



GOVERNMENT OF CHHATTISGARH

# **District Disaster Management Plan-(DDMP)**

## **SARGUJA**

**DISTRICT DISASTER MANAGEMENT AUTHORITY**  
**SARGUJA**

**REVENUE & DISASTER MANAGEMENT DEPARTMENT**  
**MAHANADI BHAWAN, MANTRALAYA, ATAL NAGAR, RAIPUR, CHHATTISGARH**

जयसिंह अग्रवाल  
मंत्री



छत्तीसगढ़ शासन,  
राजस्व एवं आपदा प्रबंधन विभाग  
मंत्रालय महानदी भवन  
अटल नगर रायपर



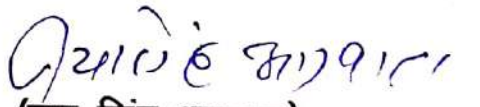
## संदेश (प्रारूप)

जिले की आपदा प्रबंधन योजना प्रदेश सरकार की एक नवीन पहल है। इस योजना का लक्ष्य जिले में घटने वाली संभावित आपदाओं से होने वाले व्यापक हानि को कम करना है। यह योजना अपने दायरे में व्यापक है और यह प्रशासन के सभी वर्गों को विस्तृत निर्देश देता है।

पिछले कुछ वर्षों में आपदा जोखिम प्रबंधन सभी राज्यों व जिलों के लिए एक चुनौती बन गया है। किसी महाविनाशकारी स्थिति से निपटना एक कठिन कार्य है। जिसमें विभिन्न प्रकार से कार्य निष्पादन, जोखिम आंकलन, जागरूकता तथा प्रशिक्षण, पर्याप्त आधारभूत संरचना हेतु योजना एवं क्रियान्वयन, आपदा की तैयारी, प्राकृतिक संसाधनों का बेहतर प्रबंधन तथा नीति बनाना अहम् कार्य है।

चूँकि आपदा प्रबंधन योजना एक स्थायी प्रक्रिया है तथा इस परिपेक्ष्य में राजस्व एवं आपदा प्रबंधन विभाग एवं सहयोगी द्वारा जिला आपदा प्रबंधन योजना तैयार किया जाना आपदाओं से सशक्त तौर पर निपटने के लिए अति महत्वपूर्ण कदम है।

मैं, विभाग के इस सराहनीय पहल का स्वागत करता हूँ, मुझे विश्वास है कि यह योजना जिले के नागरिकों की आपदाओं से बचाव तथा जिले की क्षमता में वृद्धि करने में सफल होगी।

  
(जय सिंह अग्रवाल)

सुनील कुमार कुजूर  
मुख्य सचिव



छत्तीसगढ़ शासन,  
मंत्रालय महानदी भवन  
अटल नगर रायपुर  
दिनांक



## संदेश

प्रदेश के सभी 27 जिले परम्परागत रूप से प्राकृतिक एवं मानव जनित अपदाओं तथा विभिन्न प्रकार की संवेदशीलताओं और उनकी विशालता से प्रभावित रहें हैं। इन बढ़ती आपदाओं से जिलों के नागरिकों पर प्रतिकूल प्रभाव पड़े है, जिसके कारण भौतिक, सामाजिक एवं आर्थिक गतिविधियों पर भी प्रतिकूल प्रभाव पड़ता है।

आपदाओं के नुकसान को रोकने या कम करने के लिए आवश्यक है कि वैज्ञानिक, व्यावहारिक और लचीली योजनायें बनाई जाये ताकि स्थिति के अनुरूप उनमें परिवर्तन किया जा सके और समय पर सभी सुरक्षात्मक उपाय अपनाये जा सके। ऐसी परिस्थिति में छत्तीसगढ़ सरकार के राजस्व एवं आपदा प्रबंधन विभाग द्वारा जिलों की आपदा प्रबंधन योजना तैयार की गयी है।

राजस्व एवं आपदा प्रबंधन विभाग तथा उनके सहयोगी विभाग द्वारा जिले की आपदा प्रबंधन योजना तैयार करने के सफल प्रयास की प्रशंसा करता हूँ तथा कामना करता हूँ कि सभी विभागों के आपसी सहयोग से जिले में बेहतर आपदा प्रबंधन एवं आपदा जोखिम न्यूनीकरण कर जिले को एक आपदा प्रतिरोधी जिला व छत्तीसगढ़ को एक आपदा प्रतिरोधी राज्य बनाने में सफल होंगे।

  
(सुनील कुमार कुजूर)  
मुख्य सचिव



## संदेश

आपदाओं के कारण व्यापक रूप से जन-जीवन एवं विकास कार्य प्रभावित होता है। अतः आपदा पूर्व प्रयासों जैसे तैयारी, क्षमता-वर्धन, उचित ट्रेनिंग और पुनर्निर्माण से जान और माल के नुकसान को कम किया जा सकता है।

सम्पूर्ण जिले के नागरिकों के साथ ही अत्यधिक संवेदनशील वर्ग जैसे बच्चे, महिलायें, बुजुर्ग, दिव्यांग एवं मजदूर वर्ग पर आपदा के प्रभाव के न्यूनीकरण हेतु जन भागीदारी, जागरूकता, प्रतिक्रिया एवं समन्वय बढ़ाने के लिए आपदा प्रबंधन योजना तैयार की गयी है जो कि प्रशंसनीय है।

आपदा प्रबंधन योजना के माध्यम से प्रदेश एवं जिले में एक ऐसा तंत्र विकसित होगा जो भविष्य में घटित होने वाली किसी भी घटना/आपदा से निपटने में सहायक होगा।

सचिव

राजस्व एवं आपदा प्रबंधन विभाग  
छत्तीसगढ़ शासन

## **Acknowledgment**

Under the leadership of Chief Minister of Revenue and Disaster Management, Chhattisgarh, expresses gratitude towards all the participants who contributed to the preparation of District Disaster Management Plan. According to the guidelines of Disaster Management Act 2005, this scheme has been prepared for public utility.

Disaster Management Plan has been prepared with the aligned departments for the utmost benefit of the 'community'. The role of each of the department has been determined, to ensure coordination, preparation and appropriate action in the same manner before, during and after the disaster.

Mrs. Rita yadav, Deputy Secretary / Deputy Commissioner, Department of Revenue and Disaster Management, has given special cooperation for the preparation of Disaster Management Plan.

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District Nodal Officer of Revenue and Disaster Management Department and other officers of related departments have made full cooperation for the document preparation required for the plan.

## अंग्रेजी एवं इसके संक्षिप्त शब्दों का हिन्दी अर्थ :-

<b>BSNL</b>	Bharat Sanchar Nigam Limited	भारत संचार निगम लिमिटेड
<b>CAF</b>	Central Armed Forces	केन्द्रीय सुरक्षा बल
<b>CBO</b>	Community Based Organizations	सामुदायिक संगठन
<b>CE</b>	Chief Engineer	मुख्य अभियंता
<b>CEO</b>	Chief Executive Officer	मुख्य कार्यपालक पदाधिकारी
<b>CMO</b>	Chief Medical Officer	मुख्य चिकित्सा पदाधिकारी
<b>CMRF</b>	Chief Minister Relief Fund	मुख्य मंत्री राहत कोश
<b>CSO</b>	Civil Society Organization	नगर संस्था
<b>DM-ACT</b>	Disaster Management Act 2005	आपदा प्रबंधन अधिनियम 2005
<b>DDMA</b>	District Disaster Management Plan	जिला आपदा प्रबंधन प्राधिकरण
<b>DDMP</b>	District Disaster Management Plan	जिला आपदा प्रबंधन योजना
<b>DDRF</b>	District Disaster Response Force	जिला आपदा प्रत्युत्तर बल
<b>DM</b>	District Magistrate	जिला कलेक्टर
<b>DMT</b>	Disaster Management Team	आपदा प्रबंधन दल
<b>DRR</b>	Disaster Risk Reduction	आपदा जोखिम न्यूनीकरण
<b>EOC</b>	Emergency Operation Center	आपातकालीन परिचालन केन्द्र
<b>ESF</b>	Essential Service Functions	आवश्यक सेवा कार्य
<b>EWS</b>	Early Warning System	पूर्व चेतावनी प्रणाली
<b>FRT</b>	First Response Team	प्रथम प्रत्युत्तर टीम
<b>GIS</b>	Geographic Information System	भौगोलिक सूचना प्रणाली
<b>GP</b>	Gram Panchayat	ग्राम पंचायत
<b>GPS</b>	Global Position System	स्थिति निर्धारण वैश्विक प्रणाली
<b>HFA</b>	Hyogo Framework for Action	हयोगो कार्रवाई निर्णय
<b>HRVCA</b>	Hazard Risk Vulnerability Capacity Analysis	खतरा, जोखिम, सम्बेदनशीलता (भेद्यता) क्षमता विप्लेशन
<b>HVCA</b>	Hazard Vulnerability Capacity Analysis	खतरा, सम्बेदनशीलता (भेद्यता) क्षमता विप्लेशन
<b>IAF</b>	Indian Armed Force	भारतीय सशस्त्र बल
<b>IAG</b>	Inter-Agency Group	इन्टर एजेंसी ग्रुप
<b>IAP</b>	Immediate Action Plan	तात्कालिन कार्य योजना
<b>ICDS</b>	Integrated Child Development Services	समेकित बाल विकास सेवायें
<b>IMD</b>	Indian Metrological Department	भारतीय मौसम विज्ञान विभाग
<b>IMT</b>	Incident Management Teams	घटना (आपदा) प्रबंधन टीम
<b>IRS</b>	Incident Response System	घटना (आपदा)प्रत्युत्तर प्रणाली
<b>IRT</b>	Incident Response Team	घटना (आपदा)प्रत्युत्तर टीम
<b>IYA</b>	Indira Awas Yojna	इंदिरा आवास योजना
<b>LSG</b>	Lower Selection Grade	निम्न प्रवर कोटि
<b>MGNREG S</b>	Mahatma Gandhi National Rural Employment Guarantee Scheme	महात्मा गाँधी राष्ट्रीय ग्रामीण रोजगार गारंटी योजना
<b>MI&amp;CT</b>	Ministry of Information &	सूचना एवं संचार प्रौद्योगिकी मंत्रालय

	Communication Technology	
<b>MLA</b>	Member of Legislative Assembly	विधान सभा सदस्य
<b>MNREGA</b>	Mahatma Gandhi National Rural and Education Guarantee Action	महात्मा गाँधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम
<b>MoAFW</b>	Ministry of Agriculture and Farmers Welfare	कृषि एवं किसान कल्याण मंत्रालय
<b>MoCI</b>	Ministry of Commerce and Industry	वाणिज्य एवं उद्योग मंत्रालय
<b>MoEF&amp;CC</b>	Ministry of Environment forest Climet change	पर्यावरण वन व जलवायु परिवर्तन मंत्रालय
<b>MoHFW</b>	Ministry of Health & Family Welfare	स्वास्थ्य एवं परिवार कल्याण मंत्रालय
<b>MHA</b>	Ministry of Home Affaires	गृह मंत्रालय
<b>MoHRD</b>	Ministry of Human Resources Development	मानव संसाधन विकास मंत्रालय
<b>MoL&amp;E</b>	Ministry of Labour & Employment	श्रम एवं रोजगार मंत्रालय
<b>Mop</b>	Ministry of Power	विद्युत मंत्रालय
<b>MoPR</b>	Ministry of Panchayati Raj	पंचायती राज मंत्रालय
<b>MoRD</b>	Ministry of Rural Development	ग्रामिण विकास मंत्रालय
<b>MoRTH</b>	Ministry of Road Transport and Highway	सड़क परिवहन और राजमार्ग मंत्रालय
<b>MoWF</b>	Ministry of Water Resources	जल संसाधन मंत्रालय
<b>MoUD</b>	Ministry of Urban Development	शहरी विकास मंत्रालय
<b>MP</b>	Member of Parliament	संसद सदस्य
<b>MPLADS</b>	Member of Parliament Local Area Development Schemes	सांसद क्षेत्रीय विकास योजना
<b>NABARD</b>	National Bank for Agriculture and Rural Development	राष्ट्रीय कृषि एवं ग्रामीण विकास बैंक
<b>NCC</b>	National Cadet Corps	राष्ट्रीय छात्र सेना
<b>NDMA</b>	National Disaster Management Authority	राष्ट्रीय आपदा प्रबंधन प्राधिकरण
<b>NDRF</b>	National Disaster Response Force/ Relief Fund	राष्ट्रीय आपदा प्रत्युत्तर बल/ राहत कोष
<b>NIDM</b>	National Institute of Disaster Management	राष्ट्रीय आपदा प्रबंधन संस्थान
<b>NGOs</b>	Non- Government Organizations	गैर-सरकारी संगठन
<b>NRSC</b>	National Remote Sensing Center	राष्ट्रीय सुदूर संवेदन केन्द्र
<b>NREGA</b>	National Rural Employment Guarantee Act	राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम
<b>NREGS</b>	National Rural Employment Guarantee Scheme	राष्ट्रीय ग्रामीण रोजगार गारंटी योजना
<b>NRHM</b>	National Rural Health Mission	राष्ट्रीय ग्रामीण स्वास्थ्य मिशन
<b>NSV</b>	National Service Volunteer	राष्ट्रीय सेवा स्वयंसेवक
<b>NYK</b>	Nehru Yuva Kendra	नेहरू युवा केन्द्र
<b>PDS</b>	Public Distribution Shop	जनवितरण दूकानें
<b>PHC</b>	Primary Health Center	प्राथमिक स्वास्थ्य केन्द्र
<b>PHED</b>	Public Health Engineering Department	लोक स्वास्थ्य अभियंत्रण विभाग
<b>PMRF</b>	Prime Minister Relief Fund	प्रधानमंत्री राहत कोष
<b>PWD</b>	Public Works Department	लोक यांत्रिकी विभाग
<b>Q&amp;A</b>	Quality and Accountability	गुणवत्ता एवं जवाबदारी

<b>QRT</b>	Quick Response Team	त्वरित प्रत्युत्तर टीम
<b>SDMA</b>	State Disaster Management Plan	राज्य आपदा प्रबंधन योजना
<b>SDRF</b>	State Disaster Response Force/ Relief Fund	राज्य आपदा प्रत्युत्तर बल/ राहत कोष
<b>SHG</b>	Self Help Group	लघु एवं मध्यम उद्योग / उपक्रम
<b>SME</b>	Small and Medium Enterprise	लघु एवं मध्यम उद्योग / उपक्रम
<b>SOP</b>	Standard Operating Procedure	मानक परिचालन पद्धति
<b>SP</b>	Superintendent of Police	पुलिस अधीक्षक
<b>WRD</b>	Water Resources Department	जल संसाधन विभाग
<b>WHO</b>	World Health Organisation	विश्व स्वास्थ्य संगठन



## Introduction

The Disaster Management Act, 2005 (DM Act 2005) provides institutional and coordinating mechanisms for effective disaster management at national, state, district and local level. Essentially, the Government of India formulated a multi-level institutional system, in which National Disaster Management Authority (NDMA), headed by the Prime Minister, State Disaster Management Authority (SDMA) headed by Chief Minister and District Disaster Management Authority (DDMA) under the chairmanship of District Collectors and local bodies are chaired by co-chairing.

Disaster is the result of natural or man-made causes; this creates serious disruption in the functioning of a society, thereby causing massive harm to humans, physics or the environment. The social and economic protection procedures available to cope with are inadequate, so the dangerous distress is actually a disaster.

All possible natural and manmade disasters have been included in the District Disaster Management Plan. The plan has been described for prevention and control of various disasters. This District Disaster Management Plan has been prepared as per the guidelines given by National Disaster Management Authority.

It is divided into 4 sections.

In **section 01**, the background of the district, the sensitivity of the disaster in the district, the capacity and the risk assessment, with the planning requirements, objectives of the plan, the brief introduction of the district, identification of potential disasters of the district, risk analysis and disasters in the district like drought, floods, accidents, epidemics etc. have been shown. Under the institutional arrangements, the structure of disaster management, from the district level to the gram panchayat level, the formation process of the Disaster Management Committee and information of the District Emergency Operations Center is shown.

**Section 02** is divided into category of prevention, preparedness, training, structural and non-structural capacity building during the disaster In which general preparedness and mitigation plan, establishment of control room, renewal of plans, communication system, training for members of disaster management team, community awareness on various disasters, As well

as in the case of immediate pre-disaster, during disaster and post disaster coordination mechanism of the District Disaster Management Authority has been included. Based on the potential disaster in the district, structural and non-structural prevention measures, disaster risk reduction plan, institutional capacity building, the role and responsibilities of each department are shown.

**Section 3** has included the standard operating procedure for the implementation of the Disaster Management Plan and various departments at the time of disaster. In this plan, pre disaster relief and rehabilitation, relief and rehabilitation during disaster and with the post disaster relief and response, the reconstruction and rehabilitation process has been shown. Financial resources for district disaster management scheme and other financial resources at the district level, inspection, evaluation and evaluation of district disaster management plan and coordination mechanism for organizing and implementing Mock Drill at district level has been mentioned.

In **section 4**, in accordance with District Disaster Management Plan, in order to deal with the situation of any emergency, information related to various departments such as contact list, vehicle list, health centers, police stations, list of fire brigade, as well as areas in the disaster prone areas of the district Maps, etc. have been included. Coordination and coordinated mechanism has been mentioned.

This plan is useful in the form of guidance for better coordination, organizing and implementation of district administration, other stakeholders before disaster and after disaster. This plan guides the process mechanism operating in relief work and increases the community capacity to deal with the disaster. The District Disaster Management Plan has been conceived as a preparedness plan, which is activated only after getting information about the disaster and makes the reaction mechanism functioning without losing any time.

# **VOLUME-1**

# District Disaster Management Authority

## (Disaster Management Plan)

### List of Contents:

S.No.	Contents	Pg. No.
<b>1</b>	<b>Background</b>	<b>1-19</b>
1.1	District Disaster Management Plan	1-2
1.2	Need of the Plan	3
1.3	Objectives of the Plan	3
1.4	Scope of the Plan	4
1.5	Authority and Reference	4
1.6	Plan Development	4
1.7	Stakeholders and Their Responsibilities	5
1.8	Approval Mechanism of the Plan	5
1.9	District Profile	5-23
<b>2</b>	<b>District Hazard, Vulnerability, Capacity and Risk Assessment</b>	<b>24-55</b>
2.1	Identification of Potential Disasters	25-26
2.1.1	Six main disasters	26
2.2	History of Disasters	27-41
2.3	Risk Profile	42-43
2.4	Risk Analysis	43
2.5	Vulnerability Analysis	44-45
2.6	Disasters in Sarguja District	45-55
2.6.1	Drought	45-47
2.6.2	Flood	47-50
2.6.3	Accidents	50-52
2.6.4	Elephant affected areas	53
2.6.5	Epidemic	53-55
<b>3</b>	<b>Disaster Management Amendment Act, 2005</b>	<b>56-79</b>
3.1	Institutional arrangements	56
3.2	District Disaster Management Authority	56-57
3.3	District Disaster Management Advisory Committee	57-58
3.4	Local self government authority	58
3.5	Urban area disaster management committee	58-59
3.6	Disaster Management Committee at Tehsil level	59
3.7	Village level disaster management committee	59
3.8	District Emergency Operations Center	60
3.9	Event (Incident) Response System (IRS)	60-63
3.10	District Control Center	63-65

## List of Tables :

S.No.	Table	Pg. No.
1	Table 1: Brief introduction to district	6
2	Table 2: Geography	7
3	Table 3: Reservoir	7
4	Table 4: Demographic details	10
5	Table 5: Average rainfall during the year 2009 to 2017	10
6	Table 6: Water Resources	11
7	Table 7: Economic statement	12
8	Table 8: Major Crops	13
9	Table 9: Livestock details	13
10	Table 10: Cultural statement	14
11	Table 11: Details of school	14
12	Table 12: Other Infrastructure and Services	16
13	Table 13: Information of the offices	16
14	Table 14: Contacts	16
15	Table 15: Public Health Center	16
16	Table 16: Industrial and services	17
17	Table 17: Industrial details	17
18	Table 18: Bank	17
19	Table 19: Public Distribution Shop in the District	18
20	Table 20: Road Network	19
21	Table 21: Historical and Cultural Places	19
22	Table 22: Mine and Minerals in the District	23
23	Table 23: Assessment of the Disasters that Occurred in the last 10 years	40
24	Table 24: Last 10 years (Animal and Human Loss) monthly information of Disaster	41
25	Table 25: Risk Profile	42
26	Table 26: Risk Analysis	43
27	Table 27: Sensitivity Analysis	45
28	Table 28: Year 2017-18 Drought Affected Area and its Loss	46
29	Table 29: Outline of the previous event of the declared drought in the district	47
31	Table 30: Ward and location affected by heavy rain in the Municipal Corporation	47
32	Table 31: River of the district which are more susceptible during flood or water penetration	48
33	Table 32: Safe locations of some village	50
34	Table 33: Road accidents	51
35	Table 34: Details of the main accident of Sarguja district and the possible routes and areas	52
37	Table 35: Epidemic in the district during the year 2012 to 2018	54
38	Table 36: Vunerable and Affected Areas in Tehsil due to Epidemic	55

39	Table 37: Structure of DDMA	57
40	Table 38: Structure of Disaster Management Advisory Committee	58
41	Table 39: Urban area disaster management committee	59
42	Table 40: Structure of Disaster Management Committee at Tehsil level	59
43	Table 41: Village level disaster management committee	59
44	Table 42: Disaster Control Center	64
45	Table 43: Yearly calendar of disasters	79

### List of Figures :

S.No.	Figure	Pg. No.
1	Figure 1: Disaster Management Cycle	2
2	Figure 2: Location map	7
3	Figure 3: Political map	8
4	Figure 4: Road map of Sarguja district	18
5	Figure 5: Maheshpur	19
6	Figure 6: Devgarh	20
7	Figure 7: Ramgarh hills	21
8	Figure 8: Kailash caves	21
9	Figure 9: Buddhist temple, Mainpat	21
10	Figure 10: Thinteenipathar	22
11	Figure 11: Elephant Affected Area	53

### List of Graphs :

S.No.	Graph	Pg. No.
1	Graph 1: Average rainfall during the year 2009-17	11
2	Graph 2: Road accidents	51
3	Graph 3: Number of affected people due to epidemic	55

### List of Flowcharts :

S.No.	Flowchart	Pg. No.
1	Flowchart 1: District Disaster Management Authority Flow Chart	57
2	Flowchart 2: Organizational Structure for Disaster Management	60
3	Flowchart 3: Incident Response System	61

# Chapter 1

## Introduction

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### Background

Disaster is the result of natural or man-made causes, it causes serious disruption of the functioning of a society, which is human, material or environmental comprehensive loss. Which are insufficient mechanisms of social and economic protection for the face that is suspected plague the disaster actually occurred.

Strong communication, an effective district disaster with efficient databases, documents and Practice Management Plan (DDMP) is important to be active in the shortest possible time. It is with the government at all levels. The goal of DDMP is to develop the capacity of the Sarguja district, to ensure continuity of services required for life during disaster and non-adolescent situations.

### Categorization of Disasters:

Origin of disasters is categorized in following below mentioned types:

1. Climate Related: Flood, droughts, cyclones, clouds bursts, hot and cold winds, storms and lightning fall.
2. Geological Related: Earthquake, landslide, rupture of bunds, fire in mines.
3. Chemical, industrial and nuclear related: Chemical and industrial disaster and nuclear disaster.
4. Accidental Related: Fire, bomb, explosion, air, road and rail accidents, flooding in mines, collapse of main buildings.
5. Biological disaster: Epidemic, grasshopper invasion, animal pandemic etc.

Under the same human-caused disasters, industrial accidents, environmental degradation, etc. can be included. With this, Chhattisgarh is also affected by Naxalite activities.

### 1.1 District Disaster Management Plan (DDMP):-

According to Section 31 of the Disaster Management Act 2005 (DM Act), there will be a Disaster Management Plan (DMP) for every district of the state. In each district the district disaster management authority (DDMA) will be responsible for preparing, working,

reviewing and updating of DDMP in consultation with the local authorities, according to the nodal agency, national and state plans. Apart from this, continuous and integrated process of planning, organizing, coordination and implementation of necessary measures for the prevention and mitigation of disasters at the district level will be included in DDMA. For efficient execution of the DDMP, the plan has been organized in four stages as shown in Figure 1.



**Figure 1: Disaster Management Cycle**

- i. **Preparedness** :- To combat the disaster, implement the training and disaster management plan to keep the crowd safe.
- ii. **Mitigation** :- Mitigation refers to the effect of disaster by structural and non-structural a measure which reduces disasters.
- iii. **Response** :- Conduct relief operations during the disaster.
- iv. **Recovery** :- Improve the state of the affected life due to the disaster.

## 1.2 Need of the Plan :-

Sarguja District prone to many multi-hazards such as flood, drought, epidemic ,elephant outbreak is weakened by suppressed threats. Considering these potential threats in the district, which enhances life, livelihood and property loss, it is important to develop and



improve the district's response to disasters which shall reduce the risks of disaster risks. By implementing the the capacity of the community will be increased.

### **1.3 Target and objectives of District Disaster Management Action Plan:-**

- i. Determine the preparedness of the district by analyzing the impact of the danger from the disasters in the district.
- ii. To find out the level of basic facilities of different disasters and their control existing in the district so as to increase administration capacity.
- iii. The various aspects of disaster mitigation include the development of the area's special schemes.
- iv. To prepare the framework for districts in accordance with the details, records and past history of disasters.
- v. During disaster, it is necessary to coordinate with various departments, adopting standard work process.
- vi. Under the policy framework of the State Government, the District Disaster Management Plan should be an effective management tool.

Due to lack of proper planning, coordination during disasters leads to dangerous impact. Therefore, the pre-disaster management plan is very overwhelming, in which the work point is as follows:

- (a) Preparation of pre-planning in the correct order of response actions.
- (b) To determine the responsibility of the partner departments.
- (c) Standardization of the manner of working of different departments employed.
- (d) Preparation of list of available facilities and resources.
- (e) Creating effective management of resources.
- (f) To co-ordinate all assistance works.
- (g) Coordination for assistance from state level control room.

## **1.4 Area of Plan: -**

In view of the impact of disaster on government, industry and agriculture, emergency planning process is very important for any district. The scope of this scheme will be broad, which is as follows: -

- The geographical areas which are vulnerable to hazards in the district.
- Roles and responsibilities of various government departments, agencies, private sector, NGOs and citizen.
- Various terms in disaster management, such as prevention, preparation, mitigation, reaction (including withdrawal and temporary shelter). This contingency plan is helpful in reducing public and property loss.

## **1.5 Authorization and Reference:-**

District and Assistant Schemes have been laid down under the DM Act 2005. According to the Act, the District Collector is authorized to seek assistance from other parties for reducing the impact of disasters. District collector and government authority, SDMA, relief commissioner (COR), and other public, with the support of private parties, are responsible for the management of disasters and risks in the district. Role of the collector and other parties, responsibilities and liability act have been determined in details. The roles, responsibilities and obligation of the Collector and other parties are set out in detail in the Act and are considered as part of this plan.

## **1.6 Plan Development:-**

Various steps involved in planning include:

- i) Data collection and planning - Data collection, data analysis (risk identification and understanding, assessment of risk in the district) and formation of a planning team from all line departments.
- ii) Development - Analysis of requirements and development of all line departments and identification of needs and resources.
- iii) Preparation - Preparation, review, approval and dissemination of plans.
- iv) Implementation and maintenance - Implementation, evaluation, review and update of the scheme.

## **1.7 Stakeholders and Their Responsibilities:-**

**At State level** – State Disaster Management Authority is an important body at the state level who is capable of dealing with any types of disaster. The main line department of all state machinery and the agency that operates the emergency relief work, State emergency EOC at the time of the disaster provides assistance during disasters.

**At District level:** District Disaster Management Authority is an important institution for the disaster and district administration and to protect the public community. The District Collector is the Chairman of the Authority who can coordinate the various departments of the district level to deal with the disaster during the disaster. In the implementation of the District Disaster Management Plan, preparations, training, community and non-government organizations are important contributors.

## **1.8 Approval Mechanism of the Plan :-**

Formation of District Disaster Management Authority for all the districts under notification number F8 (4) DM & R / DM / 023 dated 06.09.2007. According to DDMA, it is also responsible for ensuring compliance with all the departments on NDMA / SDMA / SEC guidelines related to prevention, mitigation at the district level.

## **1.9 District Profile :-**

Sarguja district is located in the northern part of the state of Chhattisgarh. The stone carvings of the various temples and the presence of ancient remains show evidence of the existence of this region Before Christ (BC). Before the arrival of the Maurya dynasty in 4 TH BC, this region was in the name of God Nanda clan. Before the 3rd BC, this area was divided into smaller parts after having a fight in their own right. Then a Rajput king is related to the Raquel clan in Palamu district (Bihar) taken it under his control. In 1820, Amar Singh was the king of Sarguja state, who was crowned as "Maharaja" in 1826. In 1882, Raghunath Saran Singh Dev had taken control of the Sarguja kingdom, which was honored by Lord Daphari as "Maharaja". After India's contemporary victory, he established Edward Middle School, Post Office, Telegraph Office, Medical Store, Jail and Courts in Ambigapura, the capital of Sarguja. The main population includes tribal populations. Of these primitive tribes Pando and Corva, who resides in the jungle. The Pando tribe regard themselves as members of the epic Mahabharata's "Pandava" dynasty. Corva tribe believed to be a member of Mahabharat's "Kaurava".

About 58 % of the area in a district is located below forests. Vegetation of najul and other areas often changes with human activities and use of land, climate, soil and biological are factors of natural vegetation. Three climate factors, which include rainfall, temperature and their combination with seasonal diversity. Result of adequate moisture in the magnificent development of forests, large and small trees, bushes, climbers, parasites etc. Rainfall is 100-200 cm, with the average annual temperature of 26<sup>o</sup>C-20<sup>o</sup>C and Humidity 60-80 %. Forest trees leave their leaves during the spring and summer summers when water storage is more intense. Cut-off in sub-soil water table is not enough so that the trees can keep their leaves throughout the year. These forests are the most important forests, which provide commercial wood and various other forest products of high value.

<b>District Sarguja</b>						
<b>Tehsil</b>	<b>Geographic Area (in Hectare)</b>	<b>Number of Cities</b>	<b>Number of Village</b>	<b>Number of Gram Panchayat</b>	<b>Number of Janpad Panchayat</b>	<b>Number of Nagar Panchayat</b>
Ambikapur	501980	Ambikapur – 01	589	399	07	02 - - Lakhanpur Sitapur
Lakhanpur						
Udaypur						
Lundra						
Batoli						
Sitapur						
Mainpat						
Total						

**Table 1: Brief Introduction to District**

Note:- Forest area - 144015.367 Hec.

District Sarguja consists of 7 tehsils, 7 district panchayats, which are Ambikapur, Lakhanpur, Udaipur, Lundra, Batauli, Sitapur and Mainpat 02 Nagar Panchayat. There are 15 police stations in the district, and total 18 revenue inspector circle, 210 patwari circle and 06 agricultural producers are Ambikapur, Lakhanpur, Udaipur, Lundra, Batauli, Sitapur Mainpat.

## Geographical Situation

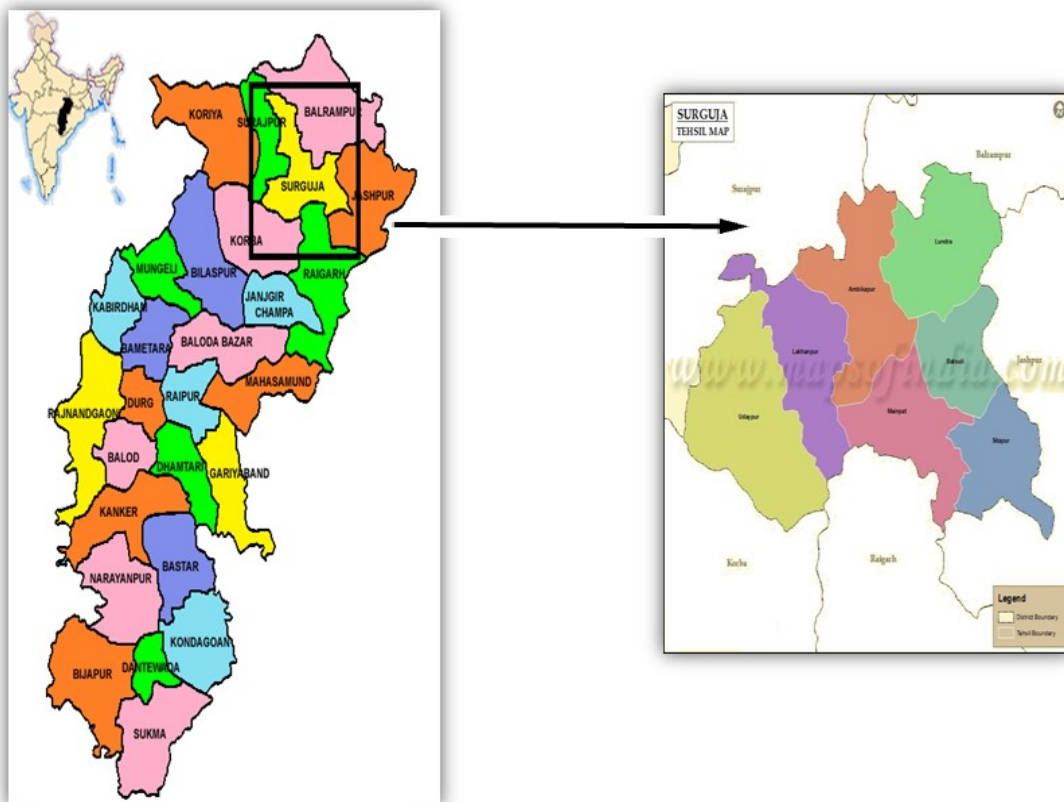
Latitude and longitude	Latitude – 22.9494° N Longitude - 83.1649° E
Major rivers	Mandh, Fish river, Atem, Raid, Gunguta, Ghaghar
Neighbouring district	Jashpur, Koriya

**Table 2 : Geographical Status**

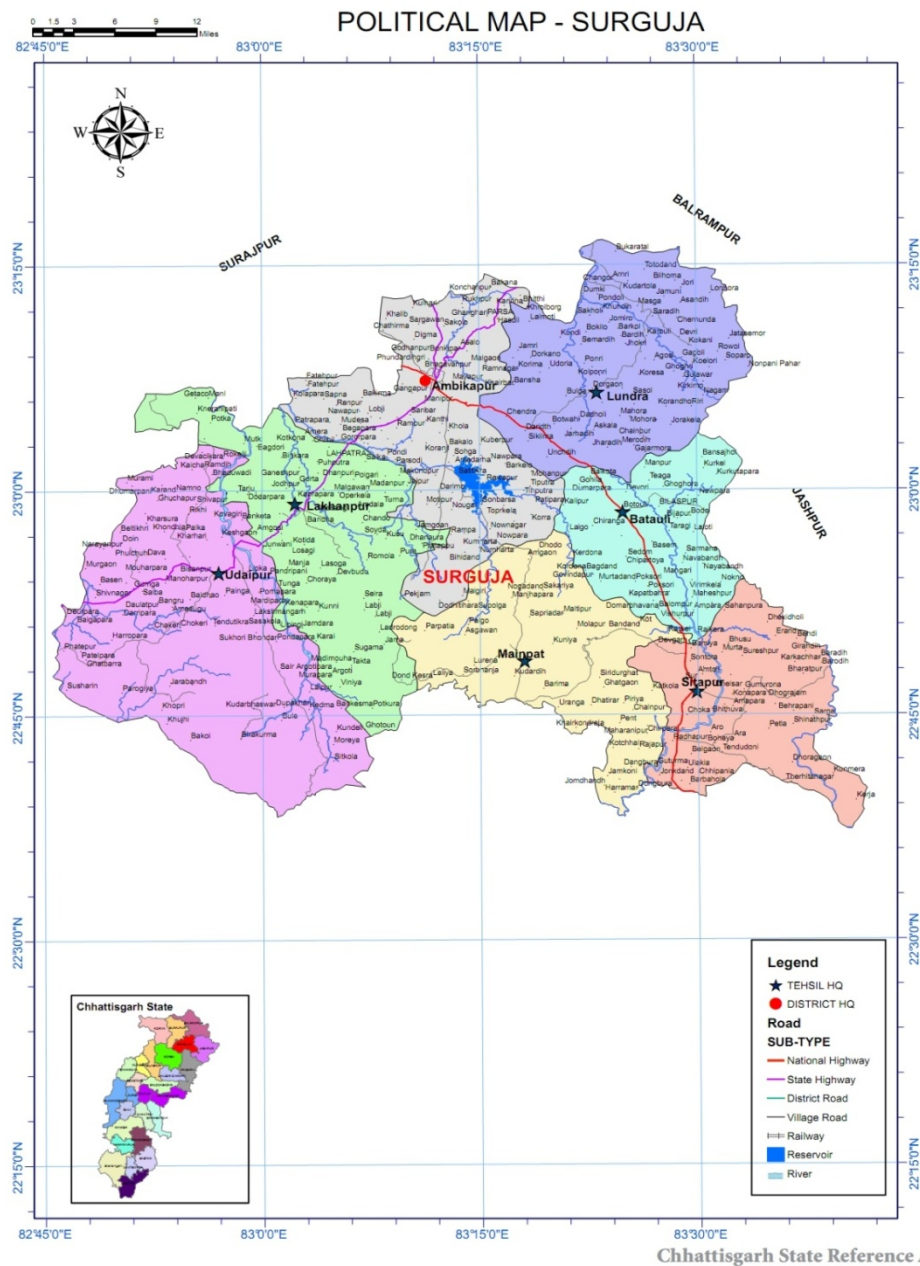
Reservoir	Small	Medium	Large
Total number	59	2	0
Drinking Water (Tube Well and Number of Wells)	Tubewell -11931, Wells -54		
Canal	122		

**Table 3 : Reservoir**

## Location Map:-



**Figure 2: Location Map**



Chhattisgarh State Reference Atlas | 58

**Figure 3: Political Map**

**Physical aspect -**

**Area –**

Land has been classified into 6 categories. Approximately 41.67% of the total area has been developed for the actual farming, while 5.70% the land has remained lagoon. About 11.44 s of our country can be brought under the farming by improving technology and marginal

area. While 33.09% is in the form of a forest, 1.27% was barren, 6.83% developed for land, buildings and roads, 11.44 % of the total land can be brought under the cultivation of farmland. Usage of land and other natural lands. Other uncultivated land is being brought for cultivation in the fields. Methods and techniques for land improvement continues to change. Empty land can be made fertile by adopting machines and techniques. Distribution of land: The distribution of agricultural land in the entire area ranges from 14.5 s (odds) to 74.51 s (Ambikapur). Ambikapur block, where 74.51% of total geographical area is dedicated. The concentration figure is 69 % including the entire Sitapur block. This group includes Batoli block where the total geographical area is 67-50% for agriculture purpose.

According to 2011 census district total geographical area is 501980 hectare. Total population is 840352 density is 162 square meter. Trees of the forest begin to fall during spring and summer beginning and when the storage of water is excessive. Sub-soil is not sufficient for the production of water which will take its leaves around the year These forests are the most important forest, which are evading from commercial wood and various other forest products of high value.

### **Soil (Soil) -**

In general, red and yellow soil, alluvial soil is found in the district.

### **Demographic Description -**

According to the 2011 census, the population of Sarguja district is 840352. For every 1,000 men in Sarguja there is a sex ratio of 972 females and the literacy rate is 53.42%.

<b>Demography</b>		
1	Population -	840352
	Scheduled Caste	115,652
	Scheduled Tribes	1,300,628
	Rural (Male/Female)	703650
	Male	353835
	Female	349815
	Urban (Male/Female)	136702

	Male	70657
	Female	66045
	Child(0-6 yrs)	126032
	Male	64207
	Female	61825
<b>2</b>	<b>Population Density</b>	162 Sq.km
<b>3</b>	<b>Decadal Growth Rate</b>	17-87 %
<b>4</b>	<b>Sex Ratio (No. females per 1,000 males)</b>	980
	Rural	988
	Urban	935
<b>5</b>	<b>Literacy Rate (as a Census 2011)</b>	
	Male Literacy Rate	69-65 %
	Female Literacy Rate	53-42%
	Rural	55-57
	Urban	87-07
<b>6</b>	Crude Birth Rate (Per 1000 Population)	24-4
<b>7</b>	Crude Death Rate (Per 1000 Population)	7.9
<b>8</b>	Infant Moratality Rate (Per 1000 live birth)	48
<b>9</b>	Maternal Mortality Rate (Per 1000 live birth)	263
<b>10</b>	Natural birth Growth Rate (Per 1000 Population)	18.3

Table 4: Demographic details

### Rainfall -

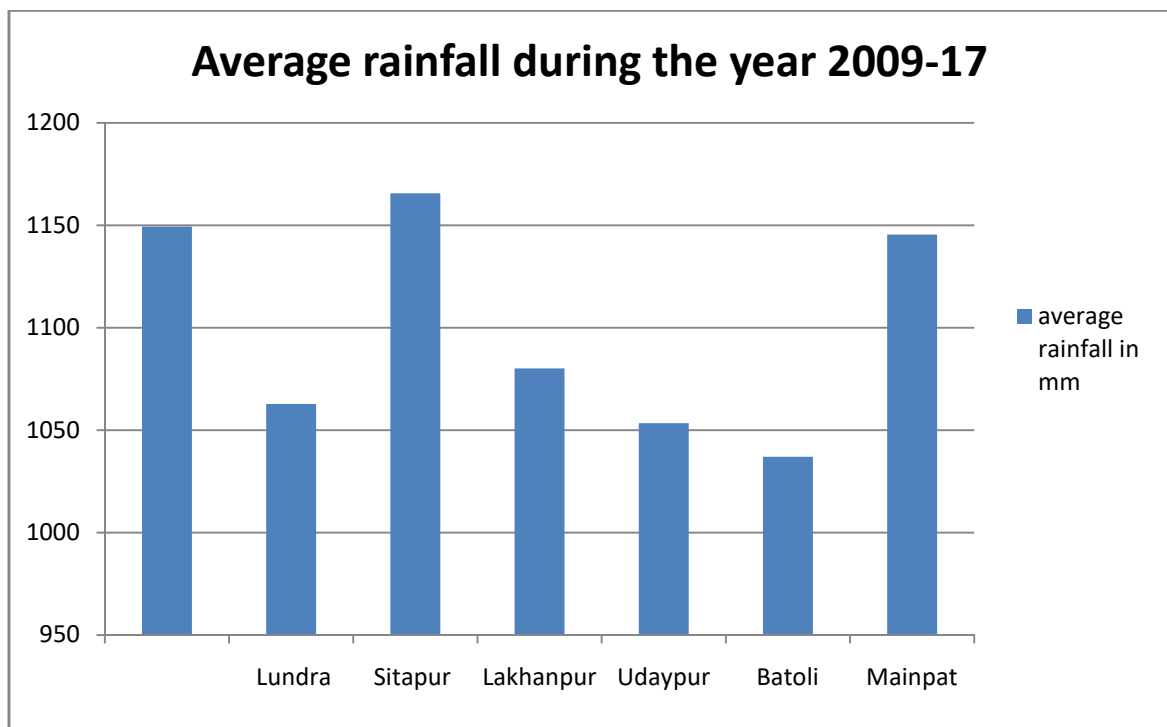
The average rainfall in the district is 889.80 mm but it is generally less towards north-east, south-west. The total annual rainfall is about 93 % Rainfall is from June to September.

<b>Average rainfall during the year 2009 to 2017</b>										
S.N o.	Tehsil	Normal Rainfall	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	Year 2016-17	Year 2017-18
<b>1</b>	Ambi kapur	1149.3	687	682.3	1481	1196	989.9	1068	998.7	1430



<b>2</b>	Lundra	1062.8	986.5	381	989.3	1093	1322	1035	1121	1528
<b>3</b>	Sitapur	1165.6	1189.1	940.1	1418	1092	1262	914.6	990.6	1309
<b>4</b>	Lakhanpur	1080.1	687	682.3	1481	847.9	659.5	465.2	857.9	1033
<b>5</b>	Udaypur	1053.5	682.3	671	1481	991.3	775	678	788.7	590
<b>6</b>	Batoli	1037.1	1189.1	940.1	1064	813.9	740	615.4	729.9	801
<b>7</b>	Mainpat	1145.5	1189.1	940.1	1418	991.2	1302	1041	851.3	997
<b>Total</b>		<b>7693.9</b>	<b>6610.1</b>	<b>5237</b>	<b>9333</b>	<b>7025</b>	<b>7051</b>	<b>5817</b>	<b>6338</b>	<b>7688</b>
<b>Average rainfall (on the basis of 10 years average rainfall)</b>		1099.13	944.3	748.1	1333	1004	1007	831	905.4	1098

**Table 5: Average 5 years 2009 to 2017 average rainfall**



**Graph 1: Average rainfall during the year 2009-17**

<b>Water Resources</b>	
Irrigation Capacity	29693 hectare
Government	29693 hectare
Private	0

**Table 6: Water Resources**

**Economic and Social Status -**

<b>Economic Profile</b>		
Main Occupation	Numbers	
Agriculture	Small and marginal farmer	Other large farmers
	231977	92098
Industries worker	29377	
Business	11655	
Other	0	

**Table 7: Economic Statement****Major Crops –**

**Major crops of the district are rice, wheat, gram, tuvar, linseed and groundnut**

Agriculture	Production / Quantity: Annual
Food Grains	2145 Kg/Hec
Rice	2309 Kg/Hec
Wheat	2206 Kg/Hec
Maize	1430 Kg/Hec
Barley	—
Millet	822 Kg/Hec
Koda Kutki	1040 Kg/Hec
Other	
<b>Pulse Productivity</b>	
Arhar	850 Kg/Hec
Urad dal	820 Kg/Hec
Mung dal	810 Kg/Hec
Masur Dal	595 Kg/Hec
Tivara	626 Kg/Hec
Other	405 Kg/Hec

<b>Oil Seeds Productivity</b>	
Soyabean	—
Peanut	1555 Kg/Hec
Linseed	535 Kg/Hec
Mustard	704 Kg/Hec
Sunflower	810 Kg/Hec
Other	487 Kg/Hec
<b>Productivity of main vegetables</b>	
Spices	1305 Kg/Hec
Other	

**Table 8: Major crops****Livestock Details -**

<b>Animal Husbandry</b>		
Total number of Animals	Dairy Cattle	Dry Cattle
Cattle	47537	266921
Buffaloes	13629	56279
The sheep		639
Goat	65103	0
Horse	87126	119708
Donkey	0	0
Pig		13664
Milk Production	45.480 tonne	
Fish production		
Poultry Farm	01-Government poultry farm, Sakala Ambikapur	
Other	9472	

**Table 9: Livestock Details**

<b>Cultural Profile</b>	
Local language	Sargujia Language, Kuduku language, Hindi Language
Dress	Luga saya, Swing, Baju berra, Chuchia, tap, anklet, beecha,

	Bangle, Turban dhoti, luhangi, girdhni, chink, Saree, Salwar
Food	Madia, Kodo, Chuda, Basi, Lakra page, Mahua Lata, Kherahi, Mushroom Khokri, Dal Rice
Market (Daily / Weekly / Other)	Hatri, Weekly market
Fairs and festivals (brief description of the main celebration)	Ganga Dussehra, Rakshabandhan, Teja Karma, Nakhani, Dussehra, Deepawali, Deoli, Holi
House	
Number of raw houses	16000
Roofing system	Kaprail
No. of Pucca Houses	63000
Roofing system	Lanter

Table 10: Cultural Statement

### Infrastructure Details and Services -

Rail and road connectivity in the district is good. Educational facilities are also better in the district. There are 07 police stations, 02 checks in the district.

### Education –

School Profile		Name of Tehsil						
		Ambikapur	Lakhanpur	Udaypur	Lundra	Batoli	Sitapur	Mainpat
1	Number of Primary Schools	255	192	189	267	129	155	142
2	Number of Secondary schools	107	81	68	102	60	76	71
3	Number of High Schools	16	14	15	16	9	12	8
4	Number of Secondary Schools	23	11	6	11	5	6	4
5	Number of Rural Schools	356	290	278	296	203	236	225
6	Number of Urban Schools	45	8	0	0	0	13	0
7	Number of Risk Potential Schools	0	0	0	0	0	0	0
<b>Total</b>		<b>802</b>	<b>596</b>	<b>556</b>	<b>692</b>	<b>406</b>	<b>498</b>	<b>450</b>

Table 11: Details of the school

**Other –**

Anganwadi	Anganwadi-2001 Mini Anganwadi-527																											
Institute / College	23																											
University	1. Sarguja University																											
<b>Other Infrastructure</b>																												
Dam	61																											
Bridge	40																											
Garden	5																											
Open Field	-																											
High Building	-																											
Community Building (capacity, location and number)	<table border="1"> <thead> <tr> <th>Tehsil</th> <th>Number</th> <th>Capacity</th> </tr> </thead> <tbody> <tr> <td>Ambikapur</td> <td>4</td> <td>360</td> </tr> <tr> <td>Lakhanpur</td> <td>7</td> <td>550</td> </tr> <tr> <td>Udaypur</td> <td>10</td> <td>950</td> </tr> <tr> <td>Lundra</td> <td>9</td> <td>1295</td> </tr> <tr> <td>Batoli</td> <td>2</td> <td>200</td> </tr> <tr> <td>Sitapur</td> <td>3</td> <td>125</td> </tr> <tr> <td>Mainpat</td> <td>3</td> <td>570</td> </tr> <tr> <td>Total</td> <td>38</td> <td>4050</td> </tr> </tbody> </table>	Tehsil	Number	Capacity	Ambikapur	4	360	Lakhanpur	7	550	Udaypur	10	950	Lundra	9	1295	Batoli	2	200	Sitapur	3	125	Mainpat	3	570	Total	38	4050
Tehsil	Number	Capacity																										
Ambikapur	4	360																										
Lakhanpur	7	550																										
Udaypur	10	950																										
Lundra	9	1295																										
Batoli	2	200																										
Sitapur	3	125																										
Mainpat	3	570																										
Total	38	4050																										
Number of Offices	201																											
Godown	04																											
Cold storage	6																											
Bus Stand	7																											

<b>Total Length of Road</b>	
Rural	574.15
Urban	
<b>No. of Railway Station &amp; Junctions</b>	01
Total length	<b>68,525 Route Length</b>
Airport	1– दरिमा
Latitude	1.Darima 2.P.G College Ground
Longitude	1– Darima – 22 0 59'33"N

	2- P.G College Ground – 230-08'-12"N
Helipad	Darima – 83011'38"E P.G College Ground – 830-10'-39"E

Table 12: Other Infrastructure Details and Services

Offices Information	Numbers
Government	56
Semi Government	19
Private	-
Civil Society/NGO	3

Table 13 : Information of the offices

**Communication –**

Communication		
Sl.No.	Means of Communication	Number
1	Post office	51
2	Telephone center	56
3	PCO Rural	0
4	STD & PCO	0

Table 14 : Contacts

**Health –**

Government Health Center			
Sl.No.	Types of Hospital	Numbers	Numbers of Bed/ Capacity
1	Allopathic Hospital	230	932
2	Ayurvedic Hospital	48	96
3	Primary Health Center	25	145
4	Sub Health Center	07	
5	Numbers of Ambulances	197	197
6	Other	47	47
		3	3

Table 15 : Public Health Center

**Industry –**

<b>Industry and Services</b>				
<b>S. No.</b>	<b>Top</b>			<b>Number</b>
1	Number of Registered Industries			11655
2	Total Number of Industries			11655
3	Number of Employees			29377
<b>Table 16 : Industrial Industrial Details</b>				
<b>S.No.</b>	<b>Small</b>	<b>Medium</b>	<b>Large</b>	<b>Remark</b>
1	29376	1	0	-

**Table 17: Industrial details****Bank –**

<b>Bank</b>		
<b>Sl. No.</b>	<b>Bank Category</b>	<b>Number of Banks</b>
1	Commercial Bank	50
2	Gramin Bank	27
3	Cooperative bank	06
4	Primary land development bank branches	0
Total		<b>83</b>

**Table 18 : Bank details****Public Distribution Shop in the District -**

<b>Public Distribution Shop in the District</b>		
<b>Sl.No.</b>	<b>Tehsil</b>	<b>Number of Public Distribution Shop</b>
1	Ambikapur	124
2	Lakhanpur	72
3	Udaypur	53
4	Lundra	70
5	Sitapur	45
6	Batoli	41

7	Mainpat	40
Total		445

Table 19 : Public Distribution in the fair price shop holder

Communications & Traffic –

Road Network									
Length of road under PWD till March 2018									
Sl. No.	Type of Roads	Total length (7+10)	On the Surface				Unserfable		
			WB M	BT	CC	Total (4+5+6)	Traffi cable	NonT raffic able	Tota l (8+9)
1	2	3	4	5	6	7	8	9	10
1	National highway	515.40	0.00	515.40	0.00	515.40	0.00	0.00	0.00
2	State highway	91.00	0.00	91.00	0.00	91.00	0.00	0.00	0.00
3	Other PWD Roads	238.65	0.00	238.65	0.00	238.65	0.00	0.00	0.00
4	Major District Roads	244.50	0.00	244.50	0.00	244.50	0.00	0.00	0.00
<b>Total</b>		<b>1089.55</b>	<b>0.00</b>	<b>1089.55</b>	<b>0.00</b>	<b>1089.55</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Table 20: Road Network

Road Map Route of Sarguja District

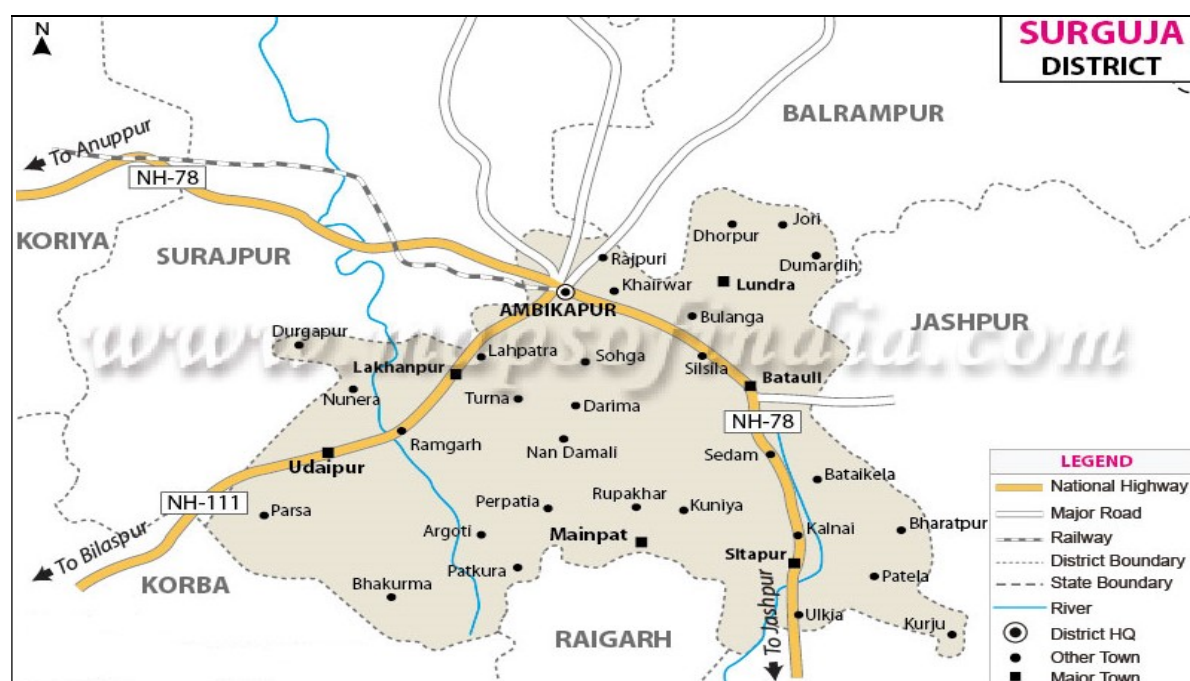


Figure 4 : Road map of Sarguja district



## Main areas of historical and cultural importance -

Various fairs and festivals are also seen in the Sarguja district. The major places of tourism are as follows:

Areas of Historical and Cultural Importance			
Sl.No.	Place / Sites /Monument	Description	Hazard and Risk
1.	Maheshpur (Archaeological site) Vikaskhand Udaipur	1-Shivandir (site) 2-Adinath Tila (site) 3-mark search (site) 4-Koriya Zoraki (site)	Natural Disaster
2.	Devgarh (Archaeological site) Vikaskhand-Udaipur	1-Satmahila (site) 2-Chirkadur (site) 3-Shiv Temple (site) Natural Disaster danger from	Natural Disaster
3.	Ramgarh	1-Sita Bhangra (Memorial) 2-Jogi Mada (Memorial) 3-Ram Sita Temple (Monument)	Natural Disaster
4.	Maharanipur Development block	1-Deoor Temple	Natural Disaster

Table 21: Areas of Historical and Cultural Importance

### Maheshpur



Figure 5 : Maheshpur

Maheshpur is located 08 km north from Udaipur in Kedama route. Its scenic sites includes ancient Shiva Temple (10th Century), Vishnu Temple of Chherika Deor (10th Century), Tirthankar Taurashkar Nath Pratima (8th Century), Vrajanan ascetic on throne, Lord Vishnu-Lakshmi Murthy, Narasimha Avatar, Hiranyakshyap, Chana, Munda Tila (For Prahlad in the lap), the scorpion, the idol of the Ganga-Jamuna, the mirror looking girl and the inscriptions of 18 sentence mentioned.

## Devgarh



**Figure 6: Devgarh**

Ambikapur is 28 km from Lakhnpur .It is at a distance of 10 km from Lakhanpur. Devgarh is situated 10 km from lakhanpur. In the ancient times of Devgarh, the sadhana of Sage Yamdagni has been in place. Parvati is mentioned in the form of Shakti on the middle of this Shivaling. This Shivaling has been given the title of semi-Narishwar in Shastra. It is also called the Gauri Shankar Temple. In Devgarh, on the bank of the river Renuka, the ruins of Rudra temples were scattered. The structure of the Golf Math at Deogarh is believed to belong to the Shaiv sect. Its sights, frames of temples are natural beauties.

## Ramgarh Hill:

Ramgarh is the most ancient in the historical places of Sarguja. It is located in Ambikapur-Bilaspur road. It is also called Ramgiri, the Ramgarh mountain is the gross (hat) of gross. Ramgarh is the center of Sodha due to Lord Rama and Mahakavi related to Kalidas. According to an ancient belief, Lord Ram Bhai Lakshman and his wife Sita were resided in the Vanasthan period. Right here, Jogi Mara died to the Tapas Ves of Rama, Sita Bengarga in the name of Sita and Lakshman Cave in the name of Lakshman.



**Figure 7: Ramgarh hills**

**Kailash Caves:**

From Ambikapur 60 km east there is a place called Sambarbar, on which Kailash Cave is located between the natural forest Sushma. It has been constructed by Lord Rameshwar Gahir Guru ji, the highest worshiped saint. Fairs, festive s are there in Mahashivaratri. Its scenic spot cave built Shiva Parvati Temple, Bagha Mada, Badadhr Bir, Yagya Mandap, Jalpaupal, Gurukul Sanskrit Vidyalaya, Gahir Guru Ashram.



**Figure 8: Kailash caves**

**Mainpat:**



**Figure 9 : Buddhist temple, Mainpat**

Mainpat is 75 km away from Ambikapur, also called as Shimla of Chhattisgarh. Mainpat is situated on Vindh Mountain Mala, which has a height of 3781 feet from the sea level, its length is 28 kilometers and width is 10 to 13 kilometers. There are two ways to reach Mainpat from Ambikapur, the first route would be via Ambikapur-Sitapur road and the second village meanwhile goes down to the main gate. It is a beautiful place filled with natural wealth. Here Sarbhanja waterfall, Tiger Point and Fish Point are the major tourist attractions. The origin of the Rhind and the Mand river flows from it. It is also called Tibet of Chhattisgarh. Here is the life of Tibetan people and Buddhist temple is the center of attraction. A Sainik School is also proposed here. It is also famous for carpet and pomerion dogs.

### **Thinteenipathar:**

Darima airports is 12 km from Ambikapur Nagar .Near to Darima Airport large group of big stones are there. By hitting the stones with a concrete thing the most surprising thing in these stones is that sounds come from different metals. Any one of them - sounds like a rock open pots. There is no difference between the sound of sitting or lying in this stone. Two pieces of the same stone produce different sounds. Due to this singularity, the people of the zone called these narrow stones as thinteenipathar.



**Figure 10: Thinteenipathar**

**Information of Mine and Minerals in the District -**

<b>Information of Mine and Minerals in the District</b>										
Sl. No.	Mines & Minerals Name	Production (in tons) Financial year					Area where found	Number of Registered Employees	Govt/Private	Onsite & Offsite plan
1	Iron ore	—								
2	Gold	—								
3	Tin	—								
4	Fluorite	—								
5	Dolomite	—								
6	Bauxite	520623.47					Kesari, KudariDih and Sapnadar tahsil-Mannapat	645		
	Balco CMDC	515449.001					Kesra, Burima, Narmadapur Tehsil-Manpath	616		
8	Black stone	—								
9	Granite	—								
10	Others	.								
10	Others	—								

**Table 22 : Details of Mines and Minerals in District**

## Chapter 2

# District Hazard, Vulnerability, Capacity and Risk Assessment

---

Disasters adversely affect life and after the occurrence of disaster, destruction, plight, panic arises. It takes several decades for disaster affected people to come back to rehabilitation. Low level of livelihood and less awareness has not only increased the adverse effects of disasters, but also the serious consequence of interruption in economic development.

It is therefore necessary that the identification of the people who are living below the poverty line, identifying the potential occurrences of any district, risks arising from them, areas which come in its periphery, children, the elderly, women, the disabled, and those Identifying the economic, social and physical sensitivity of the people living in the area and assessing their potential should deal with the impact of the disaster. Demonstrations should be made so that the plans can be implemented to reduce the risk of disasters.

**Natural Disasters** - Natural phenomena that pose a threat to people, structures or financial properties simultaneously contribute to human life. Mainly floods, earthquakes, droughts, volcanoes, fires, tsunamis, landslides etc are the natural threats.

**Humanitarian Disasters** – Disasters that occur due to human-caused causes and situations which can bring disastrous consequences to society, are called human calamities, mainly due to industrial accidents, explosions, environmental degradation, leakage of poisonous gases, war , accidents etc. have been included.

Due to increased risk of frequency vulnerability among people arises and by decreasing the ability of people consequences increase the risk of increased risk.

$$\text{Risk} = \frac{\text{Hazard (H)} \times \text{Vulnerability (V)} \times \text{Exposure (E)}}{\text{Capacity to Cope (C)}}$$

**Hazard** - Hazard is a situation where there is a possibility of loss of life, health, environment or property. This can be natural or man-made incidents, which can not be stopped. It causes heavy losses of life and property in the state and district.

**Vulnerability** - Due to the nature, construction and proximity to threatened areas or disaster prone areas, a community, structure, service or geographic area is likely to be damaged or interrupted by the effects of special danger.

**Risk** - Risks occur when there is an event of danger, the expected loss of any community. It may include loss of life, injury to individuals, loss of property and / or interruption in economic activities and livelihood.

**Capacity** - Using the skills and resources available to manage adverse conditions, risks or disasters is the ability to increase the eligibility of people, organization and systems. In order to cope with any situation, it is essential to develop awareness of the resources and resources of the resources, during normal times as well as during the disasters or adverse conditions.

**Exposure** - The existence and the number of people, property, infrastructure, housing, production capabilities, livelihood, systems and other elements located in hazardous areas are known as exposures.

In order to assess the sensitivity of the District Sarguja disaster and the risks of the district officials, public representatives, NGOs held meeting on the District Disaster Management Plan regarding the potential disasters in the district, people affected by it and the ability of the district to deal with the calamities Assessed.

Potential main disasters were identified by conducting workshop in the district. For Major disasters a general action plan with detailed and specific informations was recommended for all the districts. In districts, 12 potentially viable disasters were identified. Of these, it is to undertake general work plans for detailed and specific work plans and other disasters for the major seven disasters.

## **2.1 Identification of potential disasters :-**

The disasters are mainly divided into five parts.

- Climatic
- Geologic
- Chemical, industrial and nuclear related
- Accidental Related
- Biological disaster

In order to assess district's disaster and sensitivity of the risk, district officials, public representatives, NGOs, held meeting on district disaster management plan regarding the potential disasters in the district, people affected by them and the ability of the district to deal with the disasters Assessed.

The potential 12 disasters were marked in the districts. Of these, it is recommended to undertake general work plans for detailed and specific work plans and other disasters for the major seven disasters.

**2.1.1 Six main disasters are below mentioned -**

1. Drought
2. Flood
3. Earthquake
4. Accident
5. Fire
6. Seasonal Diseases

Other 5 disasters are Communal riots, Hailstorm, Dam breakage, Heatstroke and Cold wave, also Chhattisgarh is affected by Naxalism.



## 2.2 History of Disasters –

Apart from natural calamities like drought and flood in Sarguja district, other disasters such as animal conflict, epidemic, road accidents, electricity and hurricanes are also there. The history of various disasters in the district is as follows.

<b>Hazard, vulnerability, capacity and Risk Assessment (HVCRA)</b>																		
<b>Assessment of the Disasters that Occurred in the last 10 years</b>																		
S. No.	Disaster	Event year	Event Place Tehsil	Casualties (Jan Hani)									Animal loss (Pashu Hani)			Property Loss	Crop Damage	
				Death			Injured			Missing			Death	Injured	Missing		Irrigated	Non-Irrigated
				Male	Female	Child	Male	Female	Child	Male	Female	Child						
1	Flood	2008	Sitapur,Lundra	2	2	0	0	0	0	0	0	0	0	0	0	35	2	0
		2009	Sitapur,Lundra	4	5	0	0	0	0	0	0	0	0	0	0	30	14	4
		2010	Sitapur,Lundra,Lakhanpur	6	3	0	0	0	0	0	0	0	2	0	0	8	17	3
		2011	Mainpat,Sitapur,Lundra,Lakhanpur	7	7	1	0	0	0	0	0	0	7	0	0	279	15	0
		2012	Mainpat,Sitapur,Lundra,Lakhanpur	13	8	0	0	0	0	0	0	0	3	0	0	70	2	0

		2013	Mainpat,Sita pur,Lundra, Lakhanpur	11	11	0	0	0	0	0	0	0	9	0	0	80	18	1
		2014	Mainpat,Sita pur,Lundra, Lakhanpur	12	9	1	0	0	0	0	0	0	1	0	0	3	3	0
		2015	Mainpat,Sita pur,Lundra, Lakhanpur	31	22	1	0	0	0	0	0	0	2	0	0	131	139	0
		2016	Mainpat,Sita pur,Lundra, Lakhanpur	13	11	1	0	0	0	0	0	0	1	0	0	76	2	0
		2017	Mainpat,Sita pur,Lundra, Lakhanpur	11	6	2	0	0	0	0	0	0	14	0	0	87	5	0
		2018	Mainpat,Sita pur,Lundra	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
2	Drought	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	Fire	2008		0	0	0	0	0	0	0	0	0	0	0	2	5	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.652
		2010	Lundra	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2.2
		2011	Sitapur	0	0	0	0	0	0	0	0	0	0	0	0	2	2	8.456
		2012	Sitapur	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
		2013	Sitapur	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16.384
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.88
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.99
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.518
		2017	Lakhanpur	0	2	1	0	0	0	0	0	0	0	0	0	1	0	0
		2018		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
		4	Lightning	2008	Ambikapur, Batoli,Sitapur, Lundra,Ud aypur	17	13	4	0	0	0	0	0	71	0	0	0	0
2009	Ambikapur, Batoli,Sitapur, Lundra,Ud aypur			19	17	7	0	0	0	0	0	44	0	0	0	0	0	
2010	Ambikapur, Batoli,Sitapur, Lundra,Ud aypur,Mainp			15	11	3	0	0	0	0	0	50	0	0	0	0	0	

		at,Lakhanpur															
	2011	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	21	21	6	0	0	0	0	0	0	67	0	0	0	0	0
	2012	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	18	12	6	0	0	0	0	0	0	68	0	0	0	0	0
	2013	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	22	18	7	0	0	0	0	0	0	76	0	0	0	0	0
	2014	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	22	15	6	0	0	0	0	0	0	55	0	0	0	0	0
	2015	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	24	23	5	0	0	0	0	0	0	131	2	0	0	0	0

		2016	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	23	13	4	0	0	0	0	0	0	96	2	0	0	0	0		
		2017	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	18	18	6	1	0	0	0	0	0	0	87	1	0	0	0	0	
		2018	Ambikapur, Batoli, Mainpat	4	5	0	0	0	0	0	0	0	0	13	0	0	0	0	0	
5	Lu (Heat Wave)	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

6	Snake Bite/Scorpion/Honey Bee/Guher a Bite	2008	Ambikapur, Batoli,Sitapur, Lundra,Udaypur	10	10	4	0	0	0	0	0	0	70	0	0	0	0	0	
		2009	Ambikapur, Batoli,Sitapur, Lundra,Udaypur	25	14	7	0	0	0	0	0	0	0	51	0	0	0	0	0
		2010	Ambikapur, Batoli,Sitapur, Lundra,Udaypur, Mainpat,Lakhanpur	20	19	3	0	0	0	0	0	0	0	49	0	0	0	0	0
		2011	Ambikapur, Batoli,Sitapur, Lundra,Udaypur, Mainpat,Lakhanpur	24	18	5	0	0	0	0	0	0	0	52	0	0	0	0	0
		2012	Ambikapur, Batoli,Sitapur, Lundra,Udaypur, Mainpat,Lakhanpur	26	24	8	0	0	0	0	0	0	0	36	0	0	0	0	0
		2013	Ambikapur, Batoli,Sitapur, Lundra,Udaypur, Mainpat,Lakhanpur	20	25	7	0	0	0	0	0	0	0	41	0	0	0	0	0

		2014	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	20	18	7	0	0	0	0	0	0	0	40	0	0	0	0	0	
		2015	Ambikapur, Batoli, Sitapur, Lundra, Mainpat, Lakhanpur	26	20	3	0	0	0	0	0	0	0	0	66	0	0	0	0	0
		2016	Udaypur	19	27	5	0	0	0	0	0	0	0	0	63	0	0	0	0	0
		2017	Ambikapur, Batoli, Sitapur, Lundra, Udaypur, Mainpat, Lakhanpur	31	14	7	0	0	0	0	0	0	0	0	53	0	0	0	0	0
		2018	Ambikapur, Batoli, Sitapur, Mainpat	2	3	1	0	0	0	0	0	0	0	0	10	0	0	0	0	0
7	Dam Collapse	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Pest Infestation	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Epidemic	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		2			0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		4			0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		08			0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Road & Rail Accidents	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		131			565			0	0	0	0	0	0	0	0	0
		2014		199			601			0	0	0	0	0	0	0	0	0
		2015		134			713			0	0	0	0	0	0	0	0	0
		2016		135			574			0	0	0	0	0	0	0	0	0
		2017		172			378			0	0	0	0	0	0	0	0	0
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	

		2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Fire (Forest)	2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	Building Collapse	2008	Ambikapur	0	0	0	0	0	0	0	0	0	0	0	28	0	0	
		2009	Ambikapur	0	0	0	0	0	0	0	0	0	0	0	23	0	0	
		2010	Ambikapur	0	0	0	0	0	0	0	0	0	0	0	21	0	0	
		2011	Ambikapur, Mainpat, Lakhanpur	1	0	0	0	0	0	0	0	0	0	0	399	0	0	
		2012	Ambikapur, Mainpat	0	0	0	0	0	0	0	0	0	0	0	363	0	0	
		2013	Ambikapur, Mainpat	0	0	0	0	0	0	0	0	0	0	0	103	0	0	
		2014	Ambikapur, Mainpat	0	0	0	0	0	0	0	0	0	0	0	50	0	0	
		2015	Ambikapur, Mainpat, Lakhanpur	0	1	0	0	0	0	0	0	0	0	0	333	0	0	

		hanpur																	
		2016	Ambikapur, Mainpat	0	0	0	0	0	0	0	0	0	0	0	0	270	0	0	
		2017	Ambikapur, Mainpat	0	0	0	0	0	0	0	0	0	0	0	0	149	0	0	
		2018	Ambikapur	0	0	0	0	0	0	0	0	0	0	0	0	206	0	0	
13	Bomb Blast / Terrorism	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
14	Stampede	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Festive Disasters	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16	Human and Animal Conflicts	2008-18	Udaypur, Batoli, Mainpat, Sitapur, Lundra	40	23	3	246	79	0	0	0	0	0	0	0	0	0	6994-556

17	Chemicals and Industrial Accidents	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Landslide	2008		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2009		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2010		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2011		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2013		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2014		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2015		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

		2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Earthquake	2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 23 : Assessment of the Disasters that Occurred in the last 10 years**

<b>Tehsil wise Casualties (Jan Hani) Information (Last ten years information)</b>														
<b>S. No</b>	<b>Casualties (Jan Hani)</b>	<b>Month</b>												<b>Total</b>
		<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	

1	Male	12	19	26	10	44	75	110	113	60	25	25	18	537
2	Female	4	13	2	20	19	65	97	84	37	23	14	15	393
3	Child	7	0	11	5	13	5	16	19	30	12	3	2	123
4	Details of Rescued people	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>		23	32	39	35	76	145	223	216	127	60	42	35	1053

<b>Tehsil wise Animal loss (Pashu Hani) Information (Last ten years information)</b>														
<b>S. No .</b>	<b>Animal loss (Pashu Hani)</b>	<b>Month</b>												<b>Total</b>
		<b>Jan uary</b>	<b>Febru ary</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>Septem ber</b>	<b>Oct ober</b>	<b>Nove mber</b>	<b>Decem ber</b>	
		1	2	3	4	5	6	7	8	9	10	11	12	
1	Dairy Cattle	13	16	26	12	39	97	152	106	69	25	31	19	605
2	Dry Cattle	2	13	3	21	17	86	133	116	54	32	20	16	513
<b>Total</b>		15	29	29	33	56	183	285	222	123	57	51	35	1118

Table 24: Last 10 years (Human and Animal Loss) monthly information of Disaster

### 2.3 Risk Profile -

A risk profile has been developed for each risk identified in Sarguja. A risk profile includes the following information about the danger:

1. Frequency of the incident - how often it is likely to occur.
2. Intensity and potential intensity - how bad it can be.
3. Location - where is likely to occur.
4. Duration - How long can it last?
5. Seasonal Pattern - The time of year during which it is more likely to occur.
6. Speed of the start - how fast is the possibility of it.

Hazard	Potential Magnitude (% of Community That Can Be Affected)	Frequency of Occurrence	Areas Likely to be Affected Most	Probable Duration	Probable Time of the Year	Potential Speed of Onset (Probable Amount of Warning Time)
Flood	Critical	Probable	All District	1-3Week	June – September	More than 24 hours
Drought	Limited	Probable	All District	1-3 Month	May week 1 <sup>st</sup>	More than 24 hours
Earthquake	Likely	Probable	All District	Few hours	Throughout the year	Minimum or No Warning
Fire	Critical	Frequently	All District	Few hours	Throughout the year	Minimum or No Warning
Epidemic	Limited	Mostly	All District	Few Days	Throughout the year	Minimum or No Warning
Road Accidents	Critical	Mostly	All District	Few Seconds	Throughout the year	Minimum or No Warning
Seasonal Disease	Frequently	Probable	All District	Few Seconds	Throughout the year	Minimum or No Warning

**Table 25: Risk Profile**



**Note: Potential quantity –**

1. Dangerous: More than 50%
2. Serious: 25-50%
3. Limited: 10-25 %
4. Fewer than 10%.

**The frequency of the event –**

1. Most likely: In the next year approximately 100 %.
2. Probability: 10-100 % with atleast one change in the next year.
3. Occasionally probable: 1-10 % in the next year or Probability between at least one change in the next 100 years.
4. Impossible: Less than 1% chance in the next 100 years.

**2.4 Risk Analysis -**

Risks can be a threat to people, services, specific facilities and structures in the community. By reducing the risk, the district can focus on those hazards that create high risk for life, property and environment. Analysis of risk is helpful in developing reaction priorities. Risk priority is assigned using qualitative ratings such as high, medium, and low.

S. No	Hazards	Geography	Infrastructure & Property	Demography
1	Flood	High	Medium	High
2	Drought	Low	Medium	High
3	Earthquake	Low	Medium	High
4	Fire	High	High	High
5	Epidemic	Low	Low	High
6	Road accidents	High	Medium	High
7	Seasonal disease	High	High	High

**Table 26: Risk Analysis**

## 2.5 Sensitivity analysis –

Based on the review and analysis of data, the context of the most important design risk is identified for the lowest administrative unit in the district. Based on this, the sensitivity analysis is done as follows.

S.No	Sensitivity analysis	Answer
1	Sensitivity analysis Result	
	What is the single or multiple threat facing the community? Which are the most important? Referring to the incident, frequency / return period, intensity and duration as well as the contact of affected families, compare these hazards?	The outbreak of elephant attacks, fire, road accidents, seasonal diseases,  The community is affected by such risks like pandemic and pandemics.
	Are risks or new risks emerging?	Epidemic cases were also there. No significant tendency has been seen.
2	Result of Sensitivity Analysis	
	Where is the most sensitive area?	The outbreak of sensitive area elephant attack has been observed in the most sensitive area. It is thus.  Ambikapur  Lundra  Udaipur  Lakhanpur  Sitapur  Mainpat
	How are communities sensitive to the risks of influencing the community and those risks?	Communities are sensitive for clearance evacuation.
3	The result of capacity analysis	
	What are the main capabilities in the community?	Hospitals, police stations, rescue equipment, relief camps, transport

		etc. Drinking Water Supply Scheme, Prime Minister's Crop Insurance Scheme, Crop Contingency Schemes etc.
	Explain them and how do they increase the flexibility of the community?	<ul style="list-style-type: none"> <li>• Hospital: For immediate medical assistance.</li> <li>• Police Station: For rescue operation and withdrawal.</li> <li>• Rescue equipment: For rescue operations.</li> <li>• Relief camps: For temporary shelters and first aid.</li> <li>• Transport and communication system: It is well connected to neighboring districts through road and vehicular traffic.</li> <li>• Drinking Water Supply Scheme: Availability of potable water.</li> </ul>
	Main weaknesses	<ul style="list-style-type: none"> <li>• Insufficient number of fire stations.</li> <li>• There is no NGO working on disaster management awareness.</li> </ul>
4	<b>Preparations and reactions to reduce the effects of disaster</b>	
	Based on potential of risks, assistance is needed to reduce the vulnerabilities and increase the capabilities of the community.	<ul style="list-style-type: none"> <li>• Construction of river embankments.</li> <li>• Protection of water during the rainy season.</li> <li>• Construction of new check dams, ponds and wells</li> </ul>

Table 27: Sensitivity analysis

## 2.6 Disasters in Sarguja District -

### 2.6.1 Drought -

There is cumulative effect of the lack of dry water. The effect of which falls on agriculture, natural environment and related processes in the form of a natural disaster. If its

effectiveness continues to increase, then the situation of famine arises. The Indian Meteorological Department has divided the drought into two parts - the drought and the common drought. Thirsty drought has less than 50 percent rainfall, while the normal drought is 25 percent less than the average rainfall.

According to the definition of drought given by the irrigation commission, this is the situation in which the area has received 75 percent less rain than normal rainfall. If this deficiency is between 25 to 50 percent, it is defined as the status of severe drought and if the deficiency is more than 50 percent then it is considered as a condition of severe drought.

Dry is a gradual natural disaster that gives us a lot of time to deal with. Due to not having proper management of water, its effects also increase over time. The main cause of drought is the lack of rainfall.

Common indicators of drought -

- Lack of water in reservoirs
- Low rainfall or not on time or low water storage
- Low water level
- Wells drying
- Destruction of crops

**Types of Drought -**

- **Meteorological Drought** - Inadequate rainfall, irregularity, uneven distribution of water
- **Due to hydrological drought** - lack of water, lower ground water level, deprivation of water bodies, ponds, wells and reservoirs drying
- **Agricultural drought** - lack of crop or fodder, deficiency in soil moisture.

<b>Drought</b>			
<b>Year 2017-18 Drought Affected Area and its Loss</b>			
<b>S.No.</b>	<b>Special</b>	<b>Scale</b>	<b>Comments</b>
1	-	-	

**Table 28: Year 2017-18 Drought Affected Area and its Loss**

<b>List of Affected Areas</b>							
S.no.	District	Tehsil	Ward List	No. of Village	Intensity	Number of Farmers Affected by Drought	
						Small Marginal Farmers	& Other Farmers
1				-	-	-	-

**Table 29: Outline of the previous event of the declared drought in the district**

### 2.6.2 Flood –

Below is a list of villages / habitations inhabited in the lower area which are affected by flood situation –

<b>Year</b>	<b>2015–16</b>	<b>2016–17</b>	<b>2017–18</b>
<b>Place / Name of ward</b>	Kailash turn, Sheetal ward no. 32	Kailash turn, Sheetal ward no. 32	Kanya parisar marg, Gangapur Nalapara, Ward No-47
	Trikon chowk, Shaheed Bhagat Singh ward no. 28	Trikon chowk, Shaheed Bhagat Singh ward no. 28	Kailash turn, Sheetal ward no. 32
	Jangatpara Mangal Pandey ward no.13	Jangatpara Mangal Pandey ward no.13	Trikon chowk, Shaheed Bhagat Singh ward no. 28
	Indravattika, Mahamaya Ward no. 37	Indravattika, Mahamaya Ward no. 37	Ramamandir Road, Jhagrakhand Temple Road Garhaiya, Brahma Ward No.33
	Chorakkchar, Mahatma Gandhi Ward no. 21	Chorakkchar, Mahatma Gandhi Ward no. 21	Jangatpara Mangal Pandey ward no.13
			Indravattika, Mahamaya Ward no. 37
			Chorakkchar, Mahatma Gandhi Ward no. 21

**Table 30: Ward and location affected by heavy rain in the Municipal Corporation**

<b>Flood</b>					
<b>Rivers in the District Mainly Affected by Flood</b>					
<b>S.No</b>	<b>Tehsil</b>	<b>River Name</b>	<b>Drains Name</b>	<b>Number of villages</b>	<b>Village name</b>
1	Ambikapur	Banki river, Archana, Baranai, Ghunghotta	Banki River, Archana, Ghunghotta, Baranai	5	Jaipur
2	Lundra		-		Parri
3	Sitapur		Belljora project		Peeparkhar
4	Lakhanpur		Kunwarpur Reservoir		Parasodhkhurd
5	Udaypur		Flatchuhi, P.Kurdand reservoir, Rikhi project, Turrapani reservoir, Dandgaon reservoir, Siar, Coochhal		Chilbin (Pahuputra)
6	Batoli		Gahila, Lagu Dillarpan Yojana, Dhodhara reservoir, Sarwani Kona pond, Saliidih reservoir, Mandal Parasitram Yojna		
7	Mainpat		Cottage reservoir		

**Table 31: River of the district which are more susceptible during flood or water penetration**

<b>Marking safe places of some villages in the following tehsils</b>							
<b>S. No.</b>	<b>Tehsil</b>	<b>River Name</b>	<b>Total Village</b>	<b>Village Name</b>	<b>Probable Affected Area (Hec.)</b>	<b>Details of relief camps</b>	<b>Details of Marked Schools</b>

		Ghungagh utt River	10	Libra, Kulgasa, Karaya, Parsodikhurd, Hariharpur, Shivpura, Lovedih, Revpur, Sonbarasa, Tapirkela	400 hectare		High school kareya
1	Ambikap ur						High school Darima
		Machali river	2	Nandamali, Navanagar	110 hectare		Navanaga r Panchayt h
							Shivpur Panchaya t Bhavan
							High school Badathma li
2	Udaypur	Red river	87	Sargava	15-010 hectare		Primary school building, Anganwa di center
				Keshgava	15-050 hectare		Primary school building, Anganwa di center Village panchayat h
				Kawalgiri	8-050 hectare		Primary school building, Anganwa di center

				Jajga	20-010 hectare		Primary school building, Anganwa di center Village panchayat h
				Kumdeva	25-000 hectare		Primary school building, Anganwa di center Village panchayat h
<b>Total</b>		<b>99</b>		<b>510 Hectare</b>			

Table 32: Marking safe places of some villages

### 2.6.3 Accidents –

#### Road accidents -

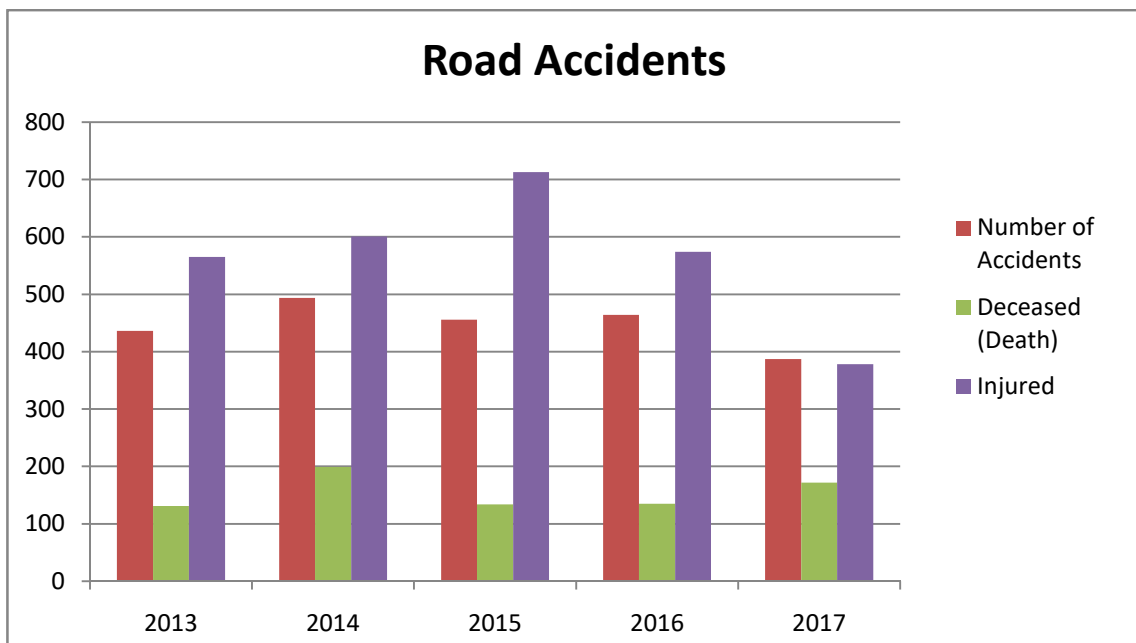
Science and technological advances have made human life soothing, which has resulted in the distances being counted in hours today. But the number of accidents is increasing day by day due to inadequacy and technical failure due to non-compliance of the rules of traffic. About 37 percent of all deaths due to accidents in India die only due to road accidents. The fate of the situation can be assumed by the fact that 10 people die every day, every hour, from road accidents And four times more than that, 40 persons are injured, many of whom are crippled for ages. On the basis of the proportion of the number of motor vehicles, the number of road accidents in India is much higher than the developed countries, accidents increase by about 4 percent annually. Today it is necessary that we should reduce road accidents so that data will remain in control.

<b>Road Accidents</b>				
<b>Road Accidents in the District</b>				
<b>Sl.No.</b>	<b>Year</b>	<b>Number of Accidents</b>	<b>Deceased (Death)</b>	<b>Injured</b>



1	2013	436	131	565
2	2014	494	199	601
3	2015	456	134	713
4	2016	464	135	574
5	2017	387	172	378
<b>Total</b>		<b>2237</b>	<b>771</b>	<b>2831</b>

**Table 33: Road accidents in the district**



**Graph 2: Road Accidents in the District**

The main reason for road accidents -

- Negligence in driving
- Do not follow traffic rules
- Bad roads
- Extreme vehicles and crowds on the roads
- Improper maintenance of Vehicle

**Details of potential road and area of major accident in Sarguja district –**

<b>S.No.</b>	<b>Roadways</b>	<b>Accident Prone Area</b>
1	Sarguja bilaspur raigarh road	Asola Ramanujganj Road
2		Parsa Ramanujganj Road
3		Sandbar Barrier Bilaspur Road
4		Luchaki Ghat Raigarh Road
5		Darima Turns Raigarh road
6		Mandrakala Bilaspur Road
7		Mangari Raigarh Road
8		Singitana Bilaspur road
9		Lahatpura Bilaspur road
10		Amigasi Nampara
11		Jajaga Bilaspur road
12		Khafri Bawa
13		Udaipur
14		Dandgaon
15		Gumga
16		Guturma Raigad Road
17		Karabel Raigarh road Pratapgarh
18		Mangari Nala
19		Near Kanthi school
20		Tax check
21		Darmima Main Road

**Table 34: Details of the main accident and possible routes and areas of Sarguja district**

2.6.4 Elephant Affected Area –

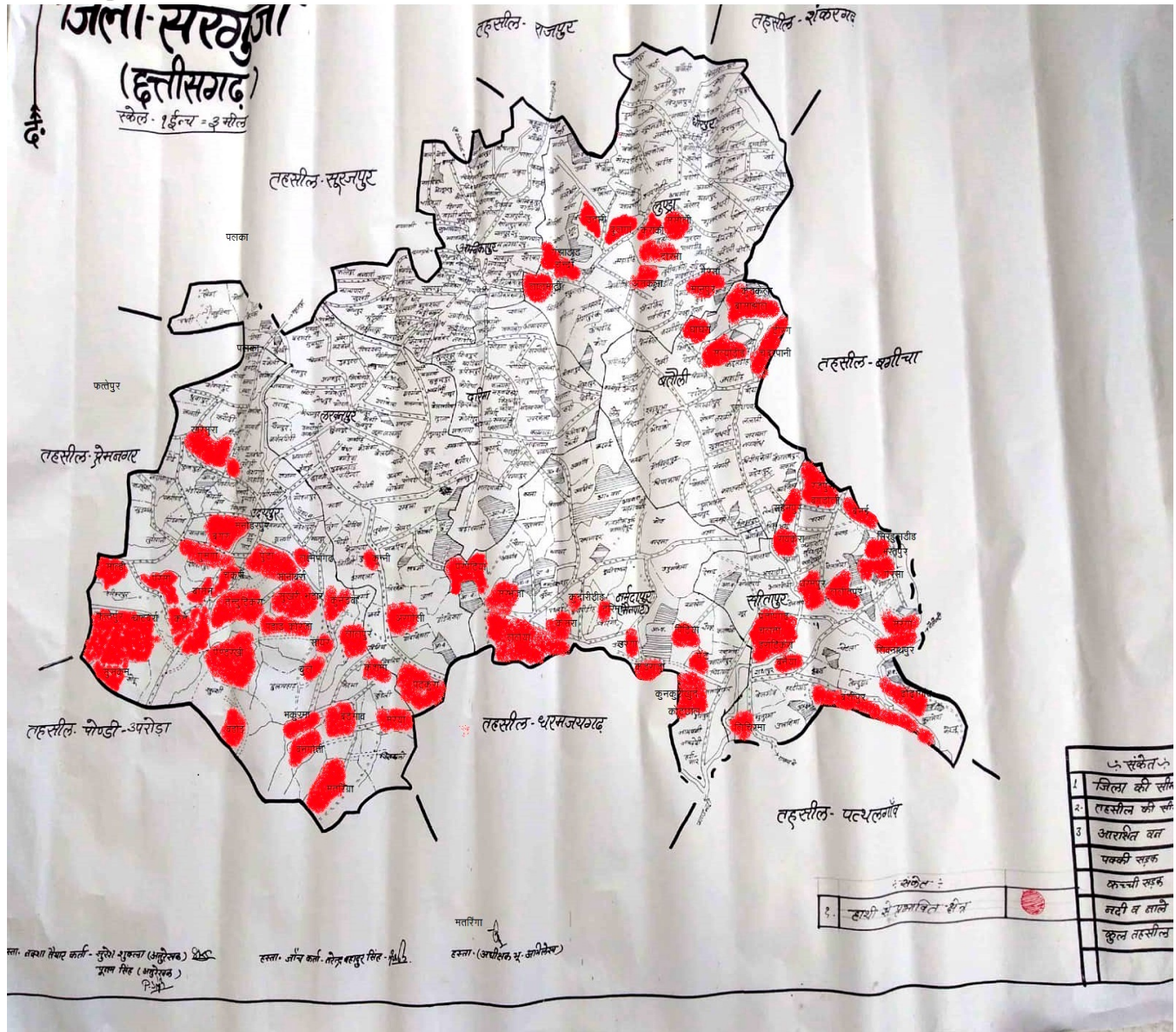


Figure 11: Elephant Affected Area

2.6.5 Epidemic –

Epidemic						
Epidemic in the district during the year 2008 to 2017						
S. No.	Year	Tehsil/Block	Name of Epidemic	Number of epidemics	Number of affected people	Deceased (Death)
1	2008	-	-	-	-	-
2	2009	-	-	-	-	-

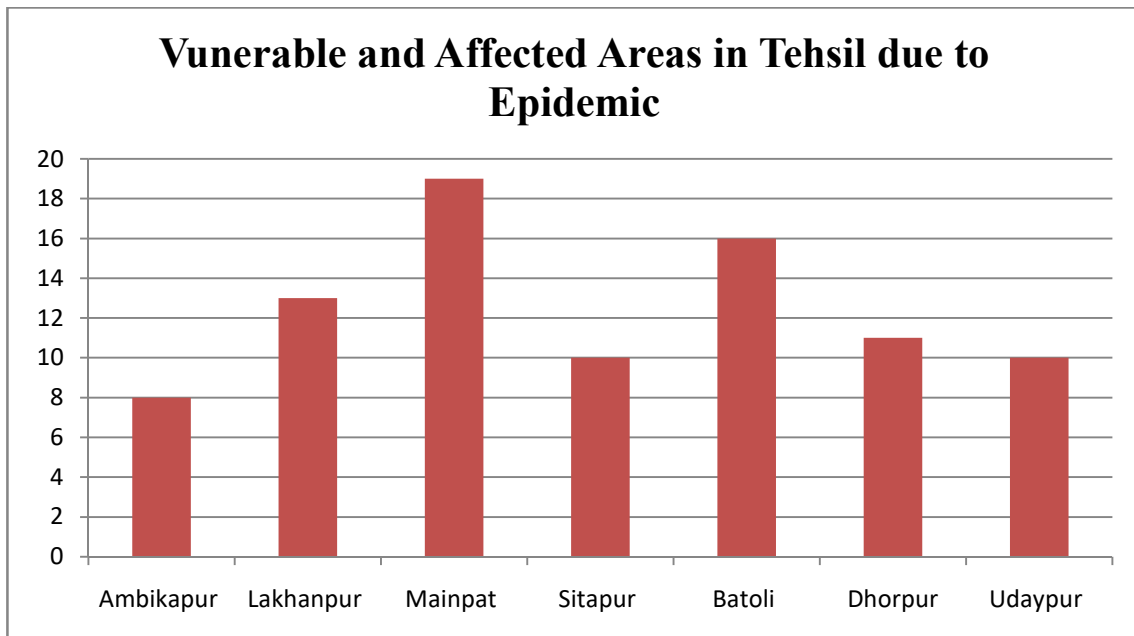
3	2010	-	-	-	-	-
4	2011	-	-	-	-	-
5	2012	Mainpat	-	-	15	2
6	2013	-	-	-	-	-
7	2014	Lundra, Mainpat	Diarhhea	01 01	18 62	1 3
8	2015	-	-	-	-	-
9	2016	Mainpat	Diarhhea	1	357	8
10	2017	-	-	-	-	-

Table 35: Epidemic in the district during the year 2012 to 2018

<b>Vulnerable and Affected Areas in Tehsil due to Epidemic</b>				
S.No.	Total No. of Village	Tehsil Name	Vulnerable Villages in Tehsil due to epidemic	Prone Area
1	119	Ambikapur	8	1. Gageri 2. Runpurkala 3. Saritikura 4. Lovedih 5. Big Dalali 6. Nandmali 7. Pampapur 8. Rakely
2	98	Lakhanpur	13	1. Dhodke Kesra 2. Jama 3. Labji 4. Remhala 5. Kotbra
3	46	Mainpat	19	1. Pidiya pahad upar 2. Paint 3. Lota bhavana 4. Madvasarai 5. Mohanadihari
4	51	Sitapur	10	1. Deogarh (Rajaata) 2. Sarga (Ghasidih) 3. Bharatpur (Lakralata) 4. Dhodgaon (Pandharapat)

5	54	Batoli	16	1. Gahila Korvapara 2. Guadanghariya 3. Kadnai 4. Bagpani 5. Parasandam 6. Besarapani 7. Baijnathpur 8. Kukurdhondi 9. Kadamhua 10. Surakahwa 11. Parasadhhab 12. Kolardhohi 13. Nakna Pahar 14. Muratdand 15. Chutiyepera 16. Taraidand
6	113	Dhorpur	11	1. Bakratal 2. Saraipani, Tangarpani 3. Jarangapath 4. Gadpahar 5. Cheurpani 6. Chintaliya 7. Parasparara
	93	Udaypur	10	1. Kudelli 2. Khamkhunt 3. Dhivaipani 4. Badegaon 5. Pangoti 6. Sitakalo 7. Bheelwadand 8. Dabardand 9. Baasdhondi 10. Bulle 11. Khuji 12. Pahad Kaurja 13. Saidu 14. Suskal 15. Parogia 16. Bodelamar
<b>Total</b>				

**Table 36 : Vulnerable and Affected Areas in Tehsil due to Epidemic**



**Graph 3: Number of affected peoples due to epidemic**

# Chapter 3

## Disaster Management Amendment Act, 2005

### 3.1 Institutional arrangements -

Disaster management is more effective if it is in institutional framework. For this purpose, it has been directed to constitute a Disaster Management Authority at the district level under DM Act 2005. It will provide guidance on the district level to effectively give immediate response to any disaster situation according to the disaster plan.

Institutional mechanism for disaster management at the district level, as it is included in the National Plan, is given below:

- District disaster management authority
- District Disaster Management Advisory Committee
- Local self government authority
- District Emergency Operation Center

### 3.2 District Disaster Management Authority -

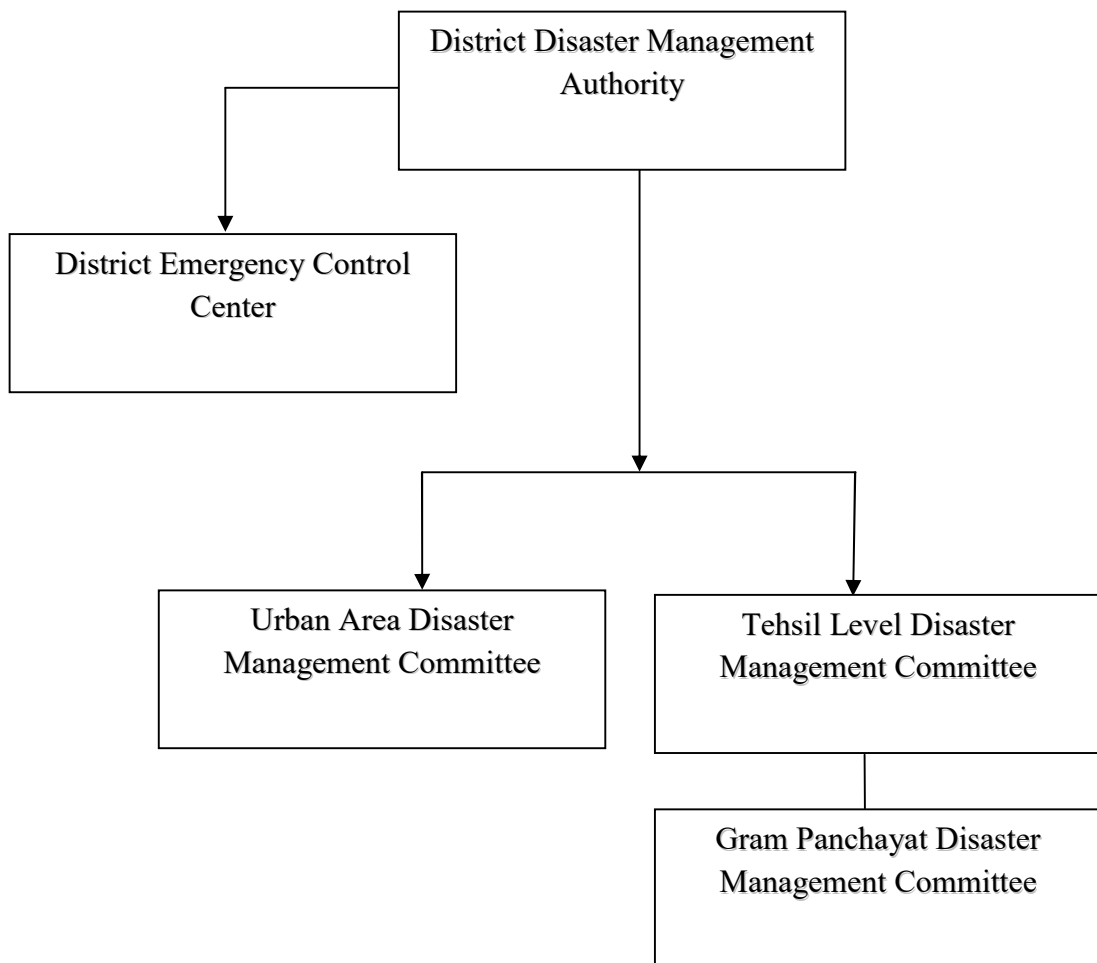
According to DDMA, planning, coordination and implementation of disaster management, and guidelines set by the National and State Authorities, all the measures are taken for the purpose of disaster management in the district. And it ensures that the guidelines for the prevention of disasters, lack of its impact, preparation and response measures are being followed by the district level and local authorities in all the departments of the government. Number of Chairman and other Members in District Authority.

S.No.	Government Post	Post authority
1	District Collector/District Magistrate (District Disaster Management Authority)	Chairperson
2	Chief Executive Officer (CEO), Zilla Panchayat	Member
3	Superintendent of Police	Member
4	Chief Medical & Health Officer	Member

5	Executive Engineer, PWD Department	Member
6	Executive Engineer, Irrigation Department	Member
7	Additional Collector	Member
8	District Compondent, Home Gaurds	Member

**Table 37: Structure of DDMA**

The District Disaster Management Committee is a foremost planning committee, it plays a major role for volatility and mitigation. At the district level the response is coordinated under the guidance of the District Collector, who works as District Disaster Manager.



**Flow Chart 1: District Disaster Management Authority Flow Chart**

### 3.3 District Disaster Management Consultant Committee -

One and more Disaster Management Consultant Committee has been constituted for the District Disaster Management Authority's mission to discharge its functions. The members

of this committee are appointed by the chairman of the District Disaster Management Authority, in which the members of the district panchayat, various departments, NGOs etc. are included.

<b>S. No</b>	<b>Designation</b>	<b>Position</b>
1	District Collector	Chairman
2	Superintendent of Police	Vice President
3	Deputy Collector	Member
4	Chief Medical & Health Officer	Member
5	Chief Executive Officer (CEO), Zila Panchayat	Member
6	District Forest Officer	Member
7	District Food Officer	Member
8	District Education Officer	Member
9	Deputy Director, Agriculture	Member
10	R.T.O.	Member
11	District level NGOs Representative	Member

**Table 38: District Disaster Management Advisory Committee**

### **3.4 Local self government authority -**

For the purpose of this policy, Local Authority Panchayati Raj Institutions (RI), Municipalities, District and Statement Board; (Cantonment board) and Municipal Planning Authorities are included which governs and operates civil services. These bodies will ensure the capacity building of their officers and employees to deal with disasters, will undertake relief rehabilitation and reconstruction activities in the affected areas and the National Disaster Management Authority, State Disaster Management.

### **3.5 Urban area disaster management committee –**

A Disaster Management Committee will be set up at the senior level to conduct disaster management activities in all urban areas of the district office. Proposed infrastructure for the formation of Urban Disaster Management Committee.



S. No	Designation	Position
1	Nagar Palika Chairman	Chairman
2	Chief Executive Officer	Co-Chairman
3	Sub Divisional Magistrate	Member
4	Block Medical Officer	Member
5	EE, PWD	Member
6	EE, Electricity	Member
7	Forest Officer	Member

**Table 39: District Disaster Management Advisory Committee**

### 3.6 Disaster Management Committee at Tehsil level -

Management committee will be constituted at Tehsil level for smooth operation of disaster management activities in Tehsil.

S. No	Designation	Position
1	Tehsildar	Chair Person
2	T.I Police	Member
3	Chair Person, Panchayat Samiti	Member
4	AE, Irrigation & Public Health	Member
5	AE, Electricity Dept.	Member
6	AE, PWD	Member
7	Medical Officer	Member
8	NGO (non-governmental)	Member

**Table 40: Disaster Management Committee framework at Tehsil level**

### 3.7 Village level disaster management committee -

The disaster management committee will be constituted at village level for coordination with the District Disaster Management Authority, to tackle the disaster at the village level and the proposed nature is as follows.

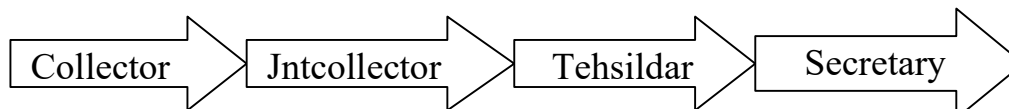
S. No	Designation	Position
1	Gram Panchayat Sarpanch	Chair Person
2	Secretary Gram Panchayat	Member
3	ANM (Health Dept.)	Member
4	Teacher (Education Department)	Member
5	Soldiers (Home guard)	Member
6	Kotwar	Member

**Table 41: Disaster Management Committee at Village Level**

### 3.8 District Emergency Operations Center -

DEOC is located in the District Collector's office. It is also the center point for information gathering, processing and decision-making to deal with the disaster. Based on the information gathered and processed, most important decisions are taken in this control room in relation to disaster management, it works the whole year and orders various departments to work according to the guidelines during the disaster. Incident Commander takes charge in the District Control Room, who directs emergency operations, Organizational structure for disaster management is given below in the picture. To deal with any disaster, the District Collector will direct the joint collector to the relief work and the joint collector will direct Tahsildar will direct to the Gram Panchayat Patwari Secretary.

#### Organizational Formats for Disaster Management



**Flow Chart 2: Organizational structure for disaster management is given below in the picture**

#### Facilities/Arrangements District Control Room/Center -

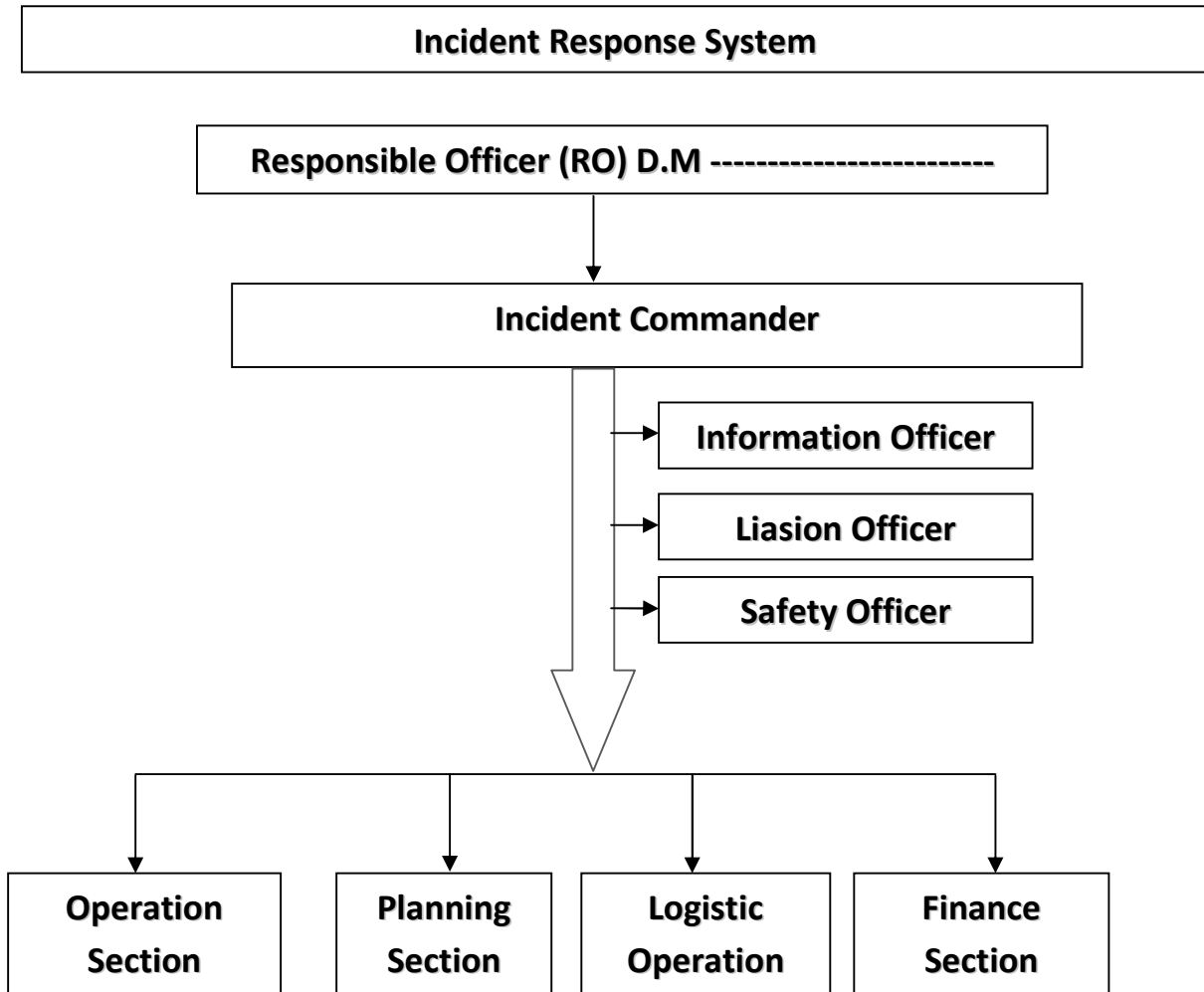
In order to deal with the disaster in the District Control Center and to coordinate the various line departments, the following arrangements will be -

- Hot lines for contact with State Disaster Management Control Center
- Telephone, satellite phone
- Copy of the Disaster Management Plan
- Wireless set
- Conference room
- Walkie tank
- A computer with internet
- Other essentials

### 3.9 Event (Incident) Response System (IRS) –

IRS organization works through field response response team. District Collector, DDMA, is the highest office bearer and accountant in the event response management. District collector can assign his assignment to any other accountable officer as necessary. If the disaster occurs in more than one district then the collector of that district acts as an incident commander, where the severity of the disaster is highest. As well as the active response of the event response system, a working operations section plays a role from a planning

section and a finance section with immediate effect in their respective officers and employees. The only officer who has the right to appoint the in-charge of these sections is to the incumbent commander. All related liability lies in the sectional charges till the victims reach the logistics support.



**Flow chart 3: Event Responder System**

The following are the common tasks of the Incident Commander:

- Developing mechanisms for uninterrupted communication flow during the Emergency and its integration.
- Provide facility for its protocol and work process of various ESFs (emergency support function) of the district, state and central government.

- To keep the communication system in such a way that all the information that can be received at the time of the disaster can be retained, can be kept in record and the acceptance letter of exchange of information.
- Managing the distribution of relief material available to the ISF in emergency.
- Apart from these above normal tasks, the incident commander has to perform several following specific tasks such as –
  - Estimate the situation
  - Estimate the risk of human life
  - Determine the immediate objectives (tasks)
  - Deciding the availability of adequate resources in the disaster area / ordering for availability
  - Setting an immediate action plan
  - Creating an initial improvised organization

### **The main function of the operation section charge -**

- Responsibility for managing all types of direct tasks to fulfill the primary objective,
- To make the requirements and request related departments for additional resources,
- Reviewing the list of available resources and recommending for the distribution of resources,
- Reporting all special activities and events to the incident commander.

### **Main Sections of Planning Section Incharge –**

- Collection, evaluation, dissemination and use of information in connection with any assistance, information about the updated status.
- Creating a Flexible Plan and controlling all the tasks.
- Inspecting the urgent action plan creation.
- Deliver new tasks to any officer working in the disaster area as necessary.
- Decide the need for a specific resource for the event response.

### **Chief Functions of Logistics Section Incharge -**

- Establishing the necessary information and reporting mechanism for the resource for the planning section.
- Compile and display information about the incident status of the accident.

- Monitoring the preparation and implementation of the event appropriation plan.
- Reviewing these by including traffic, medical, safe areas and communication etc. in the plans.
- Provide information to the media on the updated status and resource availability, setting goals, setting the work area limits, creating the work, creating groups, setting strategies and security guidelines for each department.
- Assign responsibility of the work area to the employees
- Identify the services and needs required for pre-employed and future work for their work.
- To initiate process requests for additional resources and coordinate for it.

### **The main functions of the Finance Section Incharge –**

Finance section is basically for administration and finance management. Incident command post, Aadhaar office area, management of the Aadhaar and camps are under the main functions of the finance section.

The following functions are done under Finance section:

- Keeping in mind the availability and needs of resources, proper management,
- Give IC's accountability for planning for resource utilization and acceptance of resources for contingency.

### **3.10 District Control Center –**

The District Control Center will work in a primary center under the control of the District Collector. The purpose of its formation-

- To monitor
- To coordinate
- Applying Disaster Management's Action

This room is functioning throughout the year and issues instructions to various departments to take action during disaster. The District Disaster Committee is as follows –

<b>District level control room</b>			
<b>S. No.</b>	<b>Disaster Control Room</b>	<b>Officers</b>	<b>Telephone/Mobile</b>

District Disaster Management Plan, Sarguja

<b>1</b>	State Level	Shri. N. K. Xaxa Secretary, Department of Revenue Revenue and Disaster Management, (Atal nagar Raipur)	0771-2223471
<b>2</b>	District level	Dr.Saransh Mittar Collector Sarguja Shri G.P Dinkar, Assistant Superintendent, Land Records, Ambikapur and District Level Disaster Control Room Incharge Sarguja	07774- 222710/738937337 0
<b>4</b>	Tehsil Level		
	Ambikapur	Shri G.P Dinkar, Assistant Superintendent, Land District Level Disaster Control Room Incharge	07774- 222710/738937337 0
	Lakhanpur	Mr. Mulchand Sonboir, Revenue Inspector, Tehsil Lakhanpur	9827182983
	Udaypur	Mr. Kishun Singh, Revenue Inspector, Tehsil Udaipur	9827182983
	Lundra	Shri Devendra Kumar Chaudhary, Naib Tehsildar Lundra	8435335169
	Batouli	Ms. Abilasha Pakra, Chief Executive Officer, Janpad Panchayat Batauli	9589704104
	Sitapur	Shri Ram Bilas Manikpuri, Revenue Inspector, Tehsil Sitapur	9617902041
	Mainpat	Shri Radheshyam Verma, Naib Tehsildar, Tehsil Mainpat	8889390062
<b>5</b>	Municipal Corporation	Mr. Sunil (Ramesh) Singh Executive engineer	9425254323
<b>6</b>	Medical Department	Dr. Anil Prasad (CMHO)	9826198505
<b>7</b>	District Commandant, Homeguard	Sri RamanuGha Vishwakarma District Commandant, Homeguard Ambikapur	9424992702

<b>8</b>	Police Control Room, Civil Lines	Javed Miandad, Inspector	07774 /9240872/9479193 599
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**Table 42: District Control Center****Alternative Control Room -**

An emergency control center has been established at the district level to deal with any kind of disaster. Emergency alternate emergency control rooms are also set up in the district, homeguard, police department, for the smooth operation of the disaster with the control center.

**Police force and fire services -**

The police force and the fire services will take immediate action in the disasters. Police forces are trained to achieve multi-risk rescue capability.

**Citizen Protection and Home Guards -**

Civil protection and home guards play an effective role in the field of disaster management. They have a huge contribution in community preparation and public awareness. Immediate proper action is taken by them when a disaster arrives.

**Information and Warning Agency -**

There is an urgent need to establish, upgrade and modernize prediction and early warning systems for all kinds of disasters. Monitoring and monitoring of specific natural disasters

There is an urgent need to establish, upgrade and modernize prediction and early warning systems for all kinds of disasters. Nodal agencies, responsible for monitoring and monitoring specific natural disasters, will identify technological differences and project projects for their upgradation so that they can be completed in a timeline.

Disaster	Likely Period of Disasters	Districts likely to be affected	Severity Level	Preparedness/ Monitoring Measures	Time Line	Stakeholders
Cold Wave	December-January	Sarguja, Koriya, Jashpur, Surajpur	High	Preparedness Workshop/Meeting	First Week of November	<b>Central Agencies:</b> IMD, NDMA, NIDM, WHO, MoHRD, MoHFW, MoUD, MoPR, MoRD, MoAFW.
				Issuance of Advisory	Second Week of November	
		Balrampur, Raipur, Durg, Bastar, Sukma, Bijapur, Dantewada, Narayanpur, Kondagaon, Kanker.	Medium	Print & Electronic Media Awareness Campaign	Second Week of November	<b>State Agencies:</b>
				Social Media Awareness Campaign	Second Week of November	
		Other Districts	Low	Review of Preparedness through Video Conference	First Week of December	IMD, SDMA, Health Department, Education Department, Municipal Corporations, Women and Child Development, Agriculture, Horticulture, Animal and Husbandry, Labour, Forest and Food department etc.
				Regular Video Conference	Every Fortnight	
Mid Term Review	First Week of January					
Heat Wave/ Heat Stroke	April - June	Bilaspur, Baloda Bazar, Raipur, Janjgir-Champa, Durg, Kabirdham and	High	Preparedness Workshop/Meeting	Second Week of March	<b>Central Agencies:</b>



		Kanker		Issuance of Advisory	Third Week of March	IMD, NDMA, NIDM, , MoHFW, WHO, MoHRD, MoWR, MoUD, MoPR, MoRD, MoL&E, DRM (Railway)
				Print & Electronic Media Awareness Campaign	Third Week of March	
		Dhamtari, Rajnandgaon, Raigarh, Korba, Sukma and Dantewada.	Medium	Social Media Awareness Campaign	Last Week of March	<b>State Agencies</b>
				Review of Preparedness through Video Conference	First Week of April	SDMA, SDRF, Health Department, PHED, Municipal Corporations, Education, Labour, PR Department, Home, Rural & Urban Development Women and Child Development, Horticulture, Animal and Husbandry
		Other Districts	Low	Regular Video Conference	Every Fortnight	
				Mid Term Review	Second Week of May	
<b>Forest Fire</b>	April - June	Bijapur, Korba, Surguja, Surajpur, Balrampur and Koriya	High	Preparedness Workshop/Meeting	Second Week of March	<b>Central Agencies:</b>
				Issuance of Advisory	Third Week of March	MoEF&CC, MHA, NRSC, MoRD, MoRTH
				Print & Electronic Media Awareness Campaign	Third Week of March	
		Bastar, Jashpur, Gariyaband, Kondagaon	Medium	Social Media Awareness	Last Week of March	<b>State Agencies:</b>

		and Dhamtari		Campaign		
				Review of Preparedness through Video Conference	First Week of April	Forest, SDRF, SDMA, PHED, PWD, Agriculture, Horticulture, Animal and Husbandry Department
		Narayanpur, Kanker, Mungeli and Raigarh	Low	Regular Video Conference	Every Fortnight	
				Mid Term Review	Second Week of May	
<b>Lightning</b>	June - September	Korba, Raigarh, Mahasamund, Bastar, Koriya, Surajpur, Balrampur, Sarguja and Jashpur	High	Preparedness Workshop/Meeting	Third Week of April	<b>Central Agencies:</b>
				Issuance of Advisory	First Week of May	IMD, MHA, NDMA, NDRF, NRSC, MoH&FW, MoUD, MoRD, Ministry of Railway, MoRTH, MoP, MI&CT, Ministry of Petroleum and Natural Gas, Ministry of Food Processing Industries.
		Gariyaband, Durg, Rajnandgaon, Kondagoan, Bijapur, Dantewada and Sukma	Medium	Print & Electronic Media Awareness Campaign	First Week of May	<b>State Agencies:</b>
				Social Media Awareness Campaign	Second Week of May	
				Review of Preparedness through Video Conference	First Week of June	SDMA, WRD, PHED, PWD, Health Department, Municipal Corporations, Electricity

		Other Districts	Low	Regular Video Conference	Every Fortnight	Department, Industrial Deptt., Animal and Husbandry Department and Education.
				Mid Term Review	Second Week of July	
<b>Flood</b>	June-September	Bastar, Bilaspur, Mahasamund, Raipur, Korba, Jashpur, Surguja, Sukma, Dantewada, Kanker, Janjgir champa and Raigarh	High	Preparedness Workshop/Meeting	Third Week of April	<b>Central Agencies:</b>
				Issuance of Advisory	First Week of May	IMD, MHA, NDMA, NDRF, NRSC, MoH&FW, MoUD, MoRD, Ministry of Railway, MoRTH, Ministry of Power, Ministry of Information and Communication Technology, Ministry of Petroleum and Natural Gas, Ministry of Food Processing Industries
				Print & Electronic Media Awareness Campaign	First Week of May	
		Surajpur, Kondagoan Gariyaband, Balod, Durg, Baloda bazar, Bijapur, Narayanpur, Dhamtari and Rajnandgaon	Medium	Social Media Awareness Campaign	Second Week of May	<b>State Agencies:</b>
				Review of Preparedness through Video Conference	First Week of June	SDMA, SDRF, WRD, PHED, PWD, Home, Health Department, Agriculture, Municipal Corporations, Electricity Department, Department of Education, Women and Child Development,
		Other Districts	Low	Regular Video Conference	Every Fortnight	
Mid Term Review	Second Week of July					

						Horticulture, Animal and Husbandry, Food, Forest, Labour dept., PRD, PR Deptt.
<b>Urban Flood</b>	June - September	Raipur, Dhamtari, Durg, Bilaspur, Raigarh, Bastar and Kanker	High	Preparedness Workshop/Meeting	Third Week of April	<b>Central Agencies:</b>
				Issuance of Advisory	First Week of May	
		Janjgir Champa, Mungeli and Korba	Medium	Print & Electronic Media Awareness Campaign	First Week of May	<b>State Agencies:</b>
				Social Media Awareness Campaign	Second Week of May	
				Review of Preparedness through Video Conference	First Week of June	
		Other Districts	Low	Regular Video Conference	Every Fortnight	
		Mid Term Review	Second Week of July			

<b>Landslide/ Mudslide</b>	June- September	Kondagaon, Kanker, Dantewada and Surguja	High	Preparedness Workshop/Meeting	Third Week of April	<b>Central Agencies:</b>  MoM, NDMA, NIDM, MoRD, NDRF, MoUD, IITs, BRO, MoHRD
				Issuance of Advisory	First Week of May	
		Kabirdham, Jashpur, Bijapur, Narayanpur	Medium	Print & Electronic Media Awareness Campaign	First Week of May	<b>State Agencies:</b>  SDMA, SDRF, Home, PHED, Health Department, Municipal Corporations, Electricity Department, Public Relation Department.
				Social Media Awareness Campaign	Second Week of May	
		Other Districts	Low	Review of Preparedness through Video Conference	First Week of June	
				Regular Video Conference	Every Forthnight	
Mid Term Review	Second Week of July					
<b>Drought</b>	July - October	Bemetara, Raigarh, Mahasamund, Raipur, Baloda Bazar, Jangir- champa, Korba, Mungeli, Durg, Rajnandgaon, Narayanpur, Kanker, Kondagaon, Dhamtari and Kabirdham	High	Preparedness Workshop/Meeting	First Week of May	<b>Central Agencies:</b>  Ministry of Agriculture & Farmers Welfare, IMD, MNCFC, CRIDA, MoWR,RD & GR, ISRO, SRSACs
				Issuance of Advisory	Regularly (Every Month)	

		Koriya, Surajpur, Balrampur, Dantewada,	Medium	Print & Electronic Media Awareness Campaign	Round the Year (Every Month)		
				Social Media Awareness Campaign	Round the Year	<b>State Agencies:</b>	
		Sarguja, Sukma, Bastar	Low	Review of Preparedness through Video Conference	First Week of November	SDMA, Relief Commissioner, Agriculture Department, Irrigation Department, PHED, Health Department, Municipal Corporations, Electricity Department, Department of Education	
				Regular Video Conference	Regularly (Every Month)		
				Mid Term Review	First Week of November		
<b>Road Accident</b>	Round the Year	Raigarh, Janjgir champa, Balrampur, Korba, Raipur, Jaspur, Bastar, Kanker, Rajnandgaon, Durg, Mungeli, Kondagaon, Sarguja, Bilaspur, Surajpur,	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>	
				Issuance of Advisory	Regularly (Every Month)		MoRTH, MoUD, NDMA, NIDM
				Print & Electronic Media Awareness Campaign	Round the Year (Every Month)		
		Baloda bazar, Mahasamund, Dhamtari,	Medium	Social Media Awareness	Round the Year	<b>State Agencies</b>	

		Balod, Sukma, Kawardha		Campaign		
				Review of Preparedness through Video Conference	First Week of Every Month	SDMA, Transport Department, PWD, Health Department, Municipal Corporations, Electricity Department, Department of Education
		Narayanpur, Dantewada, Bijapur, Gariyaband, Bemetara, Koriya	Low	Regular Video Conference	Regularly (Every Month)	
				Mid Term Review	First Week of Every Month	
<b>Fire Accidents</b>	Round the Year	Bilaspur, Janjgir champa, Raipur, Durg, Korba, Rajnandgaon, Mungeli	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>
				Issuance of Advisory	Regularly (Every Month)	MoEF&CC, NRSC, MoRD, MoRMHA, NDMA, NIDM
				Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	
		Bastar, Raigarh, Baloda bazar, Mahasamund, Dhamtari, Balod, Kanker	Medium	Social Media Awareness Campaign	Round the Year	<b>State Agencies:</b>
				Review of Preparedness through Video Conference	Frist Week of (Every Month)	Fire Services, Relief Commissioner, SDMA, PHED, PWD, Municipal Corporation
	Low	Regular Video Conference	Regularly (Every Month)			

		Sukma, Bijapur, Narayanpur, Dantewada, Jashpur, Kabirdham, Gariyaband, Kondagaon		Mid Term Review	Frist Week of (Every Month)	
<b>Earthquake</b>	Round the Year	Raigarh, Bilaspur, Korba, Koriya, Sarguja and Surajpur	Zone III	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>
Issuance of Advisory				Every Month	IMD, MHA, NDMA, NDRF, NRSC, MoH&FW, MoUD, MoRD, Ministry of Railway, MoRTH, Ministry of Power, Ministry of Information and Communication Technology, Ministry of Petroleum and Natural Gas, Ministry of Food Processing Industries	
Print & Electronic Media Awareness Campaign				Regularly (Every Month)		
Social Media Awareness Campaign				Round the Year		<b>State Agencies:</b>
Other Districts		Zone II	Review of Preparedness through Video Conference	Frist Week of Every Month	SDMA, SDRF, Home Department PHED, Health Department, Municipal Corporations, Electricity Department, Department of Education, PWD	
		Regular Video Conference	Regularly (Every Month)			



				Mid Term Review	Frist Week of Every Month	
<b>Snake Bite</b>	Round the Year	Bastar, Surajpur, Rajnandgaon, Balarampur, Sarguja, Jashpur, Raigrah, Bilaspur, Korba, Kanker, Kabirdham, Jashpur, Koriya	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b> NIDM, MoHRD, MoHFW, WHO
				Issuance of Advisory	Regularly (Every Month)	
		Kondagaon, Sukma, Bijapur, Mungeli, Raipur, Dhamtari, Durg, Mungeli Mahashamund, Gariyaband	Medium	Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	<b>State Agencies:</b>
				Social Media Awareness Campaign	Round the Year	
		Narayanpur, Bemetara, Balod	Low	Review of Preparedness through Video Conference	First Week of Every Month	SDMA, Health Department, Municipal Corporations, Department of Education, Forest, Animal Husbandry, Women and Child Department
				Regular Video Conference	Regularly (Every Month)	
Mid Term Review	First Week of Every Month					
<b>Naxalite Attacks</b>	Round the Year	Sukma, Bijapur, Narayanpur, Dantewada,	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>

		Jashpur, , Kondagaon, Bastar, Kanker		Issuance of Advisory	Regularly (Every Month)	MHA, Central Armed Forces
				Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	
		Rajnanadgaon, Dhamtari, Jashpur, Mahashmund, Gariyaband, Balod, Koriya, Sarguja, Balrampur	Medium	Social Media Awareness Campaign	Round the Year	<b>State Agencies:</b>  State Police, Home Department, Department of Education
				Review of Preparedness through Video Confrencing	Frist Week of (Every Month)	
Regular Video Conference	Regularly (Every Month)					
		Other District	Low	Mid Term Review	Frist Week of (Every Month)	
<b>Epidemics</b>	Round the Year	Surajpur, Raigarh, Janjgir Champa, Kondagaon, Sukma, Bijapur, Bilaspur, Korba, Durg, Bemetara, Balod, Kabirdham, Baloda bazar, Mahashamund, Dhamtari	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>  NDMA, NIDM, MoHRD, MoHFW WHO, MoUD, MoRD
				Issuance of Advisory	Regularly (Every Month)	

		Raipur, Gariyaband, Mungeli, Sarguja, Jashpur	Medium	Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	
				Social Media Awareness Campaign	Round the Year	<b>State Agencies:</b>
		Balrampur, Kanker, Narayanpur, Dhamtari, Rajnandgaon	Low	Review of Preparedness through Video Conference	First Week of Every Month	SDMA, , PHED, Health Department, Municipal Corporations, Electricity Department, WRD, Department of Animal Husbandry, Food and Education Department
				Regular Video Conference	Regularly (Every Month)	
				Mid Term Review	First Week of Every Month	
<b>Animal Conflict</b>	Round the Year	Sarguja, Jashpur, Balod , Dhamtari	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>
				Issuance of Advisory	Regularly (Every Month)	MoEF, MoPR, MoAFW
		Kondagaon, Bastar, Rajnanadgaon, Raipur, Sukma, Bijapur	Medium	Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	
				Social Media Awareness Campaign	Round the Year	<b>State Agencies:</b>

		Other Districts	Low	Review of Preparedness through Video Conference	First Week of (Every Month)	SDMA, Forest Department ,SDRF, Home Department PHED, Health Department, Municipal Corporations,
				Regular Video Conference	Regularly (Every Month)	
				Mid Term Review	First Week of Every Month	
<b>Crowd Management</b>	Round the Year	Raipur, Durg, Rajnandgaon, Dantewada, Bastar, Janjgir champa, Korba, Raigarh, Bilaspur, Mungeli	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b>
				Issuance of Advisory	Regularly (Every Month)	NIDM, NDMA, NDRF, MoUD,MoRD, MoPR
		Sukma, Bemetara, Narayanpur, Kondagaon, Bijapur, Baloda Bazar	Medium	Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	<b>State Agencies:</b>
				Social Media Awareness Campaign	Round the Year	
		Other Districts	Low	Review of Preparedness through Video Conferencing	First Week of Every Month	SDMA, Relief Commissioner,SDRF, Home Department, Health Department, Municipal Corporations, Department of Education, Department
Regular Video Conference	Regularly (Every Month)					

				Mid Term Review	First Week of (Every Month)	of Transport
<b>Chemical (Industrial) Disaster</b>	Round the Year	Raigarh, Raipur, Bilaspur, Janjgir Champa, Mungeli, Bastar, Dantewada, Durg, Korba, Rajnandgaon	High	Preparedness Workshop/Meeting	Every Month	<b>Central Agencies:</b> NIDM, NDMA, NDRF, MoEFCC, MoCI, MoSME
				Issuance of Advisory	Regularly (Every Month)	
				Print & Electronic Media Awareness Campaign	Round the Year (Every Month)	
		Sarguja, Mahasamund, Dhamtari, Kabirdham	Medium	Social Media Awareness Campaign	Round the Year	<b>State Agencies:</b> SDMA, Relief Commissioner, SDRF, State Police, Health Department, Municipal Corporations, Department of Education, DoCI
				Review of Preparedness through Video Conference	First Week of Every Month	
		Other Districts	Low	Regular Video Conference	Regularly (Every Month)	
Mid Term Review	First Week of Every Month					

Table 44: Yearly calendar of disasters

# **VOLUME-2**

## List of Contents :

<b>S.No.</b>	<b>Contents</b>	<b>Pg. No.</b>
<b>1</b>	<b>Preparedness Measures</b>	<b>1-17</b>
1.1	General Preparedness Measures	1-4
1.1.1	Control Room Establishment	1-2
1.1.2	Plan Updation	2
1.1.3	Communication System	3
1.1.4	Training for Disaster Management Team Members	3
1.1.5	Organization of Mock Drills	3
1.1.6	Community Awareness on Various Disasters	3-4
1.2	Coordination Mechanism of DDMA in Pre Disaster Situation	4-5
1.3	Coordination Mechanism of DDMA in Immediate Pre Disaster Situation (Immediately after Early Warning Received)	5-6
1.4	Coordination Mechanism of DDMA during Disaster (Relief Distribution Mechanism)	7
1.5	Coordination Mechanism of DDMA in Post Disaster Situation	7-8
1.6	General Preparedness Checklist	8-9
1.7	Department Wise Preparedness Checklist	9-16
<b>2</b>	<b>Prevention and Mitigation Measure</b>	<b>17-25</b>
2.1	Hazard wise Structural and Non- structural Mitigation Measures	17-24
2.1.1	Hazard: Flood	18-19
2.1.2	Hazard: Drought	20-21
2.1.3	Hazard: Road Accidents	21-22
2.1.4	Hazard: Epidemics	22-23
2.1.5	Hazard: Fire	23-24
2.1.6	Hazard: Heat Wave	24
<b>3</b>	<b>Disaster Risk Reduction Plan</b>	<b>25-38</b>
3.1	Capacity Building	25-26
3.2	Recommendations for Disaster Risk Reduction	26-31
3.3	Mainstreaming DRR in Development National Flagship Schemes	31-34
3.4	Mainstreaming DRR in Development State level Flagship Schemes	34-38
<b>4</b>	<b>Climate Change Actions</b>	<b>39-45</b>
<b>5</b>	<b>Capacity Building and Training Measures</b>	<b>46-50</b>
5.1	Capacity Building	46
5.2	Institutional Capacity Building	46-47
5.3	India Disaster Resource Network (IDRN)	47
5.4	Department wise Roles and Responsibilities of HODs	48-49
5.5	Community Based Disaster Management	49-50

## List of Tables :

S.No.	Table	Pg. No.
1	Table 1: Coordination Mechanism of DDMA in Pre Disaster Situation	5
2	Table 2: Coordination Mechanism of DDMA in Immediate Pre Disaster Situation (Immediately after Early Warning Received)	6
3	Table: 3 Coordination Mechanism of DDMA during Disaster (Relief Distribution Mechanism)	7
4	Table 4: Coordination Mechanism of DDMA in Post Disaster Situation	8
5	Table 5: Department Wise Preparedness Checklist	16
6	Table 6: Structural Mitigation Measures for Flood	19
7	Table 7: Non-Structural Mitigation Measures for Flood	19
8	Table 8: Structural Mitigation Measures for Drought	20
9	Table 9: Non-Structural Mitigation Measures for Drought	21
10	Table 10: Structural Mitigation Measures for Road Accidents	21
11	Table 11: Non-Structural Mitigation Measures for Road Accidents	22
12	Table 12: Structural Mitigation Measures for Epidemics	22
13	Table 13: Non-Structural Mitigation Measures for Epidemics	23
14	Table 14: Structural Mitigation Measures for Fire	23
15	Table 15: Non-Structural Mitigation Measures for Fire	24
16	Table 16: Structural Mitigation Measures for Heat Wave	24
17	Table 17: Non-Structural Mitigation Measures for Heat Wave	24
18	Table 18: DRR Initiatives that need attention	31
19	Table 19: Mainstreaming DRR in Development National Flagship Schemes	34
20	Table 20: Mainstreaming DRR in Development State level Flagship Schemes	38
21	Table 21: Sector Specific Activities for Climate Change	44
22	Table 22: Initiatives for Mitigating Climate Change	45
23	Table 23: Department wise Roles and Responsibilities of HODs	49
24	Table 24: Community Based Disaster Management	50

## List of Flowcharts :

S.No.	Flowchart	Pg. No.
1	Flowchart 1: Control Room	3



## **1.Preparedness Measures**

The goal of preparedness programs is to achieve a level of readiness to respond to any emergency situation through programs that strengthen the technical and managerial capacity of governments, organizations, and communities. Preparedness can also take the form of ensuring that strategic reserves of food, equipment, water, medicines and other essentials.

Disaster preparedness activities involve forecasting and taking precautionary measures prior to an imminent threat when advance warnings are possible. During the preparedness phase, governments, organizations, and individuals develop plans to save lives, minimize disaster damage, and enhance disaster response operations. This includes emergency exercises/training, warning systems, emergency communications systems, evacuations plans and training, resource inventories, emergency personnel/contact lists, mutual aid agreements and public information/education.

Preparedness planning improves the response to a disaster in terms of timely and effective rescue and relief operations. Every line department has played an important role in mapping the vulnerability, hazards and capacities of the community and the vulnerable groups and prioritizing Preparedness activities during emergencies. The District Disaster Management Plan of Sarguja is prepared with the help of the communities and different stakeholder's.

### **1.1 General Preparedness Measures**

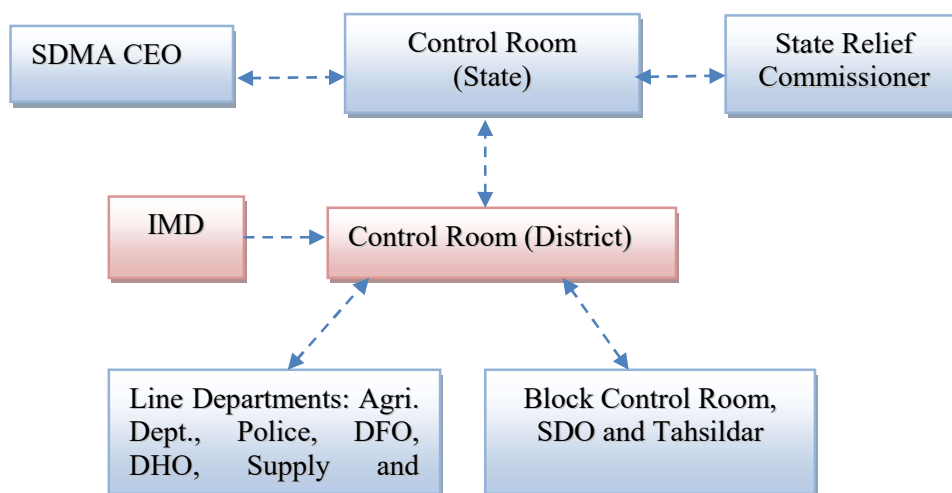
District Administration is a separate disaster management committee. The District Collector and CEO, who perform their role like the center point in the affairs of the disaster, also monitor the district control room. The district administration should ensure that all the control rooms continue to function after the establishment.

Monitoring of warnings by the control room, monitoring of relief and rescue operations, assessment of preparations, preparation of standard operating procedure (SOP), assessment of disaster sensitivity, preparation of community-based district disaster management plan, exemplary practice And through awareness training is spreading awareness about disaster preparedness. At present, the revenue department coordinates with other related departments and operates the control room.

### **1.1.1 Control Rooms Establishment:**

#### **➤ Preparedness of Control Room:-**

- Preparation of disaster management plans.
  - Proper dissemination of vital information about district control.
  - Weather tracking and timely warning to minimize the effect of a disasters.
  - Avoid or prohibit major development in flood prone area.
  - Maintaining contact details of all public institutions, NGOs/Private Sector Organizations, which can be assign the task of community-level preparedness which will be used during emergencies.
  - The use of modern technology like GIS and RS in the preparation of plans.
  - Keeping records of vulnerable areas, monitoring of rescue and relief operations deciding response and managing the database etc.
  - Up gradation and updating of District control room system according to the situation in district, and maintain an inventory of resources.
  - Record of Maps with data inputs of climatological, frequency of flood, wind speed and history of past disasters.
  - Training of the various functionaries and spread of effective public awareness in schools education and communities to ensure that the plans disseminated to the lowest levels.
  - Receive information on a routine and regular basis from the departments on the vulnerability of the various Gram panchayats and Villages to disaster.



**Flow Chart 1: Control Room**

### **1.1.2 Plan Updation:-**

The DDMP should be updated every six months, by considering the suggestions for improvement of the response document DDMP from various stakeholders, NGOs / Private Sector Organizations, communities.

### **1.1.3 Communication System:-**

In case of Sub-Division the Tehsil or Block, the respective heads, i.e. Sub divisional Officer (SDO), Tahsildar, Block Development Officer (BDO) will function as the Incident Commander (IC) in their respective Incident Response Team (IRTs) and the Operations Section Chief (OSC) will be selected as per nature of the disasters in the district. The district collector ensures that IRTs are formed at District, Sub-Division, Tehsil or Block levels and IRS is also integrated in the District DM Plan as per Section 31 of the DM Act, 2005. This may ensure free emergency numbers of existing Police, Fire and Medical support systems which are linked to the Emergency Operations Centre (EOC) for response, command and control.

### **1.1.4 Training for Disaster Management Team Members:-**

To enhance the capacity of disaster management committees, trainings and development of skills is important. DMT consist of a group of members, which includes women and men volunteers. Training should be conducted on regular process for disaster risk reduction and

mitigation planning. DMT assigned with a special task to Search and Rescue and First Aid Teams in disaster situation at district level.

### **1.1.5 Organization of Mock Drills:-**

To coordinate with vulnerable areas, responsible authority should take the initiative of conducting mock drills on various types of natural and manmade disasters. This has also helped to inculcating a culture of preparedness and generated awareness. Institutionalizing the DM plan and regular mock drills should also be conducted in schools and colleges.

### **1.1.6 Community Awareness on Various Disasters:-**

Community awareness programs will help the community to be prepared for disasters at all levels right from the household to the district levels to minimize the impact of Disasters. The district management committee cannot reach out immediately to each and every household and village at the time of disaster. The community is the first responder to any disaster and develops some traditional coping mechanisms to reduce their risk and vulnerabilities. Communities living in a common territory comprise of youths, women, men, students, teachers and various stakeholders. In addition, to areas such as BPL households, villages, wards, slums where people from diverse social and economic background live together. Community based Disaster awareness can make community responsible for their peace, protection and prosperity. The involvement of the community is the key factor in any disaster preparedness and awareness.

## **1.2 Coordination Mechanism of DDMA in Pre Disaster Situation**

The emergency plan for Disaster Management is based on past experiences as well as suggestions and inputs given by the District Magistrate of the district. The strategy has been developed keeping in view the pre and post disaster experiences. The district consists of sub - divisions and senior level officers of the district who will work as zone officers. They are responsible for rescue and relief operations, monitor and evaluate on daily basis situation under District Magistrate.

<b>Preparation</b>	<b>Objectives</b>	<b>Actions Initiated by</b>
Co-ordination of District Level Committee	<ul style="list-style-type: none"><li>• To Provide relief and response</li><li>• Precautionary measures for warehouse and food</li></ul>	<ul style="list-style-type: none"><li>• District Emergency Operation Center</li></ul>

	storage.	
Mapping of vulnerable points	<ul style="list-style-type: none"> <li>• Regular mapping of vulnerable spots</li> <li>• Planning and implementation of preventive measures.</li> <li>• Early warning</li> </ul>	<ul style="list-style-type: none"> <li>• Deputy collector</li> <li>• CEOs (Janpad Panchayat),</li> <li>• BDOs, Executive engineers</li> </ul>
Essential commodities	<ul style="list-style-type: none"> <li>• Stock of food grains, Kerosene, fuel in Gram Panchayat.</li> </ul>	<ul style="list-style-type: none"> <li>• CEOs (Janpad Panchayat)</li> <li>• BDOs</li> </ul>
Selecting Shelters	<ul style="list-style-type: none"> <li>• Arranging safe shelter during period of emergency.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional collectors</li> <li>• CEOs (Janpad Panchayat)</li> <li>• BDOs through</li> <li>• PRIs and local people</li> </ul>
Medicines, Establishment of mobile teams, Identification of epidemic prone areas	<ul style="list-style-type: none"> <li>• Keeping a stock of medicines</li> <li>• Delegation of personnel.</li> </ul>	<ul style="list-style-type: none"> <li>• DCMO</li> <li>• Civil surgeon</li> </ul>
Arranging food and fodder for the cattle	<ul style="list-style-type: none"> <li>• Maintaining stocks</li> </ul>	<ul style="list-style-type: none"> <li>• Veterinary Assistance surgeon (VAS), (Animal Husbandry)</li> </ul>
Organizing Mock drills	<ul style="list-style-type: none"> <li>• Generating awareness</li> <li>• Preparedness training</li> </ul>	<ul style="list-style-type: none"> <li>• District level officers</li> </ul>

**Table 1: Coordination Mechanism of DDMA in Pre Disaster Situation**

### **1.3 Coordination Mechanism of DDMA in Immediate Pre Disaster Situation (Immediately after Early Warning Received)**

<b>Preparation</b>	<b>Objectives</b>	<b>Actions Initiated by</b>
Collection of Information	<ul style="list-style-type: none"> <li>• From IMD/SRC control room/DEOC</li> </ul>	<ul style="list-style-type: none"> <li>• DEOC</li> </ul>
Information dissemination	<ul style="list-style-type: none"> <li>• From DEOC to all C/BDOs/line depts.</li> </ul>	<ul style="list-style-type: none"> <li>• DEOC</li> <li>• Head of line depts.</li> <li>• Sub collectors</li> <li>• BDOs</li> <li>• COs</li> </ul>
Immediate setting and functioning of control room, Rescue and evacuation	<ul style="list-style-type: none"> <li>• Evacuation</li> <li>• Identified shelters</li> <li>• logistic Supply</li> </ul>	<ul style="list-style-type: none"> <li>• Civil Defence unit</li> <li>• Police Department armed forces</li> <li>• Fire officers,</li> </ul>

		<ul style="list-style-type: none"> <li>• Fire Offices</li> <li>• Red-cross team ready with rescue kits which are to be made available to them through the DEOC</li> </ul>
Arrangement of kitchen	<ul style="list-style-type: none"> <li>• Provision of immediate feeding to the evacuated people</li> </ul>	<ul style="list-style-type: none"> <li>• BDOs/CDPOs/NGOs</li> </ul>
Sanitation and medicines	<ul style="list-style-type: none"> <li>• Prevention of epidemics and infections</li> </ul>	<ul style="list-style-type: none"> <li>• Executive engineer of PHE Department</li> <li>• Civil Surgeon</li> </ul>
Ensuring transportation of relief materials to affected areas	<ul style="list-style-type: none"> <li>• Ensuring timely reach of relief materials to the affected people</li> </ul>	<ul style="list-style-type: none"> <li>• DSO/ SDM/ BSOs/ DTO</li> </ul>
Ensuring safety of life and properties	<ul style="list-style-type: none"> <li>• Preventing anti-social activities</li> </ul>	<ul style="list-style-type: none"> <li>• SP/DSP/Inspector</li> <li>• SI of the affected block</li> <li>• NGOs</li> </ul>
Ensuring availability of safe drinking water and health facilities	<ul style="list-style-type: none"> <li>• Checking the inception of epidemics</li> </ul>	<ul style="list-style-type: none"> <li>• CS/Executive engineers of PHED</li> </ul>
Conducting meeting with field level officers for every 24 hours and to review the situation	<ul style="list-style-type: none"> <li>• Better coordination</li> </ul>	<ul style="list-style-type: none"> <li>• DM</li> <li>• DDC at district level</li> <li>• SDM at sub-divisional level</li> </ul>
Collection of information by the core group of the EOC and daily reporting to concerned officers	<ul style="list-style-type: none"> <li>• Triangular linkage between field, district and state control room</li> </ul>	<ul style="list-style-type: none"> <li>• Core group of EOC/ Officers of line departments</li> </ul>
Estimating number of vehicles-Light/ Medium/ Heavy	<ul style="list-style-type: none"> <li>• Ensuring smooth transportation for relief works</li> </ul>	<ul style="list-style-type: none"> <li>• DTO</li> </ul>
Arranging road cleaners/ power saw and other essential equipment's	<ul style="list-style-type: none"> <li>• Cleaning the roads</li> <li>• Removing the fallen trees</li> <li>• Clearing the debris etc.</li> </ul>	<ul style="list-style-type: none"> <li>• DTO</li> <li>• Executive Engineer</li> <li>• Executive Officer – Nagar Panchayat</li> </ul>
Arranging trucks loaded with generators	<ul style="list-style-type: none"> <li>• Moving to the field immediately after the disaster is over</li> </ul>	<ul style="list-style-type: none"> <li>• DTO</li> </ul>

**Table 2: Coordination Mechanism of DDMA in Immediate Pre Disaster Situation  
(Immediately after Early Warning Received)**

## 1.4 Coordination Mechanism of DDMA during Disaster (Relief Distribution Mechanism)

Preparation	Objectives	Actions Initiated by
Readiness and Inclination to get ready in action, immediately after the disaster	<ul style="list-style-type: none"> <li>• To save the trapped and wounded persons</li> </ul>	<ul style="list-style-type: none"> <li>• All line department and stakeholders</li> </ul>
Control room activated 24 hours	<ul style="list-style-type: none"> <li>• To mitigate the effects of the disaster</li> </ul>	<ul style="list-style-type: none"> <li>• District control room</li> <li>• All line depts., BDOs, CEO's</li> </ul>
Distribution of relief as per provisions	<ul style="list-style-type: none"> <li>• To provide food and other essential commodities for survival</li> </ul>	<ul style="list-style-type: none"> <li>• SDM</li> <li>• BDOs</li> <li>• CEOs</li> <li>• NGOs</li> </ul>

**Table: 3 Coordination Mechanism of DDMA during Disaster (Relief Distribution Mechanism)**

## 1.5 Coordination Mechanism of DDMA in Post Disaster Situation

Preparation	Objectives	Actions Initiated by
Distributing relief as per provisions	<ul style="list-style-type: none"> <li>• Provision food and other essential commodities for survival</li> </ul>	<ul style="list-style-type: none"> <li>• SDM</li> <li>• BDOs</li> <li>• COs</li> <li>• NGOs</li> </ul>
Damage Assessment	<ul style="list-style-type: none"> <li>• Reporting actual loss to the government</li> </ul>	<ul style="list-style-type: none"> <li>• All line depts.</li> <li>• COs</li> <li>• BDOs</li> <li>• Executive engineers</li> <li>• Sub Collectors</li> </ul>
Monitoring and evaluation of relief operations by external agencies.	<ul style="list-style-type: none"> <li>• Maintaining consistency of relief administration</li> </ul>	<ul style="list-style-type: none"> <li>• DM</li> <li>• SDM</li> </ul>
Restoring of Roads and Railway networks	<ul style="list-style-type: none"> <li>• Timely and Prompt delivery</li> <li>• Transportation of relief articles</li> <li>• Deployment of rescue teams</li> </ul>	<ul style="list-style-type: none"> <li>• Executive engineers of concerned depts.</li> <li>• Military and paramilitary forces</li> <li>• police</li> </ul>
Restoring electronic communication system	<ul style="list-style-type: none"> <li>• Ensuring proper coordination linkage</li> </ul>	<ul style="list-style-type: none"> <li>• BSNL, Technocrats of police signals</li> </ul>
Immediate arrangement of free kitchen for the effected	<ul style="list-style-type: none"> <li>• Avoiding starvation</li> </ul>	<ul style="list-style-type: none"> <li>• Sub collectors</li> <li>• BDO's</li> </ul>

people		<ul style="list-style-type: none"> <li>• Line depts.</li> <li>• PSUs</li> </ul>
Documentation of the entire event-Written, Audio, Video	<ul style="list-style-type: none"> <li>• For reporting purposes and institutional memory</li> </ul>	<ul style="list-style-type: none"> <li>• SDM</li> <li>• BDO</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• To review the relief works and remove the bottlenecks</li> </ul>	<ul style="list-style-type: none"> <li>• DM</li> <li>• DDC</li> <li>• ADC</li> </ul>

**Table 4: Coordination Mechanism of DDMA in Post Disaster Situation**

### **1.6 General Preparedness Checklist**

- i. Collector, the chairperson of DDMA shall ensure that preparedness checklist is duly followed by each front line departments and status of the same is discussed in monthly meetings.
- ii. Head of the department of each frontline department shall ensure that the departments are prepared to meet the challenges of any emergency/disaster by duly following the preparedness checklists.
- iii. Nodal officers of each of the frontline departments shall ensure that the district disaster management resource inventory is maintained and updated on quarterly basis and submission of the same to the district revenue officer, by
  - a) Adding any changes in the human resources of their department along with their updated contact numbers, if any.
  - b) Adding to the equipment list, relevant resources for response activities from both the government and private sectors.
- iv. DRO shall ensure that the same has been updated and uploaded on the website of district administration and India Disaster Resource Network (IDRN) on quarterly basis with the help of District Information Officer (DIO).
- v. Nodal officers of each of the frontline departments shall also report to head of the department and/or collector about requisition of any relevant resource/equipment, not available with the government and/or private sector, for disaster management activity.
- vi. DDMA shall ensure the establishment of emergency operation centre with the following facilities:
  - a) Adequate space for planning and logistics section chief and staff.
  - b) Enough space for control room with adequate communication equipment including landline telephones, mobile phones, satellite phones, walkie-talkie, ham radio, computer/ laptop with printer facility, email facility, fax machine,



television, etc.

- c) Ensure proper space for meeting, conference, media briefing along with LCD, computer and video conferencing facilities.
- d) Availability of district disaster management resource inventory and also a note of the neighboring district (Jashpur and Koriya) disaster management resource inventory of the state and other critical national resources.
- e) Availability of DDMP.

### 1.7 Department Wise Preparedness Checklist

Departments	Preparedness Checklist
<b>DDMA</b>	<ul style="list-style-type: none"> <li>• Regularly monitoring rain gauge at all tehsils and updating database for distribution and variation in rainfall.</li> <li>• Preparing flood control order by 31st May every year and ensure proper mechanism for early warning at village level through Tehsildars, Sarpanch, Patwaris, etc.</li> <li>• Ensure proper functioning of DEOC along with availability of fully functional resources and rescue equipment.</li> <li>• Preparation of a database of critical and lifesaving infrastructure, safe locations for evacuation and updated list of relief camps in the district annually.</li> <li>• Identify competent persons/experts from various required fields for carrying out damage and need assessment of post disaster scenario.</li> <li>• Keep interacting with the voluntary organizations in the district and prepare proper mechanism for disbursement of compensation to victims or families of deceased.</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Preparation of agriculture contingency plans and identify vulnerable areas prone to pest infestation, droughts, floods and other hazards</li> <li>• Constitute a crop weather watch group at district level (as per 'A Model Manual for Drought Management', GoI) with representatives from concerned departments dealing with agricultural inputs, credit extension, etc.</li> <li>• Imparting training to the farmers to adopt new agriculture practices, alternate cropping practices, proper storage of seeds and use of modern technology.</li> <li>• Ensure availability of adequate stock of seeds, stock for immediate replacement of broken/non-functioning gadgets/equipment and other agro inputs particularly for areas vulnerable to hazards.</li> <li>• Prepare trained and equipped team for assessing damage caused to soil, crop, plantation, drainage, embankment, other water bodies and storage</li> </ul>

	<p>facilities that might impact agricultural activities.</p> <ul style="list-style-type: none"> <li>• Assist farmers in providing timely information regarding crop insurance, compensation, repair of agro equipment and restoring of agricultural activities at the earliest.</li> <li>• Identify sources of feed and fodder.</li> </ul>
<p><b>Animal Husbandry</b></p>	<ul style="list-style-type: none"> <li>• Isolating/ separating sick and healthy animals and make arrangements for feeding and watering animals suffering from contagious diseases. Sensitize farmers/ owners for the above problems.</li> <li>• Ensure proper disinfection of space, vehicle and manpower involved in transportation of sick/ infected and dead animals from contagious diseases and activating a fully functional mobile veterinary unit at disposal.</li> <li>• Prepare a database of veterinary hospitals/ clinics and agencies working for animal care, so that it could be used at the emergency situations.</li> <li>• To check the availability of stock of mineral and feed supplements, lifesaving drugs, electrolytes, vaccines, etc., along with filling feed banks before the scarcity period.</li> <li>• Sensitizing farmers about protection of their feed and fodder prior to the onset of monsoon.</li> <li>• Prepare the feed of poultry birds for drought situation and also locate feed and fodder banks in view of submergence situation during the monsoon.</li> <li>• Identify source for procurement of fodder and the safe locations for fodder depot and cattle camps within the district and provide source of water for drinking and growing fodder.</li> <li>• Use of tarpaulin sheets to cover the sheds during heat and cold waves.</li> <li>• Taking special care of productive and lactating animals; also supplement them with additional fodder and other requirements.</li> <li>• Ensure proper administration of de-worming and vaccinations for cattle, sheep and goats, pigs and take other relevant measures for disease management.</li> <li>• Identify space for burial of dead animals and ensure proper disposal of carcass.</li> </ul>
<p><b>Education</b></p>	<ul style="list-style-type: none"> <li>• Organize awareness generation programs in schools and colleges for students, teachers, administrative staff and other helpers. These programs should focus on do's and don'ts for various hazards and safe</li> </ul>

	<p>evacuation in case of any emergency.</p> <ul style="list-style-type: none"> <li>• Conduct hygiene promotion activities as per direction issued by the health department on a regular basis.</li> <li>• Preparation of first aid and disaster management kit in each school and college.</li> <li>• Identify such schools and colleges within that area that serves as relief shelters in case of any emergency.</li> </ul>
<b>CSEB</b>	<ul style="list-style-type: none"> <li>• Prepare a database of critical infrastructure in the district and prepare for providing uninterrupted power supply to them.</li> <li>• Make provisions for continuous power supply to the affected areas and for prompt replacement/recommissioning of affected power supply system.</li> <li>• Providing electrical connections and systems at short notice in affected areas for the purpose of pumping flood water and illumination.</li> <li>• Ensure availability of adequate stock of important equipment like transformers, poles, conductors, cables, insulators, etc. for prompt action whenever required.</li> </ul>
<b>Fire Services</b>	<ul style="list-style-type: none"> <li>• Firefighting equipment, appliances and respiratory equipments are in place and functional.</li> <li>• Ensure the availability of clear and proper sketched maps and marked evacuation routes with glowing sign in all important buildings like schools, hospitals, apartments, amusement areas, malls, theatres and organize for regular evacuation drills as per evacuation plans etc.</li> <li>• Make a database of existing firefighting services and facilities provided with private agencies.</li> </ul>
<b>Food Supplies &amp;</b>	<ul style="list-style-type: none"> <li>• Prepare a database of godowns and cold storage facilities in the district and safety measures taken against inundation, water logging, fire and other possible hazards.</li> <li>• Prepare for out-movement of food grains to a pre-decided safer location, if required.</li> <li>• Ensure availability of adequate food grains storage in godowns in view of the scarcity or emergency period and also check for adequate stock of gas cylinders, kerosene.</li> <li>• Prepare a database of kerosene depots, petrol pumps, gas agencies, etc. and update the same in DDMRI.</li> <li>• Maintain a database of private retailers, wholesalers of edible food</li> </ul>

	<p>items, providers of catering service and providers of refrigerated vehicles for transportation of perishable food items.</p> <ul style="list-style-type: none"> <li>• Prepare a database of private providers of tents, tarpaulin sheets, poles, cooking utensils, polythene bags, shrouds and other essential items that could be used for community kitchen and cremation and burial purposes.</li> </ul>
<b>Forest</b>	<ul style="list-style-type: none"> <li>• Ensure proper functioning of fire rescue equipment and vehicles.</li> <li>• To check that there should be no trespassing in the restricted forest areas.</li> <li>• Prepare an evacuation plan for animals in case of forest fires.</li> <li>• Maintain a database of aara machine holders and carpenters.</li> <li>• Prepare team for catching wild animals to prevent them entering in habituated areas, relief camps, etc.</li> </ul>
<b>RTO</b>	<ul style="list-style-type: none"> <li>• Ensure proper functioning of filling station, vehicles and equipment including fire extinguishers, first aid kits, etc.</li> <li>• Prepare mechanical team for prompt repair of equipment and vehicles; check the availability of trained drivers and conductors in first aid and basic life saving techniques.</li> <li>• Identify vehicles for rescue operations and prepare for prompt deployment of vehicles at short notice for various purposes like mass evacuation, transportation of response teams, relief items, victims, etc.</li> <li>• Familiarizing drivers with routes of potential hazardous installations and follow incident traffic plan.</li> <li>• Make a database of private vehicles available with schools, colleges and other private agencies, so that it can be used for evacuation purpose, if required.</li> </ul>
<b>Health</b>	<ul style="list-style-type: none"> <li>• Prepare a team of paramedics, trained mobile medical teams at emergency sites and keeping materials ready if required for healthcare and hygiene.</li> <li>• Develop dos and don'ts plan for health and hygiene in general and in situations of disaster in particular.</li> <li>• Organize awareness camps with help of CHC/ PHCs and Panchayats for hygiene promotion and public health issues.</li> <li>• Prepare psychological and psychosocial care teams.</li> <li>• Ensure availability of adequate space for storage of medicines; availability of stock of medicines, lifesaving equipment and portable</li> </ul>

	<p>supplies including portable oxygen cylinders, portable X -ray machine, portable ultrasound machines, triage tags, etc.</p> <ul style="list-style-type: none"> <li>• Prepare a database of doctors registered with Indian Medical Association (IMA), private hospitals and nursing homes with services and facilities available and keep updating it annually.</li> <li>• Prepare a database of available ambulance services from government, private agencies and district Rotary/ Lions Club, if any.</li> <li>• Maintain a database of blood donors in the district and update the same in DDMRI and check the availability of adequate supply of blood units.</li> <li>• Train drivers and attendants of ambulance and mobile medical units in first aid and basic life saving techniques.</li> <li>• Prepare for prompt establishment of temporary hospitals, mobile surgical units, etc. at short notice near the affected area.</li> <li>• Ensure proper and safe mechanism for medical waste disposal.</li> <li>• Prepare for proper disease surveillance system.</li> <li>• Make proper arrangement and mechanism for mass casualty management.</li> </ul>
<b>Irrigation</b>	<ul style="list-style-type: none"> <li>• Ensure proper early warning mechanism in place for flood by monitoring water level of surface water bodies.</li> <li>• Inspection of conditions of bunds, siphons, regulators, embankments, inlet and outlets of lakes and reservoirs, etc.</li> <li>• Timely de-silting and dredging of rivers and canals and prompt repair of channels.</li> <li>• Ensure proper functioning of all equipment including dewatering pumps.</li> <li>• Prepare for the arrangements of clean drinking water for affected livestock and poultry.</li> </ul>
<b>Nagar Palika</b>	<ul style="list-style-type: none"> <li>• Prepare for sanitation operations in view of post flood situations within jurisdiction of the area.</li> <li>• Cleaning of drains before the monsoon season.</li> <li>• Prepare mechanism for proper solid waste management and disposal of waste in shelter and relief camps, feeding centers and affected area.</li> <li>• Check the availability of tractor ,trolleys and other required equipments for the same.</li> </ul>

	<ul style="list-style-type: none"> <li>• Plan to provide building/ guest house at different locations to establish control room, first aid and medical post or shelters during emergency.</li> </ul>
<b>Police</b>	<ul style="list-style-type: none"> <li>• To develop a mechanism for early warning of different hazards through police stations and police posts.</li> <li>• Check the availability of guards at tourist places, annual exhibitions and fairs and festival where there is a possibility of stampede.</li> <li>• Arrange for public address system and siren.</li> <li>• Installation of temporary wireless systems between district and tehsils in case of any damage to existing wireless system with the department.</li> <li>• Train the communication wing of police in setting up control room at short notice at a required site.</li> <li>• Prepare contingency plans in response to riots, stampede ,other law and order emergencies.</li> <li>• Prepare deployment plan of home guards and other volunteers for protection of property of affected community.</li> <li>• Prepare for proper arrangement for custody of recovered belongings and property from dead bodies and affected sites.</li> <li>• Police personal and staff of PCR vans should keep basic first aid box and ensure proper functioning of available equipment.</li> <li>• Train police personnel and staff of PCR vans in first aid and basic life saving techniques.</li> <li>• Protection of dead bodies to avoid their theft and false claims.</li> <li>• Prepare for safety and security of food and other commodities.</li> <li>• Protection against hoarding, black marketing of relief material.</li> <li>• Arrange for safety and security arrangements in the evacuated/affected areas, transit camps, relief camps, hospitals, medical centers, cattle camps and feeding centers.</li> <li>• Keep updated the telephone numbers and database of reserved battalions of police, BDS and Dog Squads in police control room.</li> <li>• Prepare teams trained in search and rescue, first aid, firefighting, etc.</li> <li>• Maintain a database of volunteers and equipment and update the same in DDMRI.</li> </ul>
<b>PCB</b>	<ul style="list-style-type: none"> <li>• Prepare a database of hazardous chemicals and pollutants in the districts</li> </ul>

	<p>and their probable adverse effects on environment.</p> <ul style="list-style-type: none"> <li>• Prepare for methods and techniques of decontamination of the same</li> </ul>
<b>PHED</b>	<ul style="list-style-type: none"> <li>• Check the availability and functioning of all available equipments and vehicles.</li> <li>• Prepare for arrangement of safe drinking water supply, water purifying tablets, bleaching powder and chlorination of public water resources, for community in the affected areas and also in relief camps and shelters and maintains a database of suppliers and distributors of packaged drinking water.</li> <li>• Prepare for prompt repair of pipelines supplying potable water, sewerage systems and water works.</li> <li>• Make standby arrangements of generators for running the water pumps.</li> <li>• Ensure installations of tube wells, if needed, before the monsoon to provide underground water to the livestock during flood period.</li> <li>• Ensure availability of adequate number of water tankers, drums, jerry cans or identify their private suppliers to prepare for supply of water, in scarcity period and in emergency.</li> <li>• Ensure availability of water supplies/ filling points for fire tenders, water cannons, hospitals and other necessary lifesaving infrastructure.</li> <li>• Prepare for prompt provision of temporary toilets/ trench latrines in the affected area and relief camps.</li> <li>• Restoration of ponds, lakes in the district in coordination with Irrigation Department.</li> </ul>
<b>Public Relations</b>	<ul style="list-style-type: none"> <li>• Ensure distribution of Information, Education and Communication (IEC) material to community for awareness generation.</li> <li>• Prepare for proper public address system ensuring rumor control.</li> <li>• Managing media for release of information to public from time to time, giving emergency contact departments/ personnel/ numbers, without creating any chaos among the public.</li> <li>• Maintain database of dos and don'ts of all possible hazards in the district.</li> <li>• By giving awareness, information to the public through booklets, pamphlets, radio, television, film shows, newspapers, documentary films, door to door campaign, meetings, etc.</li> </ul>

<b>PWD</b>	<ul style="list-style-type: none"><li>• Prepare for:</li><li>• A data base of availability and functioning of heavy equipment like cranes, JCBs.</li><li>• Prompt clearance of debris, repairing of damaged roads, culverts, bridges and flyovers.</li><li>• Construction of new temporary roads for diverting traffic from the affected area, temporary facilities like that of medical post, temporary shelters, etc. at short notice.</li><li>• Prompt establishment of helipad near the affected site for VVIP visits. Prepare for restoration of government buildings damaged during disaster.</li></ul>
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**Table 5: Department Wise Preparedness Checklist**



## **2. Prevention and Mitigation Measure**

Prevention and mitigation measures play vital role in reducing the risk of the disaster. The type of intervention for prevention and mitigation defines whether the measure is structural or non-structural. The measures carried out in infrastructures and services come under the head of structural mitigation measures whereas measures carried out in informative and policy-making way come under the head of non-structural mitigation measures. There are two mitigation measures, Firstly structural mitigation measures deals with the physical vulnerabilities and Secondly non-structural mitigation measures deals with social vulnerabilities. Development schemes and disaster mitigation measures, both certainly work for lowering the vulnerabilities directly or indirectly. Both are complementary to each other and hence the developmental schemes like MGNREGA, Sarv Shiksha Abhiyan, and National Rural Health Mission can be used to incorporate various mitigation measures. Merging the mitigation measures with development schemes can result into optimum benefit out of it, following are some attributes, which can be accomplished by doing it.

- Capacity building.
- Short term as well as long term sustainable development planning.
- More enhanced preparedness.
- Disaster risk reduction.

### **2.1 Hazard wise Structural and Non- structural Mitigation Measures**

#### **Structural Mitigation**

Structural Mitigation involves retrofitting of a building's structural elements to reduce or eliminate earthquake damage. As stated previously, the structural elements of a building act as a skeleton that supports the rest of the building, and include the foundation, load-bearing walls, beams, columns, floor system, and roof system as well as the connections between these elements. A failure of one or more of these structural elements can lead to a collapse of the entire building. Structural mitigation measures may also be applied to non-building structures, such as bridges, dams, and utility system elements.

### **Non-Structural Mitigation**

Non-Structural Mitigation involves retrofitting a building's non-structural elements. The nonstructural elements of a building are those elements that will not cause a building to collapse if they fail, and include exterior elements, interior elements, building electrical, mechanical and plumbing systems, and contents.

#### **2.1.1 Hazard: Flood**

#### **Structural Mitigation Measures for Flood**

<b>Probable Mitigation Measures</b>	<b>Implementing Departments</b>	<b>Convergence with Scheme/ Program</b>	<b>Time Frame</b>
Desalting and deepening of water channel	<ul style="list-style-type: none"> <li>• Irrigation and Rural Development</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental program &amp; MGNREGA</li> </ul>	Regularly
Construction of embankments/protection wall	<ul style="list-style-type: none"> <li>• Rural Development</li> <li>• Forest department</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental program</li> <li>• MGNREGA watershed</li> <li>• Integrated coastal zone management programme</li> </ul>	0 to 5 years
Departmental program & MGNREGA, watershed, Integrated coastal zone management programme	<ul style="list-style-type: none"> <li>• Rural Development</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental program</li> <li>• MGNREGA</li> </ul>	Regularly
Repair and maintenance of Flood Channels, canals, natural drainage, storm water lines	<ul style="list-style-type: none"> <li>• Irrigation department</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental or special plan</li> </ul>	0-1 years
Construction of Safe Shelters (new construction through different housing schemes.	<ul style="list-style-type: none"> <li>• District Panchayat</li> </ul>		Regularly
Protection wall and bamboo	<ul style="list-style-type: none"> <li>• Forest and Rural</li> </ul>	<ul style="list-style-type: none"> <li>• Department</li> </ul>	0-6 months

and vegetative cover against river level intrusion and land erosion	development, Agriculture department	schemes • MGNREGA,	
Desalting of water bodies like river and ponds	• Irrigation • Rural Development	• MGNREGA Land Development	Regularly

**Table 6: Structural Mitigation Measures for Flood**

**Non-Structural Mitigation Measures for Flood**

<b>Probable Mitigation Measures</b>	<b>Implementing Departments</b>	<b>Convergence with Scheme/ Program</b>	<b>Time Frame</b>
Safety audit of existing and proposed department	Education department, health department, PWD, Rural development	• Pradhan Mantri Aawas Yojana • Other Housing schemes	Regularly
Promotion of Traditional, local and innovative practices like bamboo, Rafts.	• DDMA • DRDA • Panchayat • Recreational spaces • Self-help groups • Youth groups • Social workers • NGOs	• Training and capacity building plan for disaster management at all level	Regularly
Capacity building of volunteers and technicians	• DDMA	• Training and capacity building plan for disaster management at all level	Regularly
Awareness generation on health and safety of livestock	• Veterinary officer • Rural development	• Departmental Scheme	Regularly

**Table 7: Non-Structural Mitigation Measures for Flood**

## 2.1.2 Hazard: Drought

### Structural Mitigation Measures for Drought

<b>Probable Mitigation Measures</b>	<b>Implementing Departments</b>	<b>Convergence with Scheme/ Program</b>	<b>Time Frame</b>
Development of Pasture land in common property, seed farms and trust land	<ul style="list-style-type: none"> <li>• DDMA</li> <li>• DRDA</li> <li>• Rural Development</li> <li>• Panchayats</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental Scheme</li> <li>• MGNREGA</li> </ul>	0-3 years
Rain Water Harvesting storage tanks at household level and public buildings	<ul style="list-style-type: none"> <li>• DDMA</li> <li>• DRDA</li> </ul>	<ul style="list-style-type: none"> <li>• MGNREGA</li> </ul>	0-3 years
Structures for water harvesting and recharging like wells, ponds, check dams, farm ponds.	<ul style="list-style-type: none"> <li>• PWD</li> <li>• DDC</li> <li>• Rural development</li> <li>• Irrigation and water resource department.</li> </ul>	<ul style="list-style-type: none"> <li>• MGNREGA</li> <li>• Watershed programs</li> <li>• Departmental schemes</li> </ul>	0-3 years
Development of fodder plots/ banks	<ul style="list-style-type: none"> <li>• DDMA</li> <li>• Agriculture department.</li> <li>• Animal husbandry department</li> </ul>	<ul style="list-style-type: none"> <li>• DDMP</li> <li>• Development plan</li> </ul>	Regularly
Repair and maintenance, de silting of water sources, check dams, hand pumps.	<ul style="list-style-type: none"> <li>• Irrigation</li> <li>• Rural Development</li> <li>• water resources</li> </ul>	<ul style="list-style-type: none"> <li>• MGNREGA</li> <li>• Watershed</li> </ul>	0-3 years

**Table 8: Structural Mitigation Measures for Drought**

### Non-Structural Mitigation Measures for Drought

<b>Probable Mitigation Measures</b>	<b>Implementing Departments</b>	<b>Convergence with Scheme/ Program</b>	<b>Time Frame</b>
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Listing/ developing shelf of work for drought proofing/ scarcity works including Identification of potential sites of water bodies	<ul style="list-style-type: none"> <li>• Rural Development</li> <li>• DDMA</li> </ul>	<ul style="list-style-type: none"> <li>• MGNREGA</li> </ul>	Regularly
Farmer education to practice drought resistant crops and efficient water use	<ul style="list-style-type: none"> <li>• Agriculture and horticulture department</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental schemes</li> </ul>	Regularly
Set up control mechanism for regulated water use (ponds, small dams, check dams) on the early onset.	<ul style="list-style-type: none"> <li>• Panchayats</li> </ul>		Regularly

**Table 9: Non-Structural Mitigation Measures for Drought**

### 2.1.3 Hazard: Road Accidents

#### Structural Mitigation Measures for Road Accidents:

<b>Structural Mitigation Measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/ scheme</b>	<b>Time frame</b>
Construction of Dividers on overcrowded road.	PWD		
Setup and maintenance of the traffic signals in squares	PWD, Police Department		
Construction of bypass road for highways passing through cities	PWD		
Retrofitting and maintenance of roads, dividers, road safety symbols and speed breakers			

**Table 10: Structural Mitigation Measures for Road Accidents**

#### Non-Structural Mitigation Measures for Road Accidents:

<b>Non-Structural Mitigation Measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/ scheme</b>	<b>Time frame</b>

Set up of high way safety patrolling	<ul style="list-style-type: none"> <li>• Police department</li> </ul>		Every day
Fully trained fire brigade personnel	<ul style="list-style-type: none"> <li>• City Fire brigade office</li> </ul>		Monthly training
Awareness by road safety symbols, and through wall paintings.	<ul style="list-style-type: none"> <li>• Traffic control department.</li> <li>• RTO</li> </ul>	<ul style="list-style-type: none"> <li>• Vehicle insurance</li> </ul>	
Up gradation of facilities in hospitals nearby highway.	<ul style="list-style-type: none"> <li>• Private hospitals</li> <li>• Government hospitals</li> <li>• District Health department.</li> </ul>	<ul style="list-style-type: none"> <li>• Health insurance</li> </ul>	

**Table 11: Non-Structural Mitigation Measures for Road Accidents**

#### 2.1.4 Hazard: Epidemics

##### Structural Mitigation Measures for Epidemics

<b>Structural Mitigation Measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/ scheme</b>	<b>Time frame</b>
Setup of monitoring centres for surveillance	<ul style="list-style-type: none"> <li>• District health department.</li> </ul>	<ul style="list-style-type: none"> <li>• District Development Plan</li> </ul>	Every month
Set up of health centres in the vicinity of people	<ul style="list-style-type: none"> <li>• District health department.</li> </ul>	<ul style="list-style-type: none"> <li>• District Development Plan</li> </ul>	Regularly
Up gradation of rural hospitals with facilities like blood bank, surgical facilities and pathology.	<ul style="list-style-type: none"> <li>• Ministry of Health</li> </ul>	<ul style="list-style-type: none"> <li>• District Development Plan</li> </ul>	Regularly

**Table 12: Structural Mitigation Measures for Epidemics**

##### Non- Structural Mitigation for Epidemics

<b>Non-Structural Mitigation Measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/ scheme</b>	<b>Time frame</b>

Preparation Contingency plan for response for vulnerable regions	<ul style="list-style-type: none"> <li>• District health department</li> <li>• PRIs.</li> </ul>	<ul style="list-style-type: none"> <li>• District development plan.</li> </ul>	Yearly
Mapping of health centres, inventories of drugs & vaccines, laboratory set up, no. of doctors and staff	<ul style="list-style-type: none"> <li>• District health department</li> </ul>		Regularly
First aid training, and Public health awareness programmes	<ul style="list-style-type: none"> <li>• Education department</li> <li>• District health department</li> </ul>	<ul style="list-style-type: none"> <li>• Sarwa Shiksha Abhiyan</li> <li>• National Rural Health Mission</li> </ul>	Regularly

**Table 13: Non-Structural Mitigation Measures for Epidemics**

### 2.1.5 Hazard: Fire

#### Structural Mitigation Measures for Fire

<b>Structural mitigation measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/scheme</b>	<b>Time frame</b>
Installation of sprinklers, fire extinguisher, sand buckets	District fire department, PWD		Once
Installation of fire/ smoke alarms	District fire department, PWD		Once
Provision of proper and wide fire exit with direction signs	District fire department, PWD		Once
Use of fire-proof materials in construction	PWD		Once

**Table 14: Structural Mitigation Measures for Fire**

#### Non-Structural Mitigation Measures for Fire

<b>Non-Structural Mitigation Measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/ scheme</b>	<b>Time frame</b>
Preparation of emergency plan	District fire department	District development plan.	Yearly
Preparation of evacuation plans	District fire department	District development plan	Yearly

Fire safety trainings/education	District fire department, District education department.	Sarv Shiksha Abhiyan	Regularly
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**Table 15: Non-Structural Mitigation Measures for Fire**

**2.1.6 Hazard: Heat Wave**

**Structural Mitigation Measures for Heat Wave**

<b>Structural mitigation measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/ scheme</b>	<b>Time frame</b>
Provision of temporary shelters for homeless people	District Administration, District health department		Yearly
Provision of cotton clothes, trampoline sheets, medicine, ORS.	District Administration, DDMA, District health department		Yearly

**Table 16: Structural Mitigation Measures for Heat Wave**

**Non-Structural Mitigation Measures for Heat Wave**

<b>Non-Structural Mitigation Measures</b>	<b>Implementation agency</b>	<b>Convergence with programme/scheme</b>	<b>Time frame</b>
Provision of alert mechanism to warn people about heat wave	District administration, DDMA,	National health mission	Yearly (particularly summer )
Programmes to aware people for preventive measures.	District administration, DDMA, District health department	National health mission	Yearly (particularly summer )

**Table 17: Non-Structural Mitigation Measures for Heat Wave**



### **3. Disaster Risk Reduction Plan**

*“Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development”.*

The Disaster Risk Reduction Plan (DRR) of district comprised of activities and measures that, if performed and supported the district will tend towards reducing the risks of disasters including those associated to climate-induced hazards. The plan prepared is based on consultations conducted with the communities, key line departments and on field assessment performed in vulnerable villages. Thus, it recommends building upon the gaps observed in the process of disaster management in the district. Moreover, this plan also lists the major developmental schemes and programmes, which can be lined up with DRR and disaster recovery with in the district. DRR Planning is a long - term strategy and links disaster management with developments and it requires involvement of multiple stakeholders for its effective planning.

The disaster risk reduction actions in this roadmap will amplify the district in building its Resilient. It is based on five building blocks keeping in mind the two distinct demographic profiles of rural and urban area.

- Resilient Villages
- Resilient Livelihoods
- Resilient Critical infrastructure
- Resilient Basic Services
- Resilient Cities

#### **3.1 Capacity Building**

Capacity building serves as an integral component of disaster risk reduction. Lack of adequate capacities amongst all the concerned stakeholders proves to be a major hurdle in successful implementation of disaster mitigation and recovery programmes. Capacity building can be seen as a by-product effective learning and training. Capacity is the

combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk or the effects of a disaster.

### **3.2 Recommendations for Disaster Risk Reduction**

- One of the important measures to be undertaken by the DDMA towards DRR is to establish and strengthen District Emergency Operation Centre (DEOC) and Flood Control Room need to be to its par excellence.
- The District Crisis Management Group (DCMG) is not formally organized at district level. It is recommended that the CMG be created and their members should get regular trainings.
- There is a need to form and document the list of stakeholders for disaster response which is not readily available within the district administration. This is a critical element when it comes to preparedness.
- Therefore, it is strongly recommended that the district administration should prepare and fill all the contact details, which will help as quick reference during emergencies. Regular meetings should be organized with these stakeholders in order to improve the coordination between them.
- All the Disaster response mechanisms and Incident Command System should be placed and awareness about them should be spread. Disaster response equipment need to be monitored and regular stock should be maintained. All the Loss and Damage Assessment and First-hand Information should be regularly documented.
- There is no early warning system placed at panchayat and at district levels. Most of the warnings are given only by the India Meteorological Department (IMD) and other central institutes/organizations.
- In this regard, the district administration should revise the mechanism currently adopted for early warning and ensure that every concerned stakeholder is included and communicated in a timely manner as per the block-wise hazards.

- Human resources are less in many departments, schools and Anganwadis, which is hampering the lives of the women and children who are the strength of the communities.
- Department wise trainings about disaster management should be set on monthly basis to ensure skilled workforce. Moreover mock-Drills and Emergency Management Exercise have to be planned and conducted on regular basis.
- Key buildings such as schools, Anganwadi, panchayats, community halls requiring retrofit or repair, were identified need immediate attention.
- Accountable and transparent Panchayati Raj Institutions PRI's and governance are essential for integrating risk issues into a sustainable DRR process.
- Inclusive of all genders and marginalized communities must be there in community consultations, decision making and implementation to move from policies to practices.
- Policies for each disaster such as drought, floods, fire, accidents, epidemics, man animal conflicts need to establish a clear set of principles or operating guidelines to govern the management of disasters and its impacts, as well as the development of a preparedness plan that lays out a strategy to achieve these objectives.
- Proper monitoring of risk assessment and identification of appropriate risk reduction measures should be done on regular basis, which are the core components of any policy and plan.
- Policy mechanisms to ensure that drought and floods risk reduction strategies are carried out and enforced regularly.
- New approach undertaking pro-active initiatives to involve techno-social-cultural-economic-environmental-governance initiatives. The emergence of smart phones and its wide range of users cannot be ignored as a resource which can be used for multiple purposes like imparting training programmes, updates and basic Do's and Don'ts of different disaster events. Social factors including education, awareness and social capital will determine to a large extent the success and failure of these strategies.

- The ideas of economic disparity and the brutality of market forces and logistic and supply chain of products were recorded during post disaster needs planning for its smooth functioning of sustainable livelihood practices.

**DRR Initiatives that need attention**

<b>Priorities</b>	<b>Programs</b>	<b>Main concerns</b>
<b>Policies/Schemes/Programs</b>	<p><b>Village level:</b></p> <ul style="list-style-type: none"> <li>• Mukhya Mantri Baans Baadi Yojana</li> <li>• Mahatari Jatan Yojana- Nutrition diet for pregnant women</li> <li>• Mukhya Mantri Amrit Yojana- Nutrition diet to Children</li> <li>• Mukhya Mantri Amrit Yojana to eradicating malnutrition in Chhattisgarh</li> <li>• Mukhya Mantri Khadya or Poshan Suraksha Yojana</li> <li>• Mukhya Mantri Bal Sandarbh Yojana healthcare scheme</li> <li>• Pradhan Mantri Fasal Bima Yojana</li> <li>• Mukhya Mantri Awas Yojana</li> <li>• Dindayal Upadhyay Gram Jyoti Yojana</li> <li>• Pradhan Mantri Gram Sadak Yojana</li> <li>• Van Bhumi Adhikar patta</li> <li>• Pradhan Mantri Tirth Yatra Yojana Suchna Kranti Yojana</li> <li>• Mukhya Mantri Paduka yojana</li> <li>• Jananni Suraksha Yojana</li> </ul> <p><b>State level:</b></p>	Regular monitoring and evaluation

	<ul style="list-style-type: none"> <li>• Mahatma Gandhi National Rural</li> <li>• Employment Guarantee Schemes             <ul style="list-style-type: none"> <li>• Pradhan Mantri Awas Yojana</li> <li>• Pradhan Mantri Ujjwala Yojna</li> </ul> </li> <li>• Pradhanmantri Krishi Shinchai Yojana</li> <li>• Pradhanmantri Mudra Yojna</li> <li>• Sanjeevni Express</li> <li>• Swatch Bharat mission</li> <li>• Dindayal Upadhay Gram Jyoti Yojana</li> <li>• Pradhan Mantra Jan Dhan Yojana</li> <li>• Pradhanmantri Suraksha Bima Yojana</li> <li>• Mukhya Mantri Kanya Vivah Yojana</li> <li>• Swaraswati Cycle yojana</li> <li>• Mission Smart City Raipur             <ul style="list-style-type: none"> <li>➤ Make in India</li> <li>➤ Standup India</li> <li>➤ Digital India</li> <li>➤ Startup India</li> </ul> </li> </ul>	
<p><b>Institutions</b></p>	<ul style="list-style-type: none"> <li>• Indian Meteorological department</li> <li>• Krishi Vigyan Kendra</li> <li>• Public Health Centers</li> <li>• Government Hospitals</li> <li>• Gram Panchayats</li> </ul>	<p>Regular evaluation and plannig</p>

	<ul style="list-style-type: none"> <li>• Schools</li> <li>• College</li> <li>• Anganwadi</li> <li>• Fire stations</li> <li>• Collectorate</li> </ul>	
<b>Plans, Sop's and Financial Management</b>	Planning for triangular linkage between field, district and state control room	Yearly basis
<b>Infrastructure, materials and equipment</b>	<p><b>School and Anganwadi:</b></p> <ul style="list-style-type: none"> <li>• Emergency and first aid kits</li> <li>• Toilets</li> <li>• Grain Storage trunks</li> <li>• LPG Connections</li> <li>• Water taps</li> <li>• Playgrounds</li> <li>• Fire Extinguisher</li> </ul> <p><b>Gram panchayats:</b></p> <ul style="list-style-type: none"> <li>• Flood rescue equipment's</li> <li>• Fire rescue equipment's</li> <li>• Warning alarms</li> </ul> <p><b>Village level:</b></p> <ul style="list-style-type: none"> <li>• Warning alarms on dams and rivers</li> <li>• Bridges on rivers, Roads ill fields and rivers</li> <li>• Community halls</li> <li>• Safe shelters</li> <li>• Fencing of forests areas</li> <li>• Warehouse</li> <li>• PHC's</li> <li>• Medicine shops</li> </ul>	Every six Month

<b>Capacity Building</b>	<ul style="list-style-type: none"> <li>• Stocking of the sand bags, alerting people near highly vulnerable pockets.</li> <li>• Stocking of food grains and other essential things in Gram panchayats or ware house.</li> <li>• Village tanks</li> <li>• Emergency facilities 108, 100, 102 Mehtari Express.</li> <li>• Pradhan Mantri Kaushal Vikas Yojana</li> </ul>	Need to Strengthen
<b>Public Awareness and Education</b>	Wash and Sanitation	Regularly
<b>Risk Assessments</b>	Establish warning systems between the local to district level with media.	Regularly
<b>DRR Programs and Schemes</b>	Swachh Bharat Abhiyan. Providing relief in case of casualty due to natural calamities under Revenue Book Circular 6(4). As per the revised provisions.	Regularly

**Table 18: DRR Initiatives that need attention**

Ongoing efforts will be towards capacity building, strengthening the functioning of district level institutions like District Disaster Management Authorities and public awareness campaigns.

### **3.3 Mainstreaming DRR in Development National Flagship Schemes**

<b>S.No.</b>	<b>Name Of Schemes</b>	<b>Eligibility</b>	<b>Benefits</b>	<b>DRR Integration</b>
1	Mahatma Gandhi National Rural Employment Guarantee	Any adult who does work physically .	The scheme provides a legal right to employment for adult members of rural households. At least one-third beneficiaries have to be	Increasing the wage rate in rural areas and strengthening the rural economy through the creation

	Schemes		women. Wages must be paid according to the wages specified for agricultural labourers in the state under the Minimum Wages Act, 1948, unless the central government notifies a wage rate (this should not be less than Rs.60 per day).	of infrastructure assets.
2	PradhanMantri Aawas Yojana	Economical Weaker Section Household	Chhattisgarh Housing Board will construct homes for EWS and LIG categories under the PM Awas Yojana	Provide affordable housing to Economical Weaker Section will allow them to invest in other productive capital
3	PradhaMantri Gram Sadak Yojana	Unconnected Habitations with a population of 250 persons and above (census 2001)	Rural road connectivity would promote access to economic and productive employment opportunities	Improved road networks would enhance the capacity of rural communities
4	PradhanMantri Ujwala Yojna	BPL households	Replacing the unclean cooking fuels mostly used in the rural India with the clean and more efficient LPG (Liquified Petroleum Gas)	Clean fuel will help BPL families ensure healthy and smoke free environment within house. It will minimise the burden of women to fetch wooden fuel.



5	Pradhanmantri Krishi Shinchai Yojana	Farmers	Expand cultivable area under assured irrigation, improve on farm water use efficiency to reduce wastage of water, enhance the adoption of precision-irrigation and other water saving technologies (more crops per drop), and introduce sustainable water conservation practices.	Improved irrigation facility lead to increase in the productivity of farmer. Drought prone areas become resilient to water scarcity.
6	Dindayal Upadhay Gram Jyoti Yojana	Rural Population	Rural electrification: Providing round the clock power to rural households and adequate power to agricultural consumers.	Separation of agriculture and non-agriculture feeders would facilitate judicious rostering of supply to agricultural and non-agricultural consumers in the rural areas.
7	Pradhanmantri Mudra Yojna	Person who want initiate Micro enterprise	It would develop micro enterprise sector in the country by extending various support including financia; support in the form of refinance.	Employment generation and increase in economic activity.
8	Swacch Bharat mission	All people	Elimination of Open defecation and Eradication of Manual Scavenging.	Improve Sanitation will limit the diseases caused due to open defecation.
9	Pradhan Mantra Jan Dhan Yojana	All people	It will insure access to various financial services like availability of basic	Financial inclusion of the marginalised people

			savings bank account, access to need based credit, remittances facility, insurance and pension to the excluded sections i.e. weaker sections and low income groups.	
10	Pradhan Mantri Fasal Bima Yojana	Farmers	Scheme provides insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.	It would stabilise the income of farmers to ensure their continuance in farming.
11	Make in India	Companies, Labour Force	Encourage national, as well as multinational companies to manufacture their products in India	Build Economic Capital.
12	Digital India	All people	E-governance initiative, major projects such as railway computerization, land record computerization, etc which focused mainly on the development of information systems.	Spread awareness related to agriculture, climatic conditions and early warnings.

**Table 19: Mainstreaming DRR in Development National Flagship Schemes**

### **3.4 Mainstreaming DRR in Development State level Flagship Schemes**

<b>S.No.</b>	<b>Name Of Schemes</b>	<b>Eligibility</b>	<b>Benefits</b>	<b>DRR Integration</b>
1	Mukhya Mantri Baans baadi	Villagers from the poor	Poor people will be given high quality bamboo	Will help to fulfil the economic need of the

	Yojana	family	plants to grow it in free of cost. It can be grown in the backyard of the house with required small space. Fulfil the economic needs of the poor and future demand of Bamboo.	poor and the marginalize during the time of emergency situations.
2	Mahatari Jatan Yojana-Nutrition diet for pregnant women	Pregnant women at Aganwadi centers	Provide nutritious diet and ready to eat food to pregnant women.	Provide nutrition and protein to weaker section unable to afford nutritional food, during disasters.
3	Mukhya Mantri Amrit Yojana-Nutrition diet to children	Children at Aganwadi centers	The scheme is to provide nutritious diet to children at Aganwadi centers.	Provide nutrition and protein to the childrens for the families who are unable to afford supplementary food, especially rural areas farmers in economic losses due to floods and droughts.
4	Mukhya Mantri Amrit Yojana to eradicate malnutrition in Chhattisgarh	Children aged between 6 to 9 years once every week	Special drive of eradicating malnutrition, nutritious milk will be distributed.	Reduce mortality rate and children at high risk.
5	Mukhya Mantri Khadya or Poshan Suraksha Yojana	All ration card holders	Ration will be distributed to existing beneficiaries holding ration cards after taking affidavit given by nodal officer.	Ensure weaker sections that lack purchasing power to buy enough food to quench their hunger are able to purchase

				atleast rice and wheat through ration shops at cheap prices. Meet the requirement of sustainable development goal of zero hunger.
6	Mukhya Mantri Bal Sandarbh Yojana- Healthcare scheme	Children	Provide health check-up and medical counselling facility to children suffering from severe malnutrition and other crisis.	Increasing life expectancy and reducing some of the common killers associated with child and maternal mortality.
7	Mukhya Mantri Awas Yojana	EWS and LPG applicants	Provide a financial assistance to the eligible EWS and LIG applicants, housing schemes under EWS and LIG homes will be constructed.	Provide save shelters to people who cannot afford to build houses. Helps people to build resilience.
8	Dindayal Upadhyay Gram Jyoti Yojana	Rural areas	To provide continous power supply to rural India.	Help farmers in irrigation facilities.
9	Suchna Kranti Yojana	Youth	Provide free smart phones to the youth in the state. The state government has announced the scheme to promote digitization in the state for making the youth digitally literate.	Help to spread awareness related to agricultural, rainfall and early warning.
10	Sanjeevani Express	People of Chhattisgarh	108 Sanjeevani Express Ambulance service	Ambulance service is one of the integral components of health

				care to pregnant women, children during emergencies. The transport component is known to contribute to accelerate the achievement of various Millennium Development goals, including reducing maternal and infant mortalities.
11	Mukhya Mantri Kanya Vivah Yojana	Daughters	To relieve poor families from expenses of organizing marriage ceremonies, to encourage mass marriage, to curb social evil of dowry system, and to refrain from unnecessary expenses on marriage ceremonies.	The scheme reduces stress of poor farmers who fall in debt or take loans for their daughters marriages, and unable to pay due to failure of crops or less productivity or drought.
12	Saraswati Cycle Yojana	Girls of IX standard	To ensure the cent percent enrolment of girls (BPL, SC and ST) who have passed class VIII and to ensure their retention up to the class XII. To improve the girl's enrolment, attendance and retention upto class XII, continuation of education till 12 <sup>th</sup> standard. To	Girls are the agents of change their priorities and needs have been taken into account. In rural areas girls are forced into house hold work, fetch water or look after their siblings and was unaware of the sanitation and hygiene

			ensure that the girl's students continue their education beyond the level of primary.	conditions. By providing cycles it motivates them to continue education and become self dependent.
13	Mission Smart City	Civilians	To provide the civilians with high quality modern and efficient Municipal services, sustainable development and sound environmental management.	Infrastructural development and better construction enhance resilient structure which incorporates indigenous knowledge and modern techniques.
14	Suchita Yojana	Government Schools	To encourage girls about their personal and menstrual hygiene. Helping pupils in overcoming hesitation, they face while buying sanitary napkins from the markets.	Helps to maintain sanitation and hygiene and prevent girls from diseases.

**Table 20: Mainstreaming DRR in Development State level Flagship Schemes**

## 4. Climate Change Actions

Climate change has increased the intensity and frequency of disaster events around the world resulting in massive destruction with regard to loss of human lives, livelihoods, infrastructure, environment etc thereby disrupting the social, economic and cultural setup. Risks related to change of climate have become a major concern regarding the sustainability of livelihood options, infrastructure, ecosystem services and the local economy especially for the South Asian nations. An increase has been witnessed in the magnitude and frequency of precipitation related hazards such as floods, droughts, landslides, typhoons, cyclones and so on.

India has also been a witness to natural and climate induced devastations. The unique geo-climatic, socio-economic conditions and developmental indicators make the nation even more vulnerable to a kaleidoscope of hazardous events such as droughts, floods, cyclones, landslides, forest fires and so on. Events such as the Chennai floods, Thane Cyclone, Uttarakhand cloud burst, Assam floods etc- have resulted in emerging of serious concerns regarding disaster response, preparedness and mitigation at various levels. In Chhattisgarh, a study was conducted by the Institute of Human Development, New Delhi in which several drought districts have been identified. This includes Bastar, Bilaspur, Janjgir-Champa, Dantewada, Dhamtari, Durg, Jashpur, Kanker, Korba, Kabirdham, Mahasamund, Raigarh, Koriya, Raipur, Rajnandgaon and Sarguja, etc.

### Sector Specific Activities for Climate Change

Sector	Invention Type	Activities
<b>Agriculture</b>	Improved practices	<ul style="list-style-type: none"> <li>• Developing and deploying resources for adoption of multi-cropping as a practice.</li> <li>• Developing cold storage facilities at the district level for safe storage perishable horticulture, forest and food products.</li> <li>• Crop diversification to cope with increasing climatic variability.</li> <li>• Introduction of sprinkler and drip irrigation systems and</li> </ul>

		<p>better drainage network.</p> <ul style="list-style-type: none"> <li>• Construction and strengthening of flood walls or embankments along the rivers.</li> </ul>
	Planning	<ul style="list-style-type: none"> <li>• Mapping the potential for growth of agro and forest based industries in each district.</li> <li>• Proper implementation of insurance based measures for transfer of risks incurred from loss of harvest, from farmer to government.</li> </ul>
	Conservation of water and soil	<ul style="list-style-type: none"> <li>• Implementation of steps for minimizing losses incurred through water and soil such as agro-forestry, integrated watershed management, water harvesting through check dams, renovation of existing ponds as agriculture is primarily rain-fed.</li> <li>• Renovation of traditional water management systems.</li> </ul>
	Forecasting and early warning systems	<ul style="list-style-type: none"> <li>• Strengthening of early warning systems and weather services through advanced agro-systems.</li> </ul>
	Integrated nutrient and pest management	<ul style="list-style-type: none"> <li>• Research and education on integrated nutrition and management of pests along with promotion and integration of conservation agriculture.</li> <li>• Applying fertilizers based on soil quality, thereby increasing the efficiency of fertilizers and decrease in pollution of ground water and soil.</li> </ul>
<b>Disaster Management</b>	Research and Capacity building	<ul style="list-style-type: none"> <li>• Community based disaster risk management activities, establishing search and rescue teams in every village.</li> <li>• Integration of indigenous techniques with better scientific management.</li> <li>• Encouragement of traditional practices and indigenous knowledge for mitigating risks.</li> </ul>
	Awareness	<ul style="list-style-type: none"> <li>• Mock drills and first aid training in schools and colleges.</li> <li>• Training village authorities in hazard and vulnerability mapping activities in coordination with community</li> </ul>



		<p>members or representatives.</p> <ul style="list-style-type: none"> <li>• Preparedness of emergency response plans and safety evacuation plans in various public buildings.</li> </ul>
	Vulnerability and Risk Management	<ul style="list-style-type: none"> <li>• Assessment of vulnerable structures in urban as well as rural areas.</li> <li>• Relocation and resettlement of most vulnerable groups and structures to safer and better locations.</li> </ul>
	Monitoring and evaluation	<ul style="list-style-type: none"> <li>• Monitoring the variations in various climatic parameters through establishment of automated weather stations and satellite signals.</li> <li>• Monitoring training of concerned authorities according to their requirements and for enhancement of their potentials for mitigating future disaster risks; alongwith periodic evaluation and valuable feedbacks.</li> <li>• Preparing regular audit reports of various departments highlighting their progress and drawbacks with regard to disaster risk reduction and mitigation.</li> <li>• Establishing close coordination and sharing of information regarding plans of various line departments.</li> </ul>
<b>Water resources and Sanitation</b>		<ul style="list-style-type: none"> <li>• Regular review and feedback sessions of the functional hydrological stations, automated weather and rain gauge stations.</li> <li>• Developing curriculums of educational institutions, especially in rural areas for mass awareness regarding relevance of water conservation and proper sanitation measures.</li> <li>• Developing and deploying capacity building initiatives for professionals of various departments as well as among various Panchayats and municipal wards, so that they can pass it on to other people in their areas.</li> <li>• Promoting the disadvantages of open defecation and significance of various initiatives such as ‘Gramin Seat’ through intensive social communication, street plays,</li> </ul>

		<p>banners and so on.</p> <ul style="list-style-type: none"> <li>• Improving drainage networks and periodic evaluation of drinking water sources present in village.</li> <li>• Regular testing and treatment of water sources in rural and urban areas for preventing eutrophication and loss of aquatic flora and fauna.</li> </ul>
<b>Forests and Biodiversity</b>	Conservation of biodiversity	<ul style="list-style-type: none"> <li>• Identification and documentation on amount of remaining green cover and its exposure to various anthropogenic risks.</li> <li>• Preventing diversion of forest lands for non-forest purposes.</li> <li>• Preventing the spread of invasive species and encouraging growth of indigenous species of flora.</li> <li>• Conservation of existing ground water sources and promotion of sustainable livelihoods through institutional development initiatives such as Joint Forest Management (JFM), SHG's and so on.</li> <li>• Wetland conservation.</li> </ul>
	Intervention in forest and non-forest areas	<ul style="list-style-type: none"> <li>• Clear demarcation of areas accessible to people, especially to communities dependent on forest for meeting their daily requirements.</li> </ul>
	Awareness and Research	<ul style="list-style-type: none"> <li>• Studies on traditional and religious beliefs of tribals that tally with conservation of biodiversity.</li> <li>• Awareness on ecosystem services, eco-friendly and green technologies for maintaining equilibrium between development and conservation of biodiversity.</li> </ul>
	Fire Management	<ul style="list-style-type: none"> <li>• Adopting appropriate measures for preventing spread of forest fires, especially during the dry season.</li> </ul>
<b>Urban Development</b>	Management of solid waste and waste water	<ul style="list-style-type: none"> <li>• A comprehensive and sustainable approach for managing solid waste and waste water from households, taking into consideration the availability of dumping sites and their proximity to human habitation.</li> </ul>

	Adoption of renewable	<ul style="list-style-type: none"> <li>• Developing strategic plans for improving energy efficiency of households, including plans for bringing in the use of alternative and renewable sources of energy.</li> <li>• Encouraging innovation and competitiveness in renewable energy sources for mitigating and adapting to climate change.</li> </ul>
	Improving resilience	<ul style="list-style-type: none"> <li>• Increasing community based disaster risk management and advance earning systems for improving the adaptive capacity of habitats and households to climate change.</li> <li>• Establishing a committee for looking after the conservation of urban water bodies, green and open spaces and treatment of waste water.</li> <li>• Maintenance of peri urban spaces especially in busy locations in urban areas.</li> <li>• Promotion and adoption of energy efficient codes for urban housing projects and various other programmes.</li> </ul>
<b>Transport</b>	Transport infrastructure, planning and management	<ul style="list-style-type: none"> <li>• Promoting and ensuring the availability and use of cleaner energy sources for fuel.</li> <li>• Car pooling can be used as an alternative.</li> <li>• Ensuring pollution certificates for all the vehicles and confirming that the emitted pollution levels are within the permitted amount.</li> </ul>
<b>Energy</b>	Conservation and improvement in energy efficiency	<ul style="list-style-type: none"> <li>• Promoting the use of solar powered lights, heaters, pumps and other such renewable sourced energy products.</li> <li>• Introducing smart grid metering systems in households and public buildings.</li> </ul>
<b>Industries</b>		<ul style="list-style-type: none"> <li>• Regular check on pollutants released by industries in air as well as water bodies.</li> <li>• Promoting use of pollution control mechanisms and filters.</li> <li>• Building awareness regarding adoption of GHG</li> </ul>

		mitigation measures, energy audits, benefits of fuel switching and so on.
<b>Human Health</b>		<ul style="list-style-type: none"> <li>• Constitution of a Climate Change Cell in the health department as well as various sub-cells within the district level.</li> <li>• Developing emergency response plans and conducting mock drills in PHC's and CHC's.</li> <li>• Spreading awareness on adoption of Sphere Standards while conducting emergency response during and after disasters.</li> <li>• Training and sensitization programmes with proper feedbacks for department personnel as well as community members.</li> <li>• Development, training and deployment of disaster management teams in every PHC and CHC for responding to impact of extreme climatic variations.</li> </ul>

**Table 21: Sector Specific Activities for Climate Change**

### **Initiatives for Mitigating Climate Change**

<b>Initiatives to mitigate disasters (intensified by climate change)</b>	<b>Initiatives to mitigate climate change</b>
Development and deployment of strategies and action plans for reducing vulnerability to disasters.	Promotion of renewable energy sources including an increase in the share and utilization of alternative fuels.
Improvement coordination among various line departments and agencies for improving management of risks and response to disasters.	Promoting energy efficient technology, especially in buildings, transportation, industrial set ups and household appliances.
Upgrading and retrofitting of important infrastructural set-ups in hazardous areas according to recommended building codes.	Total implementation of Green India Mission and other such initiatives.

Improving access to information regarding specific hazard and vulnerabilities as well as communication campaigns through infotainment, especially in high risk zones	Reduction in the amount of emissions especially from the transport and industrial sector.
Periodic HRVC activities in close coordination with community members or representatives for making disaster friendly plans, including those induced by anthropogenic factors.	Reduction in emissions from solid waste and waste water from households

**Table 22: Initiatives for Mitigating Climate Change**

## **5. Capacity Building and Training Measures**

### **5.1 Capacity Building**

As per the DM Act (2005), capacity-building includes:

1. Identification of existing resources and resources to be acquired or created;
2. Acquiring or creating resources identified under sub-clause (i)
3. Organization and training of personnel and coordination of such trainings for effective management of disasters.

The primary purpose of capacity-building in disaster management is to reduce risk and thus make communities safer. This can be done by increasing resilience and enhancing coping capacities. Effective capacity-building requires the active participation of all those who are tasked with it. It must, therefore, include maintaining a comprehensive and up-to-date district disaster management resource inventory, awareness generation, education and systematized training.

The district collector should ensure the following activities of the entire district, and the various heads of departments should ensure capacity-building of their respective departments. Furthermore, the nodal officers should, in coordination with the HODs, procure relevant equipments for disaster management activities.

### **5.2 Institutional Capacity Building**

Institutional capacity-building will be structured upon a level-system that will be designed to bring officials and professionals from multiple fields and skill-sets at the district level. The DDMA will utilize the abilities and expertise of representatives from following areas, structured in the form of levels on the basis of priority.

Chhattisgarh Academy of Administration (CGAA) holds responsibility at the State level for conducting training programs on Disaster Management in all the districts of Chhattisgarh. The trainings take place for three to five days and involve district officials from various departments, as per the specificities of the training being conducted. It is incumbent upon these officials to attend the trainings for which they have been nominated. The officials in

charge of updating the DDMP are also responsible for keeping track of all trainings conducted and at the time of updating the plan, they shall include the names and contact details of all officials from district who have attended any disaster management related training in the past six- months. This will ensure the availability of trained human resources capable of dealing with disasters at the district level.

The various stakeholders to be trained are NGOs, community-based organizations (CBOs), social workers, youth organizations, National Cadet Corps (NCC), National Service Scheme (NSS), school teachers and school children. Training is the most important, essential and central activity of all capacity development.

Training is the most important, essential and central activity of all capacity development programmes. Trained personnel respond much better to different disasters in time and appreciate the need for preventive measures. Systems, measures and initiatives would be taken to ensure intensive training for building up of human resources, especially to improve disaster awareness, safety and enhance capabilities of disaster managers at various levels.

### **5.3 India Disaster Resource Network (IDRN)**

IDRN is a web based information system, which is a list of devices, efficient human resources and critical supply management for emergency response. The primary focus is to make decision makers able to find answers to the availability of the necessary tools and human resources to deal with any emergencies. This database will enable them to assess the level of preparation for specific vulnerabilities.

Each user of all the districts of the state has been given a unique username and password through which they can update data entry and data in IDRN for available resources in their district.

The IDRN network has the functionality to generate several question choices on the basis of important supplies, with specific tools, skilled human resources and their location along with the contact details.

### **5.4 Department wise Roles and Responsibilities of HODs**

<b>Departments</b>	<b>Roles and Responsibilities of HODs</b>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>● Formation and training of weather watch group for the purpose of monitoring crops in the district.</li> <li>● Keeping in place disaster management protocols for the hazards of drought, flood, hailstorm, etc.</li> <li>● Formation of rapid damage assessment teams for assessing the condition of soil, fields, irrigation systems and any other damage to crops in post-disaster situations.</li> </ul>
<b>Animal Husbandry</b>	<ul style="list-style-type: none"> <li>● Ensure the formation of rapid damage assessment teams capable of examining and assessing damage caused to livestock, feed and fodder, and other things within the domain of animal husbandry.</li> </ul>
<b>Education</b>	<ul style="list-style-type: none"> <li>● Formation and training of damage and needs assessment teams within the department.</li> <li>● Provision of trainings in first aid and basic survival skills for teachers and students in the district.</li> <li>● To check whether education and awareness programs are in the curriculum.</li> <li>● Capacity-building at the institutional level should be enhanced by carrying out various activities under the School Safety Programme (SSP).</li> </ul>
<b>CSEB</b>	<ul style="list-style-type: none"> <li>● Ensure the timely purchase of electric equipments necessary for maintaining a state of adequate preparedness and for speedy and efficient disaster response, through the appropriate channels of the district administration.</li> </ul>
<b>Fire Services</b>	<p>Conducting :</p> <ul style="list-style-type: none"> <li>● Fire-safety trainings for all district officials.</li> <li>● Safety audits of various government and civilian buildings in order to check whether they are compliant with fire-safety norms.</li> <li>● Regular mock-drills should for fire-fighting and evacuation procedures.</li> <li>● Training programs on disaster management by CDM, CGAA from time to time.</li> </ul>
<b>Civil Defense &amp; Home Guards</b>	<ul style="list-style-type: none"> <li>● Provision of trainings for volunteers in Search and Rescue (SAR), first aid, traffic management, dead body management, evacuation, shelter and camp management, mass care and crowd management.</li> <li>● Arrange for the purchase of Search and rescue (SAR) equipments through appropriate channels of the district administration.</li> </ul>
<b>Forest</b>	<ul style="list-style-type: none"> <li>● Ensure the formation and training of teams within the department for catching wild/escaped animals which pose a threat to human safety.</li> </ul>
<b>RTO</b>	<ul style="list-style-type: none"> <li>● Provision of training to drivers, conductors and staff in first aid and basic life saving techniques.</li> <li>● Adequate stocking/replenishing of first aid kits and maintenance of fire extinguishers in all vehicles and depots in the district.</li> </ul>



<b>Health</b>	<ul style="list-style-type: none"> <li>• Formation and training of damage and need assessment teams within the department.</li> <li>• Provision of trainings for Quick Response Medical teams (QRMTs) of paramedics, mobile medical teams, psychological first aid teams and psycho-social care teams.</li> <li>• Arrange for timely procurement/ purchase of portable equipments for field and hospital diagnosis, triage, etc.</li> <li>• Provision of trainings for health attendants and ambulance staff in first aid and life- saving techniques.</li> <li>• Provision of training to members of local communities in health and hygiene practices.</li> <li>• Enhancing capacity building at the institutional level by carrying out various activities related to Capacity Building and Training measures.</li> </ul>
<b>Irrigation</b>	<ul style="list-style-type: none"> <li>• Provision of trainings to all human resources with regard to early-warning for flood.</li> <li>• Arrange for timely purchase of early warning and communication equipments through appropriate channels of the district administration.</li> </ul>
<b>Police</b>	<ul style="list-style-type: none"> <li>• Deployment of trained police personnel within the district in disaster management.</li> <li>• Conduct trainings for the police personnel to deal with various situations, an important aspect of capacity-building in the district.</li> <li>• Preparing for prevention of human trafficking and other activities in the aftermath of disasters.</li> </ul>

**Table 23: Department wise Roles and Responsibilities of HODs**

## **5.5 Community Based Disaster Management**

Community Based Disaster Management would ensure community members take appropriate action for disaster risk management thereby ensuring a “culture of prevention” and creation of safer communities. The concept of risk reduction through community based disaster management will help in:

- Institutionalization of community based disaster risk management in policy, planning and implementation.
- Intensive work with the community for information dissemination and awareness generation.

This would enable community groups and other stakeholders including the government to identify potential risks and vulnerabilities, assess capacities, and plan for preparedness, prevention, and mitigation to overcome the ill effects of disasters through a coordinated effort.

<b>Work</b>	<b>Responsibility</b>	<b>Department</b>
Community Preparedness	<ul style="list-style-type: none"> <li>• Selection of weak community and the most vulnerable groups in danger.</li> <li>• Broadcast information about vulnerability and exposure to the community.</li> <li>• Promote local level disaster risk management plan through participation approach. Provide advice and guidelines wherever necessary for community disaster prevention, mitigation and preparation through local resources and participation approach.</li> <li>• Provide necessary resources and support for disaster risk reduction at the community level.</li> <li>• Review the preparation at the community level; take appropriate action to increase the capacity of the community.</li> <li>• Promote community education, awareness and training.</li> <li>• Make sure to safeguard the community to predict the coming calamity and to spread the warnings timely.</li> <li>• Broadcast instant information at the community level in any disaster situation.</li> </ul>	<ul style="list-style-type: none"> <li>• District Collector</li> <li>• Revenue Dept</li> <li>• Weather Dept</li> <li>• Finance Dept</li> <li>• Nagar Nigam Commissioner</li> <li>• Rural and Urban Development Dept</li> <li>• Panchayati Raj</li> </ul>

**Table 24: Community Based Disaster Management**

# **VOLUME-3**

## List of Contents:

<b>S.No.</b>	<b>Contents</b>	<b>Pg. No.</b>
<b>1</b>	<b>Response and Relief Measures</b>	<b>1-8</b>
1.1	Stages of Response and Relief	1
1.2	Pre-Disaster Relief and Response	2-3
1.3	During Disaster Relief and Response	4
1.4	Execution of Phase II of Relief and Response in the context of Sarguja District	4
1.5	Activation of State government/ District administration	4-6
1.6	Post Disaster Relief and Response	7
1.7	Reconstruction	7-8
<b>2</b>	<b>Measures for Reconstruction and Rehabilitation</b>	<b>9-14</b>
2.1	Reconstruction and Rehabilitation	9
2.2	Recovery Activities	10-14
2.2.1	Short Term Recovery	10
2.2.2	Long Term Recovery	10-11
2.2.3	Assessment of Loss and Policy Determination	11-12
2.2.4	Reorganization (Rectification)	12-14
<b>3</b>	<b>Financial resources for the District Disaster Management Plan</b>	<b>15-17</b>
3.1	Availability of financial resources from Center and State	15
3.1.1	Fund for capacity Building	15
3.2	Other fundings by state	16
3.2.1	External funding systems	16
3.2.2	Financial provisions	16
3.2.3	Disaster relief fund	16
3.3	National Calamity Contingency fund	16
3.4	State Disaster Relief Fund	16
3.5	Chhattisgarh relief fund	17
3.6	Other provisions of the finance system	17
3.7	District Financial Resources	17
3.8	Other Financial Resources at District Level	17
<b>4</b>	<b>Monitoring, Evaluation and Updation of District Disaster Management Plan</b>	<b>18-21</b>
4.1	Evaluation of DDMP	18
4.2	Authority for Maintaining and Reviewing DDMP	19
4.3	Post Disaster Evaluation Mechanism	19
4.4	Disaster Evaluation Mechanism	19-20
4.5	Media Management	20-21
4.6	Conducting Mock Drills at District Level	21
4.6.1	Following are the responsible institution for Mock Drill	21

<b>5</b>	<b>Coordination Mechanism for Implementation of DDMP</b>	<b>22-28</b>
5.1	Coordination with the Center and the State	23
5.1.1	National Disaster Management Authority	23
5.1.2	National Executive Committee	23
5.1.3	National Institute of Disaster Management (NIDM)	23
5.1.4	National Disaster Management Force (NDRF)	23
5.2	State Disaster Management Authority (SDMA)	23-24
5.2.1	State Executive Committee (SEC)	24
5.3	District Disaster Management Authority (DDMA)	24
5.4	State Disaster Response Force (SDRF)	24
5.5	Disaster Management Center	24
5.6	Nodal Department	25
5.7	Coordination at District Level	25
5.8	Coordination at Local Level	26
5.9	Coordination with Private Institutions and Social Service Organizations	27
5.10	Coordination with Neighbour Districts	27
5.11	Coordination with SDMP	27-28
<b>6</b>	<b>Standard Operating Procedures and Checklist</b>	<b>29-37</b>
6.1	Standard Operating Procedure	29-30
6.2	Preparedness for Flood	30-32
6.2.1	Precautions	30-31
6.2.2	Emergency Response Resources	31-32
6.3	Preparedness for Drought	32-33
6.3.1	Precautions	32-33
6.3.2	Information Utilization for Drought Management	33
6.4	Preparedness Measures for Stampede	33
6.5	General SOPs for all other Disaster	34-35
6.6	Assistance from the Central / State Government	35-36
6.7	Human Relief and Assistance	36-37

### List of Tables :

<b>S.No.</b>	<b>Table</b>	<b>Pg. No.</b>
1	Table 1: Stages of Response and Relief	1
2	Table 2: Steps of IRTF	6
3	Table 3: Nodal Departments/ Officer for Reconstruction and Reorganization	13
4	Table 4: Other Financial Resources at District Level	17
5	Table 5: Format for DDMP Review Panel	19
6	Table 6: Nearest district for assistance	27

7	Table 7: Action plan to deal with flood situation	32
8	Table 8: Assistance from the Central / State Government	36
9	Table 9: Human relief and assistance	37

### List of Figures :

S.No.	Figure	Pg. No.
1	Figure 1: The Proposed Disaster Pre-Warning System of the District	2
2	Figure 2: Incident Response Team framework (IRTF)	6
3	Figure 3: Sources of funds for the Disaster Relief and Response	8
4	Figure 4: Key points of Policy Making	12
5	Figure 5: Tactical system of monitoring and updating of DDMP	20

### List of Flowcharts :

S.No.	Flowchart	Pg. No.
1	Flowchart 1: Diagrammatic representation of Relief and Response	1
2	Flowchart 2: Flowchart of Events for Major Emergency Response	3
3	Flowchart 3: Stepwise Of Administrative Response System	5
4	Flowchart 4: Incident Response Team framework	5
5	Flowchart 5: Reconstruction and Repair Work	9
6	Flow Chart 6: Coordinated mechanism for implementing DDMP	22
7	Flowchart 7: Horizontal and vertical coordinated mechanism at the district level	25
8	Flowchart 8: Horizontal and vertical coordinated mechanisms at the local level	26
9	Flowchart 9 : District Disaster Management Plan	28

# 1. Response and Relief Measures

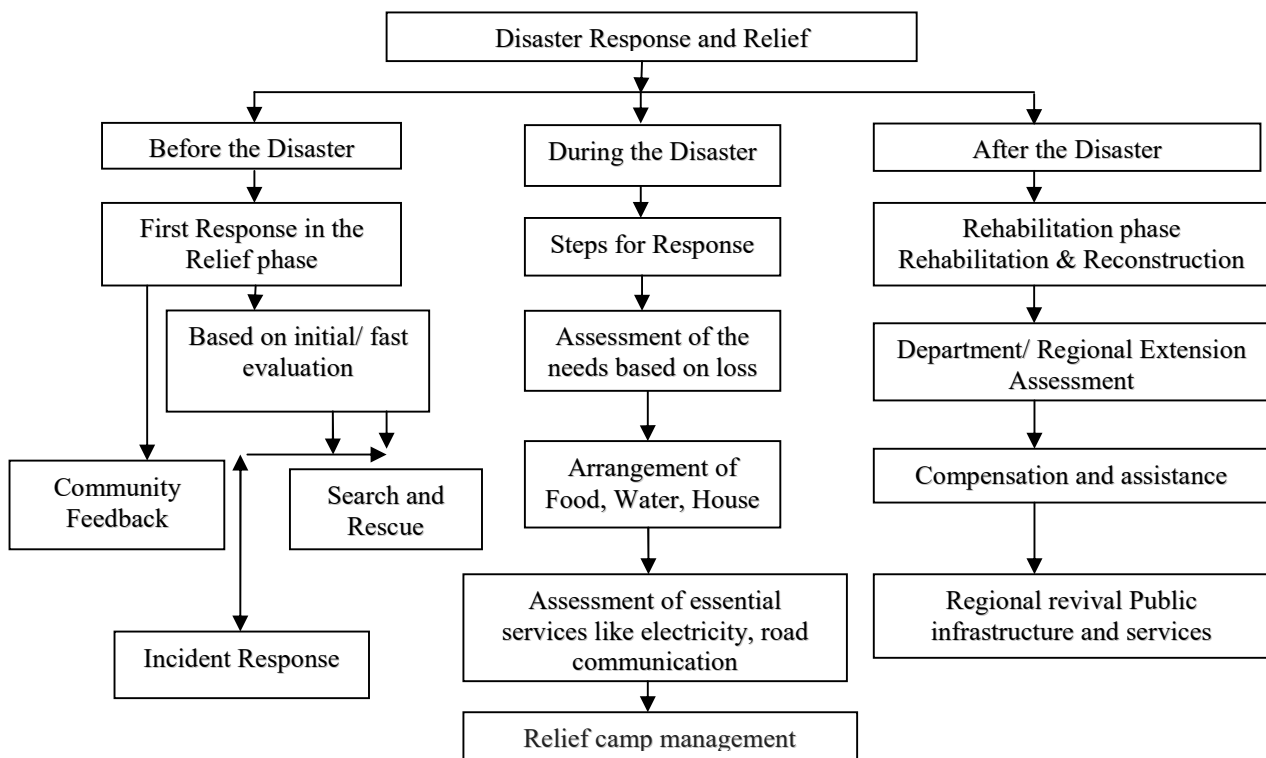
All disasters, incidental events and crisis events are extremely dynamic through which physical, mental and emotional disorders can also arise. Relief and response are the measures that are used immediately after the disaster. Their purpose is to protect the lives of the people before the disaster and the post-disaster situation, to remove their troubles, to safeguard the property and to deal with the disaster losses. Relief and response measures are generally implemented in extreme conditions. These campaigns require a large number of human resources, equipments and other resources, so it is difficult to succeed in these campaigns without adequate planning, management, training and feedback team. The extent and effectiveness of action in response to disaster can be reduced to the extent of loss and risk.

## 1.1 Stages of Response and Relief

Before Disaster	Warnings, Necessary Preparedness
During Disaster	First Response- Relief
After Disaster	Relief-Rectification

**Table 1: Stages of Response and Relief**

It involves essential work before, during, and after the disaster. Therefore it is categorized in three steps. Diagrammatic representation of relief and response are as follows-



**Flowchart 1: Diagrammatic representation of Relief and Response**

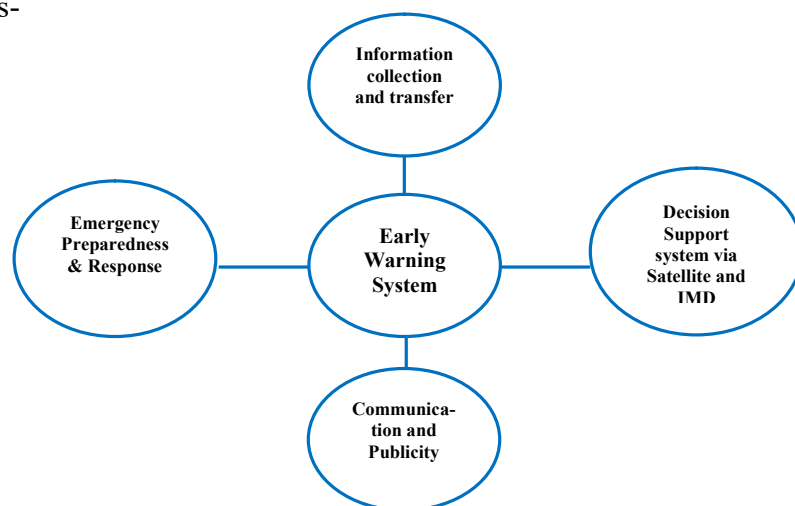
## 1.2 Pre-Disaster Relief and Response

**Disasters can be divided into two parts based on early warnings and prediction -**

The **first** type of disaster are those whose early warnings and prediction are possible. The **second** type of disasters which happens accidentally, whose prediction or early warning is not possible. The pre-disaster relief and response activities are implemented for both of the above disasters. The measures taken before the occurrence of a disaster is known as disaster preparedness. The following elements are included in the pre-disaster relief and response –

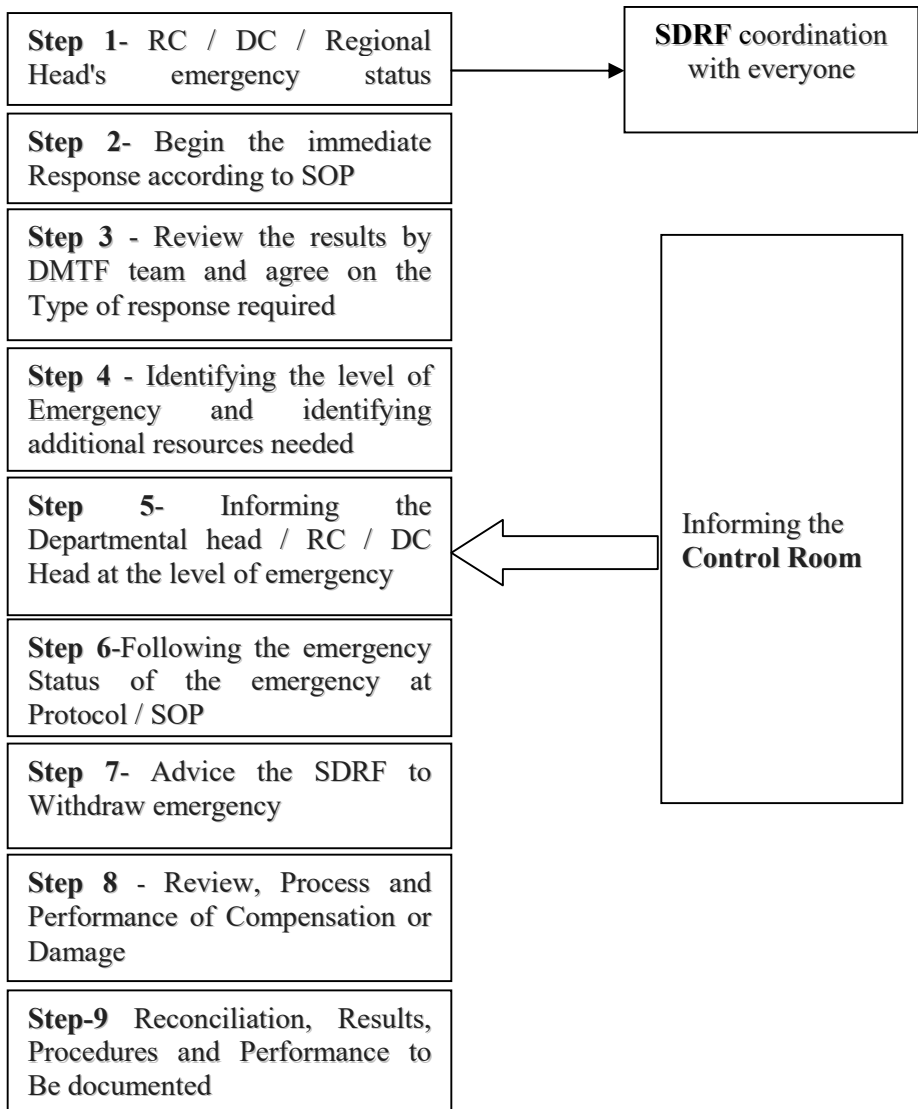
- Early Warning System
- Collection of disaster related data
- Shelter Identification
- Availability of disaster related equipment at one place
- Mockdrill
- Correcting the Communication system
- High alert should be notified to the Concern Department
- High alert should be notified to the First Response Unit
- Evacuate the houses from the High Risk zone
- Accumulation of food, water, medicine etc

Flood and Drought are the major natural disaster of the Sarguja district whose early warning and forecasting are possible. Fire, Road and Industrial Accident are that disaster whose early warning is not possible. It is necessary to strengthen the warning system in the district for the forecasting and warning of different types of disasters. It is proposed to amend the communication/ early warning system by the district administration. This system will work in the following steps-



**Figure 1: The Proposed Disaster Pre-Warning System of the District**





**Flowchart 2: Flowchart of Events for Major Emergency Response**

The following institutions work at the State and National level for pre warning related to disasters –

- 1. State Disaster Management Authority**
- 2. IMD**
- 3. State Economic and Statical Department**
- 4. Remote Sensing Department and Geographical Information System**

### **1.3 During Disaster Relief and Response**

In the event of disaster, people are mostly affected by its adverse effect. During this phase, relief and response is required. Quick and efficient action taken in response to the disaster will result in lesser damage to the human lives and property. During disaster, the district administration will follow the steps given below for relief and response

1. Formation of First Response Group
2. Activation of State government and District administration
3. Search and Rescue Team
4. Immediate reinstatement of necessary services
5. Transportation of the victims in the Shelter and Hospital
6. Maintaining peace
7. Acquisition of cranes, bulldozers and other resources as needed
8. Establishment of temporary relief camps
9. Supply of relief material
10. Assessment of damage after disaster
11. Immediate relief to the disaster victims

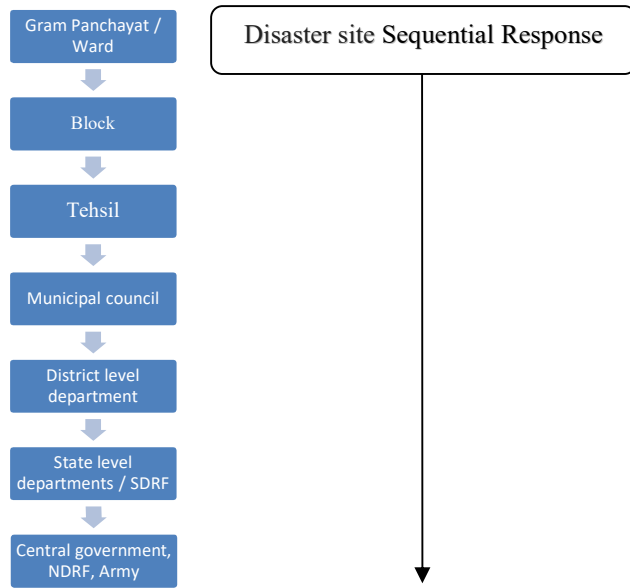
### **1.4 Execution of Phase II of Relief and Response in the context of Sarguja District**

#### **First Response Group**

After sudden disaster, it takes about 12 to 24 hours to get help, so local public / community work as a first-responder. In Sarguja district, it is necessary for the people living in and around the surrounding areas to work as the first responder at the time of disaster. For this, their Training and Capacity Building are necessary.

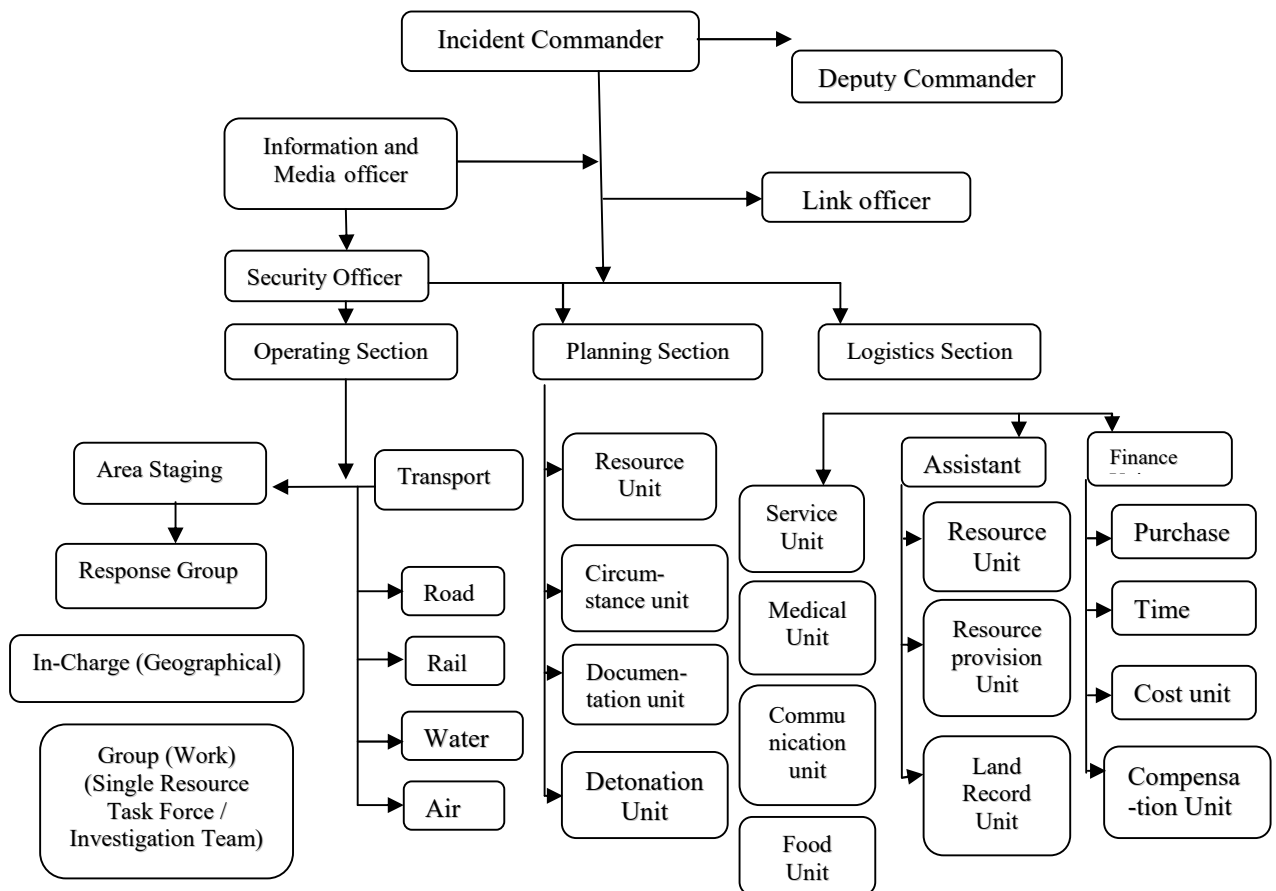
### **1.5 Activation of State government/ District administration**

After First Responder Group it is the responsibility of Gram Panchayat, Block, Tehsil and Municipality / Council to respond towards disaster. If required help from State or Central can also be taken. The different steps of administrative response system are as follows-



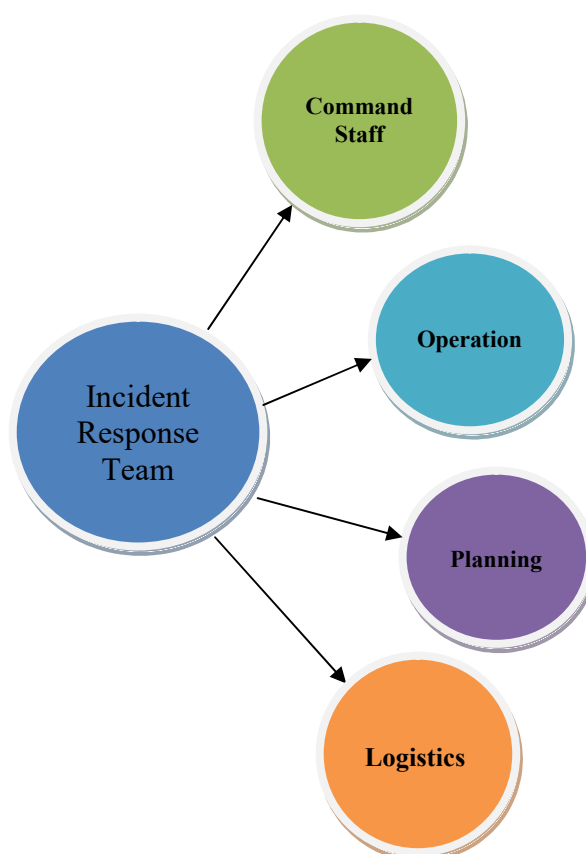
**Flowchart 3: Stepwise Of Administrative Response System**

In order to provide quick response to the disaster, the district will need an emergency Response Team (Quick Workforce) and an Incident Response System, which can immediately control the situation by getting itself operational at the time of the disaster. The framework of the district Sarguja Incident Response Team will be as follows :



**Flowchart 4: Incident Response Team framework**

Thus, the district's Incident Response Team framework will have four main sections. What is the procedure to activate the incident response team framework and what is to be done are the responsibility of the Command staff. The district collector (DM) will be the chief. This framework will be the spine of disaster relief and response. The head office of the incident response team will be the district office, which will work with the coordination of the Emergency Operation Centre (EOC). During the disaster, various steps and components of IRTF will be activated in a phased manner which are as follows –



**Figure 2: Incident Response Team framework (IRTF)**

L – 0	This is the normal level of disaster of preparedness.
L – 1	This will be the level of disaster that can be managed at the district level.
L – 2	This will be the level of disaster that can be managed only with state-level cooperation.
L – 3	This will be the level of disaster in which the central government and the national and international cooperation will be required.

**Table 2: Steps of IRTF**

## **1.6 Post Disaster Relief and Response**

It is a quick response situation against disaster. In this situation, the intensity and risk of disaster are almost diminished, but the work of relief and response continues. In this state the priorities of relief and response are changed. The main function of this stage is rehabilitation and resettlement. The post disaster relief and response phase in Sarguja district are as follows-

- Assessment of detailed loss will be done by the district administration on the losses due to disaster by the local level secretary, Patwari, Kotwar, Sarpanch. This will help to assess the financial need for the rehabilitation of the affected people and the restoration of the infrastructure. Along with the losses, reasons and deficiencies in disaster management will also be kept by the department of disaster management for the betterment in the future.
- Rehabilitation of affected people.
- The major problem is rehabilitation after the disaster. People living in relief camps want to return to their homes, for this, the following measures can be taken by the district administration-
  - To provided adequate finanacial assistant from the state government to the affected people.
  - Allocation of land and financial assistance will be done as per the requirement of the affected people.
  - The district administration and the state government will ensure the basic needs like electricity, drinking water, education, medicine.

## **1.7 Reconstruction**

Reconstruction process at the district level will be done in such a way that it replaces adverse conditions and results in a better construction which would be a lengthy process. A dedicated work group will be constituted for this purpose. The work will be monitored at the higher level, giving high priority by the PWD.

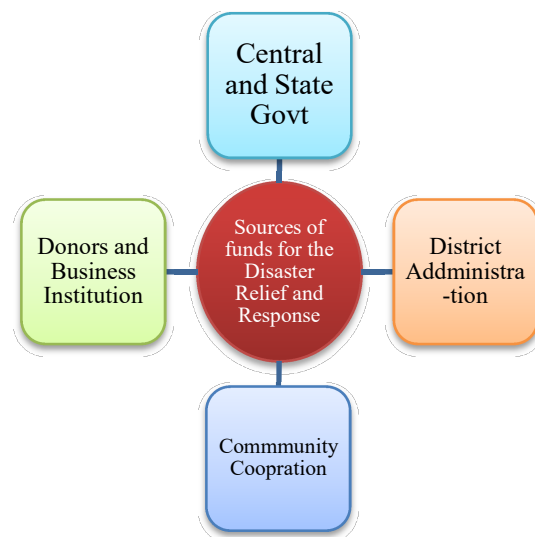
- **Regeneration of livelihood**

The major problem by the disaster affected families will be of livelihood. For this, the following efforts have been suggested -

1. Rehabilitation of the structures of shops, commercial buildings etc, so that the employment of affected people can be resumed.
2. Those who have lost livelihood resources will be provided alternative employment or financial assistance will be given to start their own employment.
3. New livelihood resources will be developed as per local requirement. In this sequence, special attention will be taken of women and weaker sections.

- **Fund Allocation and Audit**

After spending the money in disaster relief and reimbursement received from central government, state government, district administration, donors, industrial establishments and people's co-operation, its audit will be proposed, so that the money received cannot be misused.



**Figure 3: Sources of funds for the Disaster Relief and Response**

## **2. Measures for Reconstruction and Rehabilitation**

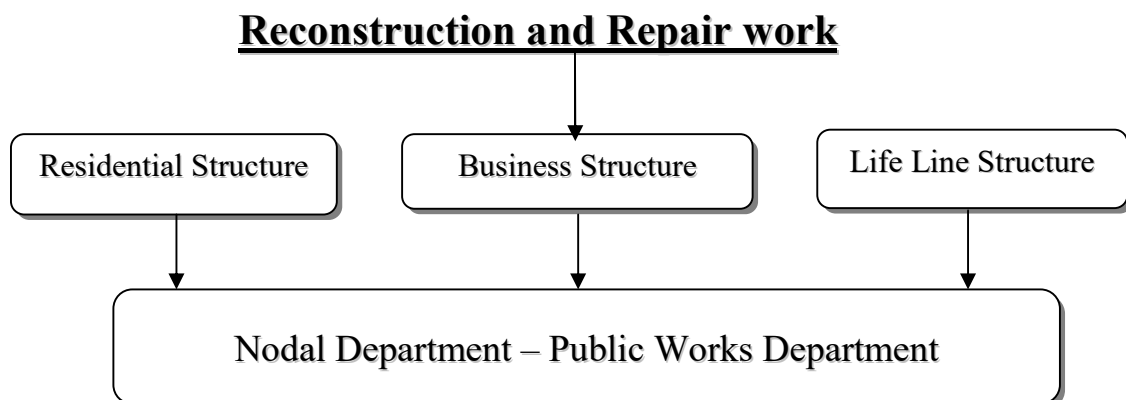
### **2.1 Reconstruction and Rehabilitation**

Reconstruction refers to the full restoration of all services, local infrastructure, replacement of damaged physical structures, the revitalization of economy and restoration of social and cultural life. Reconstruction must be fully integrated into long-term development plans, taking into account future disaster risks and possibilities to reduce such risks by incorporating appropriate measures.

Rehabilitation refers to the actions taken in the aftermath of a disaster to enable basic services to resume functioning, assist victim's self-help efforts to repair physical damage and community facilities, revive economic activities and provide support for the psychological and social well-being of the survivors. It focuses on enabling the affected population to resume more or less normal patterns of life. Following sectors will require rehabilitation and reconstruction inputs-

- Buildings and houses in villages prone to flooding.
- Infrastructure like roads, bridges etc.
- Economic assets (including commercial and agricultural activities etc.)
- Healthcare facilities
- All other lifeline buildings

It is natural to have damage to residential buildings and administrative and other buildings at the time of disaster. Therefore, after the disaster, reconstruction and repair work is required. This work has three parts-



**Flow Chart 5: Reconstruction and Repair Work**

## **2.2 Recovery Activities**

### **2.2.1 Short Term Recovery**

Short term recovery phase starts during the first hours and days after an emergency event. The principal objectives are to restore the necessary structural and non-structural facilities. The short-term recovery with urgent measures to be undertaken includes the following -

- Communication networks
- Rehabilitation
- Drinking water supply
- Health care facilities
- Food and Clothes
- Debris removal and disposal of corpse and carcass
- Mass care/sheltering and housing
- Roads and bridges
- Electricity supply
- Drainage and sewage
- Reconstruction and recovery of lifeline buildings

### **2.2.2 Long Term Recovery**

Long term recovery efforts must focus on redeveloping and restoring the socio-economic viability of the disaster areas. The reconstruction phase requires a substantial commitment of time and resources by government and non-governmental organizations. The activities involved would most often be the result of a catastrophic event that has caused substantial, long term damage over a very large area. However, there has been no history of catastrophic events in Sarguja . In case of any future catastrophic disaster, the following efforts shall be made-

- Long term reconstruction of public infrastructures and social services damaged by the disaster.
- Re-establishment of adequate housing to replace that which has been destroyed.
- Restoration of jobs which were lost.
- Restoration of the economic base of the disaster areas.



### *District Disaster Management, Sarguja(C.G.)*

- In the district disaster management plan, the following programs will be included in quick or short term programs-
- Reinstatement of most essential services
- Reconstruction of infrastructure
- Rebuilding
- Subsidies
- Rehabilitation of affected people

**In the long term rehabilitation scheme of the district, the following objectives are to be obtained in the long run-**

- Reforming the lives of affected people.
- Availability of mental therapist, counselling in the affected areas, so that people can forget the bad experiences.
- Continuous efforts to improve the quality of life of the people.
- Long term efforts like life insurance for providing economic protection to the people.
- Problem Solution Camp in Affected Areas on Fixed Terminal
- Establishment of parks, cinema houses, malls etc. in affected areas, so that people can spend their time in recreation.

### **2.2.3 Assessment of Loss and Policy Determination**

District collector will be in charge of assessing the damage from the disaster who will instruct for the formation of a local level committee. This committee will submit the report to the District Collector after detailed assessment. The District Collector will determine the level of disaster and accordingly decide at what level rehabilitation program is needed.

- **Policy formulation**

There will be three major steps for the Resettlement, Reconstruction and Rehabilitation policy-

1. Restoration
2. Construction
3. Settlement



S. No.	Item	Nodal Department
1	Transformers, Electric poles etc.	CSEB
2	Water supply, Drainage and Sewage	DWS, Municipalities
3	Roads, buildings, bridges etc.	PWD, CPWD
4	Transportation	RTO
5	Health and hygiene	Health
6	Animal care	Animal Husbandry
7	Removal of fallen trees	Forest, PWD
8	Removal of debris, corpse and carcass	Municipalities, SDRF, PWD
9	Communication	BSNL, Mobile service provider
10	Hospitals, Schools	PWD

**Table 3: Nodal Departments/ Officer for Reconstruction and Reorganization**

Required services are included under the reorganization or reconstruction which can be divided into two parts-

- **Basic Services** – Basic services include water supply, sanitation, solid waste management, sewerage etc. These services should be made available as soon as possible. This work is possible with the help of related departments and special agencies and NGOs. To ensure water supply in Sarguja district, water supply from water tankers and construction of temporary tanks etc. will be done along with the cleanliness. Temporary toilets, walk-in toilets and bathrooms will be provided in the affected areas for sanitation and sewerage, so that the problem of sanitation and sewerage can be solved at those places. After the disaster, the assistance of city councils and private agencies will be taken for JCBs and tractors etc. to remove debris.

**Essential Services** – Restoration of lifelines services like electricity, communication, transport etc. are very important because the relief and response depends on these facilities. Normally, the social system depends on how fast the basic essential services are restored, because of its failure; the situation of chaos, riot, and migrations arises. On the order of district collector, the power distribution corporation, the department of telecommunication and the department of transportation will become nodal department for the establishment of

*District Disaster Management, Sarguja(C.G.)*

electricity, communication and transport, respectively who will work in coordination with other related departments.

The reconstruction of residential structure includes design, planning and reconstruction of all the damaged houses of urban and rural areas. The public works department will be the nodal department for this work in the district. Two measures can be taken for this –

1. Provide financial support to the people for housing.
2. Determining the appropriate location, providing house to the needy people.

Financial support will be given to partially damaged residential or commercial structures for reconstruction. Reconstruction of fully destroyed residential and commercial structures are necessary. After the selection of appropriate construction site, large number of building materials are also required. Assistance of experienced engineers will be taken in this district. On this basis temporary and permanent houses will be built for the affected people. Participation process can be adopted in the design of houses, etc. to ensure the acceptance of reconstruction of building.

### **3. Financial resources for the District Disaster Management Plan**

#### **3.1 Availability of financial resources from Center and State**

Policy and Funding procedures are included in plan to assist disaster victims. The Finance commission appointed by the Government of India reviews in every 5 years. On the recommendation of finance commission, a state-owned Calamity Relief Fund (CRF) has been set up in each state, the structure of the calamity fund is determined by the finance commission, 75 percent contribution is contributed by the central government and 25 percent is contributed by the state government. Relief assistance is provided to victims of natural disaster from CRF. If disaster occurred on a large scale for which additional funds are required, then fund is given in the National Calamity Contingency Fund (NCCF) which is established by the Central Government. This is approved by a high level committee. Institutional arrangements for funding for relief and response related programs in the country have been made, which are very strong and effective, though there is a need to reconsider the list of disaster and demand. And this work should be done according to the geographical location of the state.

According to the 13th Finance Commission recommendation's and National Disaster Management Act (2005), the name of Calamity Relief Fund has been named State Disaster Resource Fund (SDRF) and National Disaster Resource Fund (NDRF) in 2010-11, and the State Disaster Mitigation Fund (SDMF) ) has also been arranged. The main agency, which assesses the loss, is the district administration and in this work, employees of various departments such as Revenue, Home, Medical, Animal husbandry, Forest, Water supply (PHE), Public works (PWD), Health, Women and child welfare etc. are also involved.

##### **3.1.1 Fund for capacity Building**

The Central Government has made a provision of giving 4 crore (financial year 2010-11 to 2014-15) for 5 years (up to 5 years) for capacity building of the administrative system in disaster management. This fund will be spent through programs and radio, printing, electronic media on Public awareness training and IEC material production and dissemination as mentioned in Chapter 6.

## **3.2 Other fundings by state**

In addition to the above provisions, the state has also set up a fund called Chhattisgarh Relief Fund, for which initially there is a provision of Rs. 6 Crores and in the upcoming years 25 lakh rupees will be added annually in this fund. This fund will be used for rescue and relief of the victims by accidents.

### **3.2.1 External funding systems**

So far, there is a provision to raise fund for some projects from United Nation agencies as external sources.

### **3.2.2 Financial provisions**

Budgetary funds are provided to the disaster affected people by center and state government for providing assistance.

### **3.2.3 Disaster relief fund**

The assistance amount under the Disaster Relief Fund is given by the central government since 21.12.2010 for providing assistance during the natural calamities notified under the recommendations of the commission. Wherein 75% is of center and 25% is of state, the center has issued detailed guidelines for the use of Disaster Relief Fund.

## **3.3 National Calamity Contingency fund**

If the disaster goes beyond the capacity of state government/ disaster relief fund then the center funds the same via National Disaster Contingency Fund. For this, a detailed advertisement is sent by the state to the central government which is further assessed by a central team. On the basis of the report of the central team, the amount of National Calamity Contingency Fund is approved by the central government.

## **3.4 State Disaster Relief Fund**

To recommend the 13th Finance Commission and to follow the Disaster Management Act State Disaster Relief Fund has been created in the State. In the State Disaster Relief Fund, 75% is of the center and 25 % contribution is from the state. This fund will be utilized as per the prescribed criteria during the calamities for immediate help etc.

### **3.5 Chhattisgarh relief fund**

Chhattisgarh Relief Fund has been set up to provide relief / expenditure to such natural calamities in which State Disaster Relief Fund cannot be used. It has a budget provision of 25 lakhs per annum. Apart from this, the amount can also be collected through public cooperation. A state level committee has been constituted for its operation / management at the state level.

### **3.6 Other provisions of the finance system**

For prevention, preparedness, rehabilitation and reconstruction under disaster management in the state, the finance will be arranged department wise under the planned scheme. For the preparedness, the state government will make provision for disaster management in the departmental budget every year.

Apart from this, financial resources such as risk insurance under disaster management will also be encouraged and schemes such as Crop Insurance Scheme, Self Help Group will be developed. In the industrial and commercial units, the responsibility of disaster prevention and disaster damages will be the responsibility of the concerned unit.

### **3.7 District Financial Resources**

Although financial assistance is required on a very large scale during disaster, which is generally not possible at the district level. However, for immediate help, its arrangement is necessary at the district level.

### **3.8 Other Financial Resources at District Level**

Other financial resources at district level are given below from where financial assistance can be taken during of disaster –

Professional Resources	The prestigious Commercial Institutes of the district, showrooms, hotels etc.
Industrial Institute	Rice mill etc,
NGO	Various Social Service Indtitutes and Donors
Public Cooperation	Various Social Workers
Government Employee	Donation of one day salary

**Table 4: Other Financial Resources at District Level**

## **4. Monitoring, Evaluation and Updation of District Disaster Management Plan**

### **4.1 Evaluation of DDMP**

Evaluating the effectiveness of plans involves a combination of training events, exercises, post disaster questionnaire etc. to determine whether the goals, objectives, decisions, actions and timing outlined in the plan will result in an effective response. Indicative guidelines for monitoring and evaluation of the plan are given below -

- Regularly reviewing the implementation of the plan.
- Checking the efficiency of the plan after any major disaster/emergency in the district to identify the things that did and didn't work and further making amendments to the plan accordingly.
- Keeping Indian Disaster Resource Network (IDRN) updated and connected with the plan.
- Updating coordinates of responsible personnel and their roles/responsibility half- yearly/ annually or whenever a change happens. Names and contact details of the officers/officials who are the nodal officers or the in-charge of resources to be updated on regular basis.
- Plan should be circulated to all stakeholder departments, agencies and organizations so that they know their role and responsibilities and also prepare their own plans.
- Regular drills /exercises should be conducted to test the efficacy of the plan and checking the level of preparedness of various departments and other stakeholders. It would ensure that all parties understand their roles and responsibilities clearly and understand the population size and needs of vulnerable groups.
- Regular training and orientation of the officers/officials responsible to implement the plan should be done so that it becomes useful document to the district administration.
- Army, NDRF, SDRF and other agencies should be integrated into the plan and exercise regularly.
- DDMA should hold regular interaction and meetings with the army or any other central government agencies for strengthening coordination during disasters.



## **4.2 Authority for Maintaining and Reviewing DDMP**

The task for updating of DDMP lies with the District Disaster Management Authority (DDMA). The plan will be updated annually. The following officers of the authority are responsible for maintaining and reviewing the DDMP.

<b>S.No</b>	<b>Details of Officers</b>	<b>Designation</b>	<b>Office</b>	<b>Mobile</b>
1	Collector	Chairman	Dr. Saransh Mittar (Sarguja)	07774- 220701, 223818,220532, 8085087755
2	Elected Representative of Local Authority	Co - Chairman	Shri.T.S.Singhdeo	94252 - 54054
3	CEO, Zila Panchayat	Member	Smt.Mamta Gandhi	7869677456
4	Superintendent of Police	Member	Shri. Javed Maindad	9479193599
5	CMHO	Member	Dr.Anil prasad	9826198505
6	EE, Water Resource Department	Member	Shri.N.C.Singh	7694969544

**Table 5: Format for DDMP Review Panel**

## **4.3 Post Disaster Evaluation Mechanism**

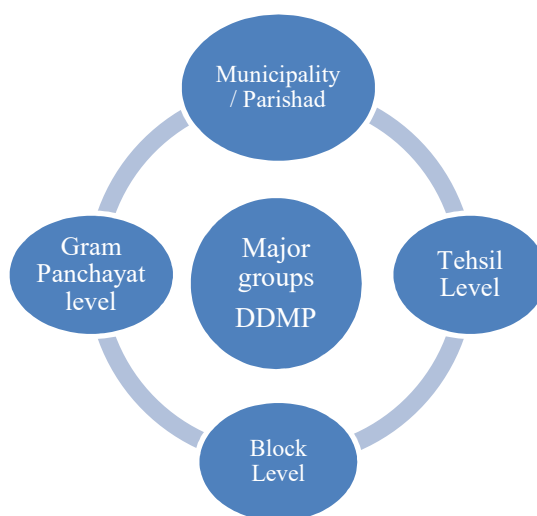
As a part of post-disaster evaluation mechanism, a meeting of the DDMA will be held within 2 weeks of disaster in the district where the team leaders/ nodal officers of each participating department/ agency shall remain present. Schedule for updation of DDMP will be in the month of April/ May on the basis of information/data received from various agencies.

## **4.4 Disaster Evaluation Mechanism**

The implementation of the DDMP depends on how the system mentioned in the plan is being used at the ground level. There will be different levels of evaluation and updation of DDMP.

A district disaster management authority will be constituted first at the district level presided by the District Collector. This Authority will include the Disaster Management Authority in charge, Chief Executive Officer, District Panchayat, Superintendent of Police, Chief Medical and Health Officer, Executive Engineer of Electricity Department, Executive Engineer Public

Works Department and Subject Specialist. It will be a 8-10 member team and it will be the right of the district collector to determine the number.



**Figure 5: Tactical system of monitoring and updating of DDMP**

Such a District Disaster Management Authority, committee should also be formed at the level of Municipality, Tehsil, block level and Gram Panchayat. Each committee of each level will work according to the instructions given in ddmp. The Committee of each level will prepare annual report of the necessities in their respective areas of disasters, their impact, available financial resources and relief and response. This report will be presented to the District Committee at the end of the year or on the necessity. According to which District Disaster Management Authority Committee make the necessary updates in DDMP.

#### **4.5 Media Management**

Media management is one of the core issues related to disaster management. Usually, in case of disaster, media correspondents reach the site even before the outside disaster management agencies and they assess the situation. The report they release on air is contradicting and creates panic. In order to control the situation certain arrangements shall be made by the district. As a disaster is noticed the Incident Commander shall do the following measures to control the media -

- Along with information dissemination to the vertical and horizontal agencies, press people shall be called and given preliminary data based on assessment. This shall reduce the spread of rumors.

- Only the state owned electronic, print media should be taken to the site.
- In every one hour or so, the Incident commander shall give press release in order to control false information to the outside world.
- No media shall be allowed to air or print pictures of dead bodies with worst condition.

In a disaster situation, only PR office in district level will communicate with the media and provide brief, no other parallel agency or ESF or voluntary agency involved in the disaster management shall give any sort of press briefings.

#### **4.6 Conducting Mock Drills at District Level**

The district level mock drill shall be conducted every year before the disaster phase in the disaster prone areas. The concerned departments shall take part in the mock drill to show their preparedness in evacuation, search & rescue, health & first-aid, drinking facilities and relief camps set-up. Evaluation of performance is to be made by the DEOC, the responsible organizing committee.

##### **4.6.1 Following are the responsible institution for MockDrill -**

- Those institutions that are related to the disaster, whose MockDrill is being done. Municipal councils and fire brigade for the Mock Drill of Fire Accident.
- The administration of that area is being proposed for Mock-Drill. Like the Mock-Drill in Sarguja district, the Home Guard (Nagar Sena) will be a local administrative organization.

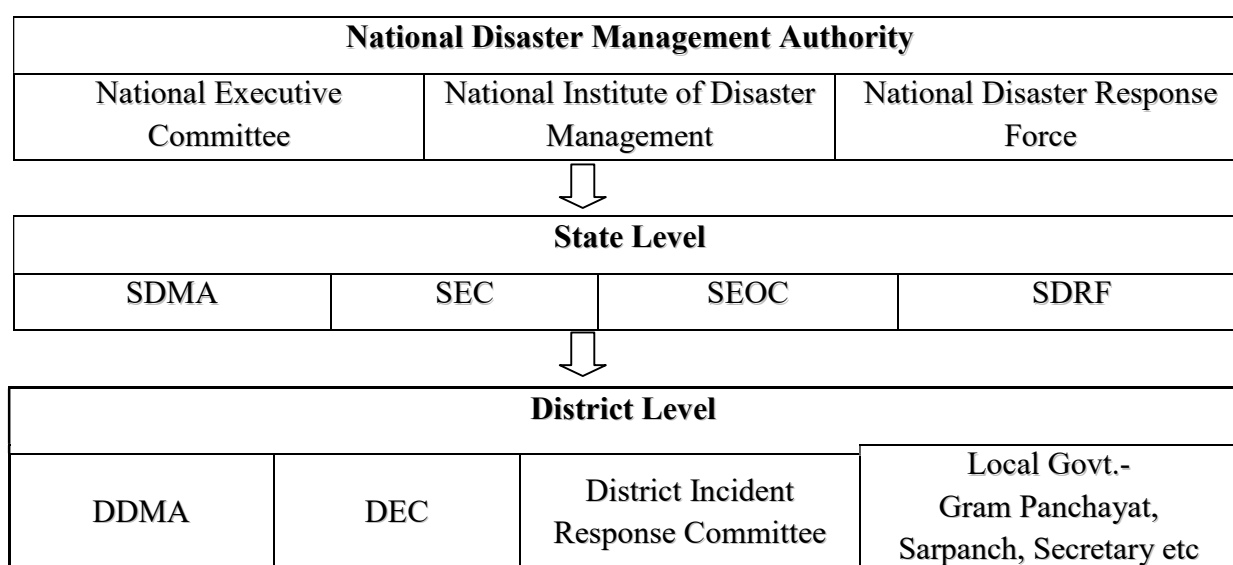
Thus, making the disaster special and local administration a responsible institution would make MockDrill more effective, where as financial resources will be obtained from the District administration and the State Disaster Management Fund.

## 5. Coordination Mechanism for Implementation of DDMP

After the implementation of the Disaster Management Act 2005, institutional infrastructure has developed at national, state and district level for disaster management. All these organizations are responsible for working for disaster management with mutual coordination. Better coordination between all departments will serve as a strong base for achieving effective management and mitigation objectives of disasters. All government departments and other participants needs active participation in coordination at the state and district level. In case of any disaster, emergency response is first of all. Local people also help in this. Many other agencies and organizations are also involved in this work.

Emergency services are always in active state, so that they can immediately respond and the administration can alert other services. Different emergency services are compulsory but to deal better with disasters, Some other useful services also support. All institutions are different; their authority is different; the hierarchy is different. To improve the rescue operations, it is necessary to work with all the departments and agencies in better coordination. It is also important to understand the abilities, limitations and obligations of each other.

At the time of disaster in Sarguja district, required efforts will be made between all departments and agencies to better coordination. by the district, Coordination will be maintained at the center level and at the state level which is important. The coordinated implementation of DDMP from center to local level is as follows –



**Flow Chart 6: Coordinated mechanism for implementing DDMP**

## **5.1 Coordination with the Center and the State**

### **5.1.1 National Disaster Management Authority**

National Disaster Management Authority constituted under the chairmanship of the Prime Minister. NDMA is responsible for managing policies, schemes and guidelines for disaster management, effective action and coordination in implementation at the time of the disaster.

### **5.1.2 National Executive Committee**

The “National Executive Committee”, constituted under the Chairmanship of the Union Home Secretary, assists the National Disaster Management Authority in discharging its duties and also ensures compliance with the direction issued by the Central Government.

### **5.1.3 National Institute of Disaster Management (NIDM)**

The ' National Executive committee ', constituted in the Chair of the Union home Secretary, helps to discharge its duty to the National Disaster Management Authority and also assure compliance with guidelines issued by the central government.

### **5.1.4 National Disaster Management Force (NDRF)**

National Disaster Response Force has been set up to conduct search and rescue operations in a challenging disaster situation. It will be available for the states when called in the event of disaster. It will be available to states if needed in case of disaster.

## **5.2 State Disaster Management Authority (SDMA)**

State Disaster Management Authority is constituted under the chairmanship of Chief Minister for disaster management in the state. . It is the top body for determining disaster management policies and schemes in the state. Its work is to approve state disaster planning, coordinate implementation for state disaster planning, provision for prevention, mitigation, preparation measures and monitoring disaster related development plans of different departments of the state.

### **5.2.1 State Executive Committee (SEC)**

State Executive Committee has been constituted under the chairmanship of Chief Secretary to assist in the work of State Disaster Management Authority. This committee will work to coordinate and monitor the implementation of national and state policy and plans.

### **5.3 District Disaster Management Authority (DDMA)**

District Disaster Management Authority has been constituted under the chairmanship of District Collector for disaster management in each district. This system will make plans for disaster management at the district level and will ensure that the guidelines issued by the National Disaster Management Authority, State Disaster Management Authority and the State Executive Committee for prevention, mitigation, preparation and response to all the departments at the district level and Follow by the authorities.

### **5.4 State Disaster Response Force (SDRF)**

On the basis of Center, a state disaster response force has also been formed in the state. Members of this force will be provided special training for disaster management. It will be equipped with modern equipment to deal with the disaster. Under this, special teams will be formed for flood, earthquake, chemical and molecular disasters. Women members will also be included in this special care for women and children. It will be expanded as per requirement.

### **5.5 Disaster Management Center**

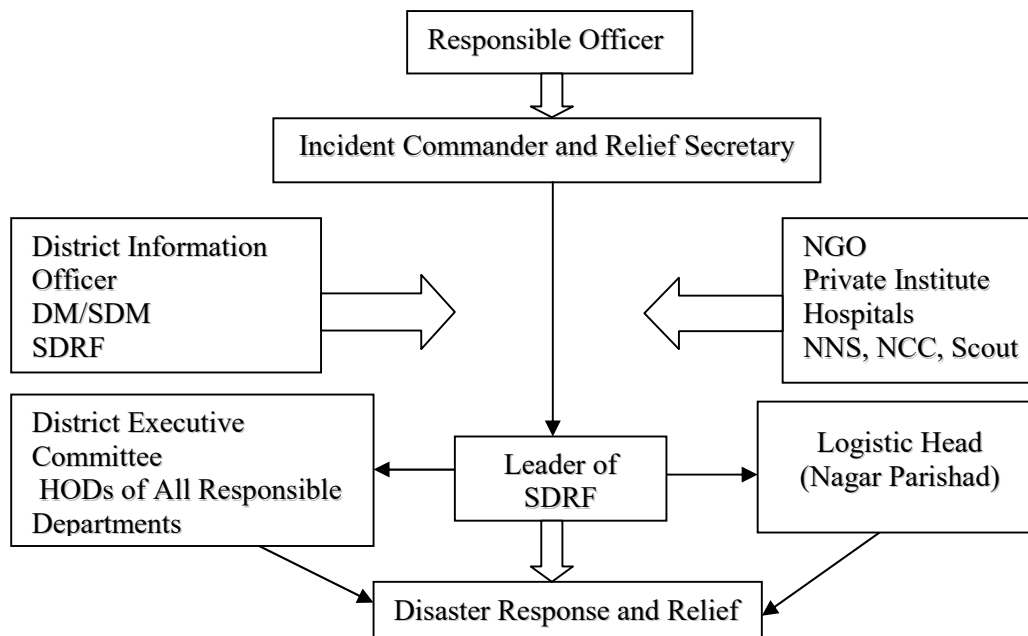
For the purpose of promoting the capacity of all the stakeholders for disaster management in the state, the Disaster Management Training Center is working in Chhattisgarh administration academy, Nimora, Raipur. This organization organizes training programs for disaster management, preparing promotional material for disaster management, working for knowledge management and research for disaster management. In future, a separate independent existence of the Disaster Management Center will be developed. Apart from this, Police Training School is located in Raipur, which is working for capacity building.

## 5.6 Nodal Department

Based on the nature of the disasters by the state government, their nodal departments have been set up. It will be amended from time to time with the approval of the State Disaster Management Authority. It is a duty of these nodal departments to make necessary plans for prevention, mitigation and preparation of the disaster related disaster.

## 5.7 Coordination at District Level

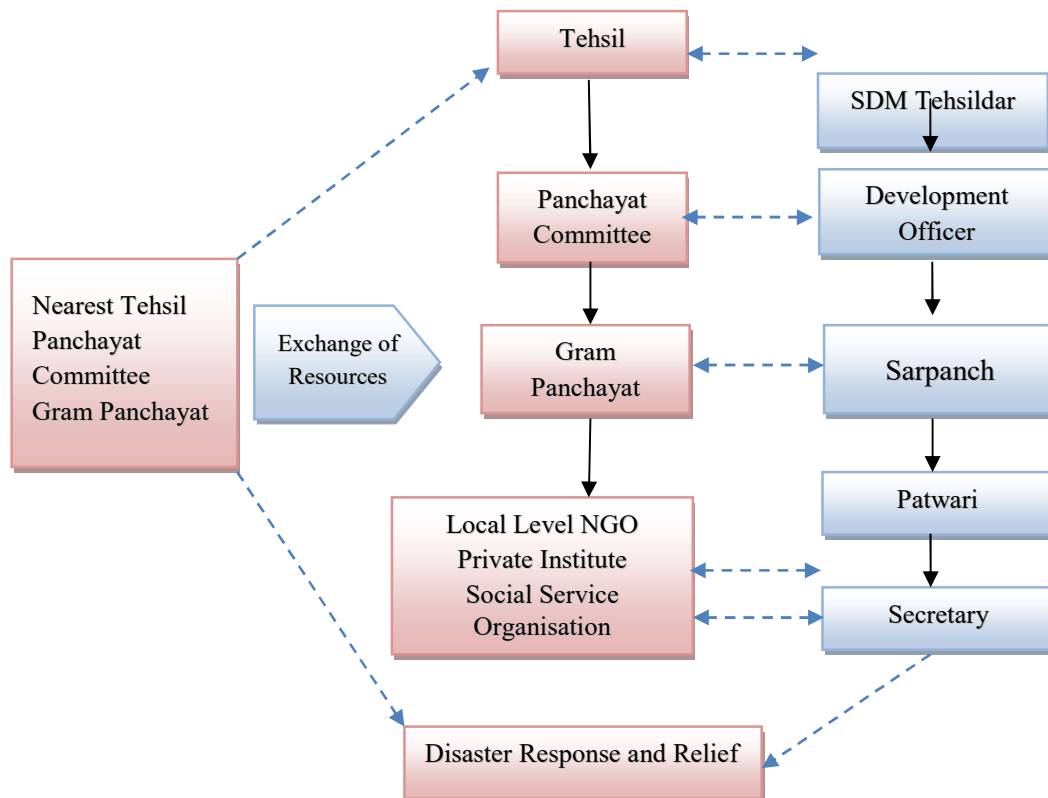
First Responders are local administrators and people at the time of the disaster. After that, the district has to take responsibility. DDMP in the district is at the highest level. After this the District's responsible officer will be the District Collector. After this, the Chief Secretary of the District Disaster Management Authority will act as Commander. With this, the District Information Officer, SDM or Tehsildar (of related place) will work. One officer of the SDRF will be for coordination. After this the team will be divided into three parts. (1) Head of all responsible departments (2) Leader of SDRF (3) Logistics Head. This integrated structure will be as follows –



**Flow Chart 7: Horizontal and vertical coordinated mechanism at the district level**

## 5.8 Coordination at Local Level

At the time of any disaster, local administration and local people are primary response factors. They have to bear the first effect of disaster and they also have to do the counter attack. Therefore local administration Tahsil Panchayat Samiti, Gram Panchayat is a major response factor. In this view, local administration will be strengthened in Sarguja district and by providing training and necessary equipment, they will be empowered to counter attack in the disaster potential village. For this, the Gram Panchayat will be formed at the village level, a Quick Disaster Response Team. It will include Sarpanch, Patwari, Secretary, Kotwar, Mitanin, medical officer and social worker of the village. Similarly, nearby Tehsil, Panchayat Samiti and Gram Panchayat can also be as useful as the first response. At the local level, Patwari, Secretary, Sarpanch Secretary, Kotwar are the basis of the entire system, which works during the disaster. At the time of disaster, local people / employees can give correct information about the remote location information, communication of information, assessment of the level of disaster, surveillance of disaster damage.



**Flow Chart 8: Horizontal and vertical coordinated mechanisms at the local level**



## **5.9 Coordination with Private Institutions and Social Service Organizations**

Various NGOs, Self Help Groups and Social Services are such factors that work effectively as well as in the time of disaster. This is an institution which has been working in this area for a long time. Similarly, the private school private hospital also becomes an integral part of the coordinated system at the time of disaster. All private and government schools and private hospitals in the Sarguja district can be encouraged to provide shelter and necessary medical facilities

## **5.10 Coordination with Neighbour Districts**

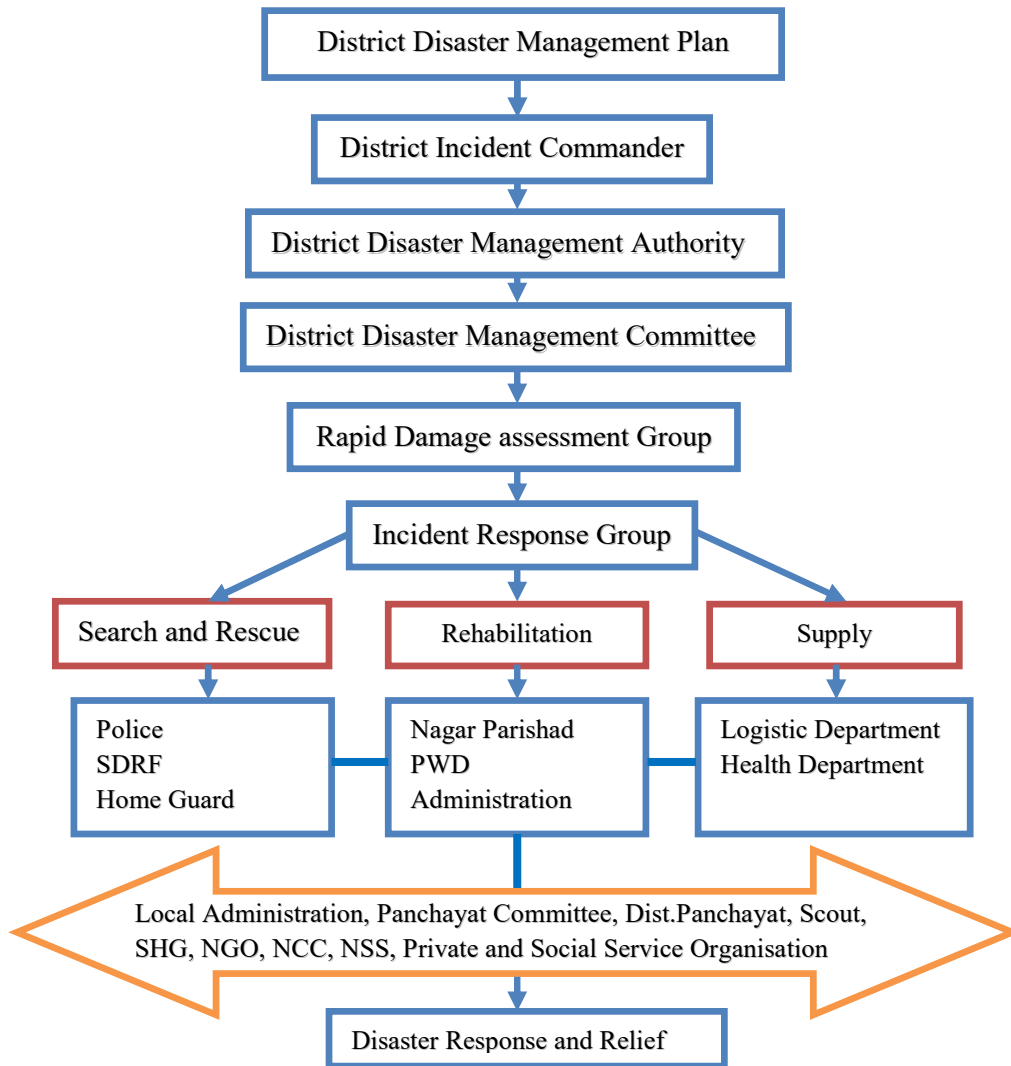
Every district, in the context of disaster management, is not equipped from all resources and capable. There is a need for external assistance at every moment during the disaster. For this, list of available resources in nearest districts and tehsils in such inaccessible/ Vulnerable areas will be kept at District Headquarters of Sarguja . So that help can be taken when needed. Here the list of such districts and states is being given, which are near and immediate assistance can be taken at the time of disaster.

<b>Area</b>	<b>Neighbouring districts</b>
Sarguja	Jashpur,Koriya

**Table 6: Nearest districts for assistance**

## **5.11 Coordination with SDMP**

SDMP will be the ideal level and standard for all districts. All districts will improve their implementation mechanisms and coordination mechanisms according to SDMP.



**Flow Chart 9 : District Disaster Management Plan**

## **6. Standard Operating Procedures and Checklist**

This chapter includes -

1. SOP for Flood, Drought and Stampede
2. Emergency evacuation plan for Fire accidents, Natural Disasters

### **6.1 Standard Operating Procedure**

As per the risk analysis, it is identified that flood is the major natural disaster. Drought is also a hazard of concern in Sarguja , however, its being a slow occurring process and does not require immediate aid compared to flood. The district is prone to other general disasters like road accidents, forest fires, epidemics, etc. Since huge gathering occurs at the fairs organize in the district, there are chances of mismanagement, as a result natural calamities like stampede, fire accidents can occur during the festival. SOPs are proposed for Fire accidents and Natural Disasters to ensure safety and increase in disaster risk reduction.

#### **i. Precautionary Measures for Fire Accidents**

To increase the level of safety in hospitals, colleges, government offices, commercial buildings etc., installation of smoke alarms or automatic fire detection /alarm systems will be proposed as an early warning of fire to the occupants. To prevent fire mishaps and to manage the emergency situation during fire following activities and precautions are proposed.

- Emergency evacuation plans or building evacuation plans are important for all residential buildings, and the same will be prepared as per Fire & Safety rules.
- Regular mock drills will be carried out to create awareness on procedures to be followed in times of evacuation.
- It will be advised to keep fire extinguishers, medical kits and masks to prevent smoke inhalation especially for those with respiratory disorders.

#### **ii. Precautionary Measures for Natural Disaster**

The following steps should be adopted by any individual during the times of disaster -

- During an earthquake, remember to crouch under some heavy furniture or stand under the doorframe for cover.
- In case of a fire in the building, leave the building by the stairs. Do not use a lift

- If the house is flooded, then climb up to the roof.
- Do not use the telephone, except to call for help, so as to leave telephone lines free for the organization of response.
- Listen to the messages broadcast by radio and the various media so as to keep updated with the latest information.
- Carry out the official instructions given over the radio or by loudspeaker.
- Keep a family emergency kit ready. In all the different types of emergency, it is better to be prepared than to get ready, to get information so as to get organized, to wait rather than act too hastily.
- During floods turn off electricity to reduce the risk of electrocution.
- As soon as flood begins, take vulnerable people (old, children, sick, etc.) to upper floor.
- Beware of water contamination, wait until the water is declared safe before drinking or boil the water before drinking.
- Clean and disinfect the room that is flooded.
- During storms and hurricanes do not go out in a car or a boat once the storm has been announced.
- If you go out in the storm, then take asylum in the shelter as soon as possible (never below the tree), if there is no shelter, lie down directly in a pit or a gap.
- Avoid doors, windows, and electrical conductors in storm or storm, unplug the electrical appliances and television aircrafts. Do not use any electrical equipment or telephone.

## **6.2 Preparedness for Flood**

### **6.2.1 Precautions**

- All the tube wells, sanitary wells should be checked before the onset of monsoon and out of order hand pumps have to be repaired.
- Disinfection of all wells and other sources of drinking have to be made and preventive and control measures should be adopted for the areas affected by diarrhoea.
- Search and rescue teams to be kept in standby for any emergency rescue operations.
- Emergency coordination team to monitor the situation.

- Ensure that drainage channels / nallas are de-silted and bunds are periodically maintained.
- The Tehsildars and BDOs will take necessary steps to conduct meeting at their level and form relief parties involving field staff/ PRI/ NGO/ local volunteers.
- Present hourly report to the District Collector during the disaster.

## **6.2.2 Emergency Response Resources**

### **A. Specialist Resources**

- Search and rescue teams (divers/swimmers, emergency medical)
- Specialized equipment- like boats, life jackets, helicopters, etc.

### **B. Manpower**

- Support Personnel

### **C. Medical Support**

- Ambulances (complete with emergency medication)
- Doctors
- Nurses
- Stretcher Bearers
- Oral Rehydration Sachets (ORS)

### **D. Law & Order Agencies**

- Police
- SDRF/ NDRF
- Army/ Air Force (if needed)

### **E. Other Essentials**

- Water storage tanks
- Chlorine tablets
- Temporary shelters with sanitation facilities
- Temporary common kitchen or food packets

The incident action plan for any flood like situation is given below-

<b>Task/ Function /Activity</b>	<b>Department/ Responsible Officer</b>
Raise alarm /Mass messaging/ Community syren	District Emergency Operation Center

system	
Look out for regular updates from Indian Meteorological Department (IMD) and Central Water Commission (CWC) for forecast and follow up action.	DEOC
Alert all IRT to start working on their role	Incident Commander
Assess situation, make evacuation plan and move community to safer zones	Incident Response Team
Activate special resources Search and rescue (divers / swimmers, boats, life jackets, searchlights, nylon ropes) Specialized equipment (helicopters, sandbags, crowbars, spades, portable motor pumps)	IC
Establish unified command (for liaison with responding agencies)	IRT
Close / cordon flooded roads and areas from entry	IRT
Assess situation hour to hour in close contact with IMD/CWC and other agencies	IRT
Conduct damage assessment	DDMA
Only after thorough check-up and formal clearance, community can be permitted to return to their habitation	IRT

**Table 7: Action plan to deal with flood situation**

## **6.3 Preparedness for Drought**

### **6.3.1 Precautions**

- Preparation of Agriculture Contingency Plans for districts and sub-districts levels, especially in vulnerable districts.
- Identification of drought prone areas preferably at the sub district level.
- Prepositioning of inputs like drought resilient variety seeds at strategic locations.

- Repair and maintenance of water bodies/ tanks/ wells etc. to help critical irrigation during dry spells.
- Develop protocols for various departments to initiate contingency measures with clear allocations of responsibilities.
- Creating awareness among the farmers on management practices like intercropping, mulching, weed control, etc.
- Encouraging farmers to have crop insurance.
- Intensification of water conservation measures like rainwater harvesting and watershed management in the villages.

### **6.3.2 Information Utilization for Drought Management**

- Using frontier technologies like remote sensing and GIS for providing information.
- Database to be created and updated regularly on weather, crop condition, market information etc.
- Getting information regularly from National Informatics Centre (NIC), village resources centers established by ISRO, ICAR, State agricultural universities, etc.

### **6.4 Preparedness Measures for Stampede**

- The first step is to regulate traffic in areas surrounding the pandals and shelter grounds.
- Route maps for the reaching the prime locations and exit routes to be put up at strategic points.
- Barricading at the entrance to ensure the movement of people in a queue to control a burgeoning crowd.
- CCTV cameras and police presence to reduce risk of snatching and other petty crimes.
- Professional swimmers as a part of rescue team are deployed around certain depth of water to prevent children and elders from drowning.
- An ambulance and health care professionals on stand-by.
- Unplanned and unauthorized electrical wirings, LPG cylinders at food stalls to be checked during the event.
- Prepare a list of nearby hospitals and clinics.

## **6.5 General SOPs for all other Disaster**

### **i. Fire**

#### **Call the fire rescue department:**

During fire in building/apartment, leave the premises by nearest available exit. Call fire department and do not assume anyone else has called the fire department. Never use lift for leaving the premises or apartment during emergency. If your cloth catches fire, do not get panic or run, stop, drop and roll.

#### **Cover your nose and mouth with a wet clean cloth:**

Stay calm cover your nose and mouth with a wet, clean cloth to prevent smoke inhalation injury and choking. Never jump off or attempt to climb down the side of a tall building as it will mean certain death.

#### **Do not run:**

During a fire, smoke containing poisonous gases such as carbon monoxide (CO) tends to rise up. When you run in a smoke filled room, you tend to inhale the smoke faster. CO dulls the senses and prevents clear thinking, leading to panic. To prevent being asphyxiated, dip tissues or cloth in water and cover your nose with it.

### **ii. Natural Disaster**

Disaster occur without notice. Most of the disasters are natural such as earthquake, flood, hurricane, sandstorm, landslide, tsunami and volcanos. We have no way of stopping them, but we can learn to deal with the difficult situation that arise due to them. During disasters like flood, fire, earth quake, landslide, rescue begins at home. Even before external help arrives, people affected by the disaster help each other.

The government and many voluntary organization send teams of worker trained in rescue operations to disaster-affected areas. These teams join hands with the local community helpers such as doctors, nurses, social workers and policemen.

Temporary shelters are built for displaced people. Doctor and nurse provide medical aid. They treat the wounded and work to control epidemics. Social workers collect food and cloth from all over the country for the disaster-affected people. The police maintain law



and order. Media –person help in spreading news about the victims and their conditions. They also post advertisements that urge people to donate for victims.

In extreme conditions, the Army and Air force organize rescue operation. They clear roads, send medical teams and help to move people to safer place. The air force drops food, water and clothes in the affected areas. Organization like UN helps in providing aid during massive disasters.

## **6.6 Assistance from the Central / State Government**

<b>S.No</b>	<b>Function</b>	<b>Departments</b>	<b>Standard Relief Level and Rehabilitation</b>
1	Vacate (residential and commercial building)	Police, Nagar Parishad	<ul style="list-style-type: none"><li>• Empty risk full buildings, immediately.</li><li>• Transportation of persons and essential items at safe places.</li><li>• Provision of temporary safe accommodation for displaced people.</li></ul>
2	Search and Rescue	Police, NGOs, Scout, NSS,NCC, SDRF	<ul style="list-style-type: none"><li>• Save the people trapped in the crisis and escort them to a safer place</li><li>• Protecting the Endangered Animals</li><li>• Search for missing persons</li></ul>
3	Security of affected area	Police, Home gaurd, SDRF	<ul style="list-style-type: none"><li>• Security to avoid untoward at the affected site so that the crowd can be kept away from the disaster site.</li></ul>
4	Traffic control	Traffic Police NGOs	<ul style="list-style-type: none"><li>• Do not allow vehicles to come near the affected area.</li><li>• Arrangements for fast transport of vehicles engaged in relief work.</li><li>• Arrangement of vehicles when needed.</li></ul>
5	Law and order	Police, SDRF	<ul style="list-style-type: none"><li>• The arrangement to stop the stampede at the time of the disaster.</li><li>• Stop rumors</li><li>• Prevent riots and looting.</li><li>• Protection of life and property to affected</li></ul>
6	Decay of dead	Police, Health	<ul style="list-style-type: none"><li>• Immediate displacement of dead bodies to</li></ul>

	bodies	Department, Nagar Parishad	<ul style="list-style-type: none"> <li>avoid epidemic and pollution.</li> <li>The arrangement for the funeral of dead bodies</li> <li>Arrangement of post mortem of dead bodies in case of chemical or biological or epidemic.</li> <li>Inform to relatives of the deceased.</li> </ul>
7	Debris disposal	Police, Nagar Parishad, SDRF	<ul style="list-style-type: none"> <li>Removal of debris for the re-installation of urgent services.</li> <li>Put in the proper place of debris.</li> <li>Careful deletion of debris, which does not damage valuable items and dead bodies.</li> </ul>

**Table 8: Assistance from the Central / State Government**

## 6.7 Human Relief and Assistance

Under the relief and rehabilitation, there are various types of humanitarian needs, which is essential for normal human life. The following criteria will be available to provide the necessary facilities -

S. No.	Essential human facilities	Standard level work
1	Food	<ul style="list-style-type: none"> <li>Distribution of milk, bread, milk powder etc.</li> </ul>
		<ul style="list-style-type: none"> <li>Food packets from donors, collecting from home, logistics department.</li> </ul>
		<ul style="list-style-type: none"> <li>Distribution of fruits etc.</li> </ul>
2	Drinking Water	<ul style="list-style-type: none"> <li>Providing Drinking Water Tanker by the Nagar parishad.</li> </ul>
		<ul style="list-style-type: none"> <li>Clean drinking water by the Public Health Department</li> </ul>
		<ul style="list-style-type: none"> <li>Cleanliness of existing water sources.</li> </ul>
		<ul style="list-style-type: none"> <li>Restore drinking water supply immediately</li> </ul>

3	Medicine	<ul style="list-style-type: none"> <li>Essential medicines by government hospital- Distribute medicine of fever, diarrhea etc</li> </ul>
		<ul style="list-style-type: none"> <li>Ensuring adequate stock in medical</li> </ul>
4	Cloth	<ul style="list-style-type: none"> <li>Distribution of blankets and textiles by District Administration and donors</li> </ul>
		<ul style="list-style-type: none"> <li>Collection of old textiles by NGOs,NSS, NCC and distributions in needy.</li> </ul>
6	Temporary Shelters	<ul style="list-style-type: none"> <li>Arrangement of temporary accommodation (school, college, government building)</li> </ul>
		<ul style="list-style-type: none"> <li>Tarpaulin distribution for rain protection</li> </ul>
		<ul style="list-style-type: none"> <li>Temporary Tents</li> </ul>
7	Helpline	<ul style="list-style-type: none"> <li>Establishment of control room at the site.</li> </ul>
		<ul style="list-style-type: none"> <li>Establishment of helpline number immediately on the control room of the site.</li> </ul>
8	VIP Touring	<ul style="list-style-type: none"> <li>Inspection arrangements for Leaders, administrative officials, ministers of the government.</li> </ul>
		<ul style="list-style-type: none"> <li>Transportation and control of the crowd.</li> </ul>
9	Support from Private Institute	<ul style="list-style-type: none"> <li>Private school as temporary accommodation</li> </ul>
		<ul style="list-style-type: none"> <li>Use of resources of private hospitals</li> </ul>
		<ul style="list-style-type: none"> <li>Taking help of JCB, tractor trolley, dumper etc. from private builders.</li> </ul>

**Table 9: Human relief and assistance**

A SOP (Standard Operating Procedure) has been set up for the implementation of Disaster Management Action Plan in the district. Disaster and disaster levels will be defined through the District Disaster Management Plan.

According to the level of disaster and the requirement, obtaining external assistance will be considered. There will be special arrangements for sending information from the disaster site to the district headquarters.

Management of communication media, support, resource and various standard levels of relief has been mentioned in DDMP.

# **VOLUME-4**

# अनुबंध

जिला – सरगुजा

(छ.ग.)

क्रमांक	विषय - सूची	पृष्ठ संख्या
1	अनुबंध 1 संपर्क विवरण	1-13
2	अनुबंध 2 उपकरणों की सूची	13-18

## 1. संपर्क विवरण

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श्री मिथिलेश डोण्डे	डिप्टी कलेक्टर	9425523514
<b>अनुविभागीय अधिकारी</b>		
श्री प्रभाकर पाण्डेय	एस.डी.एम. उदयपुर	91118&37777
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<b>तहसीलदार</b>		
श्री विजेन्द्र सिंह	तहसीलदार अम्बिकापुर	9644271514
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श्री डी.आर.खूंटे	सहा.परि.अधिकारी	9407666535



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दर्शन सिदार	सहायक संचालक जन सम्पर्क	9977082438
शिवशंकर जायसवाल		9826183979
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एन.एल.सोनकर	उप संचालक खनि	9977164994
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<b>साक्षर भारत कार्यक्रम</b>		
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<b>खेल अधिकारी</b>		
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<b>स्कूल/कॉलेज</b>		
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खरे	प्राचार्य	9406012524
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<b>रेशम विभाग</b>		
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<b>पर्यावरण संरक्षण मण्डल</b>		
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एस.पी.त्रिपाठी	उप संचालक	
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<b>स्वास्थ्य विभाग</b>		
डॉ.एन.के.पाण्डेय	मु.चि.स्वा.अधिकारी	9425271500
डॉ.अनिल प्रसाद	मलेरिया अधिकारी	9826198505
डॉ.आजाद भगत	ब्लड बैंक प्रभारी	9424257335
डॉ.द्विवेदी	जिला आयुर्वेद अधि.	9926870148

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क्र.	पद	कार्यालय	निवास
1.	पुलिस महानिरीक्षक (आईजी)	240158	
2.	पुलिस अधीक्षक, अंबिकापुर	220604	220502
3.	अतिरिक्त पुलिस अधीक्षक अंबिकापुर	223849	220602
4.	सी.एस.पी.	223872	
5.	एस.डी.ओ.पी.	220159	220161
6.	डी.एस.पी.	220156	
7.	अधीक्षक, जेल	236165	236166
8.	जिला कमांडेंट	240527	240584
9.	पुलिस नियंत्रण कक्ष	240872	
10.	शहर थाना (अंबिकापुर)	224013	
11.	देहात थाना गांधीनगर	230623	
12.	स्पेशियल ब्रांच	223871	
13.	वायरलेस नियंत्रण कक्ष	240110	
14.	पुलिस लाइन	240014	

## वन मंडल :

क्र.	पद	कार्यालय	निवास	फैक्स नंबर
1.	वन संरक्षक	240594	240157	240682
2.	विभागीय वन अधिकारी, दक्षिण सरगुजा	240238	240304	
3.	विभागीय वन अधिकारी, उत्तरी सरगुजा	240339	240301	
4.	विभागीय वन अधिकारी, पूर्वी सरगुजा	240765	240336	
5.	विभागीय वन अधिकारी	240740	224335	

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क्र.	पद	कार्यालय	निवास
1.	संयुक्त निदेशक	223771	222230
2.	उप निदेशक अंबिकापुर	230249	222454

## स्वास्थ्य विभाग :

क्र.	पद	कार्यालय	निवास
1.	मुख्य चिकित्सा अधिकारी	223944	230779
2.	सिविल सर्जन बाल विशेषज्ञ	220070	235082
3.	जिला परिवार कल्याण कार्यालयत	223944	239182
4.	हृदय और बाल विशेषज्ञ	223944	220202

क्र.	पद	कार्यालय	निवास
5.	सर्जिकल विशेषज्ञ	223944	223058
6.	एच.ओ.डी. (स्त्री रोग विशेषज्ञ)	235889	224022

### लोक कल्याण विभाग (पी.डब्ल्यू.डी.) :

क्र.	पद	कार्यालय	निवास
1.	कार्यकारी अभियंता, राष्ट्रीय राजमार्ग	222724	222725
2.	कार्यकारी अभियंता पी.डब्ल्यू.डी. डिवीजन -1	240337	241299
3.	कार्यकारी अभियंता पी.डब्ल्यू.डी. डिवीजन -2	222491	222442

### दूरसंचार विभाग :

क्र.	पद	कार्यालय	निवास
1.	उप महाप्रबंधक	236000	236001

### अखिल भारतीय रेडियो :

क्र.	पद	कार्यालय	निवास
1.	जिला और सत्र न्यायाधीश	220695	240712
2.	विशेष सत्र न्यायाधीश	240389	223489
3.	सी.जे.ए.म	220695	230585
4.	अध्यक्ष, उपभोक्ता मंच	235091	235094

## आपातकालीन :

क्र.	पद	कार्यालय
1.	कलेक्टर	220701
2.	पुलिस महानिरीक्षक	240158
3.	अतिरिक्त एसपी	223849
4.	एस.डी.ओ.पी.	220159
5.	पुलिस नियंत्रण कक्ष	240872
6.	पुलिस स्टेशन (शहर)	224013
7.	पुलिस स्टेशन (गांधीनगर)	230623
8.	जिला अस्पताल	222782
9.	विद्युत बोर्ड (सीएसईबी)	220848
10.	होलीक्रॉस अस्पताल	222353
11.	नगर पालिका निगम	220471



## बैंके :

क्र.	पद	कार्यालय
1.	भारतीय स्टेट बैंक	220150
2.	सेंट्रल बैंक ऑफ इंडिया	220486
3.	बैंक ऑफ बड़ौदा	222372
4.	स्टेट बैंक ऑफ इंदौर	224356
5.	रेणुका बैंक	
6.	ग्रामीण बैंक	222490

## 2.कार्यालय जिला सेनानी नगर सेना अम्बिकापुर में आपदा राहत सामग्रियों की सूची

क्र.	वस्तु का नाम	नगर सेना विभाग	एसडीआरएफ स्टॉक	नगर निगम से फायर के साथ प्राप्त	योग
1	फायर एंग्स्टीग्यूसर	7	4	32	43
2	एएफएफएफ फोम कम्पाउण्डस(लीटर्स / एंस)	0	0	300 लीटर	300 लीटर
3	पोर्टेबल पंप	0	0	1	1
4	स्मोक ब्लोवर	0	0	0	0
5	फ्लोटिंग पंप	0	1	0	1
6	फायर डिलीवरी हॉज	0	0	75	75
7	हैण्ड कंट्रोल ब्रांच	0	0	6	6
8	सेक्शन हॉज	0	1	8	9
9	मीटर स्टेनर	0	0	3	3
10	बास्केट स्टेनर	0	0	1	1
11	रेस्क्यू लाइन	0	0	1	1
12	ब्रीदीग एपेरेटस सेट	0	1	2	3
13	सीलींग हुक	0	0	2	2
14	इमरजेंसी लाइट	4	0	0	4
15	एक्सटेंशन लेडर	2	0	2	4
16	डिफरेंट टाईप आफ स्पेनर	0	0	0	0
17	फॉग नॉजल	0	0	2	2
18	फोम कम्पाउण्ड	0	0	300 लीटर	300 लीटर
19	पिक एक्स	1	0	0	1
20	लार्ज एक्स	1	0	0	1
21	स्पेड	0	0	0	0
22	सवेल	2	0	7	9
23	स्ट्रेचर एण्ड ब्लैकेट	1	3	6	10
24	इन्फ्लेटेबल टावर	0	0	0	0
25	ग्राउण्ड शीट	60	0	0	60
26	टार्च	0	0	6	6
27	स्प्रेडर एण्ड कटर	0	0	1	1
28	फर्स्ट एड बॉक्स	1	0	1	2
29	हाईड्रोलिक जैक	0	2	0	2
30	रबर हैण्ड ग्लोब्ज / वर्क्स ग्लोब्ज / हॉट	0	42	1	43
31	गम बुट	20	34	30	84
32	हेलमेट	20	35	50	105
33	मेल टू मेल एडाप्टर	0	0	1	1
34	फीमेल टू फीमेल एअडाप्टर	0	0	1	1
35	डिवाईडिंग ब्रीचींग	0	0	1	1
36	कलेक्टिंग हेड	0	0	1	1
37	रिवॉल्विंग ब्रांच	0	0	4	4
38	फोम मेकिंग ब्राफंच	0	0	2	2

39	कंट्रोल ब्रीचींग	0	0	0	0
40	गॉगल्स	0	20	50	70
41	स्मोक स्ट्रैक्टर	0	0	0	0
42	होज रैम्प	0	0	0	0
43	मिस्ट टैक्नॉलाजी	0	0	0	0
44	श्री वे कलेक्टिंग हेड	0	0	0	0
45	लाइफ ब्वाय	14	15	0	29
46	लाइफ जैकेट	5	25	22	52
47	नाईनोल रोप	8	0	0	8
48	मनीला रोप्स	0	0	1	1
49	मेटर स्ट्रेचर	1	0	0	1
50	फास्ट एड बॉक्स	1	0	0	1
51	बी ए सेट	0	0	3	3
52	फुल बॉडी हॉनेस	0	0	2	2
53	एल्युमीनीयजेट फायर प्राक्सीमिटी सूट	0	2	2	4
54	श्री लेयर सूट	0	0	0	0
55	रोप लेडर	2	0	0	2
56	विक्टिम लोकेशन कैमरा	0	0	0	0
57	पावर कटर	0	0	0	0
58	हाइड्रोलिंग कटर	0	0	1	1
59	फायर एण्ट्रीशूट	3	2	2	7
60	सेफटी स्टील टो बूट	20	0	0	20
61	स्ट्रेचर	2	0	0	2
62	पुल्ली डबल	1	0	0	1
63	पुल्ली सिंगल	1	0	0	1
64	लाइफ बाय रिंग	14	0	0	14
65	लाइफ जैकेट	17	0	0	17
66	तारपोलिन शीट	1	0	0	1
67	दस्ताना जोड	2	0	0	2
68	ड्रम 200 लीटर	4	0	0	4
69	कटर लोहा	2	0	0	2
70	मनीला रोप 100बाई 2 इंच	10	0	0	10
71	नायलोन रोप 100 बाई 2 इंच	8	0	0	8
72	नायलोन रोप 100 बाई ढाई इंच	4	0	0	4
73	मोटर बोट एल्युमिनियम फाइबरगलास	1	0	0	1
74	यामहा मोटर 40 एच0पी0इंजन	2	0	0	2
75	टयूब	3	0	0	3
76	चैनशॉ कटर एमएस 361	2	0	0	2
77	चैनशॉ कटर एमएस 180	1	0	0	1
78	पॉल प्रूनर एचटी 75	1	0	0	1
79	पोर्टेबल इमरजेंसी लाइट	4	0	0	4
80	फावड़ा	20	0	0	20
81	गेती	07	0	0	07

82	सबल	1	0	0	1
83	तगाड़ी	09	0	0	09
84	कुल्हाड़ी	1	0	0	1
85	बेलचा	07	0	0	07
86	रबर मोटर बिथ ओबीएम	02	0	0	02
87	रबर के दस्ताने	02	0	0	02
88	मेगा फोन	02	0	0	02
89	स्टेचर	02	0	0	02
90	चप्पू बड़ा	02	0	0	02
91	बाल्टी	06	0	0	06
92	वाटर प्रूफ टेंट14ग14 सिंगल प्लाई, डबल प्लाई	02	0	0	02
93	बाल्टी	06	0	0	06
94	चप्पू छोटा	01	0	0	01
95	रेनकोट	360	0	0	0

96	कुल्हाडी	01	0	0	01
97	हैण्ड हेल्ड गैस डिटेक्टर	01	0	0	01
98	फास्टेड बाक्स	01	0	0	01
99	पीआरटी टूल्स	01	0	0	01
100	फूल बाडी हॉर्नेस	01	0	0	01
101	फूल बाडी हॉर्नेस	01	0	0	01
102	बीएएमएस ए ऐसर एक्सप्रेस सेट	01	0	0	01
103	कैनवास हैण्ड ग्लोब	16	0	0	16
104	फूल बाडी हॉर्नेस	01	0	0	01
105	डिस्ट्रेस सिग्नल यूनिट	01	0	0	01
106	गैस माक्स	04	0	0	04
107	हेड लाईट	02	0	0	02

108	एरामिट हैण्ड ग्लोब	06	0	0	06
109	पोर्टबल फायर पम्प फलोटींग	01	0	0	01
110	ओ बीएम स्टैण्ड	02	0	0	02
111	हैण्ड टूल किट मेट्रिक	04	0	0	04
112	तैराक संख्या	15	0	0	15

