as shelter in the times of emergency.
- All the government buildings including schools, offices should be earthquake proof so that they can be used in emergency situations as shelters.
- Regular contacts with GSI (Geological Survey of India) department to get updated information about earthquakes in surrounding areas.

- Canals can be made to different drought affected areas from dams to provide them water during scarcity periods.
- Provision of water tankers to drought affected areas can be done.
- Deep tube wells can be drilled for water supply during drought periods.
- Coordination with Agriculture University, develop less water demanding crops for affected areas to minimize losses.
- In flood affected areas villagers should be informed in advance before rains to get ready for calamity.
- The volunteers from village can be trained to save drown people from villages.
- Regular training and mock drills should be practiced in year.
- Indian Meteorological Department can be contacted to get updated weather forecast and connections from new satellites like Ri-Set can be obtained for most updated information.

- For Omkareswar temple problems following things can be done to mitigate the disaster:
- Swimming area should be defined and people should be warned not to go deep into water.
- For release of water coordination with NHDC can be done so that water should not be released when there are big festivals and gatherings near the Ghats.
- Also a good number of skilled swimmers should be arranged at Ghats to save people.
- Protection bars should be increase in the swimming area so that people can have bath easily and safely.
- Coordination with meteorological department and forecast periods of excessive rainfall so that provisions can be made to discharge excess water of Dams.
- Embankments, flood walls, sea wall and Drainage improvement.
- Diversion of flood waters to other areas through canals.
- Flood Plain Zoning of the affected areas.
- Flood Proofing including Disaster Preparedness, Response Planning, Flood Forecasting and Warning.
- Flood Fighting includes Public Health Measures.
- Flood Insurance

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. Three 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. Doctors should be trained to tackle the epidemic in that region. Under this scheme there should be doctors and stock of medicines related to the epidemics 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 areas 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

Training and capacity building are important part of preparedness to disaster and focus should be given to this aspect to ensure minimum loss of life during or after disaster. Following things can be considered for capacity building of district:

First aid is very important during disaster and all the hospital staff should be trained for first aid.

Regular training for local people should be organized to train them as first aid volunteers.

A lot of volunteers from schools, colleges, NCC, NSS volunteers can be trained for first aid and other help during disaster.

Home guards and Police persons must be trained for rescue and search operations in case of emergency and regular mock drills should be conducted for them.

A team from PWD department can be trained for search and clearing operation and they must be equipped with good quality enough instruments.

All the government officials should have necessary disaster management training and refresher courses every year.

Help of NGOs and private organizations like private hospitals, nursing homes can be taken during disaster and they should be trained for this.

Capacity building can also include warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability

C 1.1.3 Community Initiatives

This is the most effective approach to achieving sustainability in dealing with natural disaster risks.

Communities first need to be empowered so that community members can cope with the adverse effects of natural hazards. Community empowerment for disaster risk management demands their participation in risk assessment, mitigation planning, capacity building, participation in implementation and development of system for monitoring which ensures their stake.

So we can use PRA (Participatory Rural Appraisal) as a tool and provide them with good infrastructure and tool to combat disasters.

Through CBDM, we hope that communities will be strengthened to enable them undertake any programs 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 thus participates actively.

CBDM approach also creates a lot of volunteers those are helpful in periods of disaster.

But CBDM needs to be sustainable as it is seen that most of this happens during disaster or after, but Government should ensure one thing that they must be in times of non disaster and not stop because of lack of funds or other resources.

C 1.1.4 Risk Management Funding

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

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

C 1.2 Preparedness Plan

Preparedness is a continuous cycle of planning, organizing, training, equipping, exercising, evaluation and improvement activities to ensure effective coordination and the enhancement of capabilities to prevent, protect against, respond to, recover from, and mitigate against natural disasters, acts of terrorism, and other man-made disasters. In the preparedness phase, emergency managers develop plans of action to manage and counter their risks and take action to build the necessary capabilities needed to implement such plans.

Common preparedness measures include in the existing DDMP is as following:

- Communication plans with easily understandable terminology and methods.
- Proper maintenance and training of emergency services, including mass human resources such as community emergency response teams.
- Development and exercise of emergency population warning methods combined with emergency shelters and evacuation plans, stockpiling, inventory, and maintain disaster supplies and equipment
- Develop organizations of trained volunteers among civilian populations. (Professional emergency workers are rapidly overwhelmed in mass emergencies so trained; organized, responsible volunteers are extremely valuable.
- Another aspect of preparedness is casualty prediction, the study of how many deaths or injuries to expect for a given kind of event. This gives planners an idea of what resources need to be in place to respond to a particular kind of event.
- Emergency Managers in the planning phase should be flexible, and all encompassing - carefully recognizing the risks and exposures of their respective regions and employing unconventional and atypical means of support.
- Depending on the region - municipal or private sector emergency services can rapidly be depleted and heavily taxed.
- Non-governmental organizations that offer desired resources, i.e., transportation of displaced homeowners to be conducted by local school district buses, evacuation of flood victims to be performed by mutual aide agreements between fire departments and rescue squads, should be identified early in planning stages, and practiced with regularity.

C.1.2.1 Preparedness before response

Preparedness of **administration** is an important component which helps in reducing relief and response time in a disaster situation. Preparedness plan is based on below-given components:

- Maintaining response inventory of equipments and materials required for response.
- Assignment of responsibilities to agencies and organizations.
- Management training of crisis group members, desk officers and officers of respective departments likely to be assigned management duties.
- Specialized trainings of district disaster committee members, officials, community organizations through seminars and workshop.
- Training of taskforces.
- Raising community awareness.
- Improving response mechanism through conducting practice drills.
- Annual updating of State, District and community level plans.
- Operation readiness of facilities, equipments and stores in advance.

Home Guard Department: Key agency in search and rescue operations.

- Conduct mock drills and training sessions for the Home guards. Giving information about safe places where people could be evacuated after disaster.
- Special Training session for providing first aid to communities.
- Orientation training before start of rainy seasons and also responsible for training of Volunteer groups like NCC at tehsil level. Prepare a List of Extra Man Power available at short notice.
- Prepare emergency contact people list with working phone numbers and addresses of your department.
- Keep handy resources like ropes, torches and knives in the district head quarters of your department.

Health Department: Key agency in providing health facility to affected people.

- Updated list of Doctors working in each tehsil with contact details.
- List of the medicines in stock which could be used in case of any disaster.
- Replenishment of all the medicines and life saving drugs so that at the time of disaster, there is sufficient medicine in stock.
- List of all the emergency contact people with working phone numbers and addresses.
- List of Private hospitals with contact number of Key persons
- Number of paramedical teams under him with their contact information.
- Number of ambulances and mobile vans. (Private and Government)
- List of vet nary doctors with contact details.
- Check Equipments working condition.
- Organize training session's workshops for Local task force/Anganwadis workers/Home guards.

Police department: Key agency in maintaining law and order also helps in search and rescue operations.

- List of Vehicle, Man power, Search and rescue equipments available.
- List of Additional Man power available on short notice at the time of emergency.
- Assigning of responsibility.
- List of wireless stations available at the time of emergency.
- Make evacuation plan after discuss with different department.
- Organize Training sessions for handling various disasters.
- Mock drills on receipt of warning.
- Provide security, monitoring public fair or events. Setup of closed circuit cameras (CCTV) for monitoring.
- Arrangements of temporary shelters and safe places.

Municipal Boards:

- Arrangements in relief camps, responsible for basic facility water, sanitation, health and safety etc.
- List of vehicles like bulldozer, crane etc available and arrange on short notice with contact number of concerned persons.
- Responsible for repair of drainage, roads water supply.
- Ensuring supply of safe drinking water, arrangement for supply of safe drinking water.

Civil Defense:

- Conduct Training sessions to handle various disasters.
- Make a list of resources available (Working Condition) for search and rescue operations.
- Coordinate with Police and Home Guard Departments in arrangements of training sessions

Public Works Department:

- List of the manpower available at all levels with their contact details.
- List of the resources (machinery and material) available and additional arrangements on short notice. Providing this information to the district administration (DDMA)

Make plan for evacuation of people in case of emergency, Should have evacuation plan for the identified disaster sites.in Roles and responsibilities of other departments are as follows:

- Regular training session of its employees in relation to particular disaster.
- Conducting mock drills at regular intervals to keep its employees aware about disaster.
- Keeping an updated resource inventory and also stating the working status of each instrument.

- Spreading awareness among general public and also training a few of them as volunteers needed in the time of disaster emergency.
- Make and keep a good interdepartmental coordination at block, district and state level to make actions easy and quick.

C.1.2.2 Pre-Disaster Warning, Alerts

Procedural steps for proper working of Pre disaster warning systems/ EWS will be mentioned here. Also the Agencies responsible for hazards specific warning at district level, will be captured here.

Table C. 1.2.2

The table below is for reference purpose; please make the appropriate one, according to your district.

Hazards	Agencies
Earthquake	GSI
Flood	CWC, IMD
Drought	IMD
Industrial	Udyog Vibhag, SPCB
Flooding in Omkareswar Ghats	NHDC, IMD
Floods in surrounding Villages of Dams	NHDC, IMD
Road Accidents	Traffic Police, Police Department

C.1.2.3 Evacuation preparedness

Evacuation is most important part in mitigating damage caused by a disaster, so more focus should be given to evacuation part prior to occurrence of a disaster.

Following points should be considered for an effective mitigation strategy:

- Warning issued to potentially affected areas and corresponding departments.
- Helping people to evacuate the affected area.
- Providing adequate means of transportation like buses, jeeps, vans, boats etc. depending upon locality and type of disaster.
- Properly guide the officials of Police, Home Guard, Forest and PWD Department officials to help people in evacuating areas.
- Proper arrangement of rehabilitation camps at per designated places like school, college, government office buildings, community halls and tents etc. at safe place.
- All the necessary facilities should be arranged at rehabilitation camps including mess, clean drinking water, medicines and chlorine tablets, police for law and order and doctors for health facilities.

C.1.2.4 Organize 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.

Home Guards mock drill should be for swimming, first aid and mob controlling.

Health department and other volunteers should be trained for first aid help.

Police mock drills for rescue and mob control.

C 1.3 Response Plan

A disaster management calls for involvement of a number of agencies in order to render immediate rescue, relief and restoration of disrupted vital facilities. The responsible agencies being:

- Revenue Department, police and armed force for immediate rescue and relief.
- Telecommunication Department, Public Works Departments, PHED and local bodies for restoration of disrupted infrastructure.
- Non Government Organizations and medical services to ensure first-aid, life saving facilities to victims and assistance to the government to carry out relief operations.

Immediate response requirement

(a) Rescue operation

- Individuals trapped under debris need to be located and rescued which calls for not only earth moving equipment, but the services of sniffer dogs.

- Army assistance to civil administration in rescue operations
- Establishments of traffic control posts
- Provisions for communication network
- Evacuation of injured cattle

(b) First aid and medical relief

- Provisions for mobile medical aid vans
- Orthopedic surgery and fractures needing treatment
- Rendering medical aid to victims

(c) Urgent relief operations

- Erection of temporary tented accommodation
- Establishment of Relief Reception Centers
- Provisions of relief stores and tents
- Provisions for food and shelter
- Protection of victims
- Instilling a sense of security and confidence among victims through public address systems

Response at a later stage

- Rehabilitation, reconstruction and restoration of normalcy.
- In case of family disruption resulting from death of major earning member, economic rehabilitation of the family may have to be planned as a long-term strategy.
- Loss of life, property and livestock may require damage and loss assessment procedures to avoid litigation and delays in gratuitous relief and compensation.
- Technical inspection of partially damaged houses to decide the habitation worthiness and the extent of repairs required.
- Demolition of some partially damaged houses may be required.
- Possible reconstruction on the same sites to avoid delays, secure cultural continuity and to avoid costly land purchase.

- Care needs to be taken to ensure that all electrical supplies to damaged area are disconnected.
- Underground cables will need thorough inspection before power is restored.
- Breaches or cracks in the dam need Irrigation Department to secure the breaches by grouting the cracks.
- In case of damage to bridges, relief operations may require temporary bridges, which can be put up with the assistance of army.
- Certain roads needing resurfacing will need immediate action from PWD.
- Restoration of existing water supply with necessary repairs. This may call for replacement of pipelines or arrangements for storage in portable PVC water tanks.
- In some case, restoration of existing water supply may be time consuming and therefore water tankers may have to be pressed into service.
- Extensive damage to residential buildings resulting in disruption of telecommunication facilities will require provision/installation of public telephones (PCO) to facilitate communication.
- Damage to hospital, school building and other public facilities may disrupt the services. In such a case restoration of services through temporary arrangements is the first priority.
- Foundations of the building in the area prone to liquefaction will need technical assessment.

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.

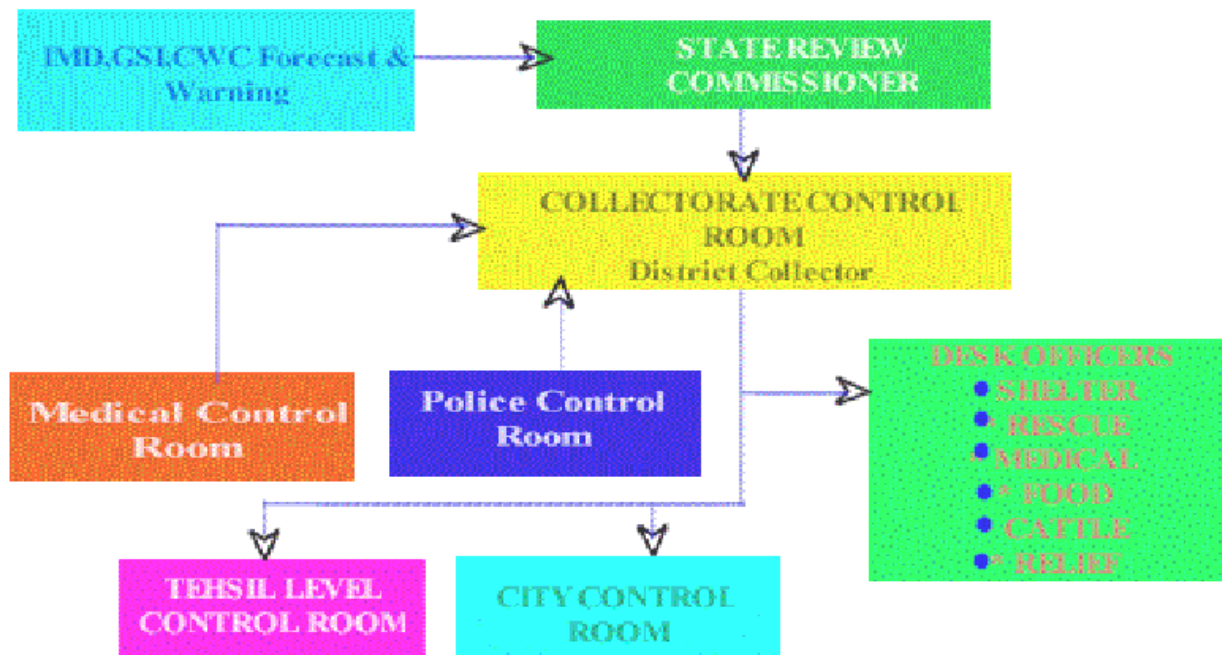
C 1.3.2 Crisis management direction & coordination

C 1.3.3 Incident Command System (ICS)

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

- Incident command
- Planning section
- Operations section
- Logistics section
- Finance/ Admin section

The following is setup of existing ICS in district:



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 C 1.3.4

INITIAL ASSESSMENT REPORT										
1	NATURE OF DISASTER:									
2	DATE OF OCCURRENCE:					TIME:				
3	<i>DAMAGE AND LOSS ESTIMATES</i>									
	Name of the Site (Village, Block, Tehsil)	Total Population Affected	People missing	People injured	Severity	Immediate needs	Houses Damaged	Action taken		
					H L		L M H			
4	<i>INFRASTRUCTURE DAMAGE</i>									
	<i>Name of the Site</i> (Village, Block, Tehsil)	Ho usi ng	Ag ric ult ure	Ani mals	Water source	Road and bridge	Power	Commun ication	Govt Buildin g	Others
5	<i>NEED ESTIMATES</i>									
	<i>Name of the Site</i> (Village, Block, Tehsil)	<i>Medical Needs</i>	<i>Population requiring shelter</i>	<i>Clothes</i>	<i>Food</i>	<i>Water</i>	<i>Sanitation</i>	<i>Any Other</i>		
6	ANY OTHER VITAL INFORMATION									
7	SPECIFY IMMEDIATE NEEDS: (With quantity)									

	Food
	First aid
	Machinery
8	Possible Secondary Affects:
.	
9	NAME THE CONTACT PERSON:
10	AGENCY/ADDRESS: TELEPHONE NUMBER
	DATE: SIGNATURE:
	FOR OFFICE PURPOSE: REPORT NO.:
	ACTION TAKEN:

Various teams formed in district for disaster periods are:

Sr. No.	Team Name	Department
1	Training Team	Revenue
2	Security Team	Police
3	Survey Team	Revenue Forest Zila Panchayat
4	Safety Team	Police Home Guards NCC
5	Relief and Transient Camp Team	Revenue Forest RTO NSS
6	Rehabilitation Team	Forest PWD Rural Department Health Department
7	Food	Food Department
8	Cleaning Team	Local Administration Panchayat
9	Treatment Team	Health
10	Dead Body Disposal team	Local Administration Municipal Corporation
11	Worker Team	PWD Local Health Department Village Panchayat

12	Electricity Availability	Electricity Department
13	Water Availability	Local Administration Nagar Panchayat
14	Communication and Information	Telecommunication Department
15	Survey Team	PWD Local Administration
16	Fire Extinguishing Team	Police Fire Brigade
17	Animal Treatment& Disposal of Dead Animal Team	Veterinary department
18	Financial Arrangement	Revenue NGOs Businessmen Union

C 1.3.5 District Search & rescue Team

Search and rescue team mainly consists of Police, Home Guards, and NCC cadets. Main task of this team is search for missing people during disaster. They can use variety of equipments for searching people like head lights, ropes, ladders, boats, swimming suits, life jackets etc. Some other instruments those are missing can be of great help like Dog squad, Heat detector for searching live people.

Table C.1.3.5

<i>S.No.</i>	<i>Name and designation of head of S&R Team member</i>	<i>Office</i>	<i>Home</i>
1	<i>Sh. H.N.Mishra, S.P</i>	<i>2222100</i>	<i>2229998</i>
2	<i>Sh G.P. Prajapati, District Commandant</i>		<i>9425431131</i>
3	<i>NCC in charges of various school and colleges</i>		

C 1.3.6 Medical response

During disasters a lot people are either injured or have major injuries, so they need proper medical care and help. So Health department have a major role during disaster because all people can't be transported to hospitals immediately. So they provide on the spot health and medical facilities to people. CHMO is main person responsible for quick response during such times. He may appoint doctors to the affected place and also get help from neighboring districts.

Table C.1.3.6

S.No.	Name of team member	Designation	Contact (off.)	Contact no (Res.)
1	Dr. Luxmi Baghel	CHMO	2223238	2248108

List of Doctors appointed at various institutions across the district:

S.N.	Name of Hospital	Name of Doctor	Contact Number
1	CHC Pandhana	Dr. H.L. Borasia	98937-40533
2	PHC Pandhana	Dr. Sanjay Parashar	94240-50273
3	PHC Piplohdh	Dr. Anil Kumar	94240-18880
4	PHC Singot	Dr. Ramdas Bakoria	99771-17652
5	CHC Moondi	Dr. Shanta Tirkey	99931-20012
6	PHC Mohana	Dr. Pankaj Srivastava	98260-87882
7	PHC Sulgaon	Dr. S.K.Romre	98262-82745
8	PHC Richfal	Dr. Deepak Dugaya	94253-74291
9	PHC Punasa	Dr. S.K. Sendhav	93292-21347
10	PHC Mandhata	Dr. Rohit Hirwe	96176-53357
11	PHC Jaawar	Dr. Dinesh Singh	97545-48297
12	PHC Sihara	Dr. Kamlesh Gaud	98273-32960
13	CHC Harsood	Dr. Mahesh Jain (BMO)	99260-45715
14	CHC Harsood	Dr. Neelam Mishra	76975-63938
15	CHC Harsood	Dr. AsheeshRaj Mishra	76975-63938
16	CHC Chegaon Makhan	Dr. Rajesh Rathore	98272-12313
17	CHC Chegaon Makhan	Dr. Ashutosh Pare (BMO)	94066-37540
18	PHC Baroodh	Dr. Anil Tantwar	90393-94854
19	CHC Kender Chegaon Makhan	Dr. Sunil Jaiswal	95751&76151
20	CHC Khalwa	Dr. S.K. Chauhan (BMO)	98273-27313
21	PHC Sendhwal	Dr. Shailender Kataria	96911-11123
22	PHC Roshani	Dr. Munnalal Kalme	94074-37522
23	CHC Mandhata	Dr. Arun Singh	9406934601
24	PHC Aarud	Dr. V.K. Chauhan	94257-34911
25	CHC Harsood	Dr. D.P. Aggrawal	98265-55514
26	District Hospital Khandwa	Dr. Subhash Jain	94250-86418

C 1.3.7 Logistic arrangements

In case of emergency or disaster vehicles are required to transport people from affected area to safe place. RTO can be contacted in such cases and he will arrange vehicles for this. Other equipment required can be obtained from nagar palika or PWD department or from private owners.

S.N.	Name of Officer	Designation	Office	Home
1	Sanjay Soni	Additional RTO	2248684	2249275 9425415195

C 1.3.8 Communications

Survey of area is done and record of people is maintained in relief camps.

From this record we can find out how many people are missing from that area.

This is communicated to people by PA system and by notices pasted at various places.

Working of telephones and wireless is ensured and help or report can be obtained by using these media from neighboring parts of district.

Other communication media like fax or internet can be used for sending and receiving information.

HAM radio stations if available in that can be used to communicate information to other parts.

Various communication means available in district are:

- Telephones
- Fax
- Intercom units
- VSAT connection
- Computer with modem and printer
- Photocopying machines
- Wireless

C 1.3.9 Temporary shelter management

For shelter of affected people arrangements can be made in various school buildings of nearby area and other institutions like governments or private colleges. The list of schools is provided in annexure part.

Table C 1.3.9

List of various schools in district is given in annexure part.

C 1.3.10 Water and Sanitation (WATSAN)

WATSAN is also a very important element, which needs to be addressed on the top priority, as it is directly related to the basic needs, especially in case of the affected population. The Required provisions to be made by respective municipalities, for supply of pure drinking water, and to meet the other needs of water as well as timely address of sanitation requirements. This also includes the maintenance of hygiene, in & around emergency shelters, periodic monitoring and inspection of storm water drainage, nallah, adherence of the cleaning schedule of the camps and other places.

The responsible departments for clean drinking water and sanitary measures are PWD, Irrigation, Public health and Medical departments whose responsibilities are as follows:

- PWD department should take lead in providing drinking water through water tankers.
- Irrigation department should restore the drinking water channel of the affected parts.
- Medical and Health department should provide Chlorine tablets to people so that they can purify the water at home.

C 1.3.11 Law & order

The main responsibility of maintaining law and order is of department of Police. In periods of emergency the Police force is expected to go to that area and control people there.

Police should protect life of people in stampede condition and there should be enough police with equipments to control people.

Damage to Government property should be guarded by Police forces to stop losses and also public property during riots and other disorder conditions.

In relief camps Police should guard people and maintain order there.

List of Police Officials in district Khandwa:

S.N	Name of officer	Designation	Office	Home
1	Sh. H.N.Mishra	S.P	2222100	2229998
2	Sh. Devender Patidar	ASP	2227355	2230711
3	Sh. Mukesh Vaishya	City SP	2230915	2224166
4	Sh. K.S. Bhuria	ASP(Head Office)	2222440	2228121
5	Sh. K.K. Laskar	Moondi, Narmada Nagar	07323-284211	9425085788
6	Sh. Mankamna Prashad	Naya Harsood, Channera	07327-272440	9425077726
7	Sh. Udaibhaan Tiwari	TI Kotwali	2224101	9425461616
8	Sh. Umesh Chand Tiwari	TI Moghat	2224167	9425415999

C 1.3.12 Public grievances/missing person's search/media management

- A committee at the district level has to be constituted under the chairmanship of the District Collector to address the grievances of the public regarding missing persons.
- The search and rescue team should search for the missing persons living or dead.

C 1.3.13 Animal care

During and after disaster main responsibilities of animal husbandry department are:

- Vaccination of animals before rainy season.
- Disposing carcass of dead animals during disaster. It will help in preventing spread of diseases to human population.
- Treatment of injured animals at affected site.
- Also aid medical department in providing first aid to people.

S.N	Name of officer	Designation	Office	Home
1	Dr. Suneel Parman	Assistant Director	2223901	2223902 9425929096

C 1.3.14 Management of deceased

- A committee at the district level has to be constituted under the chairmanship of the District Collector to address the grievances of the public regarding missing persons.
- The search and rescue team should search for the missing persons living or dead.
- Also a list of missing and dead persons should be made and displayed at public convenient places.
- There should be a provision of crimation of deceased persons should be made.

C 1.3.15 Civil Defense and Home Guards

Main responsibilities of home guard department will be as follows:

- Issuing of warning in the prone area before occurrence of disaster via all possible means of communication like PA system, Radio, TV etc.
- Along with Police department help in maintaining law and order at affected site.
- Help in distribution of relief material to affected peoples provided by relief department.

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

Table C 1.3.17

List of NGOs in District Khandwa

SN	Name of NGO	Address of NGO
1	Lions Club Khandwa	Lion Dr. Rajeev Verma Phone: 9826085537 Lion Greater Sobhag Sandh Khandwa Phone: 9425086536 Lioness Club Ms Shaila Shukla Phone: 9425085303
2	Rotary Club Khandwa	Rotary Club Sh. Ashish Bhansali Phone : 9425085190
3	Rotrect Club Khandwa	Rotrect Club Gyayak Jain Phone : 9425928284
4	JCJ Club Khandwa	JC Ashish Chatkele Phone : 9827244113

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 Operation Desk

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

Functions of Communication and Information Desk

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

C 1.3.19 Media Management

The government 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.

Thus all the media management work is to be done by Public Relation Officer (PRO). The PRO will responsible for all the outgoing messages for mass communication and media management.

C 1.3.20 Fire Services

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

Main roles and responsibilities of fire department are:

- Conducting mock drills for fire control.
- Reach to disaster site immediately and look for potential fire prone site.
- Take rapid actions to control fire.
- Always be ready for fires and keep all machines ready.
- Repair of any damaged or out of order machine done immediately.

C 1.4 Recovery and Reconstruction Plan

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.

C 1.4.1 Restoration of basic infrastructure

- Housing and other important infrastructure damage will be addressed through the owner driven construction, financial, technical and material assistance provided by the Govt.

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

- Damage assessment
- Disposal of debris

- Disbursement of assistance for houses
- Formulation of assistance packages
- Monitoring and review
- Cases of non-starters, rejected cases, non-occupancy of houses
- Relocation
- Town planning and development plans
- Reconstruction as Housing Replacement Policy
- Awareness and capacity building
- Housing insurance
- Grievance redress

C 1.4.2 Reconstruction of damaged buildings/social infrastructure

Houses, buildings and social infrastructure should be reconstructed in the disaster hit areas according to the following instructions:

- Owner Driven Reconstruction
- Public Private Partnership Program (PPPP)
- Under the PPPP the houses are reconstructed by the NGOs for the beneficiaries to be registered in the joint names of the husband and wife.
- All the houses should be insured.
- Owner Driven Reconstruction
- Financial, technical and material assistance provided by the government.
- The designs for seismic reconstruction of houses provided by the government.
- The material assistance provided through material banks at subsidized rates.

C 1.4.3 Restoration of livelihoods

The following key strategic actions have been identified for restoration of livelihood:

- Empower communities to take a leading role in the planning, implementation and management of their livelihood rehabilitation.
- Restart the rural economy by helping production to recover and markets to start functioning.
- Introduce appropriate technologies and extension services.
- Invest in enabling and facilitating infrastructure.
- Create support services which are efficient and responsive to the needs of the people,
- Invest in community involvement in moving into economic activities which are economically and financially viable, create employment opportunities and are environmentally sustainable.
- Establish accountable efficient and transparent coordination and
- Rehabilitation of livestock production activities

- Rehabilitation of cereal, fruit and vegetable production Activities
- Replacement/repair of damaged/lost traditional irrigation systems and terraces
- Restoration of community access infrastructure
- Re-establishment of the labor market
- Establishment/re-establishment of financial services
- Reconstruction of Public Support Service Infrastructure

C 1.4.4 Psycho-social interventions

- People facing big disasters or missing their family persons to disasters are most likely to suffer from PTSD (Post Traumatic Stress Disorder) symptoms of which are cut from Society, Anxiety, Loneliness and most important being **depression**.
- Such people need long term medical help and sometimes need rehabilitation centre for further care.
- Women and children are most likely to be affected from these disorders.
- So there is also need to set up social rehabilitation centre and trauma centre in affected areas.

C 1.5 Cross cutting elements

C 1.5.1 Community Based Disaster Management

Communities are always the first responders to face the disaster. Equipping them, educating and preparing them for the recurring disasters are of vital importance. The most vulnerable areas are to be identified and periodic awareness programme are to be provided at ward level, Panchayat level, educational institutions, social organizations etc. It is essential to examine the various methods in which the community can be effectively involved in planning for disaster management. Such type of community based disaster management activities promote the local ownership, address local needs and also promote the volunteerism.

C 1.5.2 Needs of the Special vulnerability Groups

- Vulnerable population includes children, women, and other diseased and specially challenged people.
- So they need special care in emergency or disaster periods.
- Most problematic issues with vulnerable population are health and shelter.
- So special medical teams and stay arrangements should be done for these people in rehabilitation camps.
- Women and child development department should do proper arrangements for women and children

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. Based on the available data and analytical research, list of climate induced anthropogenic events will be prepared, and the concerned issues will be addressed through adaptation strategies.

The main issues needs to be addressed are as follows:

- Green cover in terms of plantation across the city is very less although there is mass plantation in the past but maintenance of trees and green landscape has always been an issue.
- Water Pollution: The key causes of water pollution in the city are discharge of untreated sewerage and disposition of solid waste. Due to absence of dedicated sewerage system for the city the waste water get deposited in the Shivna River.
- Air Pollution: The key causes of air pollution in and the around the city are vehicles, air pollution due to dumping of waste and burning of waste

Above mentioned issues will give rise too many natural as well as manmade disaster like epidemic Jaundice, Malaria etc. Man activity and climate change are interrelated, In long term approach sudden climate change, frost, Hailstorm occurs because of increase in concentration of Co2 in atmosphere To reduce the frequency and impact necessary measures needs to be taken which are as follows:

- Prepare city Landscape Plan with involvement of all stakeholders like forest department, Urban local bodies etc.
- Awareness towards greenery: The urban local bodies should involve citizen for such initiative. It should organize awareness camps in schools, colleges. It can invite NGO's and other society group in adopting landscaping.
- Create Awareness among community regarding waste management techniques.
- Underground Sewerage System for city
- Air Pollution due to vehicles: Vehicle especially tempos and autos operating for public are quite old and needs replacement as they are adding to sound and air pollution. Introduction of Pollution free Public Transport System on a public private partnership to avoid pollution from tempos.

The slate production has also been a major reason for Air pollution looking to disease caused due to Slate the GOMP has planned a Slate production park outside the Khandwa city with ample measures to tackle air pollution.

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 responses teams will be kept ready by each department so that they can move to disaster site/affected area on short notice. The Standard operating procedure shall be followed during normal times (Non Disaster Stage), warning stage (Before Disaster Stage), disaster stage (During Disaster Stage) and post disaster stage (After Disaster Stage).

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

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 Defense, Municipal Board, Transport, Town Planning, Food & Civil Supplies Dept. and all other concerned departments, will be prepared and maintained.

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

C.2.1.1 Department of Health:

- Non Disaster Time

- **Maintain good health services in area in normal times.**
- **Prepare an emergency health management plan for times of emergency and also SOP with clearly specifying roles of each person.**
- **Also make coordination with private hospitals, train volunteers and maintain a record of them.**
- **Periodically review the stock of emergency medicines and equipments that may be required during disaster.**
- **Mock drill should be conducted routinely and DDMA to be informed about this operation.**

- Warning Time

- **Inform people about diseases after disaster and make them aware about their prevention.**

- During Disaster

- **Provide emergency medical services immediately in the affected area.**
- **Keep a PA system for giving information about patients and casualties.**
- **Contact with district and divisional control rooms and ask the required help in terms of stock of medicines and staff needed.**
- **Coordinate with private hospitals and trained volunteers and take their help in managing the situation.**

- After Disaster

- **Provide health facility at relief camps.**
- **Monitor the quality of drinking water regularly and provide people with chlorine tablets so that they can have access to clean and safe drinking water.**
- **Do epidemic surveillance in relief camps and feeding camps.**

C.2.1.2 Water supply and Sanitation Department:

- Non Disaster Time

- **The overall responsibility of department is ensuring supply of regular water.**
 - **Prepare a departmental and district specific disaster management plan and submit it concerned DDMA also SOP should be prepared which clearly delineates the roles and responsibilities.**
 - **Several teams of engineers and assistants for restoration of water supply services should be constituted as precautionary measure.**
 - **Required stock of lengths of pipe, connections, joints, hydrants and bleaching**
-

powder. Adequate tools should be on hand to carry out emergency repairs. Also generators should be identified for the emergency.

- **Mock drill on emergency water management should be conducted at State and district level at least once in year.**
- **Warning Time**
- **People of affected area should be warned about disaster and regular announcements should be made about drinking safe water.**
- **During Disaster**
- **It should also make provisions to acquire tankers and establish other temporary means of distributing water on an emergency.**
- **Establish communication with the State EOC, Divisional Control Room, District Control Room and other concerned departments.**
- **After Disaster**
- **Submit a report on the amount spent on disaster management in pursuance of these relief activities, after receipt of warning or disaster strike to the Relief Commissioner for reimbursement.**
- **After any repair on the distribution system, the repaired main should be flushed and disinfected with a chlorine solution.**

C.2.1.3 Electricity Department:

- **Non Disaster Time**
- **The responsibility of Electricity Board is to provide power supply to the district and ensure uninterrupted power to all vital sites.**
- **Prepare a departmental and district specific disaster management plan and submit it to the DDMA. In addition to the plan, SOP should be prepared which clearly delineates the roles and responsibilities.**
- **A disaster management team and emergency tool kit comprising cable cutters, pulley blocks, jungle knives, axes, crowbars, ropes, hacksaws and spanners should be kept in the state of readiness at each sub-station and tents for work crews should also be part of the kit.**
- **A database of nodal officer at district should be prepared for emergency power services and shared with the DDMA respectively.**
- **Mock drill on mass casualty management at state and district level should organize twice in year. The report should be submitted to concerned DDMA.**
- **Warning Time**
- **All the electricity systems should be shut down for some time to avoid sparking and short circuiting of cables.**
- **During Disaster**
- **Generators should be available in the affected villages and blocks.**
- **Care must be taken for important structures so that minimum damage to them occurs.**

- **Immediately undertake inspection of high tension lines, towers, substations, transformers, insulators, poles and other equipment after disaster.**
- **After Disaster**
- **After disaster all efforts should be directed to restoring the electricity supply to the affected districts.**
- **Assessment of damage caused to all the structures of department and writing to higher authorities for budget to restore the structures.**

C.2.1.4 Department of Police:

- **Non Disaster Time**
- **Maintain law and order in normal times.**
- **Prepare a departmental disaster plan and SOPs for district and submit these to DDMA of the district.**
- **Training of police personal for search and rescue in normal times, and list of such persons prepared for disaster time.**
- **Regularly practice mock drills for different disasters and report to DDMA about such operations.**
- **Warning Time**
- **During warning time the police should do announcements using PA(public announcement) system in every part of area that can be affected by disaster.**
- **During Disaster**
- **Help people in evacuating the affected area.**
- **Provide people with transport facilities available with police department.**
- **Control the traffic of area to help people evacuate the area quickly.**
- **Immediately get involved in search and rescue operations to minimize loss of life.**
- **Establish communication with dist. And divisional control rooms and ask for additional help needed.**
- **After Disaster**
- **Help other departments in establishment of relief camps.**
- **Provide security and maintain order in relief camps so that all people get same facility.**
- **Security arrangements for officials visiting the relief camps.**

C.2.1.5 Department of Public Works:

- **Non Disaster Time**
- **Appoint Officer in the Department for the Disaster Preparedness and management .**
- **Take precautionary steps for the protection of government property against**

possible loss and damage during disaster.

- **Make guidelines for safe construction of public works and strictly implement them.**
- **Prepare list of heavy construction equipment in the district.**
- **Organize periodic training of engineers and other construction personnel on disaster resistant construction technologies.**
- **Carry out survey of condition of all highway systems at district level.**

• **Warning Time**

- **Instruct all officials at construction sites to keep manpower and materials prepared for protection and repair of public works.**
- **Direct the construction authorities and companies to be ready with search & rescue facilities in or near areas likely to be affected by disaster**

• **During Disaster**

- **Provide assistance to the damage assessment teams for survey of damage to roads and infrastructure.**
- **Take steps to clear debris and assist search and rescue teams.**
- **Provide sites for rehabilitation of affected population**
- **Collate and disseminate information regarding operational and safe routes and alternate routes, fuel availability etc. to personnel operating in the field.**
- **Launch repair missions for damaged critical infrastructure and roads.**
- **Take steps for prompt removal of uprooted trees on the roads and clear roads as soon as possible.**

• **After Disaster**

- **Carry out detailed technical assessment of damage to public works and property after disaster.**
- **Assist in construction of temporary shelters for relief camps.**
- **Do repairs of buildings damaged in the disaster**
- **Prepare detailed report and procedures for rehabilitation of damaged public works.**
- **Arrange technical assistance and supervision for reconstruction works as per request.**
- **Assess damage to transportation infrastructure and take steps to repair them at the earliest.**

C.2.1.6 Department of Industries:

• **Non Disaster Time**

- **Appoint Officer in the Department as the Disaster Management officer.**
- **Ensure all possible steps for the security of manpower, implements, stock, installations / factories etc in industries of area.**
- **Prepare listing and locations of industries and establishments for possible sourcing of relief material during disasters.**
- **Ensure training on preparedness to disaster to be adopted at different levels for**

- **all manpower employed in factories vulnerable industries.**
- **Promote the preparation of emergency preparedness plans by all industrial units and try to make it compulsory.**
- **Warning Time**
- **Make public announcement in areas surrounded by industries so that people are ready to escape.**
- **Evacuate the area as soon as possible for safety of manpower in the affected area.**
- **During Disaster**
- **Request industries to provide emergency relief material such as food products, temporary shelter, medicines and medical equipment and search & rescue equipment.**
- **If the industry is also affected then get some external help for industry and affected persons.**
- **After Disaster**
- **Take steps for rehabilitation of industries adversely affected by disasters.**
- **Try to restore industry as soon as possible so that people also get employment and industry also don't suffer much loss.**

C.2.1.7 Department of Transportation:

- **Non Disaster Time**
- **Carry out survey of condition of all aircraft landing facilities at province level.**
- **Prepare a Disaster preparedness plan for transport department and send it to DDMA.**
- **Warning Time**
- **Make inventory of transport vehicles, and ensure that they are all in good working condition.**
- **Ensure availability of fuel, recovery vehicles and equipment.**
- **Take steps for arrangement of vehicles for possible evacuation of people**
- **During Disaster**
- **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 fuel availability etc. to personnel operating in the field.**
- **Communicate with PWD department for damaged roads.**
- **After Disaster**
- **Assess damage to transportation vehicles.**
- **Assess damage to aircraft landing facilities.**
- **Take steps to ensure speedy repair and restoration of transport facilities.**

C.2.1.8 Department of Telecommunication:

-
- Non Disaster Time
-
- **Manage good mobile phone network in the district**
 - **Ensure communication links between district administration and province government, and between district and blocks.**
 - **Take steps to ensure power back up for communication systems during possible emergency situations**
 - **Take proper and adequate security steps for the protection of own installations and properties.**
- Warning Time
- **Provide support to the District Disaster Management Committee and ensure links with all blocks.**
 - **Deliver early warning information to the agencies and communities requiring them.**
 - **Take steps for the protection of own property**
- During Disaster
- **Operate communication systems round the clock (24 hours).**
 - **On request, provide additional communication lines for emergency communication.**
 - **On request, establish communication links in the affected areas.**
 - **Provide measures for satellite and other wireless communication from the area affected by disaster to the district.**
 - **Provide mobile communication facilities to the Rapid Assessment and Rescue Teams.**
 - **Assess damage to telecommunication infrastructure and immediately take steps to restore it.**
- After Disaster
- **Take steps to fully restore and rehabilitate any damaged communication infrastructure.**
-

C.2.1.9 Department of Agriculture:

-
- Non Disaster Time
-
- **Prepare a departmental disaster management plan and submit it to the concerned DDMA. Apart from plan, SOP should be prepared which clearly delineates the roles and responsibilities.**
 - **Identify areas likely to be affected.**
 - **Carry out the surveillance for pests and diseases.**
-

- **Arrange for keeping stock of seeds, fertilizers and pesticides.**
 - **Warning Time**
 - **Establish communication with the State EOC, Divisional Control Room, District Control Room and other concerned departments.**
 - **Warning to all the concerned villages should be issued.**
- **During Disaster**
 - **Monitor damage to crops and identify steps for early recovery.**
 - **Restore the agricultural operations (including soil conditions), crop protection and restore agriculture produce market in the event of a disaster.**
- **After Disaster**
 - **Quantify the loss and damage within the quickest possible time and finalizes planning of agriculture rehabilitation.**
 - **Ensure availability of adequate supply of seeds, seedlings, fertilizers, pesticides and agricultural implements**
 - **Submit a report on the amount spent on disaster management in pursuance of these relief activities, after receipt of warning or disaster strike to the Relief Commissioner for reimbursement.**

C.2.1.10 Department of Veterinary:

- **Non Disaster Time**
 - **Prepare a district specific departmental disaster management plan and submit it to the concerned DDMA. Apart from plan, SOP should be prepared which clearly specify the roles and responsibilities.**
 - **Select and earmark highlands for use as shelter for livestock during flash floods.**
 - **Perform routine vaccination for protection of livestock against contagious diseases.**
 - **Prepare schemes for supplementary arrangements for rehabilitation of livestock.**
 - **Take up schemes for procurement of animal feed on emergency basis for distribution in the affected areas.**
 - **Establish fodder bank schemes as security against fodder shortage for livestock due to disasters**
- **Warning Time**
 - **Warning should be issued to all the villages about upcoming disaster and advised to move their animals to safe place.**
- **During Disaster**

- **During disaster help in rescue and shifting of livestock and poultry.**
- **During floods arrange for the quick vaccination and treatment of livestock and poultry at shelter places.**
- **During prolonged droughts arrange for sustainability of livestock population.**
- **Several teams of veterinary doctors, and assistants for visiting disaster sites should be constituted as precautionary measure.**
- **It should organize transfer of seriously injured livestock from villages to veterinary aid centers wherever possible.**

- **After Disaster**

- **Arrange a rapid survey to assess the loss.**
- **Form and dispatch Veterinary Teams with appropriate equipment and medicines to aid affected livestock.**
- **Arrange for disposal of dead bodies of animals.**
- **Implement all schemes for rehabilitation of livestock.**
- **The key responsibilities include epidemiological surveillance, maintenance of sanitary conditions and cleaning operations.**
- **Submit a report on the amount spent on disaster management in pursuance of these**
- **relief activities, after receipt of warning or disaster strike to the Relief**
- **Commissioner for reimbursement**

C.2.1.11 Department of Irrigation:

- **Non Disaster Time**

- **Promote Watershed Development Programs.**
- **Prepare DDMP and SOP during disaster periods and communicate them to DDMA.**
- **Ensure efficient management of flood forecasting and warning systems & intimation to appropriate authorities and people involved.**
- **Operate Flood Information Centre in the flood season every year.**
- **Collect all the information on weather forecast from meteorological department.**
- **Take steps for strengthening of flood protection works and canals before the flood season**

- **Warning Time**

- **Alert District Disaster Management Committee in the rainy season.**
- **Since flash floods get triggered within short time-spans, take steps to alert all through telephone and wireless according to needs.**
- **Mount watch on flood protection works and canal systems**

- **During Disaster**

- **Open the Control Room in the Department.**
- **Establish communication with the State EOC, Divisional Control Room, District**

Control Room and Police

- **Launch emergency relief operations for critically damaged flood protection works and canals.**
- **After Disaster**
- **Take up sustained actions for rehabilitation of flood protection works and canals.**

C.2.1.12 Department of Forest

- **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**
- **Organize 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**
- **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.2.1.13 Department of Home

- Non Disaster Time
- Designate one officer for the DEOC.
- Prepare an operational Plan for responding to any type of disaster.
- Establish, maintain and train district level search and rescue response team.
- Impart training to the members of Police Force in first aid, evacuation, rescue and relief operations.
- To conduct Search and Rescue training to gram panchayat task forces.
- Prepare an inventory of all man power and equipment available.
- To prepare an inventory of volunteers who have already completed training courses successfully and can be utilized in the search and rescue operations.
- Maintain and operate the DEOC throughout the year in preparedness mode during no-disaster times and in emergency mode during disaster times.
- Arrange drills for fire extinguishing, rescue, evacuation and transportation of injured persons and prepare coordinated Action Plans in cooperation with District administration and concerned local agencies
- Hold annual drills on disaster preparedness and response.
- Organize road safety and fire and festival safety awareness programs for schools and community.
- Warning Time
- Representative to be positioned at the DEOC.
- Maintain communications with the police installations in the areas likely to be affected by disaster.
- Inform nearest police station (from the likely disaster affected area) for dissemination of warning.
- Instruct all concerned to accord priority to disaster related wireless messages, if required by appropriate officials.
- On receipt of directives from the DEOC for evacuation – organize personnel and equipment for evacuation and undertake evacuation operations.
- Move task forces to the convenient positions, if needed.
- During Disaster
- Send task forces in disaster affected areas.
- Carry out search & rescue operations.
- Carry out fire fighting operations
- Maintain law and order, especially during relief distribution.
- Keep direct contact with different officers like District EOC and Incident command Posts for taking any steps to combat any situation.
- Assist local administration in removing the dead bodies and debris in affected areas.
- Coordinate with other offices for traffic management in and around damaged areas.
- Assist the local administration in putting a stop to theft and misuse in relief operation.

- **Dispatch situation reports to the DEOC.**
- After Disaster
- **Participate in reconstruction and rehabilitation operations, if requested.**
- **Arrange security of government property and installations damaged in a disaster**

C.2.1.13 Department of Home Guards

- Non Disaster Time
- **Training of home guards commandos for various disasters like flood, earthquake and other calamities.**
- **Following disaster management plan and conducting mock drills at regular intervals.**
- **Repairing of all available equipments and purchasing new equipments required.**
- **Provision of funds for disaster mitigation and preparedness.**
- Warning Time
- **Issuing of warning in the prone area before occurrence of disaster via all possible means of communication like PA system, Radio, TV etc.**
- During Disaster
- **Rush the home guard commandos to disaster site immediately.**
- **Immediately start rescue work at affected site.**
- **Work with other departments in rescue work like Police and PWD.**
- After Disaster
- **Helping in rehabilitation of people at safe places.**
- **Help Police in maintaining law and order at affected site.**
- **Help in distribution of relief material among affected population.**

After consultation with the concerned department's nodal officers, similar tables like Table C 2.1.1, C 2.1.2.....etc, will be developed for all the concerned departments as discussed above, mentioning the specific roles and responsibilities, phase wise (before, during, after and non disaster time).

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

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

C 3.1 District Disaster Response Fund will basically cover the disaster response, relief, and rehabilitation part.

C 3.2 District Disaster Mitigation Fund 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.

C 4 Coordination mechanisms with other stakeholders

C 4.1 Mapping of stakeholders in the District

The mapping exercise will be carried out in detail, at the district level, including the following stakeholders:

C 4.1.1 Private and Public Sectors:

Many private and public sector units have equipments and skilled human resource, which could be used during response and recovery phase. A list of the major public and private sector units with facilities available with them is very useful during emergencies, which will be provided here in this section. Further, there are many private vendors within district, who can readily supply different relief materials within short notice. All those information will also be covered here in this section.

C 4.1.2 Non Governmental Organizations and Community Based Organisations:

Local NGOs and CBOs, due to their proximity to community, can act as a vital link between government and community particularly during emergencies. The Role of NGOs and CBOs in disaster management will be elaborated stage wise (preparedness, response and recovery) in this section.

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:

Academic institutions within the district and also outside the district could help with subject specific expertise for disaster management planning. This section will document all those relevant information which will be used as reference in future.

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

C 4.2 Responsibilities of the stakeholders

The responsibilities of all the key stakeholders will be defined in detail, under this section.

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 District EOC head can seek help from other districts through Divisional Commissioner or State EOC. This portion will elaborate the issues pertaining to mutual support, understanding and coordination at the inter district level.

C 6 Intra- District Coordination Mechanisms – [with Block Headquarters]

This section will elaborate the mutual coordination, and clarity of role amongst intra district nodal agencies at the district, and sub district level (including Block level headquarters), with reference to disaster management functions.

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.

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

C 7.1 Plan Evaluation

The purpose of monitoring & evaluation of DDMP is to determine the adequacy of resources, co-ordination between various agencies, community participation, partnership with NGOs and other entities, Post-disaster evaluation mechanism, Periodic uploading of plans at India Disaster Knowledge Network (IDKN) and resources on India Disaster Resource Network (IDRN), Conducting periodic mock drills, Checking whether all the personnel involved in execution of DDMP are trained and updated on the latest skills necessary in line with updated plans.

The purpose of evaluation of DDMP is to determine

1. the availability of resources
2. co-ordination between various government departments, Agencies, Institutions etc
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 frequency of updating the plan (DDMP) will be mentioned (it should be every year, as per DM Act). Apart from it, the plan will be updated when shortcomings are observed in Organizational structures; Technological changes, Response mechanism following reports on drills or periodic exercises, and specific assignments of state agencies.

The Collector chairman of DDMA is the nodal person for plan update process. The Collector along with all line departments, District Officers will update it every year taking into consideration.

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

An annual review 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

The following Annexure must be included along with the plan. Additional Annexure can also be attached according to the specific Need.

C 8.1 District profile

C 8.2 Resources

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

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

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

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

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

C 8.6 Detailed Maps

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

Flood affected villages in District Khandwa

Villages within 238 m water level of DAM

Sr. No.	Village Name	Tehsil	Sr. No.	Village Name	Tehsil
1	Sonpuramaal	Harsood	2	Punghatkhard	Harsood
3	Sembwa	Harsood	4	Maula	Harsood
5	Jabgaon	Harsood	6	Naavghat	Harsood
7	Ghisor	Harsood	8	Abhava	Harsood
9	Chirwa	Harsood	10	Laadva	Harsood
11	Borkhedamaafi	Harsood	12	Sarai (Forest Village)	Harsood
13	Naagpurmaafi	Harsood	14	Bhogani	Harsood
15	Gullas	Harsood	16	Bandhanian-1	Harsood
17	Bijalpur Khurd	Harsood	18	Bandhanian-2	Harsood
19	Gannor	Harsood	20	Padiyadekh	Harsood
21	Nirgudiyamal	Harsood	22	Badhkeswar	Harsood

23	Dhaarikotla (Forest Village)	Khandwa	24	Anjanina	Harsood
25	Jamoti (Forest Village)	Khandwa	26	Boorimal	Harsood
27	Nirgudiyatheka	Harsood	28	Chadgarh	Harsood
29	Nuval	Harsood	30	Boriya	Harsood
31	Bijalpurmaafi	Harsood	32	Khaarwan	Harsood
33	Baldhi	Harsood	34	Borkhedakhurd	Harsood

Villages within 238-245 m water level of DAM

1	Regvaan	Harsood	2	Genhugaon	Harsood
3	Jalwa	Harsood	4	Khudiya sar	Harsood
5	Undwa	Harsood	6	Joonapaani (Forest Village)	Khandwa
7	Patakhali	Harsood	8	Piplaya	Harsood
9	Pawali	Harsood	10	Chalpakalaan	Harsood
11	Chuchrel	Harsood	12	Phephriyakhurd	Harsood
13	Jaitapurkhurd	Harsood	14	Beer raiyat	Harsood
15	Punghatkalaan	Harsood	16	Pipalyakalaan	Harsood
17	Jamanyamaal	Harsood	18	Saktapur	Harsood
19	Subhanpura	Harsood	20	Dhanwanitheka	Harsood
21	Bankapalash (Forest Village)	Harsood	22	Borkherakalaan	Harsood
23	Bichpudiya	Harsood	24	Balwara (Forest Village)	Khandwa
25	Cheechmaafi	Harsood			

Villages within 245-262.13 m water level of DAM

1	Billod raiyat	Harsood	2	Imlaani	Harsood
3	Katwbri	Harsood	4	Dhvanimaafi	Harsood
5	Paangria	Harsood	6	Piplani	Khandwa
7	Jataam	Harsood	8	Banjaari	Khandwa
9	Titwaas	Harsood	10	Sonpura	Harsood
11	Khutiya raiyat	Harsood	12	Lahaarpura rai	Harsood
13	Gurawan	Harsood	14	Seevar	Harsood
15	Hanwantia	Harsood	16	Dabri	Harsood
17	Nazarpura	Harsood	18	Jhagaria	Harsood
19	Khudiyamaal	Harsood	20	Pratappura	Harsood
21	Darkali	Harsood	22	Harsood sahar	Harsood
23	Pipalya s. theka	Harsood	24	Jaamkota	Harsood
25	Morood (Forest Village)	Harsood	26	Chikhli	Harsood
27	Sonpura khurd	Harsood	28	Bhavarli	Harsood
29	Khamkhera (Forest Village)	Khandwa	30	Piplani (Forest Village)	Harsood
31	Kukdhal	Harsood	32	Igaria	Harsood

33	Seldamaal	Harsood	34	Poorni	Khandwa
35	Billoudmaal	Harsood	36	Navalpura	Harsood
37	Mongal raiyat	Harsood	38	Bhramogaon	Harsood
39	Mandgaon raiyat	Harsood	40	Ambakhaal	Harsood
41	Nandgaon khurd	Harsood	42	Bediyao	Harsood
43	Godhikhela	Harsood	44	Hathnoora	Harsood
45	Saatri	Harsood	46	Jheengadhar	Harsood
47	Jaitapurkalaan	Harsood	48	Baandria	Khandwa
49	Malood	Harsood	50	Phepharia kalaan	Harsood
51	Bhogani (Forest Village)	Khandwa			

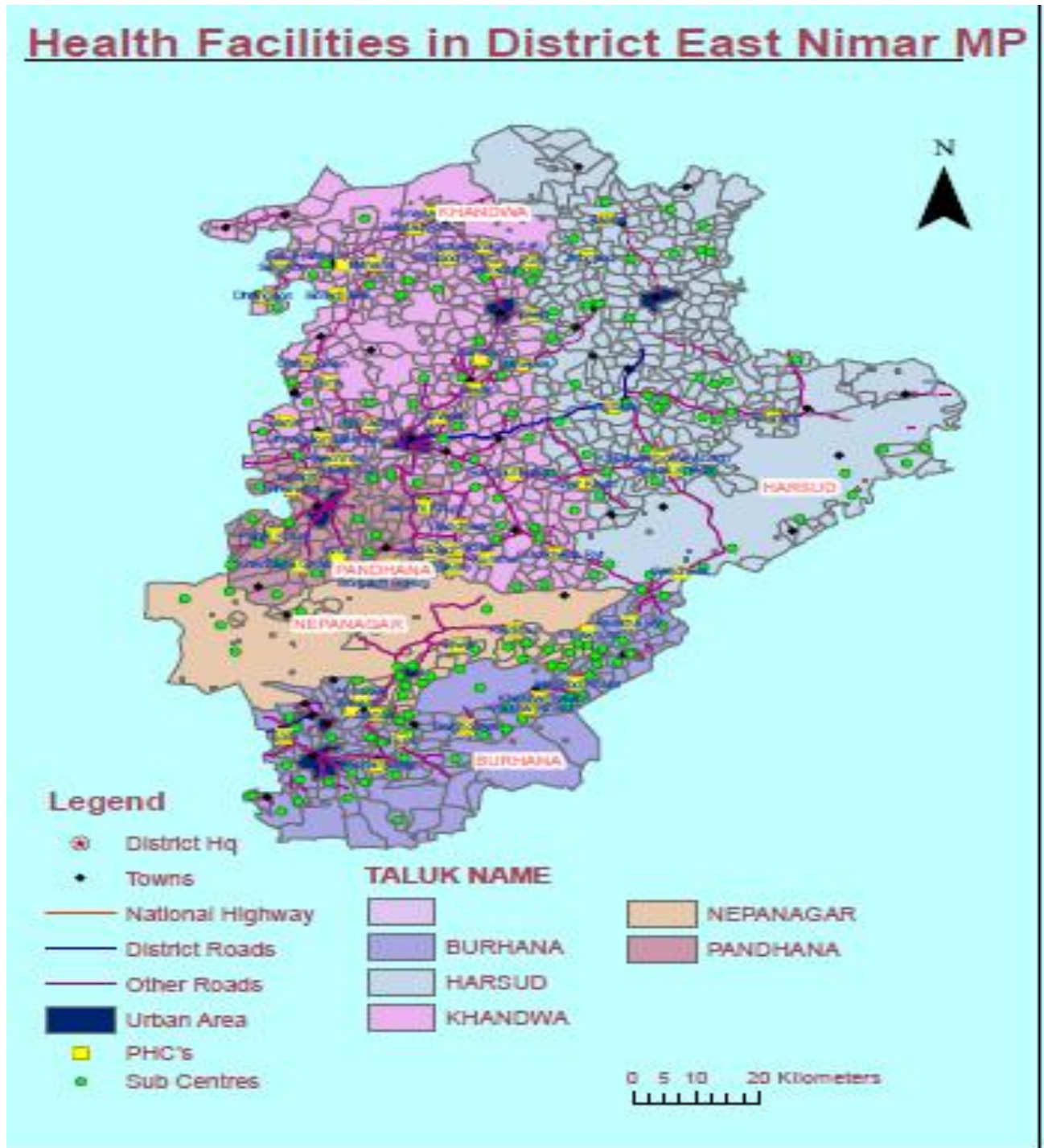
Other affected Villages

1	Balduadongri	Khandwa	2	Undel raiyat	Harsood
3	Surgaonbanjari	Khandwa	4	Booribandri	Harsood
5	Chaandel	Khandwa	6	Surwaria	Harsood
7	Chiktikhal	Khandwa	8	Chaalpakhurd	Harsood
9	Baandrga	Khandwa	10	Devla	Harsood
11	Gulgaon	Khandwa	12	Bhagwanpura	Harsood
13	Bedhani	Khandwa	14	Cheench raiyat	Harsood
15	Reechi maafi	Khandwa	16	Somgaon	Harsood
17	Amoda theka	Khandwa	18	Barkhalia	Harsood
19	Kasrabad Aa.	Harsood	20	Singhkhera	Harsood
21	Revapur	Harsood	22	Gehalgaon	Harsood
23	Palanimaal	Harsood	24	Mohanya kala	Harsood
25	Bonthia khurd	Harsood	26	Mahanya khurd	Harsood
27	Lahaarpur maal	Harsood	28	Bargain maal	Harsood
29	Dhanoura	Harsood	30	Lachoor maal	Harsood
31	Kadoli	Harsood	32	Bargaon raiyat	Harsood
33	Kuksi	Harsood	34	Paamakheri	Harsood
35	Gambhir	Harsood	36	Daang	Harsood
37	Semrud	Harsood	38	Dhada	Harsood
39	Chaarkhera	Harsood	40	Nandaana	Harsood
41	Devladi	Harsood	42	Maathni (Forest Village)bijora maafi	Harsood
43	Neemkhera	Harsood	44	Joonapaani	Harsood
45	Joogibeda	Harsood	46	Barud	Harsood
47	Kashipura	Harsood	48	Doodhkhera	Harsood
49	Torania	Harsood	50	dagarkheri	Harsood
51	Dinakpura	Harsood	52	Bijora maafi	Khandwa

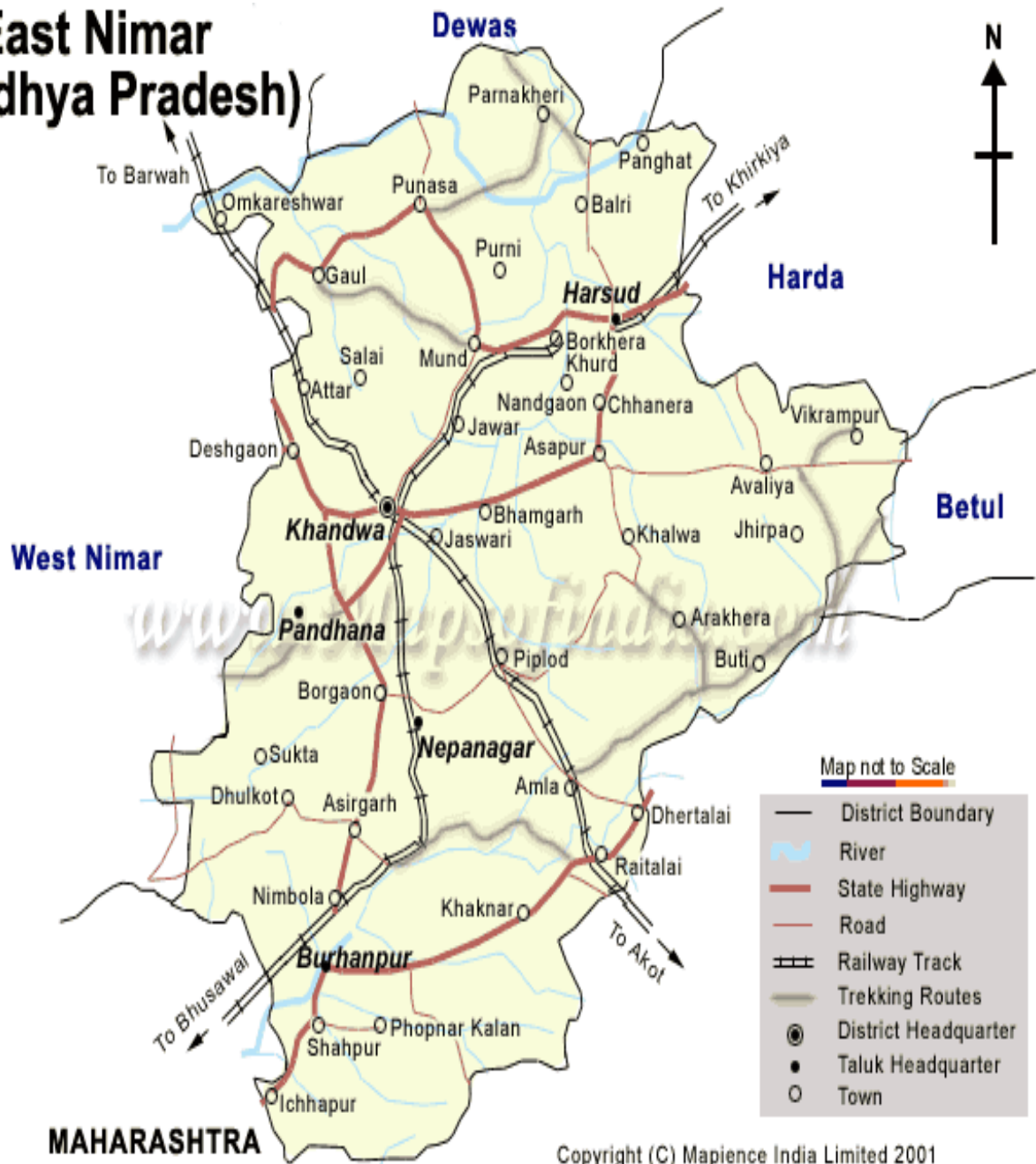
Index for village identification

Sr. no.	Color of village	Status of village	Number of villages
1	Blue	Fully affected villages	72
2	Red	Land partial and populated area fully	17

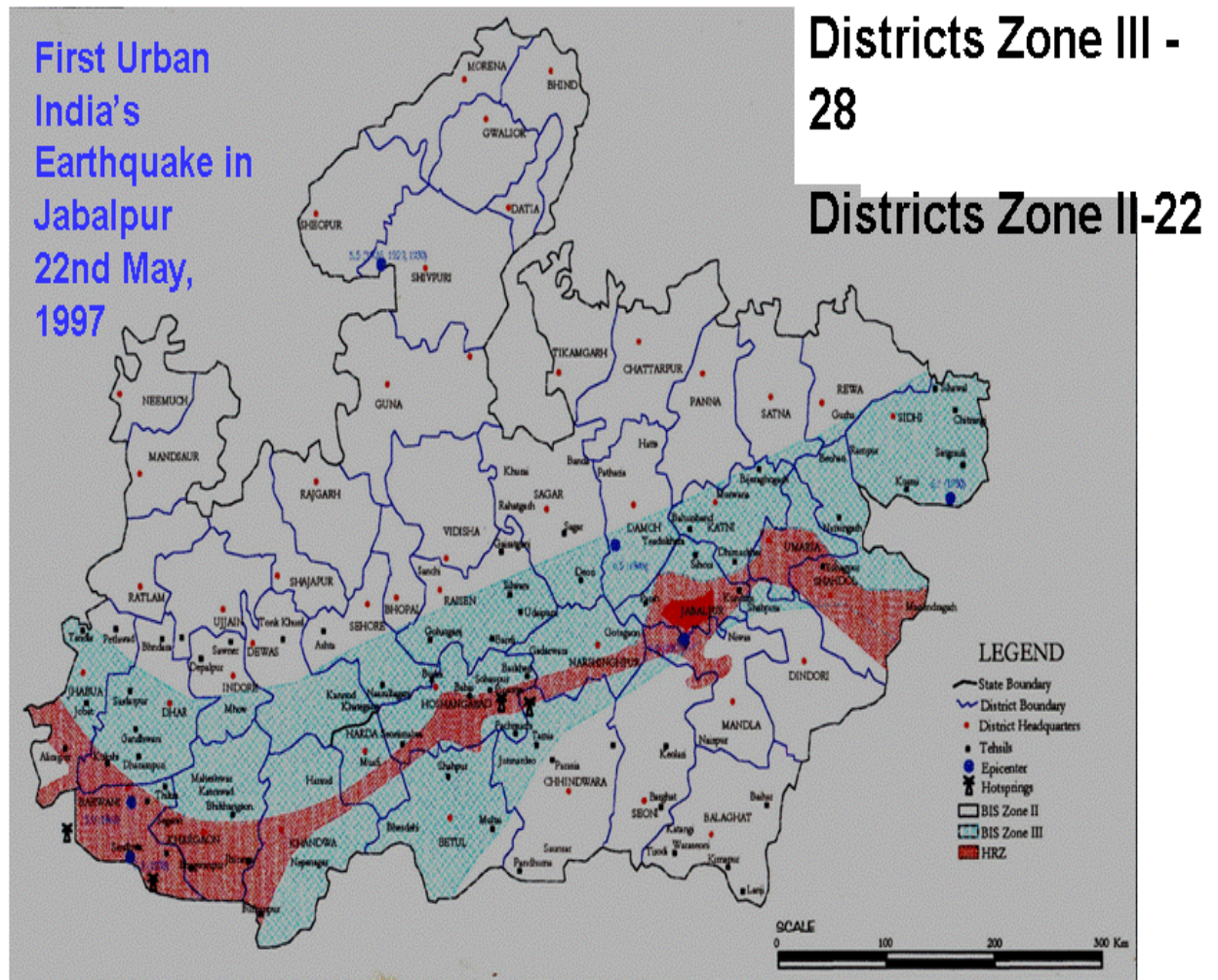
		submerged	
3	Green	Land and populated area partially submerged	37
4	Pink	Only agriculture land affected	36



East Nimar (Madhya Pradesh)

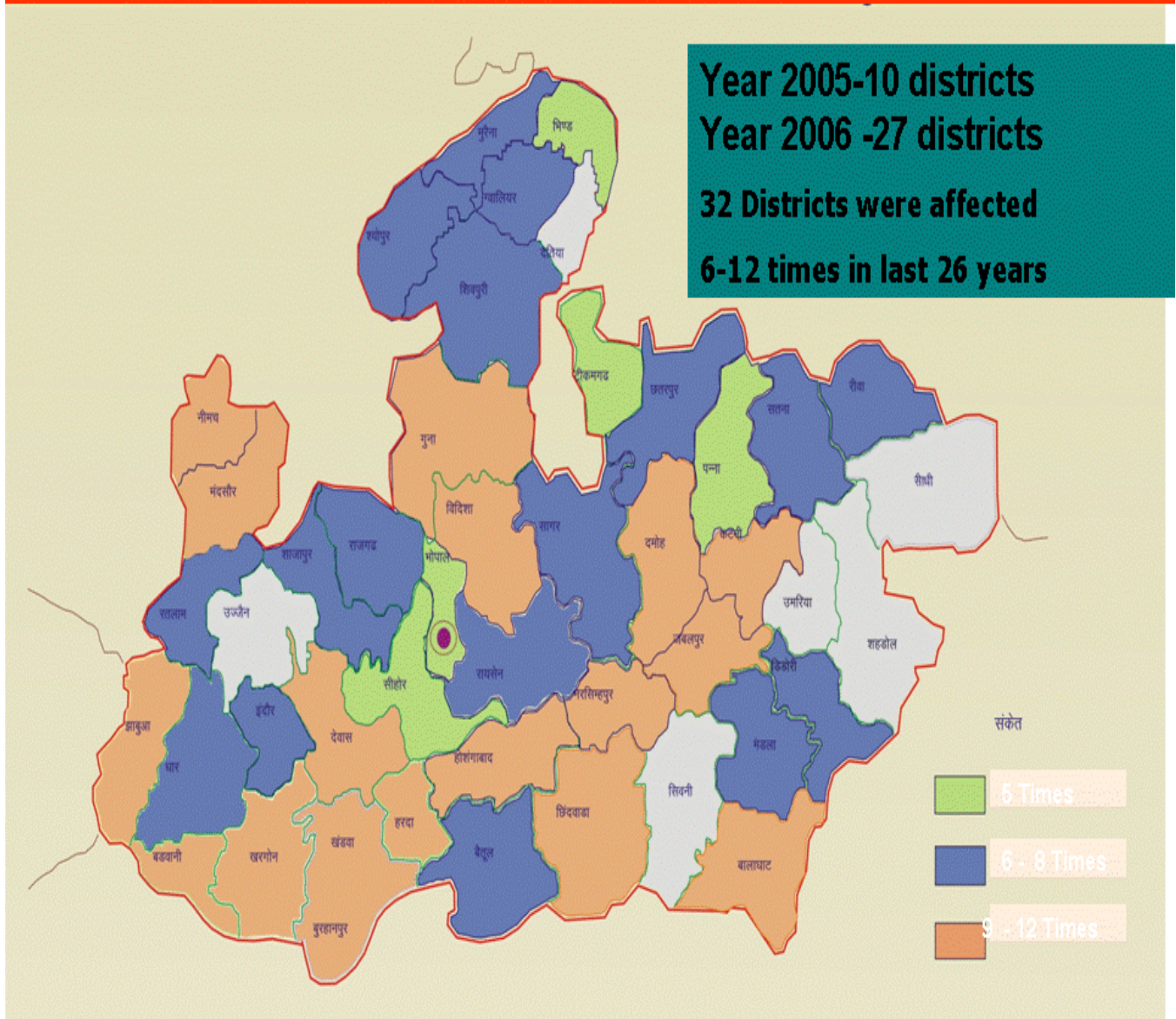


EARTHQUAKE VULNERABILITY OF MADHYA PRADESH

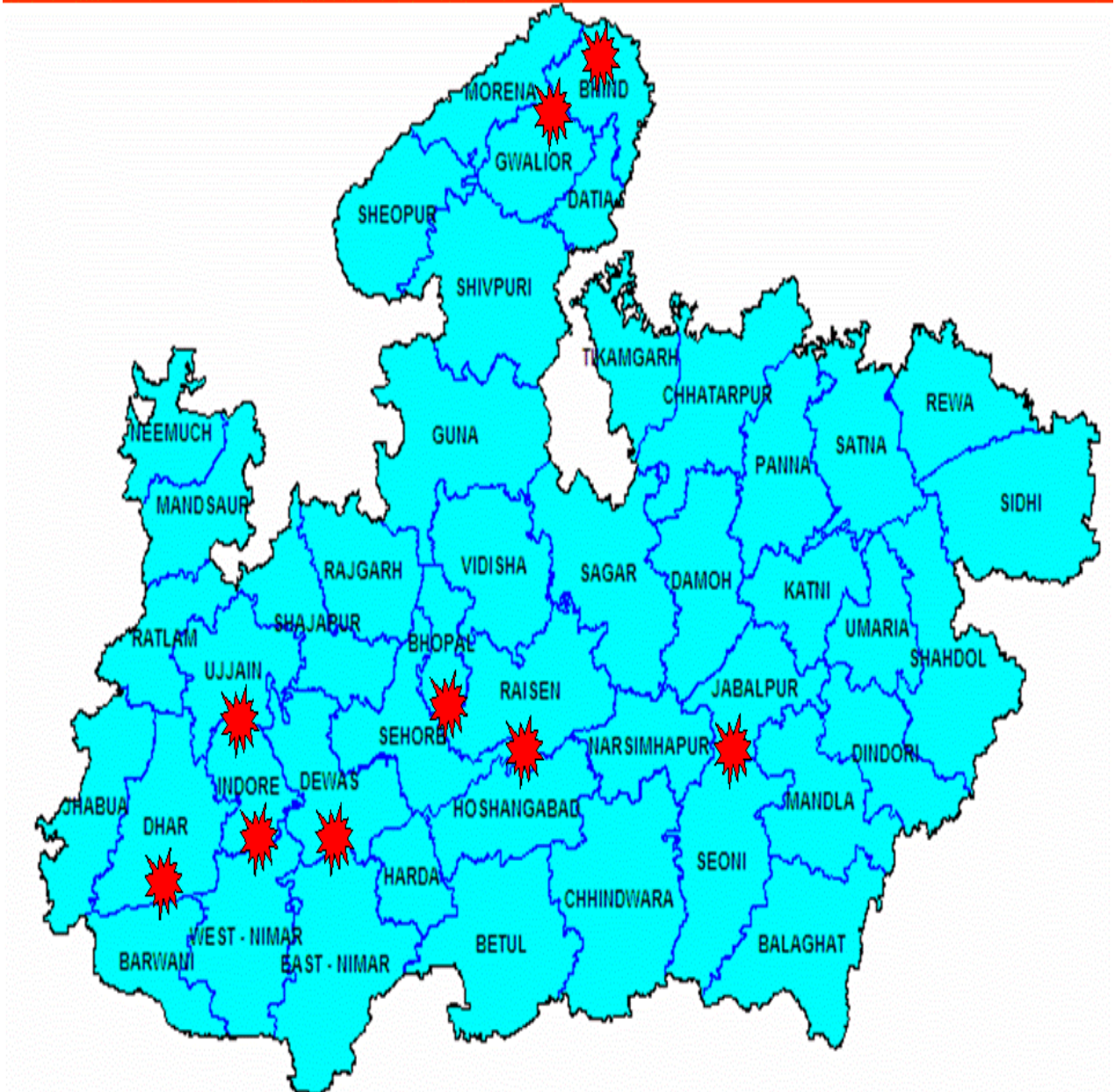


In Madhya Pradesh, 28 districts partly or completely fall under Zone-III, having moderate seismic risk viz. Jabalpur, Khargone, Indore, Khandwa, Dhar, Raisen, Dewas, Sehore, Betul, Sidhi, Shadol, Damoh, Narsinghpur, Hoshangabad, Badwani, Jhabua, Umaria, Chhindwara Harda, Burhanpur, Anuppur, Sagar, Seoni,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

FLOOD AFFECTED DISTRICTS OF MADHYAPREDESH



INDUSTRIAL HAZARDS IN MADHYA PRADESH



District Name - KHANDWA All Blocks For HS,HSS

S No	Block Name	DDO	DISE Code	School Name	Teachers	Management
1	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8832	HS JHINJHARI		
2	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8802	HS KOTHA	4	Education
3	KHALWA	ASHAPUR, PRINCIPAL Govt H.S. SCHOOL ASHAPUR	2329068 8831	HS FEFARISARK AR	1	
4	KHANDWA	KHANDWA, PRINCIPAL Govt Girls H.S.S. SURAJKUND KHANDWA	2329076 6618	Govt High School Hapala	2	
5	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Girls SCHOOL MOONDI	2329096 6604	HS KHAIGAON	5	
6	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8818	HS SIRPUR	7	Education
7	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8808	BOYS HS KHALWA	11	Education
8	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8806	HS Dhakochi	3	Education
9	BALADI	BALLADI, PRINCIPAL Govt H.S.S. BALLADI	2329016 6601	Govt High School Gadbadimal		
10	KHALWA	KHALWA, CEO JANPAD PANCHAYAT	2329068 8819	HS JAMNIGUJAR	7	Education

KHALWA						
11	PUNASA	PUNASA, PRINCIPAL Govt. H.S. SCHOOL PUNASA	2329096 6605	HS DHAMANGA ON	3	
12	KHANDWA	KHANDWA, PRINCIPAL MAHARANI LAXMIBAI Girls H.S. SCHOOL KHANDWA	2329076 6619	Govt. HS Anand Nagar		
13	PUNASA	SULGAO, PRINCIPAL Govt.HIGH SCHOOL SULGAO	2329096 6608	HS GUJARKHEDI	3	
14	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8812	HS DIDAMDA	1	Educatio n
15	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329068 8828	HS SARMESAR	1	
16	KHANDWA	SIHADA, PRINCIPAL Govt H.S. SCHOOL SIHADA	2329076 6606	HS BIJORA BHIL	6	Educatio n
17	KHALWA	Principal Girls High School Ashapur	2329068 8815	GIRLS HS ASHAPUR	4	Educatio n
18	PANDHANA	SINGOT, PRINCIPAL Govt H.S. SCHOOL SINGOT	2329086 6607	GHS Bhagvanpura	5	Educatio n
19	PUNASA	PUNASA, PRINCIPAL Govt. H.S. SCHOOL PUNASA	2329096 6609	Govt High School Anjaniryakalan		

20	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8814	HS KALAAM KHURD	7	
21	PUNASA	PUNASA, PRINCIPAL Govt. H.S. SCHOOL PUNASA	2329096 6606	HS GIRLS PUNASA	3	
22	PANDHANA	ARUD, PRINCIPAL Govt.HIGH SCHOOL ARUD	2329086 6609	GHS Ghatakhedi	6	Educatio n
23	KHALWA	KHANDWA, PRINCIPAL Govt. HIGH SCHOOL KHEDI DISTRICT KHANDWA	2329068 8822	HS RAJOOR	6	Educatio n
24	KHALWA	KHANDWA, PRINCIPAL Govt. HIGH SCHOOL KHEDI DISTRICT KHANDWA	2329068 8817	HS MALGAON	3	Educatio n
25	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8820	HS ROSHANI	3	Educatio n
26	PUNASA	OMKARESHW AR, PRINCIPAL Govt H.S.S. OMKARESHW AR	2329096 6611	Govt High School Moratkka Mafi	2	
27	PANDHANA	DIWAL, PRINCIPAL Govt.HIGH SCHOOL DIWAL	2329086 6602	GHS Diwal	10	Educatio n
28	CHHAIGAONM AKHAN	AHMEDPUR, PRINCIPAL Govt H.S. SCHOOL AHMEDPUR	2329036 6603	GHS Malgaon	4	Educatio n

29	BALADI	BALLADI, PRINCIPAL Govt H.S.S. BALLADI	2329016 6602	Govt. HS PAMAKHEDI		Educatio n
30	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329068 8824	HS Khalwa		Educatio n
31	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8826	HS DHAWADI	1	
32	HARSUD	HARSOOD, PRINCIPAL Govt. H.S.S. HARSOOD	2329046 6605	Govt. HS NAVEEN DHANAURA		Educatio n
33	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Boys SCHOOL MOONDI	2329096 6615	Govt. HS JALWA BUJURG		Educatio n
34	PUNASA	MOHANA, PRINCIPAL Govt. H.S.S. MOHANA	2329096 6602	GHS Khutlakala	3	Educatio n
35	KHALWA	KHALWA, B.D.O. KHALWA	2329068 8816	HS BHAGANWA	2	Educatio n
36	CHHAIGAONM AKHAN	CHHEGAONM AKHAN, PRINCIPAL Govt H.S. SCHOOL CHHEGAON MAKHAN	2329036 6602	GHS Deshgaon	5	Educatio n
37	BALADI	BALLADI, PRINCIPAL Govt H.S.S. BALLADI	2329016 6603	Govt. HS BHAGWANP URA		Educatio n
38	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329068 8805	HS Devli Kala	4	Educatio n

39	KHANDWA	KHANDWA, PRINCIPAL Govt Girls H.S.S. SURAJKUND KHANDWA	2329076 6610	HS BADGAON MALI	5	
40	KHANDWA	KHANDWA, PRINCIPAL Govt Girls H.S.S. SURAJKUND KHANDWA	2329076 6611	HS AMALPURA	4	
41	PUNASA	SULGAO, PRINCIPAL Govt.HIGH SCHOOL SULGAO	2329096 6612	Govt. HS INDHAWADI		Educatio n
42	PANDHANA	GUDI, PRINCIPAL Govt H.S. SCHOOL GUDI	2329086 6608	GHS Piplod	3	Tribal
43	KHANDWA	JAWAR, PRINCIPAL Govt H.S. SCHOOL JAWAR	2329076 6617	Govt High School Sahejala	1	
44	HARSUD	HARSOOD, PRINCIPAL Govt. H.S.S. HARSOOD	2329046 6604	Govt High School Dagadkedi	1	
45	KHANDWA	GUJAR, PRINCIPAL Govt.HIGHER SECONDARY SCHOOL BADGAON GUJAR	2329996 6601	GHS Korgala	5	Educatio n
46	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8821	HS LAKHANPUR BANDI	1	Educatio n
47	CHHAIGAONM AKHAN	CHICHGOHA, PRINCIPAL Govt H.S. SCHOOL CHICHGOHA	2329036 6609	Govt. HS ATAR		Educatio n
48	KHANDWA	JAWAR, PRINCIPAL	2329076 6604	GHS Rangaon	5	Educatio n

		Govt H.S. SCHOOL JAWAR				
49	PUNASA	SULGAO, PRINCIPAL Govt.HIGH SCHOOL SULGAO	2329096 6607	HS RICHHFAL	3	
50	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Boys SCHOOL MOONDI	2329096 6613	Govt. HS KODWAR		Educatio n
51	PUNASA	SULGAO, PRINCIPAL Govt.HIGH SCHOOL SULGAO	2329096 6610	Govt High School Goal		
52	PANDHANA	GUDI, PRINCIPAL Govt H.S. SCHOOL GUDI	2329086 6615	Govt High School Bamanda		
53	CHHAIGAONM AKHAN	CHHEGAONM AKHAN, PRINCIPAL Govt H.S. SCHOOL CHHEGAON MAKHAN	2329996 6603	GOVT HS SIRSOD	2	Educatio n
54	KHALWA	Khar, Principal H S S Khar	2329068 8830	HS JAMNYAKAL A		
55	PANDHANA	GUDI, PRINCIPAL Govt H.S. SCHOOL GUDI	2329086 6614	Govt High School Karpur		
56	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329068 8813	HS UDIYAPUR RAIYAT		Educatio n
57	HARSUD	HARSOOD, PRINCIPAL Govt. Girls H.S.S. HARSOOD	2329068 8825	Govt High School Maujawadi		

58	PANDHANA	SINGOT, PRINCIPAL Govt H.S. SCHOOL SINGOT	2329086 6618	Govt. HS PANGARA		Educatio n
59	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8809	HS SAWALIKHE DA	4	Educatio n
60	CHHAIGAONM AKHAN	CHHEGAONM AKHAN, PRINCIPAL Govt H.S. SCHOOL CHHEGAON MAKHAN	2329036 6607	Govt High School Chhegoan devi	3	
61	HARSUD	HARSOOD, PRINCIPAL Govt. H.S.S. HARSOOD	2329046 6603	Govt High School Borisaray		
62	KHANDWA	JAWAR, PRINCIPAL Govt H.S. SCHOOL JAWAR	2329076 6605	HS BHAKRADA	6	Educatio n
63	PANDHANA	SINGOT, PRINCIPAL Govt H.S. SCHOOL SINGOT	2329086 6617	Govt High School Khidgoan	2	
64	PANDHANA	KOHDAD, PRINCIPAL Govt.HIGH SCHOOL KOHDAD	2329086 6613	HS BAGMAR	6	
65	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Girls SCHOOL MOONDI	2329096 6614	Govt. HS BANGRADA		Educatio n
66	PUNASA	OMKARESHW AR, PRINCIPAL Govt H.S.S. OMKARESHW AR	2329096 6603	HS BHOGANWA	4	

67	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329068 8811	HS SENDHWAL	2	Educatio n
68	KHANDWA	SIHADA, PRINCIPAL Govt H.S. SCHOOL SIHADA	2329076 6607	HS PIPLYATAHA R	3	
69	KHANDWA	KHANDWA, PRINCIPAL Govt Girls H.S.S. SURAJKUND KHANDWA	2329076 6608	HS JASWADI	6	
70	KHANDWA	KHANDWA, PRINCIPAL Govt Girls H.S.S. SURAJKUND KHANDWA	2329076 6601	GHS Surajkund Khandwa		Educatio n
71	PANDHANA	SINGOT, PRINCIPAL Govt H.S. SCHOOL SINGOT	2329086 6616	Govt High School Ranjani		
72	KHANDWA	KALMUKHI, PRINCIPAL Govt.HIGH SCHOOL KALMUKHI	2329076 6612	HS MATPUR	4	
73	KHANDWA	GUJAR, PRINCIPAL Govt.HIGHER SECONDARY SCHOOL BADGAON GUJAR	2329076 6609	HS BAMANGAO N	6	
74	KHANDWA	GUJAR, PRINCIPAL Govt.HIGHER SECONDARY SCHOOL BADGAON GUJAR	2329076 6614	HS PANJHARIA	6	
75	HARSUD	HARSOOD, PRINCIPAL	2329046 6602	Govt High School Pipalani		

		Govt. Girls H.S.S. HARSOOD				
76	HARSUD	HARSOOD, PRINCIPAL Govt. H.S.S. HARSOOD	2329046 6601	GHS Chanera	3	Educatio n
77	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8829	HS GULARDHAN A	2	
78	KHANDWA	GUJAR, PRINCIPAL Govt.HIGHER SECONDARY SCHOOL BADGAON GUJAR	2329076 6615	HS BORGAON KHURD	5	
79	CHHAIGAONM AKHAN	CHHEGAONM AKHAN, PRINCIPAL Govt H.S. SCHOOL CHHEGAON MAKHAN	2329036 6606	HS DULHAR	6	Educatio n
80	CHHAIGAONM AKHAN	CHHEGAONM AKHAN, PRINCIPAL Govt H.S. SCHOOL CHHEGAON MAKHAN	2329036 6604	HS AVALYA	3	Educatio n
81	HARSUD	HARSOOD, PRINCIPAL Govt. Girls H.S.S. HARSOOD	2329036 6608	Govt High School Barud		
82	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Boys SCHOOL MOONDI	2329096 6601	GHS JamKota	4	Educatio n
83	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL	2329068 8827	HS JAMDHAD	3	

KHALWA						
84	PANDHANA	KOHDAD, PRINCIPAL Govt.HIGH SCHOOL KOHDAD	2329086 6619	Govt. HS PADLYA		Educatio n

S No	Block Name	DDO	DISE Code	School Name	Teachers	Management
1	PUNASA	SULGAO, PRINCIPAL Govt.HIGH SCHOOL SULGAO	2329086 6611	GHSS Sulgaon	15	Educatio n
2	PANDHANA	SINGOT, PRINCIPAL Govt H.S. SCHOOL SINGOT	2329087 7705	GHSS Gandhwa	6	Educatio n
3	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8807	HSS Padlya	2	Tribal
4	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329069 9904	HSS Patajan	8	Tribal
5	KHALWA		2329068 8833	Model High School (RMSA) Khalwa		
6	PANDHANA	ARUD, PRINCIPAL Govt.HIGH SCHOOL ARUD	2329086 6603	GHSS Arud	10	Educatio n
7	KHANDWA	KHANDWA, PRINCIPAL MAHARANI LAXMIBAI Girls	2329077 7701	Maharani Laxmibai Girls HSS Khandwa	51	Educatio n

H.S. SCHOOL KHANDWA						
8	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329069 9905	HSS Sundardev	11	Tribal
9	PUNASA	PUNASA, PRINCIPAL Govt. H.S. SCHOOL PUNASA	2329097 7701	HSS Punasa	20	Educatio n
10	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8803	HSS Gulai	3	Tribal
11	HARSUD	HARSOOD, PRINCIPAL Govt. H.S.S. HARSOOD	2329047 7701	Boys HSS Harsud	27	Educatio n
12	KHALWA	KHANDWA, PRINCIPAL Govt. HIGH SCHOOL KHEDI DISTRICT KHANDWA	2329069 9906	HSS Khedi	11	Tribal
13	CHHAIGAONM AKHAN	CHHEGAONMA KHAN, PRINCIPAL Govt H.S. SCHOOL CHHEGAON MAKHAN	2329037 7701	HSS Chhaigaonm akhan	23	Educatio n
14	BALADI	BALLADI, PRINCIPAL Govt H.S.S. BALLADI	2329017 7701	HSS Killod (Baladi)	16	Educatio n
15	KHANDWA	GUJAR, PRINCIPAL Govt.HIGHER SECONDARY SCHOOL BADGAON GUJAR	2329076 6603	GHSS Badgaonguja r	15	Educatio n

16	PANDHANA	GUDI, PRINCIPAL Govt H.S. SCHOOL GUDI	2329087 7703	HSS Gudi	14	Educatio n
17	KHANDWA	KHANDWA, PRINCIPAL RAICHAND NAGDA Govt H.S. SCHOOL KHANDWA	2329077 7705	R.N. HSS Khandwa	33	Educatio n
18	PANDHANA	PANDHANA, PRINCIPAL Govt H.S. SCHOOL PANDHANA	2329087 7701	HSS Pandhana	21	Educatio n
19	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8804	HSS Aabalya roshni	3	Tribal
20	PANDHANA	BUZURG, PRINCIPAL Govt H.S. SCHOOL BORGAON BUZURG	2329086 6604	GHSS Borbujurg	15	Educatio n
21	PUNASA	PUNASA, B.E.O. PUNASA	2329097 7705	HSS Narmadanag ar	14	Educatio n
22	PANDHANA	PANDHANA, PRINCIPAL Govt Girls H.S.S. PANDHANA	2329087 7706	Govt.HSS GIRLS PANDHAN A	8	Educatio n
23	PANDHANA	PANDHANA, PRINCIPAL Govt H.S. SCHOOL PANDHANA	2329086 6620	Model High School (RMSA) Pandhana		
24	CHHAIGAONM AKHAN	CHICHGOHA, PRINCIPAL Govt H.S. SCHOOL CHICHGOHA	2329037 7703	HSS Chichgohan	16	Educatio n
25	BALADI	BALLADI, PRINCIPAL Govt H.S.S. BALLADI	2329016 6604	Model High School (RMSA) Baldi		

(Killod)						
26	KHANDWA	KALMUKHI, PRINCIPAL Govt.HIGH SCHOOL KALMUKHI	2329077 7704	HSS Kalmukhi	10	Educatio n
27	PANDHANA	MOHANA, PRINCIPAL Govt. H.S.S. MOHANA	2329097 7707	Govt.HSS MOHANA	6	Educatio n
28	CHHAIGAONM AKHAN	BARUR, PRINCIPAL Govt H.S. SCHOOL BARUR	2329037 7702	HSS Barud	14	Educatio n
29	CHHAIGAONM AKHAN	DHANGAON, PRINCIPAL Govt.HIGHER SECONDARY SCHOOL DHANGAON	2329036 6601	GHSS Dhangaon	13	Educatio n
30	PANDHANA	PANDHANA, PRINCIPAL Govt H.S. SCHOOL PANDHANA	2329087 7704	HSS RUSTAMP UR	5	
31	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Boys SCHOOL MOONDI	2329097 7703	Boys HSS Mundi	15	Educatio n
32	PANDHANA	SINGOT, PRINCIPAL Govt H.S. SCHOOL SINGOT	2329087 7702	HSS Singot	16	Educatio n
33	KHALWA	KHALWA, PRINCIPAL Govt H.S. SCHOOL KHALWA	2329069 9901	HSS Khalva	22	Tribal
34	PUNASA	MOONDI, PRINCIPAL Govt. H.S. Boys SCHOOL	2329097 7704	GIRLS HSS Bir	9	Educatio n

MOONDI						
35	KHALWA	KHALWA, CEO JANPAD PANCHAYAT KHALWA	2329068 8823	HSS AVASIY ASHAPUR	14	Tribal
36	KHANDWA	SCHOOL, KHAN DWA, PRINCIPAL MOTILAL NEHRU Govt. HIGHER SECONDRY SCHOOL, KHAN DWA	2329077 7702	M.N. HSS Khandwa	29	Educatio n
37	KHALWA	Khar, Principal H S S Khar	2329069 9902	HSS Kharkala	19	Tribal
38	HARSUD	HARSOOD, PRINCIPAL Govt. H.S.S. HARSOOD	2329046 6606	Model Higher School (RMSA) Harsud		
39	KHANDWA	SCHOOL, KHAN DWA, PRINCIPAL MOTILAL NEHRU Govt. HIGHER SECONDRY SCHOOL, KHAN DWA	2329077 7707	Govt.HSS Urdu Girls Pardesipura	6	Educatio n
40	CHHAIGAONM AKHAN	AHMEDPUR, PRINCIPAL Govt H.S. SCHOOL AHMEDPUR	2329997 7701	HSS Ahmedpur	17	Educatio n
41	PANDHANA	KOHDAD, PRINCIPAL Govt.HIGH SCHOOL KOHDAD	2329086 6605	GHSS Kohdad	10	Educatio n
42	KHANDWA	JAWAR, PRINCIPAL Govt H.S. SCHOOL JAWAR	2329997 7702	HSS Jawar	16	Educatio n

BLOCK	Population (2001)	PHC	
43 HARSUD	HARSOOD, PRINCIPAL Govt. Girls H.S.S. HARSOOD	2329047 7702 Girls HSS Harsud	8 Education
44 KHANDWA	KHANDWA, PRINCIPAL Govt Girls H.S.S. SURAJKUND KHANDWA	2329077 7706 GIRLS HSS SURAJKUN D	12 Education
45 KHANDWA	SIHADA, PRINCIPAL Govt H.S. SCHOOL SIHADA	2329077 7703 HSS Sihara	16 Education
46 PUNASA	OMKARESHWA R, PRINCIPAL Govt H.S.S. OMKARESHWA R	2329097 7706 HSS Onkareshwe r	20 Education
47 KHALWA	ASHAPUR, PRINCIPAL Govt H.S. SCHOOL ASHAPUR	2329069 9903 HSS Ashapur	19 Tribal
48 PUNASA	MOONDI, PRINCIPAL Govt. H.S. Girls SCHOOL MOONDI	2329097 7702 Girls HSS Mundi	5 Education

List of PHCs in district:

Khandwa	113227	Jawar - 6
		Singhada
		Sahejala
Punasa	151984	Purni
		Jamkota
		Sulgaon
		Punasa
		Gol
		Mandhata
		Mohna
		Atootkhas (Richfal)
		Beed
		Onkareshwar
		Borardimal
Chhaigaon Makhan	117317	Barud
		Dhangaon
		Chichgohan
Pandhana	172782	Boregaon
		Gandhwa
		Singot
		Ghatakhedi
		Kohadarh
		Piplod
		Kalanka
		Garhi
		Deewal
		Arood
Khalwa	159897	Khar

	Sendhwal
	Roshani
Harsood	80096
Baldi	66545

List of CHC's in District:

BLOCK	Population (2001)	CHC	Beds
Khandwa	113227		
Punasa	151984	Mundi	30
Chhaigaon Makhan	117317	Chhaigaonmakan	30
Pandhana	172782	Pandhana	30
Harsood	80096	Naya Chhanera	30
Baldi	66545	Baldi	30
Khalwa *	159897	Khalwa	30

Data of various types of construction materials used in building making in different earthquake zones is shown in following table:

Wall / Roof		Census Houses		Level of Risk under								Flood Prone Area in %	
		No. of Houses	%	EQ Zone				Wind Velocity m/s					
				V	IV	III	II	55 & 50	47	44 & 39	33		
				Area in %				Area in %					
						100						100	
WALL													
A1 - Mud & Unburnt Brick Wall	Rural	149,059	37.7										
	Urban	32,460	8.2										
	Total	181,519	45.9			<i>M</i>					<i>M</i>		
A2 - Stone Wall	Rural	1,837	0.5										
	Urban	986	0.2										
	Total	2,823	0.7			<i>M</i>					<i>L</i>		
Total - Category - A		184,342	46.6										
B - Burnt Bricks Wall	Rural	75,187	19.0										
	Urban	54,300	13.7										
	Total	129,487	32.7			<i>L</i>					<i>L</i>		
Total - Category - B		129,487	32.7										
C1 - Concrete Wall	Rural	2,225	0.6										
	Urban	4,098	1.0										
	Total	6,323	1.6			<i>VL</i>					<i>VL</i>		
C2 - Wood wall	Rural	3,740	0.9										
	Urban	1,186	0.3										
	Total	4,926	1.2			<i>VL</i>					<i>M</i>		
Total - Category - C		11,249	2.8										
X - Other Materials	Rural	64,088	16.2										
	Urban	6,718	1.7										
	Total	70,806	17.9			<i>VL</i>					<i>M</i>		
Total - Category - X		70,806	17.9										
TOTAL BUILDINGS		395,884											
ROOF													
R1 - Light Weight Sloping Roof	Rural	122,442	30.9										
	Urban	53,271	13.5										
	Total	175,713	44.4			<i>L</i>					<i>H</i>		
R2 - Heavy Weight Sloping Roof	Rural	152,083	38.4										
	Urban	11,236	2.8										
	Total	163,319	41.2			<i>L</i>					<i>L</i>		
R3 - Flat Roof	Rural	21,611	5.5										
	Urban	35,241	8.9										
	Total	56,852	14.4										
TOTAL BUILDINGS		395,884											

