

District Disaster Management Plan, 2016 Dumka District



**Office of the Deputy Commissioner,
District Disaster Management Section, Dumka**

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Chapter-I

Introduction:

Jharkhand is a newly born state and it came into existence on 15th November 2000 as the 28th state of the Indian union. It spreads tantalizingly over Chhotanagpur plateau and Santhal Pargana. Dumka is one of the oldest districts of Jharkhand state under Santhal Pargana. This homeland of tribal is full of stunning landscapes, majestic mountains, verdant valleys and serpentine rivers.

Dumka, headquarters of the Dumka district, is a city and municipality in the state of Jharkhand, India. It was made the headquarters of the Santhal Pargana region, which was carved out of the Bhagalpur and Suri districts after the Santal Hool of 1855. Dumka is the sub-capital of the state of Jharkhand, which was carved out of the southern part of Bihar.

Etymology:

There are two theories on how Dumka got its name. The first one suggests that Dumka's name derives from the Santali word *sumk* for "shunted" or "small," because during the British Raj, it was a small town compared to Suri and Bhagalpur.

The other is that Dumka derives its name from the Persian word *damin-i-koh*, which means 'skirts (an edge, border or extreme part) of the hills'. The Mughals assigned this name to the town and its vicinity on account of the presence of hillocks and undulating

Brief Historical Timeline of Dumka

- 1742-1751: The area of Dumka close to Rajmahal witnessed frequent inroads by the Marathas under Raghoji Bhosle and Peshwa Balaji Rao.
- 1745: Raghoji Bhosle entered Rajmahal via the hills and jungles of Santal Pargana. The early stay of the English was spent in subduing the Paharias.
- 1769: Dumka remained a Ghatwali police post under Birbhum District of Bengal.
- 1775: Dumka was transferred to Bhagalpur Division.
- 1865: Dumka was made an independent district after being carved out of Bhagalpur.
- 1872: Dumka was made headquarters of the whole district of Santal Pargana.
- 1889: Paul Olaf Bodding started his service in India (Dumka/Benagaria) after Lars Olsen Skrefsrud, and Bodding created the first alphabet for the Santhals. The NELC-church was created as a Lutheran Church in this area - before the Catholics had established a mission in this area at all.
- 1902: The first municipality was established.
- 1920: Motor cars and buses were introduced.
- 1952: The Apostolic Prefecture of Malda was erected. In 1962, it was promoted to the Roman Catholic Diocese of Dumka.
- 1983: Dumka was made the divisional headquarters of Santhal Pargana.
- 2000: Dumka became the sub-capital of Jharkhand.
- 2011: Dumka is connected with the newly built Jasidih - Dumka railway line.
- 2012: Intercity express to Ranchi started via Jasidih.

Demographics:

As of 2011 India census Dumka had a population of 1,321,096. Males constitute 52% of the population and females 48%. Dumka has an average literacy rate of 62.54%, lower than the national average of 74.4% male literacy is 75.17% and, female literacy is 49.60%. In Dumka, 12% of the population is under 6 years of age.

Religion, languages and culture:

Dumka District contains many popular Hindu temples, such as Basukinath, Sirshanath, Maluti Mandir, Shiv Pahar and Dharamsthana. Crowds visit these places during the month of Sawan. Chootonath is also very famous

place of local KRAM KAND and MUNDAN. The Catholic minority is served by its own Roman Catholic Diocese of Dumka. Besides the national official language Hindi, Santali, Odia and Bengali are important.

Geography:

Dumka is located at 24.27°N 87.25°E. It has an average elevation of 137 meters (449 feet). The Dumka district has an area of 3716.02 Sq. km and consists of only one subdivision, namely, Dumka. Under the Dumka subdivision, there are 10 blocks, namely, Dumka, Gopikander, Jama, Jarmundi, Kathikund, Maslia, Ramgarh, Ranishwar, Ranibahal, Shikaripara and Saraiyhat.



Deoghar , Allahabad , Kanpur , New Delhi	Bhagalpur , Purnia , Godda , Hashdia	Siliguri , Guwahati , Shillong
Giridih , Hazaribagh	<div style="text-align: center;"> ↑ ← Dumka → ↓ </div>	Rampurhat , Dhaka , Aizawl
Dhanbad , Bokaro	Rourkela , Asansol , Durgapur	Suri , Kolkata , Bay of Bengal

Physiography:

Dumka has predominantly undulating terrain with hard rocks in the underground. Entire District has topography with high ridges and valleys bounded by mountains and rivers. The fertility of soil is poor due to extensive erosion, acidic character and low retaining capacity.

Climate:

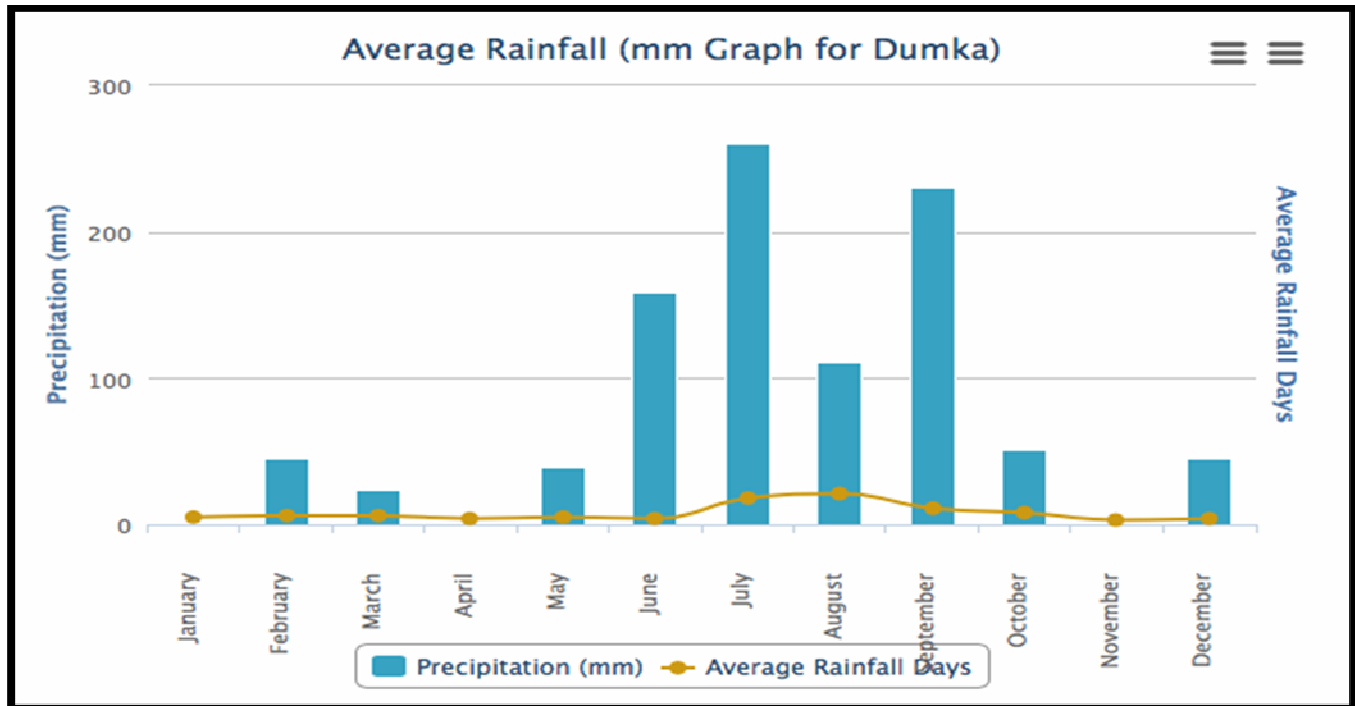
Dumka has a humid subtropical climate (Köppen climate classification Cwa), with warm, wet summers and mild winters.

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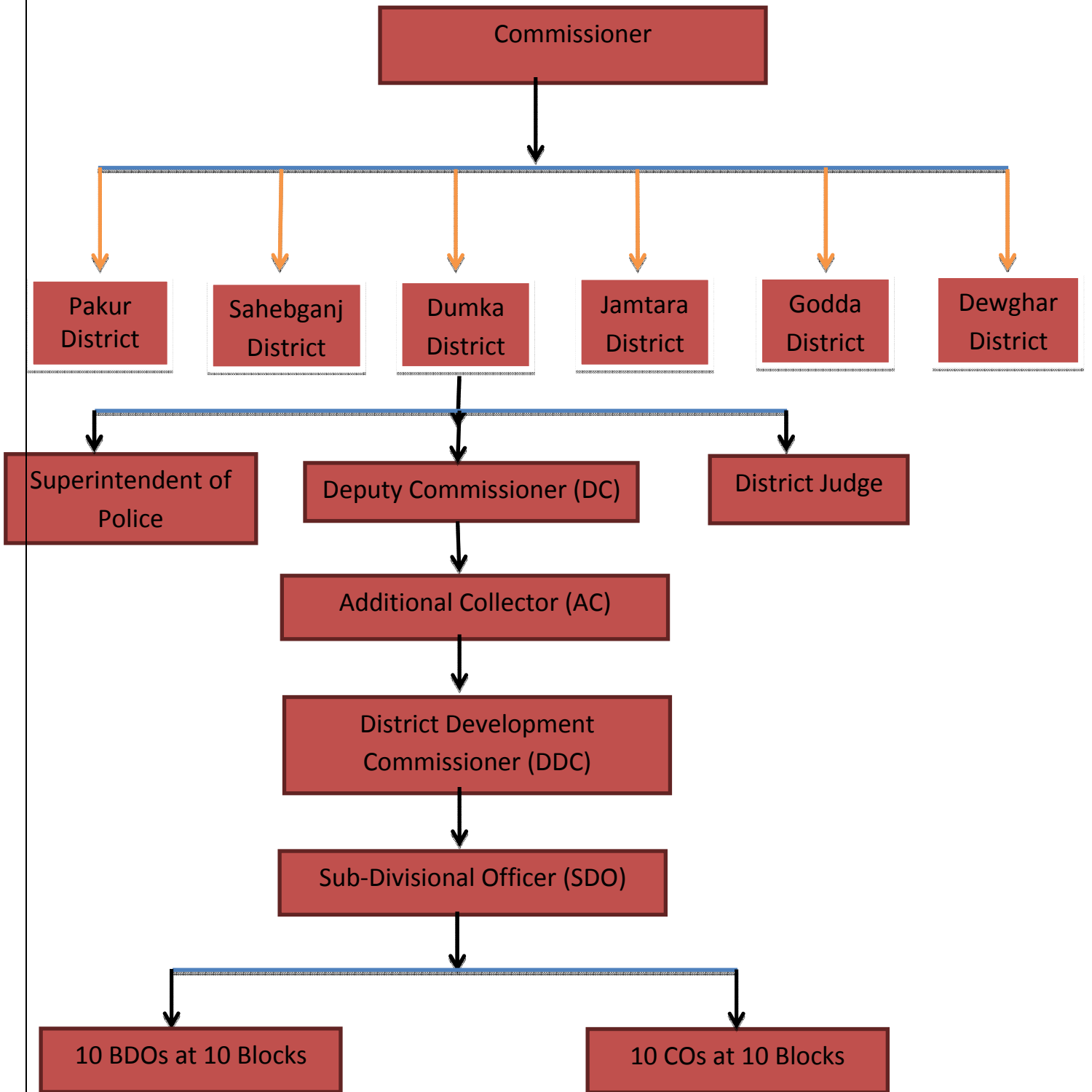
Tabular view for temperature and precipitation per month:

Months	Temperature			Precipitation
	Normal	Warmest	Coldest	Normal
January	18.1° C	25.9° C	10.2° C	1
February	21.0° C	28.9° C	13.2° C	2
March	25.9° C	34.3° C	17.4° C	2
April	30.3° C	38.4° C	22.3° C	2
May	30.7° C	37.5° C	23.9° C	6
June	30.1° C	35.5° C	24.7° C	11
July	28.4° C	32.7° C	24.1° C	18
August	28.1° C	32.5° C	23.7° C	16
September	28.2° C	32.9° C	23.6° C	14
October	27.0° C	33.0° C	21.0° C	5
November	23.3° C	30.5° C	16.0° C	1
December	19.0° C	27.0° C	11.1° C	0

Rainfall:



District Administrative Set-up:



District Population Profile:

Dumka district ranks eleventh in terms of total population in the state and nineteenth in regard to decadal population growth rate (2001-11) among the twenty four districts. With a sex ratio of 977, it ranks seventh in the state. The district comprises of ten blocks, namely, Saraiyahat, Jarmundi, Ramgarh, Gopikandar, Kathikund,

Shikaripara, Ranishwar, Dumka, Jama and Masalia. As per Census 2011, the district has 2688 villages and 5 towns distributed in four assembly constituencies. Census 2011 figures indicated that the percentage share of scheduled caste population to total population was 0.62 percent, while that of scheduled tribes was 43.22 percent. Based on the number of total rural households in Census 2011 and BPL Revision Survey of 2010-11, the percentage of BPL households in rural areas is 56.86 percent.

A: BASIC INDICATORS

SL	INDICATOR	DUMKA	JHARKHAND	SOURCE	YEAR
1	Population	1321442	32988134	Census of India	2011
2	Male	668514	16930315	Census of India	2011
3	Female	652928	16057819	Census of India	2011
4	Rural	1231264	25055073	Census of India	2011
5	Urban	90178	7933061	Census of India	2011
6	SC Population	79614	3985644	Census of India	2011
7	SC Population Male	40802	2043458	Census of India	2011
8	SC Population Female	38812	1942186	Census of India	2011
9	ST Population	571077	8645042	Census of India	2011
10	ST Population Male	282125	4315407	Census of India	2011
11	ST Population Female	288952	4329635	Census of India	2011
12	Population Growth Rate, 2001-11(%)	19.39	22.34	Census of India	2011
13	Child Population (0-6 Years)	219449	5389495	Census of India	2011
14	Child Population (0-6 Years) to total population(%)	16.60	16.33	Census of India	2011
15	Sex Ratio (Female per 1000 males)	977	949	Census of India	2011
16	Sex at Birth, Total	927	930	AHS	2012-13
17	Sex at Birth, Rural	936	943	AHS	2012-13
18	Sex at Birth, Urban	782	884	AHS	2012-13
19	Child Sex Ratio (0-6 Years; girls per 1000 boys)	966	948	Census of India	2011
20	Gross Enrolment Ratio (Primary)	99.7	155.8	DISE	2010-11
21	Crude Birth Rate, Total (Per 1000)	25.4	23.0	AHS	2012-13
22	Crude Birth Rate, Rural (Per 1000)	26.0	24.3	AHS	2010-11
23	Crude Birth Rate, Urban (Per 1000)	18.7	19.4	AHS	2012-13
24	Crude Death Rate, Total (Per 1000)	6.7	6.0	AHS	2010-11
25	Crude Death Rate, Rural (Per 1000)	7.1	6.4	AHS	2012-13
26	Crude Death Rate, Urban (Per 1000)	6.4	5.7	AHS	2010-11
27	Total Fertility Rate	3.0	2.7	AHS	2012-13
28	Wealth Index-lowest(20%)	31.6	20.0	AHS	2010-11
29	Wealth Index-Highest(20%)	11.7	20.0	AHS	2012-13
30	Work Participation rate (15 years and above)	46.5	45.7	AHS	2010-11

D: EDUCATION

SL	INDICATOR	DUMKA	JHARKHAND	SOURCE	YEAR
1	Literacy Rate(7+ years)(%)	61	66.4	Census of India	2011
2	Literacy Rate-Male (7+ years)(%)	73.0	76.8	Census of India	2011
3	Literacy Rate-Female(7+ years)(%)	48.8	55.4	Census of India	2011
4	Boys age 6-17 years currently attending school(%)	87.4	91.6	AHS	2012-13
5	Girls age 6-17 years currently attending school(%)	87.7	91.8	AHS	2012-13
6	% Children (6-14 years) out of school	5.4	4.4	AHS	2011
7	% Children (6-14 years) in private school	3.6	15.5	AHS	2011
8	% Children (Std I-II) who can read letters ,words or more	59.4	66.1	AHS	2011
9	% Children (Std I-II) who can recognize numbers(1-9) or more	63.9	68.3	AHS	2011
10	% Children (Std I-II) who can read level I(Std I) text or more	31.7	44.8	AHS	2011
11	% Children (Std I-II) who can do subtraction or more	30.1	36.2	AHS	2011

Last Updated on 14th August 2014

BLOCKS AT A GLANCE

INDICATOR	POPULATION	MALE	FEMALE	CHILD POPULATION	SEX RATIO	CHILD SEX RATIO	LITERACY RATE(7 & ABOVE)(%)
SUB-DISTRICT							
Saraiyahat	156291	80535	75756	27416	941	943	58.65
Jarmundi	185286	94202	91084	32674	967	952	59.04
Ramgarh	159911	79944	79967	26694	1000	991	55.45
Gopikandar	42063	20999	21064	7686	1003	981	50.12
Kathikund	71458	35598	35860	12841	1007	983	54.08
Shikaripara	131464	65723	65741	22931	1000	968	57.10
Ranishwar	101667	51115	50552	15478	989	973	60.06
Dumka	210785	107949	102836	30568	953	957	74.73
Jama	137963	69621	68342	23015	982	981	61.88
Masalia	124554	62828	61726	20146	982	956	61.66

Source:Census of India, 2011

1.1 Objectives and Goal of the Plan:

Section 31 of Disaster Management Act 2005 (DM Act), makes it mandatory to have a disaster management plan for every district. DDMP shall include Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures. An indicative list with possible plan objectives is given below:

- i. To identify the areas vulnerable to major types of the hazards in the district.
- ii. To adopt proactive measures at district level by all the govt. departments to prevent disaster and mitigate its effects.
- iii. To define and assign the different tasks and responsibilities to stakeholders during the pre-disaster and post-disaster phases of the disaster.
- iv. To enhance disaster resilience of the people in the district by way of capacity building.
- v. Reduce the loss of public and private property, especially critical facilities and infrastructure, through proper planning.
- vi. Manage future development to mitigate the effect of natural hazards in the district.
- vii. To set up an Emergency Operations Centre at the District level to function effectively in search, rescue, response.
- viii. To develop the standardized mechanism to respond to disaster situation to manage the disaster efficiently.
- ix. To set up an early warning system so as to prepare the community to deal with the disaster and responsive communication system based upon fail-proof proven technology.
- x. To prepare a response plan based upon the guidelines issued in the State Disaster Management Plan so as to provide prompt relief, rescue and search support in the disaster affected areas.
- xi. To adopt disaster resilient construction mechanism in the district by way of using Information, Education and Communication for making the community aware of the need of disaster resilient future development.
- xii. To make the use of media in disaster management.
- xiii. Rehabilitation plan of the affected people and reconstruction measures to be taken by different govt. departments at district level and local authority.

The District Disaster Management Plan (DDMP) is the guide for achieving the objective i.e. mitigation, preparedness, response and recovery. This Plan needs to be prepared to respond to disasters with sense of urgency in a planned way to minimize human, property and environmental loss.

1.2 Scope of the Plan:

The District Dumka is one of multi-disaster prone District under Jharkhand State in the Northeastern part of India and the District is part of Satal Pargana. The district having 10 blocks like Dumka, Gopikander, Jama, Jarmundi, Kathikund, Maslia, Ramgarh, Ranishwar, Shikaripara and Saraiyahat. Drought and flood are recurrent phenomenon in Maslia, Ramgarh, Kathikund and Dumka itself due to irregular rainfall during monsoon season and the River Mayurakshee flooded the Dumka District due to incessant rainfall in the catchment area during monsoon season. On the other hand the disaster like Cyclone, Hailstorm and lightning/thunderbolt occur in the month of March to May in every year and in respect of Earthquake Dumka District fall under Seismic Zone-III that means high damage risk zone.

Dumka	Maslia
Gopikander	Ramgarh
Jama	Ranishwar
Jarmundi	Shikaripara
Kathikund	Saraiyahat

The plan aims to identify the residual risks to these communities and details the support system, provisions of assets, resources, support and coordination.

1.3 Authority and Reference:

According to Sections 31 and 32 of the DM Act 2005 Plans by different authorities at district level and their implementation.- Every office of the Government of India and of the State Government at the district level and the local authorities shall, subject to the supervision of the District Authority, -

(a) prepare a disaster management plan setting out the following, namely:-

- (i) provisions for prevention and mitigation measures as provided for in the District Plan and as is assigned to the department or agency concerned;
- (ii) provisions for taking measures relating to capacity-building and preparedness as laid down in the District Plan;
- (iii) the response plans and procedures, in the event of, any threatening disaster situation or disaster;

(b) coordinate the preparation and the implementation of its plan with those of the other organisations at the district level including local authority, communities and other stakeholders;

(c) regularly review and update the plan; and

(d) submit a copy of its disaster management plan, and of any amendment thereto, to the District Authority.

1.4 Plan Development:

Dumka District Disaster Management Plan 2016 had been formulated under the kind guidance of District Disaster Management Committee, Dumka by a team comprise with the District level officials like Deputy Commissioner Dumka, Additional Collector, Dumka, Civil Sergeant, Dumka, Superintendent of Police, Dumka, Executive Engineer of PWD, Dumka, Executive Engineer of PHE, Dumka, Director of Fire, Dumka, Divisional Forest Officer, Dumka, District Mining Officer, Dumka, District Transport Officer, Dumka, Director of Agriculture, Dumka, District Information Officer, Dumka, Sub-Divisional Officer, Dumka and under their supervision hazards, vulnerabilities and risk of Dumka District had been analyzed. The resources and important equipment were identified and required information was collected from the reliable resources. Dumka District Disaster Management Plan 2016 had been written by District Disaster Management Section, Dumka and reviewed by Dumka District Disaster Management Authority. As an important part the respective Plan had been distributed to the all line departments and Stakeholders for information, review, up-gradation and their valuable suggestions regarding the Dumka District Disaster Management Plan 2016.

1.5 Stakeholders and their responsibilities:

At the District level, District Disaster Management Authority, with the Deputy Commissioner designated as Response Officer (RO), and other line departments at district Head Quarter are responsible to deal with all phases of disaster management within district.

Other technical institutions, community at large, local self-governments, NGOs etc. are also stakeholders of the District Disaster Management Pan. The role of the stakeholders has been prepared with the sole objective of making the concerned organizations understand their duties and responsibilities regarding disaster management at all levels and accomplishing them.

The Deputy Commissioner has the following duties:

- i. To facilitate and coordinate with local Government bodies to ensure that pre and post disaster management activities in the district are carried out.
- ii. To assist community training, awareness programmes and the installation of emergency facilities with the support of local administration, non-governmental organizations and the private sector.
- iii. To function as a leader of the team and take appropriate actions to smoothen the response and relief activities to minimize the adverse impact of disaster.
- iv. To recommend the Commissioner of Relief (CoR) and State Government for declaration of disaster.

Local Authorities have the following duties:

- i. To provide assistance to the District Collector in disaster management activities.
- ii. To ensure training of its officers and employees and maintenance of resources so as to be readily available for use, in the event of a disaster.
- iii. To undertake capacity building measures and awareness and sensitization of the community
- iv. To ensure that all construction projects under it conform to the standards and specifications laid down.
- v. Each department of the Government in a district shall prepare a disaster management plan for the district. The local authorities need to ensure that relief, rehabilitation and reconstruction activities in the affected area, within the district, are carried out.

- vi. Trust / Organisations managing Places of Worships & Congregation
 - a. Each establishment / organisation identified as —critical infrastructure and key resourcecell,
 - b. Including places of congregation in a district shall prepare —on-sitell and —off-sitell
 - c. Disaster management plan. Carry out mitigation, response, relief, rehabilitation and
 - d. Reconstruction activities.

Private Sector:

- i. The private sector should be encouraged to ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the DDMA or the Collector.
- ii. They should adhere to the relevant rules regarding prevention of disasters, as may be stipulated by relevant local authorities.
- iii. As a part of CSR, undertake DRR projects in consultation with district collector for enhancing district's resilience.

Community Groups and Volunteer Agencies:

- i. Local community groups and voluntary agencies including NGOs normally help in prevention and mitigation activities under the overall direction and supervision of the DDMA or the Collector.
- ii. They should be encouraged to participate in all training activities as may be organized and should familiarise themselves with their role in disaster management.

Citizens:

It is the duty of every citizen to assist the District Collector or such other person entrusted with or engaged in disaster management whenever demanded generally for the purpose of disaster management.

1.6 How to use the Plan:

- i. Section 31 of DM Act 2005 makes it mandatory for every district to prepare a disaster management plan, for the protection of life and property from the effects of hazardous events within the district.
- ii. In significant emergencies or disasters, District Magistrate or the chairperson of DDMA will have the powers of overall supervision direction and control as may be specified under State Government Rules / State Disaster Management Plan guidelines.
- iii. The district EOC will be staffed and operated as the situation dictates. When activated, operations will be supported by senior officers from line departments and central government agencies; private sector and volunteer organizations may be used to provide information, data and resources to cope with the situation.
- iv. The DDMA may recommend for action under Sec 30 of DM Act.
- v. Facilities that have been identified as vital to operation of the district government functions have been identified.
- vi. The DM or his designee will coordinate and control resources of the District.
- vii. Emergency public information will be disseminated by all available media outlets through the designated media and information officer.
- viii. Prior planning and training of personnel are prerequisites to effective emergency operations and must be considered as integral parts of disaster preparations.
- ix. Coordination with surrounding districts is essential, when an event occurs, that impacts beyond district boundaries. Procedure should be established and exercised for inter district collaboration.
- x. Departments, agencies and organizations assigned either primary or supporting responsibilities in this document must develop implementation documents in order to support this plan.
- xi. When local resources prove to be inadequate during emergency operations, request for assistance will be made to the State or higher levels of government and other agencies in accordance with set rules and procedures.
- xii. District authority will use normal channel for requesting assistance and/or resources, i.e., through the District Emergency Operations Center (DEOC) to the State EOC. If state resources have been exhausted, the state will arrange to provide the needed resources through central assistance.
- xiii. The District EOC will coordinate with the State EOC, Agencies of the Govt. of India like IMD / CWC to maintain upto-date information concerning potential flooding, cyclones etc. As appropriate, such information will be provided to the citizens of the affected areas in the district.

- xiv. Upon receipt of potential problems in these areas, DEOC / designated officials will appropriately issue alert and notify action to be taken by the residents.
- xv. Disaster occurrence could result in disruption of government functions and, therefore, all levels of local government and their departments should develop and maintain procedures to ensure continuity of Government action.

1.7 Approval Mechanism of the Plan:

As defined in Section 30 of DM Act 2005, DDMA shall act as the district planning; coordinating and implementing body for disaster management and take all measures for the purpose of disaster management in the district in accordance with the guidelines laid down by the National Authority and the State Authority.

Accordingly, the District DM plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National DM Plan and the State DM Plan.

1.8 Plan review and updation periodicity:

Training- After developing a plan, it must be disseminated and managers must be required to train their personnel so that they have the knowledge, skills and abilities needed to perform the tasks identified in the plan. Personnel should also be trained on the organization-specific procedures necessary to support those plan tasks.

Exercise the Plan - Evaluating the effectiveness of plan involves a combination of training events, exercises and real-world incidents to determine whether the goals, objectives, decisions, actions and timing outlined in the plan led to a successful response. The purpose of an exercise is to promote preparedness by testing polices plans and training personnel.

Revise and Maintain - Planning teams should establish a process for reviewing and revising the plan. Reviews should be a recurring activity. Review on an annual basis is considered minimum. It should be mandatory to consider reviewing and updating the plan after the following events:

- i. A major incident.
- ii. A change in operational resources (e.g., policy, personnel, organizational structures, Management processes, facilities, equipment).
- iii. A formal update of planning guidance or standards.
- iv. Each activation.
- v. Major exercises.
- vi. A change in the district's demographics or hazard or threat profile.
- vii. The enactment of new or amended laws or ordinances.

The responsibility for the coordination of the development and revision of the basic plan, annexes, appendices and implementing instructions must be assigned to the appropriate person(s).

It is recommended that a DDMP be **internally reviewed on a yearly** basis and either be updated or reaffirmed. The updates or reaffirmed document may also be used to summarize the accomplishments of the past year and help the administration to prioritize mitigation goals for the next year.

Chapter-II

Hazards, Vulnerability, Capacity and Risk Assessment.

Planners need to **visualize various situations** based on the district profile and exposure to hazards. Analysis of –situationll will lead to prioritization of hazard and risks and define training, equipment and exercise requirements.

A hazard analysis determines:

1. What hazard can occur in the district
2. How often is it likely to occur
3. What damage it is likely to cause
4. How is it likely to affect the district or part of the district
5. How vulnerable is the district to each hazard

There are five steps in the hazard analysis process:

- i. Identify hazards
- ii. Profile each hazard
- iii. Develop a plan for district
- iv. Determine vulnerability
- v. Create and apply scenarios

2.1 Steps to be undertaken for hazard analysis:

To prepare the District Disaster Management Plan for Dumka district hazard information had been obtained from the following sources.

1. Local administration / State administration
2. India Meteorological Department (IMD) / Central Water Commission (CWC)
3. Ministry of Environment and Forests (MoE&F)
4. Survey of India
5. Indian Space Research Organisation (ISRO)
6. National Remote Sensing Centre (NRSC)
7. Department of Agriculture
8. INGOs & NGOs

2.2Developing a Hazard Profile:

A hazard profile should consider four factors:

1. Magnitude
2. Frequency
3. Duration
4. Speed of onset

Droughts

Dumka district is prone to be affected by droughts, typically in the pre monsoon period of Mar-Jun. Typically; the district is 51% prone to suffering a drought year. The severity of drought is usually mild to moderate intensity.

The impact of drought in Dumka district is also intensified due to non-availability of proper irrigation facilities for farming. Currently, approximately 10% of the net sown areas are irrigated area. Major source of irrigation is through wells and channels.

Flood

In the eastern part of the district, there is flooding due to the Mayurakshee river basin. The intensity and frequency of floods here can be considered as low to medium. Also, the potential impact of the flood in the district is low. Overall, the probability of floods in Dumka district is very low. But due to incessant rainfall in the catchment area during monsoon season Dumka and its surrounding blocks were faced the flood like situation in every year. Dumka/Jama/Raneshwar these blocks were faced flash-flood due to poor drainage system in the local towns/uncontrolled use of plastics cause of blockage in drains.

Earthquake

Dumka district is located on relatively stable tectonic plates and in recorded history has never been the epicenter of an earthquake. The district is marginally or least affected by earthquakes in neighboring areas of West Bengal, Bihar and North-East India. But we never forgot about the Bhuj earthquake in 1993, before this, the people of Bhuj were living under a misconception that the Bhuj is situated in relatively stable tectonic plates and in recorded history of earthquake and the misconception had been proven after occurrence of earthquake. Therefore, the earthquake may occur in any part of the world whether the area is fall under the seismic zone-III or V. In 2015 the Dumka district had been shaken three times due to the earthquake occur in the neighboring States and Countries like Uttar Pradesh/West Bengal/Sikkim and Nepal. In 4th January 2016 the district again shaken by an earthquake occurred in northeastern State Manipur.

ACCIDENTS

The state highway numbers 15, 17, 18 passes through Dumka District. The District along the state highways is highly accident-prone.

Terrorism

Dumka district is prone to terrorist attacks by Maoists. Their recent terrorist actions include starting fires, homicide among a few. A few policemen and innocent people were killed in an attack during elections in 2014 was one of the latest incidents in the district.

Industrial / Chemical Disasters:

There are very few industries in Dumka District and the vulnerability to Industrial/Chemical Disasters is also very less. However, proper safety measure for all the existing SMEs and for those that will be set-up should be looked into.

Seasonality of disaster:-

Disaster/Month	January	February to	April	May to June	July to
----------------	---------	-------------	-------	-------------	---------

		March			December
Fire	✓	✓	✓	✓	
Lightning			✓	✓	
Cyclone	✓			✓	✓
Mining Accidents	✓	✓	✓	✓	✓
Drought			✓	✓	
Stampede				✓	✓
Road Accidents	✓	✓	✓	✓	✓

Disaster History 2013-2016

Type of Hazards	Jan- March				April-June				July- September				October- December				
	H	C	A	I	H	C	A	I	H	C	A	I	H	C	A	I	
Mining Accident																	
Flood /Heavy Rains																	1
Lightening									8								
Drought																	
Earthquake				1													
Fire								1									
Road Accidents																	
Drowning																	
Stampede																	

H – Human	C - Crop	A – Animals	I - Infrastructure
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DISASTER VULNERABILITY AND IMPACTS

TYPE OF DISASTER	POTENTIAL IMPACT	AREAS TO BE AFFECTED
CYCLONE	Medium	Rural area housing / infrastructure & Cattle
Fire	Low	Buildings, offices, temples and SMEs
ROAD ACCIDENT	Medium	State Highways and close by villages
Drought	High	Rural areas & industry (agriculture, fisheries, poultry)
Lightning	High	Vulnerable areas
Stampede	High	Saawan time, Basukinath Temple
Mining Accidents	Low	Small-Medium Scale Industries
Floods	Low	Low lying areas, Basukinath

REVIEW OF RISK POTENTIALITIES

Type of Disaster	Major Impact	Damage Prone Areas- Wards	No. of vulnerable families living in
------------------	--------------	------------------------------	--------------------------------------

Cyclone	Dwarka River Basin		
Flood	Low lying areas, Basukinath		
Road Accident	State Highways		
Fire	Buildings, SMEs, offices and temples		
Human stampede	Basukinath Temple		
Lightning	Vulnerable areas		
Mining Accidents	SMEs		

2.3 Creating a District profile:

Geography	Property	Infrastructure	Demography	Response Organization
(1)	(2)	(3)	(4)	(5)
Major geographic features; Typical weather pattern	Numbers; Types; Ages; Building Codes; Critical facilities; Potential Secondary Hazard; (Popular Places of worships should be included)	Economic (telecommunication, electricity, transportation, energy etc.) and Social (health (hospitals), education (school, colleges etc.), places of worships (temples, Mosque, Church, places of religious congregations) and housing) infrastructures Utilities - Construction, Layout, access; Communication system - layout, features, backup; Road systems; Air and water support;	Population size, distribution, concentrations; Number of people in vulnerable zones; Special Populations; Animal populations	Locations; Points of Contacts; Facilities; Services; Resources;

2.4 Completing the Risk Analysis:

Risk Index Table:

Severity	Expected Impact
Catastrophic	Multiple deaths Complete shutdown of Critical Facilities (CF) for thirty days or more
Critical	Injured or illness resulting into permanent disability Complete shutdown of CF for at least two weeks More than 25% of property severely damaged
Limited	Injured or illness do not result into permanent disability Complete shutdown of Critical Infrastructure (CI) for at least one week More than 10% of the property severely damaged
Negligible	Injured or illness treated with the first aid Minor quality of life lost Shut down of critical facility for two hours or less Less than 10% of the property severely damaged

2.5 Hazardanalysis work sheet given below:-

Sl. No.	Hazard	Check if community is prone to the hazard	Historical Data			
			Years of Occurrence	Frequency / Return Period	Category / Intensity	Duration
			(a)	(b)	(c)	(d)
1.	Earthquake	All the Blocks	2011, 2015, 2016	Once in five years	Moderate	42 seconds
2.	Tsunami	NA	NA	NA	NA	NA
3.	Flood/water logging	Dumka Block	2005, 2010, 2015	Once in five years	Moderate	1 weeks
4.	Storm / Cyclone	Dumka, Masalia, Ramgarh, Shikaripara, Gopikandar	2014, 2015,	Every Year	Severe	1 or 2 hours
5.	Landslide	NA	NA	NA	NA	NA
6.	Drought	All the Blocks of the District	Since 2014, 2015, 2016	Every Year Since 2004	Severe	More than 4 months.
7.	Accident (S)					
8.	Fire	Maslia, Kathikund, Dumka, Ranewar, Ramgarh, Gopikandar, Shikaripara,	Every years	Every years	Severe	1 or 2 hours
9	Others (Lightning)	All the blocks of the District	Every years	Every years	Severe	1 or 2 hours

2.6 Hazard Analysis – Historical data

Sl. No.	Hazard	Historical Data										
		Yr. of Occurrence	Number of Affected Deaths	Number of Affected families	House		School Buildings		Hospital		Roads	Agriculture
					Number	Economic Damage	Number	Economic Damage	Number	Economic Damage	Economic Damage	Damage & Loss of crop/area
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
1	Earthquake	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	Flood	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	Cyclone	2014	Nil	235	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
4	Lightning	2015	3	3	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5	Fire	2015	Nil	65	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
6	Drought	2015	Nil	83224	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
7	Industrial Hazards	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Chapter-III

3. Institutional Arrangement for Disaster Management.

3.1 DISTRICT DISASTER MANAGEMENT AUTHORITY (DDMA):

Section 25 of DM Act 2005 & National Policy on DM 2009 – mandates establishment of DDMA for every district and provides its composition. DDMA will be headed by the respective District Magistrate/District Collector (DC)/Deputy Commissioner as the case may be, with the elected representative of the Local Authority as the Co-Chairperson ex officio. DDMA will act as the planning, coordinating and implementing body for DM at District level and take all necessary measures for the purposes of DM in accordance with the Guidelines laid down by the NDMA and SDMA. It will, inter alia, prepare the District DM plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan and the State Plan concerning its District.

The DDMA will also ensure that the Guidelines for prevention, mitigation, preparedness and response measures laid down by NDMA and SDMA are followed by all Departments of the State Government, at the District level and the Local Authorities in the District.

Dumka DDMA is constituted vide order no. 824 dated 22/09/2010. The DDMA will be headed by the respective District Magistrate, District Collector (DC), Dy. Commissioner as the case may be with the elected representative of the Local Authority as the Co-Chairperson.

The Structure of DDMA is as follows:

Sl. No.	Name	Designation	Portfolio	Mobile Number
1	Shri. Rahul Kumar Singha, IAS	Dy. Commissioner	Chairman	9431158010
2	Shri. Pulish Nath Marandi	Chairman Zilla Parishad	Co-Chairman (Ex. Officio)	
3	Smt. Indu Gupta, JCS	Additional Collector/Additional Commissioner	Member	8986846461
4	Shri. Bipul Mishra	Superintendent of Police	Member	9470591001
5	Shri. Chittaranjan Kumar	Dy. Development Commissioner	Member	9431130083
6	Dr. Yogendra Mahato	Chief Medical Officer/CS	Member	8987489880
7	Shri. Mangal Purti	Executive Engineer Water & Sanitation	Member	9431765965

District Incident Response System:

Incident Response System			
Sl. No.	Responsibilities	Designation	Mobile Number
1	District Incident Commander	Deputy Commissioner, Dumka	9431158010

2	Deputy Incident Commander	Additional Commissioner, Dumka	8986846461
3	Law & Order	Superintendent of Police	9470591001
4	Information Officer	District Information Officer, Dumka	9835373300
5	Liaison Officer	Director, DRDA, Dumka	
6	Safety	Fire Officer, Dumka	9835924928
7	Evacuation, Rescue, Relief and Reconstruction	DDMO, Dumka	9434347562
8	Contact with NGOs & Foreign team	Chairman Red Cross Society, Dumka	9661959938
9	Planning	District Planning Officer, Dumka	9431326674
10	Situation Unit	SDO, Dumka	9431158011
11	Resource Unit	NDC, Dumka	9431909950
12	Logistics	NDC, Dumka	9431909950
13	Receiving & Distribution Center	NDC, Dumka	9431909950
14	Mobilization	Ex. Magistrate General Section, Dumka	9431762388
15	Health Unit	Civil Surgeon, Dumka	8987489880
16	Water & Sanitation Unit	Ex. Engineer PHED-1 & Ex. Engineer PHED-2	9431765965/ 9431332255
17	Transport Unit	District Transport Officer, Dumka	9199997194
18	Donations Unit	Chairman, Red Cross Society, Dumka	9661959938
19	Food Unit	District Supply Officer, Dumka	9431157619
20	Supply Unit	District Supply Officer, Dumka	9431157619
21	Equipment Unit	NDC, Dumka	9431909950
22	Communication Center	DPRO, Dumka	9431134141
23	Air Operations	Ex. Engineer Building Division, Dumka	9331498782
24	Finance/Administration	NDC, Dumka	9431909950
25	Procurement Unit	NDC, Dumka	9431909950
26	Costing Unit	NDC, Dumka	9431909950
27	Electricity Unit	Ex. Engineer, Electricity Supply Division, Dumka	

3.2 District Disaster Management Advisory Committee:

Section 28 of DM Act 2005 empowers DDMA to constitute a committee or sub committees and also enables it to make payment of allowances to any person associated as an expert with these committees. An expert committee can also be constituted to assist DDMA.

3.3 LOCAL SELF GOVERNMENT AUTHORITIES:

Local Authorities would include Panchayati Raj Institutions (PRIs), Municipal bodies, District and Cantonment Boards and Town Planning Authorities, which control and manage civic services. These bodies will prepare DM Plans in consonance with the Guidelines of NDMA, SDMA and DDMA and will ensure capacity building of their officers and employees for managing disasters, carry out relief, rehabilitation and reconstruction activities in the affected areas.

3.4 DISTRICT EMERGENCY OPERATIONS CENTRE (DEOC):

At present Emergency operating Centre's are operational at the State and in all the 24 districts of Jharkhand under the aegis of Department of Home, Govt. of Jharkhand. Department of Disaster Management has a plan to upgrade all the existing Emergency operation centre as per the guideline laid down in NDMA Act-2005. The Emergency Operation Centre (EOC) will have to act as nerve centre for coordination and management of disasters of all kind and magnitude. EOC will be a central command and control facility provider, responsible for carrying out the principles of disaster preparedness, response

and management functions at a strategic level in emergency situation in their notified area. The EOC's should function at full scale round the clock after the receipt of the first information about the occurrence of natural disaster or for a period specified by the concerned nodal ministry for dealing effectively with the crisis arising out of disaster.

Objectives of the EOC's

- I. First spontaneous and optimal responder to the disaster/incident.
- II. Receive and process disaster alerts and warnings from nodal agencies and other sources and communicate the same to all designated authorities.
- III. Respond and monitor emergency operations.
- IV. Requisitioning additional resources during the disaster as per the need.
- V. Issuing disaster/incident specific information and instructions specific to all concerned.
- VI. Consolidation, analysis, and dissemination of damage, loss and needs assessment data.
- VII. Forwarding of consolidated reports to all the designated authorities.
- VIII. Establishing fail proof communication network (24 X 7).
- IX. Need based first Spontaneous and Optimum Responder Competency (24 X 7).
- X. Standard operating procedure (SOPs) and protocol for activation of State and District EOCs during the onset of Disaster/Incidence.
- XI. EOC will work as state of the art Facility Centre (24 X 7).
- XII. EOC will be state of art Emergency information centre (24 X 7) EOC will work with skilled human resources (24 X 7).

Function of EOC's

- a) To ensure all warning and communication Systems, instruments are in working condition.
- b) Information collection on a routine basis from the district departments on the vulnerability of areas to disasters.
- c) Liaison with SDMA, DDMA and DDMC.
- d) Develop status reports to preparedness and mitigation activities in the district.
- e) Ensure appropriate implementation of State and District Management Plan.
- f) Maintenance of data bank with regular updating.
- g) Ensure Evaluation & Updating to state and District Disaster Management Plan.
- h) Collection and compilation of information from the affected area.
- i) Documentation of information flow.
- j) Decision making regarding resource management.
- k) Allocation of task of different resource organizations.
- l) Supply of information to the State Government.
- m) First optimal responder to the disaster.

3.5 PLANNING CONSIDERATION:

DDMA will act as the planning, coordinating and implementing body for DM at District level and take all necessary for the purposes of DM in accordance with the Guidelines laid shown by the NDMA and SDMA. It will, inter alia, prepare the District DM Plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan, the State Plan concerning its own District and prepare the District Plan. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness and response measures laid down by NDMA and SDMA are followed by all Departments of the State Government at the District level and the Local Authorities in the District.

3.6 PUBLIC PRIVATE PARTNERSHIPS:

Development activities involve both private and public enterprises. To mitigate disasters and create better prepared society for disasters and other hazards, strong public-private coordination is critical. In order to achieve community resilience and preparedness, public and private owners of critical infrastructures and key resources like manpower, technical expertise & equipment need to work together, before, during and after a disaster. The key issue is to recognize and embrace the public-private interfaces that can improve the ability of a community to manage the response and recovery phases of disaster management. DDMP should spell out clear role and responsibilities of both Public and Private Sector and Private sector must be involved closely into community development and organisation of mock drills etc. A resource inventory be maintained indicating the capabilities in terms of human, equipment and infrastructure both in public and private sector.

In view of the above, the District Disaster Management Section, Dumka has maintained good cooperation & coordination with the Government line department and apart from that keeping close relation with the local CBOs/NGOs and INGOs so that during any emergency assistance may be obtained to rescue, relief and rehabilitate the affected area/society. In trainings, workshops, Mock Drills the representative of CBOs/NGOs and INGOs are regularly invited.

Chapter-IV

4. Prevention and mitigation measures.

4.1 Basukinath Temple Devotees Management:

Introduction:

Stampedes at temples are not new to India. Often taking place at festive times, these totally avoidable stampedes are grim reminders of the urgent need of crowd management at the institutional level in India. Concerned at the recurring stampedes at places of mass gathering, including religious places and typically ad-hoc responses to those, the National Disaster Management Authority (NDMA) has embarked on formulating an integrated and structured approach to crowd and disaster management at such places.

Causes and Triggers for Crowd Disasters:

These have been categorized into 6 categories, namely Structural, Fire/Electricity, Crowd Control, Crowd Behavior, Security, and Lack of coordination between various stakeholders.

Structural

Structure collapses

1. Barricades/ bamboo railings/wire fence/ Metal barrier collapse
2. Makeshift bridge collapses
3. Temporary structure collapses
4. Collapse of railings of the bridge caused by panic triggered by rumors.
5. Barriers on the way
6. Poor guard railings, poorly lit stairwells
7. Windowless structure, narrow stairs
8. Narrow and very few entry/exits
9. Absence of emergency exits
10. Difficult terrain (famous religious sites built on top of hills that are difficult to access)
11. Narrow streets with illegal vendors on sides; sloped gradient; bad weather leading to crushing
12. Slippery/muddy roads

Fire/Electricity

1. Fire in a makeshift facility or a shop
2. Cooking in a makeshift facility
3. Wooden structure/ quick burning acrylic catching fire
4. Fire at illegal structure
5. Non-availability of fire extinguisher/fire extinguishers not in working condition
6. Unauthorized fireworks in enclosed places
7. Inappropriate points of manufacturing and sale of fireworks
8. Building and fire code violations
9. Electricity supply failure creating panic and triggering a sudden exodus

10. Illegal electric connections
11. Inappropriate fittings such as MCB, Aluminum wires instead of copper wires etc.
12. Short circuit from electrical generator, (synthetic) tent catching fire, unauthorized construction surrounded by high brick walls preventing evacuation.

Crowd Control

1. Sudden opening of entry door
2. No access control
3. Closed/locked exit
4. Reliance on one major exit route
5. Limited holding area before the entrance
6. People allowed in excess of holding capacity due to overselling of tickets for an event
7. Underestimation of audience, staffing, services
8. More than anticipated crowd at store/mall/political rallies/ examinations/ religious gatherings/ public celebrations
9. Uncontrolled parking and movement of vehicles
10. Callous indifference in regulating traffic

Crowd Behavior

1. Mad rush to exit/parking space
2. Sudden flow of people in reverse direction
3. A wild rush to force the way towards entrance/exits
4. Crowds attempting to enter a venue after the start/closing time
5. A collision between large inward flows and outward flows
6. Free distribution of gifts/toys/food/Prasad/alms/blankets/cash/clothes triggering a surge and crush
7. Rush during distribution of disaster relief supplies
8. Sudden mass evacuation because of a natural disaster
9. A large number of pilgrims trying to board a ferry for a sacred island site
10. Mad rush to leave a school
11. Tussle to catching a glimpse/autograph of a celebrity
12. Rumors of landslide caused by rains leading to rush down a narrow stairway
13. Angry crowd due to delay in the start of the event/late trains
14. Last minute change in platform for train arrival/departure resulting in lots of movements within short time window
15. A large (much more than expected) anxious and competitive crowd gathering because of limited period promotional events at malls
16. Rush to get covered/free/unnumbered seats at the venue
17. Scramble to get event tickets
18. Crowds trying to re-enter the venue (flows inward/outward flows mixed)
19. Religious leaders taking a route (in wrong directions) in violation of orders in force
20. Unruly and irresponsible crowd behavior

Security

1. Security agency firing/teargas/using force leading to panic and stampede
2. Weapon brandished in the crowd
3. Terrorists/separatists/extremists attack/explosions during rush hours
4. Tear gas canisters fired towards exits
5. Crowd forced against sharp metal fencing
6. Ineptitude of the police in effectively managing the crowd and enforcing prohibitory orders
7. Fights within groups of the crowd and with police, other officials etc.
8. Absence of walkie-talkies for the police on duty
9. Absence of public announcement systems or effective wireless system with the police

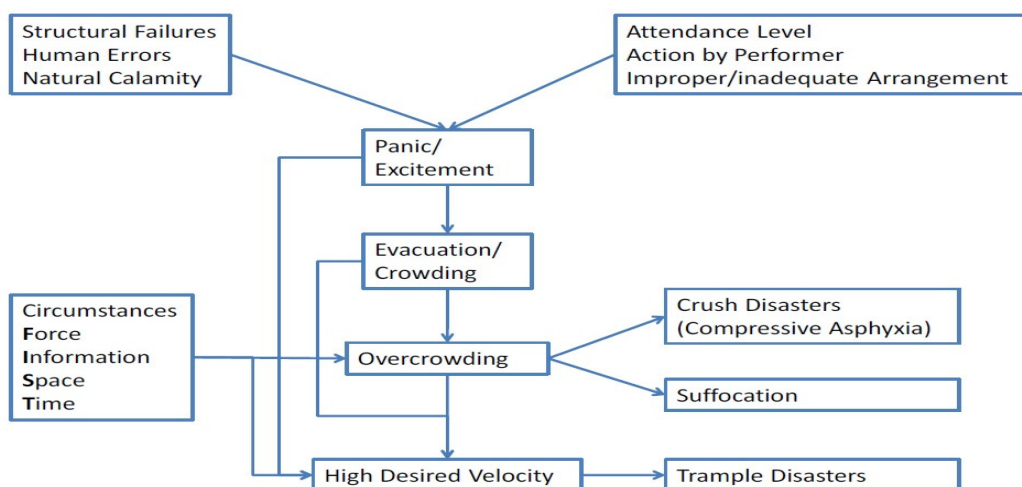
Lack of Coordination between Stakeholders

1. Local decision to remove barricades on administrative route to allow a small group of pilgrims
2. Lack of understanding of the range of duties entrusted

3. Communication delays
4. Coordination gap between agencies (e.g. Commissioner / Superintendent of Police and District Magistrate; Forest officials, Revenue officials, Medical officers and shrine management etc.)
5. Vacant/late/delayed posting of key personnel
6. Inadequate water, medical assistance, public transport/parking facilities
7. Poor infrastructure (Plans on paper but no implementation due to lack of funds, resources, or will)

Crowd Disaster Process

The reasons mentioned in the previous section can again be classified into a) Structural Failure, b) Human errors, c) Natural causes. On occasions, these have been caused by a) High attendance Levels, b) as a reaction to Action by Performer, or c) Improper/inadequate arrangements. As a result, there is either panic or an excitement in visitor's mind which further leads to evacuation or crowding respectively. When this happens, the FIST circumstances namely crowd Force, the Information (false or real) upon which the crowd acts, the physical Space (seating area, chairs, corridors, ramps, doors, lifts etc.) involved, and the Time duration of the incident (rapid ingress/egress) play a very important role resulting in either overcrowding (high crowd density: a large number of people per unit area) or high desired velocity (accelerated movements). On occasions, this has led to deaths because of crushing, suffocation, and trampling. Historically, compressive asphyxia has been the most common reason for deaths in crowd disasters. This crowd disaster process is depicted in Figure 1.



Crowd Management Strategy and Arrangements

This section provides guidance on crowd management strategy and arrangements required during the arrival of crowds; during the event at the venue; and during the departure. The various elements of crowd management strategy are: a) Capacity Planning (long term and short term), b) Understanding Crowd Behavior, c) Crowd Control, and d) Stakeholder approach. Appendix 3.1 captures the integrated view of the crowd management.

Capacity Planning

In India, religious places have high probability of crowd disasters. Obviously, their locations have also played some role in crowd disasters. A large number of religious sites in the country have following characteristics:

1. Located atop hills/mountains with difficult terrain
2. In existence for many centuries
3. Mostly narrow, winding pathways along steep roads.
4. Access routes are prone to stampedes and other crowd related issues; Chances of accidents are high

Development of Shrine locality could be difficult in many places, but it is absolutely necessary in developing infrastructure for Crowd Management, as these places are seeing a huge increase in number of visitors.

Overall location Development Plan

- **Long Term Perspectives** is needed for infrastructure development and will depend on popularity, periodicity of event, weather, terrain, local population etc.

- **Staging Points (queue complex):** Plan for physical or virtual locations through which each visitor must pass. Each staging point should have sufficient facilities for rest, food, water, hygiene. An effective way of counting/monitoring visitors passing through a staging point should be installed to regulate the flow.
- **Multiple routes** should be encouraged (normal, express, emergency) with varying —route gradientll. This will also help in movement of typically vulnerable groups (children, people with special needs etc.)

Understanding Crowd Behavior

Individual behavior in a crowd is sometimes influenced by the behavior of others. The individuals within a crowd may act differently than if they were on their own. The unlawful actions of a few people can result in larger numbers following them. Research has shown that understanding of crowd behavior has led to community based approach to crowd control instead of force based control. For example, the excessive wait at places of worship may result in a few devotees climbing up the fences which could lead to a large number following them causing overcrowding in another area. It is therefore essential to identify and separate such miscreants at the earliest. Such miscreants should be immediately quarantined and removed. Action should be taken immediately with tact and firmness, without inviting undue attention from the general public, which may be there if force is used. Inappropriate or poorly managed control procedures may precipitate crowd incidents rather than preventing them. For example, police reacting to a group of unruly people may chase them in a direction opposite to the incoming crowd, which may create a collision, and hence a disaster. Special attention should also be given to border of the venue and the floating crowd moving there because the mischief is usually caused at such places.

Crowd Control

- (Attempt to) Identify the makeup and motivations of the expected crowd ahead of time to anticipate challenges
- Crowd Controlled Staff should be Uniformly dressed (high visibility)
- Crowd Control Staff Should be in a position to communicate with each other and also to the crowd
- Make sure that there are ample entrances and exits (including administrative/ emergency route) at the event, and they remain unobstructed
- Monitor Crowds

Managing Demand-Supply Gaps

Guiding Principles:

1. Control the crowd inflow,
2. Regulate the crowd at the venue, and
3. Control the outflow, if needed.



***Control Points

Understanding the Demand

- Understand the historical numbers, crowd arrival patterns, growing popularity, type of visitors
- Identify mass arrival time windows creating peaks (season, days of the week, time in the day, festivals, holidays etc.),
- Have knowledge of public transport timetables
- Advance ticket booking/registration

Understanding the Supply

- Calculate the capacity at the venue: seating capacity; worships, offerings or prayers possible per hour etc.
- Calculate the capacity of holding areas/ queue complex

At number of places, demand simply outstrips supply, leading to overcrowding. Because of this, there is a need for an input control i.e. restricting the number of entries. A mandatory registration process makes this possible. The other possibilities are through influencing arrivals. This can be done through:

- Informing off-peak times
- **Have priority Queues, visitors with advanced internet booking, VIP visits during off-peak times**
- Promote use of a certain mode of transport
- Adjusting the event time keeping in mind regular peak traffic times around the venue
- Informing current crowd strength and the expected wait time

With demand outstripping supply, queues cannot be avoided. At number of places, it is impossible to increase supply capacity because of religious beliefs or the topological reasons. In such cases, since the wait is unavoidable the only possibility is to make it comfortable. The crowd psychology studies (e.g. Chase et. al. 2010) recommend the following softer aspects of managing queues:

- Do not overlook the effects of perceptions management
- Determine the acceptable waiting time for your visitors
- Install directions that entertain and physically involve the visitors
- Get visitors out of line (e-service etc.)
- Only make people conscious of time if they grossly overestimate waiting times
- Modify visitor arrival behavior (e.g. inform non-peak hours)
- Keep resources not serving visitors out of sight
- Segment visitors (by personality, age, special needs etc. to provide differentiated attention and/or service)
- Adopt a long-term perspective
- Never underestimate the power of a friendly server

Stakeholder Approach

- Organizers/Temple trusts, Law enforcement agencies must rethink crowd control
- Community stakeholders (NGOs, Business Associations, Schools/ colleges, Neighborhood societies/associations/Mohalla committees) should be encouraged to take ownership in events
- For unity of purpose, faster decisions/response, better coordination etc. a **Unified Command Structure** is recommended.

Unified Command

A Unified Command allows agencies with different functional authorities, roles, and responsibilities to work together effectively without affecting individual accountability. Under a Unified Command, a single, coordinated Incident Action Plan will direct all activities. The commanders at the Incident command System will supervise a single Command and all stakeholders will seek the same purpose in conducting emergency operations.

Information Management and Dissemination

The review of past disasters indicates that in the absence of necessary information, people may slow down/panic; change their direction during their movements leading to undesired flows and/or undesirable behavior. While the absence or poor information management in itself can be a source of crowding, the appropriate information and its dissemination can be a useful weapon in managing crowds. Communicating with visitors and providing them with the correct information is a very critical factor in all situations viz. normal, disaster/emergency, and disaster recovery. Similarly, timely information exchange between various stakeholders viz. event management, government administration, security agencies, NGOs, media, and local population etc. will go a long way in ensuring that crowd gathering events run smoothly and successfully without any untoward incidents.

Visitors should be provided with the following information before their visit or on arrival:

- Terrain, weather and climate (a medical fitness certificate may be required at certain places)
- An advisory on what is recommended allowed and not allowed to be carried along (torch, food, water, medicine, winter clothing etc.)
- Maps with places of importance (event venues, hotels, food joints, hospitals police stations etc.)
- Event route maps with entry/exit points, locker rooms etc.
- List of activities at the venue(s), and opening times
- Typical peak days/times; expected waiting time
- Police, Fire, Ambulance numbers
- Registration requirements, virtual queue if any
- Transport mode choices to go to/from the venue

During the visit:

- Food, Water, toilets, police posts, information points
- Routes in and around event venue
- Access to first-aid facilities
- Suitable entry/exit for emergency situations
- Time to join virtual queue and approximate waiting time.

Venue/Event Organizers and administrators should have the following data/information

- Past data on number of arrivals, patterns
- Likely arrival times, means of arrival and needs (e.g. Saawan Special Trains)

We suggest the following documentation for venue/event managers to bring in process orientation to crowd management:

- Site planning, Master Plan
- Contingency Planning Document
- Process for identifying hazards
- Process for managing hazards
- Preparedness assessment check lists for fire/electrical safety for building/structures, queue control and management procedures,
- Time and motion studies to determine holding capacity
- Communication plan (internal/external, before the event/in case of emergency)
- Capacity building plan, Involvement of community, NGOs. Training need assessment
- Key contacts
- Process for the end of event meeting and documentation. This is very important as these documents will preserve the institutional memory and can act a knowledge source for the generations to come.

Security Personnel should have the following information with them:

- A detailed map showing entry/exit routes, holding areas, location of emergency services etc.
- Intelligence on visitors, likely problematic visitors
- Timing of peak activities, the routes and venue details
- Critical control points
- Fire safety drills
- Command and control chains
- Evacuation and response plans

Local Residents should be provided the following information

- Various events, activities and their timings
- Evacuation and response plans
- Channels for information to be passed
- Temporary road closures, parking restrictions etc.

4.2 Drought: Farming Situation – Upland red sandy loam soils

Condition	Normal Crop/Cropping system	Suggested Contingency measures		
		Change in crop/cropping system including variety	Agronomic measures	Remarks on Implementation
Delay by 2 weeks June 4 th week	Direct sown Rice Maize Pigeon pea Maize+Kudrum Pigeon pea+Kudrum Greengram (K-851) Cowpea	Upto last week of June (for 2 wks delay) all the crops in upland can be taken. Cultivation of Greengram (SML-668) and black gram (Birsaurd-1)	Adopt wider spacing in Pigeon pea	
Delay by 4 weeks July 2 nd week	Direct sown Rice Pigeon pea (Birsaurd-1) Maize (Kanchan, Birsaurd-1) Pigeon pea (Birsaurd-1)+ Black gram (Birsaurd-1)+Green gram (Pusa Vishal) Cowpea/Dolichos Bean	Continued upto July end Marua (Birsaurd-1), Gundali	1. Sowing on Ridge for proper germination 2. Alternate row irrigation 3. Use micro irrigation system 4. Irrigation at only critical stage of crop	Supply of seed through NFS M & RKVY.
Delay by 6 weeks July 4 th week	Direct sown rice (Vandana, Birsaurd-109) Pigeon pea (Birsaurd-1, ICPH 2671) Maize (Kanchan, Birsaurd-1) Maize Pigeon pea (Birsaurd-1)+Black gram (T-9/PantU-19/Birsaurd-1) Black gram (T-9/PantU-19/Birsaurd-1)+Greengram (Pusa Vishal) Groundnut (Birsaurd-2) Cucurbit/Ladyfinger/Cowpea/Dolichos Bean	Continued upto July end Pigeon pea+Horse Gram Pigeon pea+Sesame French Bean Dolichos Bean Pigeon pea+Maize Pigeon pea (UPAS-120) Horse gram (Birsaurd-1) Sesame (Kanche Safed, Krishna) French Bean (Swarna Priya, Arka Komal) Dolichos Bean (Swarna Utkrista) Finger millet (A-404, Birsaurd-1)	1. Ridge Furrow method should be followed for proper germination 2. Conservation of soil moisture. 3. Mechanical weeding 4. Staking for Dolichos Bean.	1. Supply of seed through NFS M & RKVY. 2. Supply of Grubber & Dutch Hoe.

Delay by 8 weeks	Continued upto July end	Pigeonpea+Horsegram Pigeonpea+Sesame Pigeonpea(UPAS-120) HorseGram (BirsaKulthi-1) Niger(BirsaNiger-1,2) Sesame(KankeSafed,TC- 25)	1.Sowing in Ridge furrow system 2.Irrigation in alternate row. 3.Conserve soil moisture. 4.Mechanical weeding. 5.Microirrigation system.	1.Supply of seed through NFS M& RKVY. 2.Supply of Grubber & Dutch Hoe.
August 2 nd week	Pigeonpea+Horsegram Pigeonpea+Sesame French Bean Dolichos Bean Pigeonpea+Maize Pigeonpea(UPAS-120) HorseGram(BirsaKulthi-1) Sesame(KankeSafed,Krishna)			

Farming Situation– Medium land rainfed loam soils

Condition	Normal Crop/Cropping system	Suggested Contingency measures		
		Change in crop/cropping system including variety	Agronomic measures	Remarks on Implementation
Delay by 2 weeks June 4 th week	Rice(Lalat, IR-64, IR-36, Arize-6444)	Rice(IR-64, IR-36, Lalat, Naveen, Sahbhagi, Arize-6444, Birsamati)	Rice cultivation through SRI method or plastic drum seeder. 2. Bunding for water retention. 3. Use of conoweeder for weeding.	
Delay by 4 weeks July 2 nd week	Rice(IR-36, IR-64, Lalat, Birsamati, Naveen, Arise-6444, Sahbhagi)	Continued upto July end.	1. Sowing through plastic drum seeder & transplanting by SRI method. 2. Bunding for water retention. 3. Use of conoweeder for weeding.	Supply of plastic drum seeder, conoweeder & SRI marker by NFS M& RKVY.
Delay by 6 weeks July 4 th week	Rice–IR-36, IR-64, Lalat, Naveen, Birsamati, Arise 6444, Sahbhagi	Continued upto July end.	1.Sowing through plastic drum seeder and transplanting through SRI method. 2.Bunding for water retention. 3.Use of conoweeder for weeding.	Plastic drum seeder & for SRI method conoweeder marker can be supplied by NFSM & RKVY scheme.

<p>Delay by 8 weeks August 2nd week</p>	<p>Rice—(IR-64, IR-36, Naveen, Lalat) or field leffallow. Maize—HQPM-1, Swarna Composite-1 Pigeonpea—Bahar, Birsa Arhar-1 Urd—T-9, PantU-19, Birsa Urd-1 Moong—K-85, Pusa Vishal Kulthi—Birsa Kulthi-1 Brinjal French Bean Tomato Rice Bean Sweet Potato Radish Cauliflower Chilies</p>	<p>Direct sowing of rice—Anjali, Vandana, Birsa Dhan-108, Sahabagi. Maize—HQPM-1, Suwan Composite-1, Pigeonpea—Birsa Arhar-1/UPAS-120. Blackgram—T-9, PantU-19 Greengram—K-85, Pusa Vishal Horsegram—Birsa Kulthi-1 Brinjal—Swarna Pratibha, Swarna Abhilamb, Swarna Ajay, Swarna Sobha, Swarna Nilima. French Bean—Swarna Priya, Arka Komal, Swarna Lata) Tomato—Arka Abha, Swarna Sampada, Swarna Vijay. Rice Bean—RBL-1. Sweet Potato—Kalmegh. Radish—Japanese White. Cauliflower—Early Kunwari, Hajipur extra early. Chilies—Pusa Jwala, Capsicum Bharat, Indra.</p>	<ol style="list-style-type: none"> 1. Sowing with fertilizer cum seed drill. 2. Sowing in Ridges 3. Proper drainage channel 4. Bunding off field in Rice fields. 5. Sowing of rice across the slope. 6. Sowing of pulses along the slope. 	<p>Seed cum fertilizer drills supplied by NFSM & RKVY scheme.</p>
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Farming Situation - Lowlandrainfedclay soils

Condition	NormalCrop/Croppingsystem	SuggestedContingencymeasures		
		Changeincrop/cropping systemincludingvariety	Agronomicmeasures	Remarkson Implementation
Earlyseas on drought(delayed onset)				
Delayby2weeks June4 th week	Rice(MTU-7029,Sita,BPT-5204)	Rice(Rajshree, Arise-6444, MTU-7029)	1.Directsowingofrice. 2.Sowingthroughdrum seeder. 3.Properbundingfor waterretention. 4.Spreadingofalayerof organicmaterialslike straw,seedlessgrass,dry leavesetcinthe fieldto checkevaporationof	
Delay by 4 weeks July 2nd week	Rice (MTU-7029, Arise-6444, Rajshree)	Rice (Arise-6444, Rajshree)	1. Direct sowing of rice. 2. Sowing through drum seeder. 3. Proper bunding for water retention. 4. Spreading of a layer of organic materials like straw, seedless grass, dry leaves etc in the field to check evaporation of water.	1. SRI marker and cono weeder under NFSM & RKVY.
Delay by 6 weeks July 4th week	Rice (Arise-6444, Rajshree)	Rice (Lalat, Naveen, Birsamati, IR-64, IR-36)	1. Direct sowing of rice. 2. Sowing through drum seeder. 3. Proper bunding for water retention. 4. Spreading of a layer of organic materials like straw, seedless grass, dry leaves etc in the field to check evaporation of water.	Supply of SRI marker, cono weeder and drum kit through NFSM & RKVY.
Delayby8weeks August2 nd week	Rice(Lalat,Naveen,Birsamati, IR-64,IR-36)	Rice(Anjali,BirsaDhan-201, BirsaDhan-202,Vandana, Sahbhagi).	1.Directsowingofrice. 2.Sowingthroughdrum seeder. 3.Properbundingfor waterretention. 4.Spreadingofalayerof organicmaterialslike straw,seedlessgrass,dry leavesetcinthe fieldto checkevaporationof water. 5.Lifesavingirrigation.	Supplyofseed & drumseederthrough NFSM&RKVY.
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Direct sown rice (Gora) Pigeonpea (Bahar) Pigeonpea + Maize Maize (Kanchan) Maize + Ladyfinger Pigeonpea +Black gram / Green gram Blackgram Greengram Groundnut (AK12-24) Cucurbits/Ladyfinger	1. Thinning and gap filling the existing crop. 2. Re sowing. 3. Inter culturing to check evaporation. 4. Strip cropping if re sown crops, 5. Life saving irrigation 6. Trench (1 – 1 ½ ft) making across the slope after 10 – 12 feet intervals.	1. Intercultivation 2. Conservation furrow 3. Thinning 4. Spray of anti transpirant.	1. Supply of inter cultural implements through RKVY. 2. Seeds supplied through NFSM & RKVY.

Farming Situation - Uplandrainfedsandy soils.

Condition	NormalCrop/croppingsystem	Suggested Contingencymeasures		
		Cropmanagement	Soilnutrient &moisture conservation measures	Remarks on Implementati on
Earlyseason drought (Normalonset)	Directsownrice(Gora) Pigeonpea(Bahar) Pigeonpea+Maize Maize(Kanchan) Maize+Ladyfinger Pigeonpea+Blackgram/Green gram Blackgram Greengram Groundnut(AK12-24) Cucurbits/Ladyfinger	1. Thinningandgapfillingthe existingcrop. 2. Resowing. 3. Interculturingtocheck evaporation. 4. Stripcroppingifresown crops, 5. Lifesavingirrigation 6. Trench(1–1½ft)making acrosstheslopeafter10–12 feetintervals.	1. Intercultivation 2. Conservationfur row 3. Thinning 4. Sprayingof anti transpirant.	1. Supplyof inter culturalimple ments throughRKV Y. 2. Seedssupp lied throughNF SM & RKVY.
Midseason drought (longdryspell, consecutive2 weeks rainless (>2.5mm) period) At vegetative	Direct sown rice (Gora) Pigeonpea (Bahar) Pigeonpea + Maize Maize (Kanchan) Maize + Ladyfinger Pigeonpea +Blackgram /Green gram Blackgram Greengram Groundnut (AK12-24) Cucurbits/ladyfinger	1. Thinning 2. Weeding. 3. Grazing leaf tips. 4. Postponement of top dressing 5. Life saving irrigation 6. Earthing up in groundnut. Maize & Pigeonpea.	1. Intercultivation (soil mulching) 2. Conservation furrow 3. Spray of anti transpirants.	
At flowering/ fruiting stage	Direct sown rice (Gora) Pigeonpea (Bahar) Pigeonpea + Maize Maize (Kanchan) Maize + Ladyfinger Pigeonpea +Black gram /Green gram Blackgram Greengram Groundnut (AK12-24)	Life saving irrigation Weed mulching Postponement of top dressing.	Spray of anti transpirants.	Farm ponds through NREGA.
Terminaldrought (Earlywithdrawal of monsoon)	DirectsownRice(Gora) Pigeonpea(Bahar) Pigeonpea+Maize Maize(Kanchan) Maize+Ladyfinger Pigeonpea+Blackgram/Green gram Blackgram Greengram Groundnut(AK12-24) Cucurbits/Ladyfinger	Lifesavingirrigation Pigeonpeaharvestedforvegetable purpose Harvestatphysiologicalmaturity stage.	Cowpea/ FrenchBean Irrigatedveg etables- Potato,Colecrops,root cropsetc.ifirrigation sourceisavail able.	1. Farmpond throughNREG A. 2. Threshing implementsth rough RKVY. 3. Groundnutdigger and pluckerthrough h RKVY.

Farming Condition: Mediumlandrainfed loamysoils

Condition	Suggested Contingency measures			
Early season drought (Normal on set)		Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Normal on set followed by 15-20 days dry spell after sowing leading to poor germination / crop stand etc.	Rice (Lalat, IR-64, IR-36, Arise-6444)	1. Resowing or re-transplanting through plastic drum seeder. 2. Life saving irrigation may be given if possible. 3. Replacement of crop with short duration leguminous crop like Greengram, Blackgram, Horsegram, Sesame & Niger. Greengram (Pusa Vishal) Blackgram (Pant U-19, Birsa Urd-1) Horsegram (Birsa Kulthi-1) Sesame (Kanke Safed, TC-25) Niger (Birsa Niger-1, 2)	1. Weeding 2. Postponement of top dressing 3. To check evaporation from fields spread dried leaves (Mulching). 4. Proper bunding 5. Strip cropping of sown crops 6. Spray of anti transpirants.	Supply of SRI marker and no weeder from NFSM of RKVY scheme.
At vegetative stage	Rice (Lalat, IR-64, IR-36, Arise-6444)	1. Resowing or re-transplanting through plastic drum seeder. 2. Life saving irrigation may be given if possible. 3. Replacement of crop with short duration leguminous crop like Greengram, Blackgram, Horsegram, Sesame & Niger. Greengram (Pusa Vishal) Blackgram (Pant U-19, Birsa Urd-1) Horsegram (Birsa Kulthi-1) Sesame (Kanke Safed, TC-25) Niger (Birsa Niger-1, 2)	1. Weeding 2. Postponement of top dressing 3. To check evaporation from fields spread dried leaves (Mulching). 4. Proper bunding 5. Strip cropping of sown crops 6. Spray of anti transpirants.	Supply of SRI marker and no weeder from NFSM of RKVY scheme.
At flowering/ fruiting stage	Rice (Lalat, IR-64, IR-36, Arise-6444)	1. Life saving irrigation if available. 2. Sowing of early Rabi crops like Mustard/Linseed/ Lentil/Pea. 3. Postpone of top dressing. Mustard (Shivani) Linseed (T-397, Sweta) Lentil (PL-406, 639) Pea (Swarna Rekha)	Spray of anti transpirants.	Supply of anti transpirants through NFSM and RKVY.
Terminal drought	Rice – Naveen, IR-36, IR-64, Lalat, Birsamati.	1. Harvest at physiological maturity stage. 2. Life saving irrigation.	Chick pea – (Pant G-114, Radhey, BG-256, KPG-59). Pea – (Swarna Rekha/Arkel) Linseed – Sweta/T-397) Lentil – (PL-406, PL-639).	Supply of anti transpirants through NFSM and RKVY.

Farming condition: Lowlandrainfedclay soils.

Condition		Suggested Contingency measures		
Terminal drought (Early withdrawal of monsoon)	Normal Crop/cropping system	Crop management	Rabi Crop planning	Remarks on Implementation
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Rice (MTU-7029, Sita, BPT-5204, Arise-6444)	1. Life saving irrigation may be applied if any water resource is available. 2. Gap filling should be done. 3. Resowing or retransplanting through plastic drum seeder or SRI method respectively if heavy damage is occurs.	1. Weeding mulching. 2. Spreading a layer of dried leaves to check evaporation loss. 3. Proper bunding for water retention.	Supply of seeds, SRI marker & cono weeder and drum seeder through NFSM & RKVY.
At vegetative stage	Rice (MTU-7029, Sita, BPT-5204, Arise-6444)	1. Life saving irrigation. 2. Resowing or retransplanting through drum seeder or SRI methods respectively.	1. Weeding mulching 2. Spraying a layer of dried leaves to check evaporation. 3. Postponement of top dressing.	Supply of SRI marker & cono weeder, plastic drum seeder through NFSM & RKVY.
At flowering/fruiting stage	Rice (MTU-7029, Sita, BPT-5204, Arise-6444)	1. Life saving irrigation. 2. Sowing of early Rabi crops.	1. Spraying of anti transpirants. 2. Postponement of top dressing.	Supply of anti transpirant through NFSM & RKVY.
Terminal drought	Rice (MTU-7029, Sita, BPT-5204, Arise-6444)	1. Life saving irrigation. 2. Harvesting at physiological maturity stage.	Chick pea (Pant G-114) Linseed (T-397) Wheat (C-306, K-8962, DL-788-2) Barley (Ratna)	1. Farm pond through NREGA. 2. Threshing implements through RKVY.

Farming Situation: Rainfed upland sandy soils

Condition	Suggested Contingency measures			
	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Insufficient groundwater recharged due to low rainfall	Upland rice, Maize, Pigeon pea, Black gram, Greengram, Groundnut, Cucurbits, Ladyfinger.	Aerobic rice, short duration pulses, oilseeds and vegetables (Greengram, Black gram, Sesame, Horse gram and Cucurbits)	1. Strip cropping. 2. Limited irrigation. 3. Alternate furrow irrigation. 4. Drip irrigation. 5. Microtube irrigation. 6. Polythene mulching in vegetables.	1. Seed, irrigation system and polythene sheets through NFSM, NHM and RKVY.
	Rice (Lalat, IR-64, IR-36, Arise-6444)	Short duration aerobic rice (Vandana, Anjali, BVD-110, 109)	1. Limited irrigation. 2. Sowing across the slope. 3. Trench (1-1½ ft.) across the slope. 4. Contour bunding.	

Rice(MTU-7029,BPT-5204, Rajshree,Sita)	MediumdurationRice varieties (Lalat,IR-64,IR-36,Arize-6444)	1.Lifesavingirrigation. 2.Sprayofanti transpirant.
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Livestock

	Suggested Contingency Measure		
	Before the Event	During the Event	After the event
Drought			
Feedandfodder availability	Preservation ofsurplus fodder, encouragefoddercultivationand tree plantationandalso encouragesupplyof molassestocattlefeedplants.	Arrangement of feeds and fodder from adjoining areas, exploitation of non conventional feed resources,useofureatreatedstrawandfeedblocks.	Promotion offodder seed production, cultivation andstorage,establishment offodderblockmaking machinesinfoddersurplusareas.
Drinkingwater	Repairs of tube wells, clear off the sludgein thecanalsandlocalwater catchments and clean the water tanks, largepondsandakes	Harnessing water throughthe existing reservoirs andexploitationofgroundwater.	Tostrengthen reservoirsbypromoting recharging ofwater andrainwater harvesting during rainy season.
Healthanddisease management	Massvaccinationanddeworming	Provide shadestoanimals and water as much as possible.Treatment of diseasedanimalsandproper disposalofcarcasses.	Treatmentof diseasedanimalsandprovidevitamin and mineralsupplement to regain strength and vigour.

Poultry

	Suggested Contingency Measure			Convergence/linkageswith ongoing programs, ifany
	Before the Event	During the Event	After the Event	
Shortageoffeedingredients	Storageoffeed	Provide nonconventionalfeed, supplementantioxidantandanti stress		
Drinkingwater	Storageofwaterintanks	Addvit-Candotherantistress ingredientswithwater		
Healthanddiseasemanagement	Regularvaccination	Vaccinationandtreatmentof diseasedone	Disposalofdeadbirds	

Fisheries / Aquaculture

	Suggested Contingency Measure		
	Before the Event	During the Event	After the Event
A. Aquaculture			
(i)Shallowwaterinponds dueto insufficienttrains/inflow	Plough thepondandapplylime @ 250kg/ha	Reduce the stocking density from 25000 fry (1 inches size) to 10000-15000/ha	Removethefishesofbigger size (0.5kg)
(ii)Impactofsaltloadbuildupinponds /changeinwaterquality		Apply lime@ 50 kg on every 15-30 days.Aeratthewaterasper need	Applylimeasperneed@50 kg/ha
B. Capture Marine Inland			

(i) Shallow water depth due to insufficient rains/inflow	Preparing infrastructures for Pen Culture & Cage Culture in reservoirs.	Stocking of spawn & raising fingerlings therefrom in Pen.	Stocking of fingerlings in Cage.
(ii) Changes in water quality	Application of lime & Potassium Permanganate in vicinity of Pen Culture & Cage Culture in reservoirs.	Application of lime & Potassium Permanganate in vicinity of Pen Culture & Cage Culture in reservoirs.	Application of lime & Potassium Permanganate in vicinity of Pen Culture & Cage Culture in reservoirs.
C. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow	Preparation of water bodies for fry/fingerlings production. Overstocking of bottom dwelling fishes like Mrigal & Common Carp.	Stocking of spawn & raising fry/fingerlings therefrom. Partial Harvesting time to time of bottom dwelling fishes like Mrigal & Common Carp.	Early harvesting of bottom dwelling fishes like Mrigal & Common Carp. Supply of fry to the area of requirement & Stocking of fingerlings in reservoirs of the dist.
(ii) Impact of salt load build up in ponds / change in water quality	Use of Lime & Cowdung	Sprinkling of Potassium Permanganate, Linkage of village drains to water bodies.	Sprinkling of Potassium Permanganate, Linkage of village drains to water bodies.

4.3 Cold Wave & Frost

Extreme Event Type	Suggested Contingency Measure			
	Seedling /nursery stage	Vegetative stage	Reproductive stage	At harvest
Cold Wave				
Wheat	Light irrigation, Balanced fertilizer application, Foliar spray of nutrients	Light irrigation, Mulching with crop residue, weeding, Fertilizer application	Light irrigation, fertilizer application	
Vegetables	Raising of seedlings in Polyhouse, re-sowing if damaged	Light irrigation, Mulching with crop residue, weeding, Disease and pest control, care for chilling injury or replanting	Quick harvesting	Grading, quick disposal for marketing
Pigeon pea		Light irrigation, Mulching with crop residue, weeding		
Frost				
Wheat		Light irrigation, Mulching with crop residue, weeding		
Pigeon pea	Exposure of crop to smoke by burning waste material during	Exposure of crop to smoke by burning waste material during night time	Exposure of crop to smoke by burning waste material	Exposure of crop to smoke by burning waste material

	nighttime	Lightsprinklerirrigation	duringnight time Lightsprinklerirrigation	aterial duringnighttime
Tomato&Pota to		Earthupto 15cmht. Irrigation Intercultivation, Mulchingwithweed s		Harvestindry weather
Horticulturalcr ops (fruitcrops)	Lightfrequentirrigationmaybeprecticedwhereverirrigationfacilitiesareavailable,mulching,thatchingandcreatingsmoke screensandlightingof fireisalsopracticedwhereirrigationfacilitiesarenotavailable			

Fisheries / Aquaculture

	Suggested Contingency Measure		
	Before the Event	During the Event	After the Event
(i)Changesinpondenvironment(water quality)	Reduce application of organic manureandsupplementar yfeeds	Reduce/stopapplicationof feed	Harvest the bigger fishes, reduce/stop application ofsupplementary feed.Applylime @ 50 kg/ha and potassium permanganate in perforatedplasticball 5-10gineachball
(ii)HealthandDiseasemanage ment	Applylime	Applylime/saltasperneed	Applylime/saltasper need.

4.4 Unusual rains(untimely,unseasonaletc)(forbothrainfedandirrigatedsituations)

Condition				
Continuoushighrainfallinash ortspan leading to waterlogging	Vegetatives tage	Floweringst age	Cropmaturitystage	Post harvest
DirectsownRice(Gora) Pigeonpea (Bahar) Maize(Ka nchan) Maize+La dyfinger Pigeonpea+Blackgram/Greengram Blackgram/Greengram	Providedrai nage	Providedrain age	Drainoutexcesswa ter, Harvestingatphysi ological maturitystage HarvestofPigeonpea,Co w pea,FrenchBeanforve getable purpose.	Shifftosafeplace. Dryinshade&turn frequently. Safestorageagainst storagepest&disease.
Groundnut(AK12-24) Cucurbits/Ladyfinger				
Rice(Lalat,IR-64,IR-36,Arize-6444)	Drainoutexc esswater.	Drainoutexce sswater.	Drainoutexcesswater.	Shifftosafeplace. Safe storageagainst storagepest&disease.

4.5 Controlling Anti-Socials: (Strength of Para-military and other forces?)

Our main intention is to neutralize the guerilla hard core while at the same time avoid large scale cdlateral damage inherent in any counter militancy campaign.

1. Ensure strict vigil on the strategic entry points to check the movement of anti-socials. (Preparedness/Response/Mitigation)
2. Particular stress should be given on restricting the transportation of contraband items like liquor, arms and ammunitions, explosives and money from either side of the state that might be used by the groups having vested interests to influence the societal peace. (Preparedness)
3. The key to success in fighting Naxals effectively lies in obtaining accurate and reliable intelligence. Reliable Public sources should/can be used in this regard. (Response/Preparedness)
4. Use of Special Forces like "Greyhound" used in Andhra Pradesh that has shown good results in Anti-Naxalite regard (or) Proper training to the internal "Jharkhand Jaguars" with proper infrastructural development and required arms and ammunition. (Preparedness)
5. Finally it would require high level of tactical training with emphasis on mobility, hard hitting combat power, reliance on stealth, surprise and endurance to stay out in the jungles for protracted periods. (Mitigation)

4.6 Road Safety:

Preparedness:

1. It is especially important to lower speed while nearing schools, on narrow roads, hilly areas, rural areas and when visibility is poor. Speed-breakers/Bumpers are to be laid near these areas and all the hospitals should have multiple entry/exit points.
2. Preference is to be given to pedestrians and children crossing the road.
3. Caution signs are very important as they warn about accident-prone spots so that the driver can reduce the speed of the vehicle. Signboards on the road are vital clues about road design so that the person behind the wheel can exercise caution.
4. **Vehicle must be in good working condition**- there should be no compromise on the quality of brakes and tires. RTO should ensure that the vehicles registered under them should be properly inspected before allowed to hit the roads/also old and substandard vehicles should not be allowed to enter the road. Old vehicles/heavy vehicles (specially) should be checked for air, sound pollutions and its working conditions too.
5. **Roads should be in good condition** with proper signboards. It is vital to install reflectors on roads so that deviations and medians are clearly visible to drivers.

Response:

1. Single site - the treatment of specific types of accident at a single location
2. Mass action plans - the application of a known remedy to locations with a common accident problem
3. Route action plans - the application of known remedies along a route with a high accident rate
4. Area with schemes - the applications of various treatments over a wide area of town/city, i.e. including traffic management and traffic calming (speed reducing devices).

4.7 Fire Accidents

Fire accidents can be avoided and their impact can be reduced by:

1. Maintaining proper fire exits and proper exit signage (e.g., exit signs pointing to them that can function in a power failure).
2. Placing and maintaining the correct type of fire extinguishers in easily accessible places.
3. Prohibiting flammable materials in certain areas of the high population density.
4. Periodically inspecting buildings for violations, issuing orders to comply and, potentially, prosecuting or closing buildings that are not in compliance, until the deficiencies are corrected or condemning it in extreme cases.
5. Obtaining and maintaining a complete inventory of fire safety equipment.
6. Maintaining a high level of training and awareness of occupants and users of the building to avoid obvious mistakes, such as the propping open of fire doors.

4.8 Ground Water Related Issues & Problems

Some of key ground water related issues can be controlled by some of the below mentioned methods:

1. Locating suitable sites for bore wells

2. Suitable design of dug wells and hand pumps
3. Taking up artificial recharge projects to augment the ground water resource availability in the urban area
4. Optimal development of irrigation potential by developing ground water available for future uses.
5. Creating public awareness for conserving ground water through awareness camps, NGO's and mass media.
6. Mass awareness campaigns should regularly be organized in both rural and urban areas, which, both, has different problems of the same issue.

4.9 Control of communicable diseases and prevention of epidemics:

Disease	Symptoms	Environmental Risk Factors	Health Hazards
Acute Upper respiratory tract infections	All symptoms of the common cold, fever and heavy coughing. Chest pain and pain between shoulder blades in pneumonia.	Crowding, poor hygiene	Influenza and pneumonia may cause severe complications, especially in groups at risk
Diarrhea	Watery stools at least three times a day, with or without blood or slime. May be accompanied by fever, nausea or vomiting.	Contaminated drinking-water or food, or poor sanitation	Dehydration, especially in children, shown by dark colouration of urine, dry tongue or leathery skin
Measles	A disease of early childhood, characterized by fever and catarrhal symptoms, followed by maculopapular rash in the mouth.	Crowding, poor hygiene	Severe constitutional symptoms, high case fatality rate
Malaria	Painful muscles and joints, high fever with chills, headache, possibly diarrhoea and vomiting.	Breeding of <i>Anopheles</i> mosquitoes in stagnant water bodies	Disease may rapidly become fatal, unless medical care is provided within the first 48 hours
Meningococcal meningitis	Infected persons may show no symptoms for a considerable time. When an epidemic is in progress, headache, fever and general malaise will suggest the diagnosis, which must be confirmed by lumbar puncture.	Crowding	Often fatal if untreated at an early stage; neurological problems in survivors
<i>Shigella</i> dysentery	Diarrhoea with blood in the stools, fever, vomiting and abdominal cramps.	Contaminated drinking-water or food, or poor sanitation, poor hygiene	Case fatality rate may be high
Viral Hepatitis A	Nausea, slight fever, pale-coloured stools, dark-coloured urine, jaundiced eye whites and skin after several days.	Poor hygiene	Long-term disabling effects
Louse-borne typhus	Prolonged fever, headache, body pains.	Unhygienic conditions leading to lice infestations	May be fatal without treatment
Typhoid Fever	Starts off like malaria, sometimes with diarrhoea, prolonged fever, occasionally with delirium.	As for diarrhoea	Without appropriate medical care, may lead to fatal complications in a few weeks
Cholera	Modest fever, severe, but liquid diarrhoea (rice water stools), abdominal spasms, vomiting, rapid weight loss and dehydration.	As for diarrhoea	As for diarrhoea
Dengue and Dengue Haemorrhagic fever (DHF)	High fever, headaches, pain in muscles and joints, red spots on skin.	Breeding of <i>Aedes</i> mosquitoes in natural or artificial containers, filled with water	Dengue usually runs a mild course. DHF, however, is often accompanied by heavy haemorrhages, which may be fatal

Diphtheria	Inflamed and painful throat, coughing.	Crowding, poor hygiene	A secretion is deposited in the respiratory tract, which can lead to asphyxiation
Tetanus	Muscle spasms, starting in the jaws and extending to the rest of the body over several days	Poor hygiene, injury	Fatal
Rabies	Fatigue, headache, disorientation, paralysis, hyperactivity	Bite from infected animal host	Fatal if untreated
Heat Stress	Elevated body temperatures, nausea, vomiting, headache	Excessive temperatures	Risk of coma
Relapsing fever (louse-borne or tick-borne)	Acute high fever at intervals	Unhygienic conditions leading to lice or tick infestations	Often fatal in untreated persons, depending on immunity levels

4.10 Epidemic cholera in refugee camps:

Cholera can spread very quickly in overcrowded living areas. If an epidemic breaks out:

Control

1. An emergency treatment facility should be established.
2. Apart from patients, people visiting the facility should be limited to those giving care.
3. Stored drinking water should be purified with at least 0.2mg per litre of free residual chlorine.
4. Sodium hypochlorite or calcium hypochlorite should be added to water at the following chlorine concentrations:
 - a) 0.05% (0.5g per litre) for washing;
 - b) 0.2% (2g per litre) for cleaning walls and floors;
 - c) 1% (10g per litre) for disinfecting contaminated bedding and clothes, and for cleaning latrines.

4.11 Public-health measures

1. Treat wells in the affected area; cover them if possible. Appoint someone to treat each collected bucket of water with sodium hypochlorite or calcium hypochlorite. Ideally this should be done at every well when the water is collected.
2. Health workers should regularly visit households to detect cases.
3. Gatherings of people should be restricted.
4. Carry out precautionary measures to reduce contamination of food sold in markets.
5. Test samples of water for the presence of *Escherichia coli*. This indicates faecal pollution and the possible presence of bacteria that cause diarrhoea.
6. Send stool samples for laboratory testing, if possible, to confirm the presence of cholera.
7. Good record keeping (number of cases and deaths) at clinics and treatment centers will help in assessing whether the epidemic is getting worse, or whether public-health measures are having a positive effect.
8. Use patient records to plot outbreaks on a map of the camp.
9. Disinfect homes of patients if resources are available.

4.12 Human Stampede:

1. Controlling entry into the venue: Controlling the flow of people into and out of a venue or event presents a variety of potential risks to the health, safety and welfare of those responsible for crowd control at entry and exit locations. The primary role of crowd controllers employed to manage entry into events or venues is to ensure potentially troublesome or intoxicated people don't enter and are safely managed at that point. Consideration must also be given to patrons leaving the venue or event and the various risks to crowd controllers, such as aggressive or abusive behaviour, patron illness or patron traffic management issues.

2. MONITORING AND COMMUNICATING ON CROWD AND INDIVIDUAL BEHAVIOUR: Crowd monitoring observation locations are selected and equipped to be safe and effective to use, including a stable work platform and elevated locations that are safe to get in and out of and don't put crowd controllers at risk of a fall. Use of strategically positioned video cameras that are capable of capturing high quality, clear images to assist crowd monitoring. Cameras are monitored by other staff during the period of operations. Consideration should be given to providing crowd controllers with wearable, personal video and recording devices. Crowd controllers provided with high visibility uniforms and personal identification clearly identifying them as crowd controllers.

3. DEALING WITH POTENTIALLY AGGRESSIVE, ABUSIVE OR VIOLENT BEHAVIOUR: Designated areas are available where potentially violent situations can be defused. These areas should be away from main entertainment or event area, visible to patrons and under video surveillance. Ensuring crowd controllers have the communication skills to effectively deal with patrons who may be violent or abusive. Training on how to defuse potentially violent situations and deal with troublesome patrons without the need for physical intervention, including training on the effects of drugs typically used at venues and events. Sufficient numbers of crowd controllers allocated to tasks at the venue or event to deal effectively with potentially violent situations.

4. PHYSICALLY MANAGING AGGRESSIVE, ABUSIVE OR VIOLENT BEHAVIOUR: Particular focus should be placed on how to do this in such a way as to protect crowd controllers from injury and also look after the welfare of the patron/s involved. Training for crowd controllers on when to use basic restraining techniques and how to use them to minimize injury to the crowd controller and person being restrained. Appropriate Training has to be provided to crowd controllers on how to use advanced restraining techniques for extreme situations. Policy should be in place regarding when and how physical intervention is to be used. Crowd controllers who are likely to be involved in physical interventions should clearly understand their role, responsibilities.

5. ADMINISTERING AND COORDINATING 'FIRST RESPONSE' FIRST AID OR CRITICAL CARE: First aid training and regular refresher training should be provided to all crowd controllers that is appropriate to the likely first aid demands with due consideration to the work done.

4.13 Lighting

Lightening is a natural phenomenon of the district. Every year people as well as cattle die due to the lightning. Therefore the proper measure needs to be taken to reduce the death toll.

Few Tips to survive lightning:

- If you are in a building it is advisable to stay inside. Stay away from windows, doors, fireplaces, stoves, metal pipes, sinks and other electrical charge conductors
- Unplug TVs, radios and other electrical appliances.
- Don't use the phone or other electrical equipment.
- If you are outside, seek shelter in a building, cave or depressed area. Lightning typically strikes the tallest item in an area.
- If you're caught in the open, bend down with your feet close together and your head down. Don't lie flat - by minimizing your contact with the ground you reduce the risk of being electrocuted by a ground charge.
- Get off bicycles, motorcycles, and tractors.

If you are in a car, stop the car and stay in it. Don't stop near trees or power lines that could fall

Before Disaster	During Disaster	After Disaster
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<ul style="list-style-type: none"> • Installation of an effective lightning rod system • Staying inside for at least 30 minutes after the last strike • Seeking shelter in a low area and staying away from trees while being caught up in an open area • Staying away from metal objects and tall objects, such as telephone poles, light standards, antennas and tall trees • Staying away from water sources like swimming pool, ponds, lakes or rivers 	<ul style="list-style-type: none"> • Mobilization of specialized equipment and machinery to affected areas • Arrangements to be made for quick transportation of injured victims to the hospitals 	<ul style="list-style-type: none"> • Arrangements for distribution of gratuitous relief and cash doles
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4.14 Drowning and other water related issues

Drowning, which can be defined as death arising from impairment of respiratory function as a result of immersion in liquid, is a major cause of death worldwide. It has been estimated that, in 2000, 449 000 people drowned worldwide, with 97% of drowning occurring in low- and middle-income countries. It is the third leading cause of death in children aged 1–5 and the leading cause of mortality due to injury, with the mortality rates in male children being almost twice as high as those in female children. Not all drowning are related to recreational water use and the percentage that is attributable to recreational water is likely to vary from country to country. A study in the USA found that 50–75% of all drowning there occurred in natural waters (oceans, lakes, rivers, etc.), with both children and adults being victims.

Contributory Factors:

- Alcohol consumption
- Cold
- Current (including rip currents, river currents, and tidal currents)
- Offshore winds (especially with flotation devices)
- Ice cover
- Pre-existing disease
- Underwater entanglement
- Bottom surface gradient and stability
- Waves (coastal, boat, chop)
- Water transparency
- Impeded visibility (including coastal configuration, structures and overcrowding)
- Lack of parental supervision (infants)
- Poor or inadequate equipment (e.g. boats or lifejackets)
- Overloading of boats
- Overestimation of skills
- Lack of local knowledge

Preventive and Management Actions:

1. Public education regarding hazards and safe behaviors
2. Regulations that discourage unsafe behaviors (e.g., exceeding recommended boat loadings)
3. Continual adult supervision (infants)
4. Restriction of alcohol provision

5. Provision of properly trained and equipped lifeguards
6. Provision of rescue services
7. Access to emergency response (e.g., telephones with emergency numbers)
8. Local hazard warning notices
9. Availability of resuscitation skills/facilities
10. Development of rescue and resuscitation skills among general public and user groups
11. Coordination with user group associations concerning hazard awareness and safe behaviors
12. Wearing of adequate lifejackets when boating

Safety Measures:

- Never leave a child or adolescent alone near water: on the beach, at a pool or in the bathtub. If you must leave, take them with you.
- Safety Precautions should be posted near all the places where drowning is possible
- Approved Personal floating devices should be advised whenever necessary.
- First-Aid kit should be kept available near all the places that have the precautions posted.
- Important phone numbers should also be posted on the boards along with the safety precautions.
- Training should be provided to the locals and other stakeholders on CPR (Cardiopulmonary resuscitation).
- Diving should be banned in unclear and shallow waters.
- Marshy places and rocks closer to deep waters should be off-limits for visitors and other people.
- Swift should be notified regularly to the people going into water.
- Depth of the water should also be posted, so that swimmers will be aware of the conditions they would enter.

5. Preparedness measures:

Before occurrence of any disaster whatever activity conducted towards mitigation of disaster is generally called preparedness. According to National Disaster Management Act 2005 preparedness means the state of readiness to deal with a threatening disaster situation or disaster and the effects thereof.

In view of promoting preparedness among the people the District Disaster Management Authority, Dumka arranged the workshops, trainings, seminars, rallies, mock drills, distribution of leaflets and publishing articles in newspapers throughout the year.

National School Safety Programme 2012-2014 implemented by NDMA in 200 schools of 43 districts each in 22 States/UTs was successful as a result CBSC had included Disaster Management as a subject in the school curriculum. In Dumka District the Higher Secondary Schools are aware about the National School Safety Programme and the schools organized mock drills and classes on Disaster Management in regular basis.

5.1 DIRT:

District Incident Response Team:

Incident Response Team			
Sl. No.	Responsibilities	Designation	Mobile Number
1	District Incident Commander	Deputy Commissioner, Dumka	9431158010
2	Deputy Incident Commander	Additional Commissioner, Dumka	8986846461
3	Law & Order	Superintendent of Police	9470591001
4	Information Officer	District Information Officer, Dumka	9835373300
5	Liaison Officer	Director, DRDA, Dumka	
6	Safety	Fire Officer, Dumka	9835924928
7	Evacuation, Rescue, Relief and Reconstruction	DDMO, Dumka	9434347562
8	Contact with NGOs & Foreign team	Chairman Red Cross Society, Dumka	9661959938
9	Planning	District Planning Officer, Dumka	943126674
10	Situation Unit	SDO, Dumka	9431158011
11	Resource Unit	NDC, Dumka	9431909950
12	Logistics	NDC, Dumka	9431909950
13	Receiving & Distribution Center	NDC, Dumka	9431909950
14	Mobilization	Ex. Magistrate General Section, Dumka	9431762388
15	Health Unit	Civil Surgeon, Dumka	8987489880
16	Water & Sanitation Unit	Ex. Engineer PHED-1 & Ex. Engineer PHED-2	9431765965/ 9431332255
17	Transport Unit	District Transport Officer, Dumka	9199997194
18	Donations Unit	Chairman, Red Cross Society, Dumka	9661959938
19	Food Unit	District Supply Officer, Dumka	943157619
20	Supply Unit	District Supply Officer, Dumka	943157619
21	Equipment Unit	NDC, Dumka	9431909950
22	Communication Center	DPRO, Dumka	9431134141
23	Air Operations	Ex. Engineer Building Division, Dumka	9331498782
24	Finance/Administration	NDC, Dumka	9431909950
25	Procurement Unit	NDC, Dumka	9431909950
26	Costing Unit	NDC, Dumka	9431909950
27	Electricity Unit	Ex. Engineer, Electricity Supply Division, Dumka	

5.2 DISTRICT EMERGENCY OPERATIONS CENTRE (DEOC):

At present Emergency operating Centre's are operational at the State and in all the 24 districts of Jharkhand under the aegis of Department of Home, Govt. of Jharkhand. Department of Disaster Management has a plan to upgrade all the existing Emergency operation centres per the guideline laid down in NDMA Act-2005. The Emergency Operation Centre (EOC) will have to act as nerve centre for coordination and management of disasters of all kind and magnitude. EOC will be a central command and control facility provider, responsible for carrying out the principles of disaster preparedness, response and management functions at a strategic level in emergency situation in their notified area. The EOC's should function at full scale round the clock after the receipt of the first information about the occurrence of natural disaster or for a period specified by the concerned nodal ministry for dealing effectively with the crisis arising out of disaster.

5.3 EOC SOP:

1. Emergency numbers existing for Police, Fire and Medical support etc. are linked to the EOC for response, command and control under an SOP. For e.g., if there is any fire incident, the information should not only reach the fire station but also the EOC and the nearest hospital to gear up the emergency medical service.
2. NGOs carry out their activities in an equitable and non-discriminatory manner. Set up wherever possible an NGO Coordination Centre.
3. Ensure that telephone directory of all ESF is prepared and available with EOC and members of IRTs.
4. Ensure that adequate exercises are conducted for testing the plan and gaps analyzed.
5. Outline plan to receive support from State and Central Government in a major disaster (e.g. helipads, evacuation, food distribution, medical support).

5.4 Operational Guidelines of what to do in the event of a Flood.

Do's	Don'ts
<p>Points To Remember: do the following and be prepared if you are in a flood prone area</p> <ul style="list-style-type: none"> - Avoid building in a floodplain unless you elevate and reinforce your home. - Elevate the pumps and electric panel if susceptible to flooding. - Install 'check valves' in sewer traps to prevent flood water from backing up into the drains of your home. - Construct barriers (levees, beams, floodwalls) to stop floodwater from entering the building. - Seal walls in basements with waterproofing compounds to avoid seepage. <p>If a flood is likely in the area</p> <ul style="list-style-type: none"> - Listen to the radio or TV for information. - Be aware that flash flooding can occur. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move. - Be aware of streams, drainage channels, canyons, and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warnings as rain clouds or heavy rain. <p>If you must prepare to evacuate, you should do the following:</p> <ul style="list-style-type: none"> • Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor. • Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment. If you are wet or standing in water. 	<p>After a Flood, DO NOT do these</p> <ul style="list-style-type: none"> - Do not enter deep, unknown waters. - Do not go near the riverbank even after the floodwater has receded. - Do not try to leave the safe shelter to go back home until the local officials declare normalcy after flood and instruction to return home are not given. - Do not use polluted water. - Do not follow any shortcut for rescue work. - If you find any breakage in the drainage system stop using latrines and do not use tap water. - If the floodwater has entered the house or has surrounded the house, then it is advisable not to enter such house.

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

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

After a Flood, Do these

- There is a possibility of spread of water borne diseases after flood, hence medical treatment should be taken immediately.
- Sprinkle medicines in the stagnant dirty water.
- Inspect your house for any cracks or other damage. Check all the walls, floor, ceiling, doors and windows, so that any chance of house falling down can be known and you can be aware about the immediate danger.
- Keep listening to weather forecast on radio and television. Move to your residence only when instructed by the competent authority. It is not safe to believe that the problems have ended after the flood water have receded.
- Inform the competent authority/officer for restoration of the necessary connections like gas, electricity, telephone, drainage, etc.
- Beware of the various insects or poisonous snakes that may have been dragged inside the house along with the floodwater.
- Destroy the food commodities that have been affected by floodwater.
- Check properly all the electric circuits, floor level furnace, boilers, gas cylinders, or electric equipments like motor pump etc. Check whether any inflammable or explosive item has not entered along with the floodwater.
- Switch off the main electric supply, if any damage is noticed to the electric equipments.
- Sewerage system should be checked and any damage should be repaired immediately so as to curtail spread of diseases.
- Empty the water clogged in the basement slowly with help of water pump so that damage to infrastructure can be minimized
- Check gas leakage which can be known by smell of gas or by hearing the sound of leakage; immediately open all windows and leave the house.
- Boil drinking water before use and drink chlorinated water.
- Eat safe food.
- Rescue work should be undertaken immediately after flood situation as per the instructions.

5.5 Operational Guidelines of what to do in the event of a Cyclone.

Do's	Don'ts
<p>Do's if you are in a cyclone prone area</p> <ul style="list-style-type: none"> - Make plans to secure your property. - Install straps or additional clips to securely fasten your roof to the frame structure. - Trees and shrubs should be well trimmed. 	<ul style="list-style-type: none"> - Keep curtains closed. Do not be fooled if there is a lull; it could be the eye of the storm. Winds will pick up again.

- Clear loose and clogged rain gutters and downspouts
- Secure loose objects like boats, drums, etc.

In case of a cyclone

- Listen to the radio or TV for information.
- Secure your home, close storm shutters, and secure outdoor objects or bring them indoors.
- Turn off utilities if instructed to do so.
- Avoid using the phone, except for serious emergencies.
- Ensure a supply of water for sanitary purposes.

You should evacuate under the following conditions:

- If you are directed by local authorities to do so.
- If you live in mobile home or temporary structure—such shelters are hazardous during cyclones no matter how well fastened to the ground.
- If you live in high rise buildings—Winds are stronger at higher elevations.
- If you live on the coast, on a floodplain, near a river, or an inland waterway.
- If you feel you are in danger.

If you are unable to evacuate, go to a wind safe room.

If you do not have one, follow these guidelines:

- Stay indoors during the cyclone and away from windows and glass doors.
- Close all interior doors - secure and brace external doors.
- Take refuge in a small interior room, closet or hallway on the lowest level.
- Lie on the floor under a table or another sturdy object.

5.6 Operational Guidelines of what to do in the event of an Earthquake

Do's	Don'ts
<p>Points To Remember: prepare yourself</p> <ul style="list-style-type: none"> - Insure your house against damage. - Before you buy a flat, check legality of the construction – ask for copy of the 'Building Use permit' or 'occupation certificate'. - Ensure all cabinets, wall hangings are anchored to the walls. - Sensitize your neighbours about the earthquake risk they face and organize repair work if required. - Get your building reviewed by a competent and registered structural engineer. - Structural retrofitting should be done only under supervision of a structural engineer. - Ensure all clearances before construction of new building. - Check if the land is not prone to flooding. - Check the soil is not soft and is not liquefiable and build on solid natural ground. - Get your building plans approved from the relevant authorities. - Ensure there is good connection between roof and walls, foundation and walls, at wall corners. 	<ul style="list-style-type: none"> - Do not panic - Do not stop on or under a bridge or overpass or under trees, light posts, power lines, or signs. - Do not be afraid of the aftershocks . <p>Do not enter into the unsafe or risky houses or building</p>

- Enforcement of building byelaws.
- Strengthening of public buildings.

When You Know there is an Earthquake

do this!

- If already inside, then stay indoors! Get under a heavy desk or table and hang on to it.
- If fire breaks out, drop on the floor and crawl towards the nearest exit.
- If you are out doors during the earthquake, keep away from buildings, trees and electricity lines. Walk towards open places, in a calm and composed manner.
- If you are driving, quickly but carefully move your car as far out of traffic as possible and stop. Stay inside the car until shaking stops.
- If you are in a school, get under a desk or table and hold on to it.
- If you are near an exit, leave the building as soon as possible.
- If you are in high-rise building, staircase do drop cover and hold sit or lie besides under mentioned furniture.

After An Earthquake

- Listen to radio or TV and other media for Government Announcements.
- Check for injuries to yourself and those around you Take first aid where you can.
- Extinguish fires, if any.
- Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing.
- Inspect for Gas leaks — if you smell gas or hear bbwing or hissing noises, open a window and quickly leave the building. Don't light your kitchen stove if you suspect a gas leak.
- Do not keep telephone lines busy unnecessarily.
- Switch off electric lines.

Chapter-VI

6. Capacity building and training measures.

As per National Disaster Management Act 2005 Capacity building means identification of existing resources and resources to be acquired or created; organization and training of personnel and coordination of sub-training for effective management of disasters. Developing a DDMP including building capacity or raising awareness amongst stakeholders can be determined as successful and sustainable plan. Stakeholders and communities are critical components to a successful, long-term, sustainable disaster management plan. Capacity Building develops and strengthens skills, competencies and abilities of both Government and non-government officials and communities to achieve their desired results during and after disasters, as well as preventing hazardous events from becoming disasters.

6.1 Institutional capacity building

Through enhancing the capacity of the following personnel the Institutional capacity can be increased.

- i. Capacity building of Officials / policy makers through organizing workshop, seminars, refresher course.
- ii. Capacity building of Engineers, Architects, Masons, Doctors, Nurses, Teachers and other professionals through conducting different training.
- iii. Capacity building of State Police, Fire Services, State Disaster Response Force.

6.2 Community capacity building and Community Based Disaster Management which should also focus on vulnerable groups – women, children, aged persons and persons with various kinds of disabilities.

6.3 Knowledge Management, networking and sharing

- i. Community registries to collate basic contact information for persons with disabilities

6.4 Training of Trainers

- i. Civil Defense/Home Guards/Volunteers

6.5 Disaster Management Education

- i. Schools
- ii. Colleges: medical, Engineering

6.6 Skill up gradation and follow up training programmes

Annual Disaster Training Calendar of Dumka District

Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	D
Name of Disaster												
Training on Cyclone/Heavy rainfall/hailstorm/ thunderbolt/lightning. (For Block level officials and PRI members)	→											
Training on Biological Hazard Management/Health Hazard Management and personnel hygiene. (For SHG leaders/Anganwari Worker/First-Aid Team member/Health workers)	→	→										
Discussion on drought Management and different Government as well as non-government schemes to compensate the losses. (For Block level Govt. officials/PRI members/Farmers Group Leaders)	→	→	→									
Training on Rain water harvesting at domestic/individual level, maximum use of rain water in agriculture through contour plantation technique and steps to be taken to prevent deforestation and chalkout deforestation programmes. (For PRI members/SHG leaders/Farmers Group leaders/NGOs/Community leaders)	→	→	→	→								
Training on flashflood, waterlogging, soil erosion and landslide. (for ward member of Municipalities & Blocks)	→	→	→	→	→							
Training on Management of Natural Fire and Accidental Fire & discussion of	→	→	→	→	→	→	→	→	→	→	→	→

some important technique to use different Fire extinguisher on different types of fire. (For Block level officials)																						
Training on Earthquake and discussion of structural and non-structural mitigation and doe's & don't's. (For PRI members/SHG leaders/NGOs)	→																					
Training of Evacuation, Search & Rescue and first-Aid. (For Task force Team)	→																					
Training on Early warning system, discussion of different sources of Early warning and its effectiveness during an emergency situation. (For Block level officials, PRI members, NGOs)	→																					
Training on Incident Command System and discussion of the structure of Incident Command System in district and relate how the respective system will function for other all departments. (For District and Block level officials)	→																					
Orientation of National Disaster Management Act 2005, discussion of different provisions/schemes and offences & penalties under the respective Act. (For Block level officials & PRI members)	→																					
Training on heat wave & Sunstruck and Coldwave & hypothermia. Discussion of remedies/first-aid of sunstruck and hypothermia. (For PRI members/SHG leaders/Anganwari worker/Task force Team members/NGO)	→																					

6.7 Inventory of trained professionals, engineers, architects and masons, medical Professionals, rescue specialists etc.

Strengthening and capacity building of DM Institutions (SDMA and DDMA) should be the first priority towards DM capacity building in the State. Training module, commensurate with the State / District specific requirements, should be designed and 23 implemented in consultation with NIDM/NDMA. Capacity building requirement at all levels in institutional hierarchy as well as society should be addressed adequately.

Training and capacity building program should be integrated with the monitoring and evaluation system for effective revision of the program.

Chapter-VII

7.1 Response and relief measures.

Response planning provides rapid and disciplined incident assessment to ensure a quickly scalable, adaptable and flexible response. It incorporates National and State response doctrine, which defines basic roles and responsibilities for incident response across all levels of government and the private sector.

Before taking up response activities, the DC, Dumka (RO/IC as per IRS) will hold a meeting to take stock of the situation, availability and mobilization of resources for listing out the various tasks and to provide proper briefing to the responders. The Incident Action Plan will be drawn and put into action based on the situation assessment. The DC / RO will nominate Operation Section Commander (OSC) based on —incident type and rest will follow as per IRS/IRT and other procedural guidelines issued by the state

7.2 PLAN ACTIVATION:

The disaster response structure will be activated, on the receipt of disaster warning or on the occurrence of the disaster, with approval from the competent authority/agency. The occurrence of disaster may be reported by the DDMA to the Commissioner of Relief / SDMA by the fastest means. The Commissioner of Relief (CoR) will activate all departments for emergency response including the State EOC, District EOC and ERCs. Also, they will issue instructions to include the following details:

Exact quantum of resources (in terms of manpower, equipment and essential items from key departments/stakeholders) that is required.

- The type of assistance to be provided
- The time limit within which assistance is needed
- Details of other Task/Response Forces through which coordination should take place

The State EOC and other control rooms at the State level as well as district control rooms should be activated with full strength. The State Government may publish a notification in the official gazette declaring such areas to be disaster-affected area under applicable Act / Rule etc. Once the situation is totally controlled and normalcy is restored,

the Commissioner of Relief declares end of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

7.3 District Incident Response System:

Sl.No.	Emergency Management Functions / Tasks	Function / Task Lead	Support function officer / agencies
1	2	3	4
1	Direction, Control, Coordination	DC	DDO, SP, Resident Dy. Collector and Tahshildar
2	Information Collection, Analysis and Damage survey	DC	DDO, SP, Resident Dy. Collector (RDC), Tahshildar, DIC, Dy. DDO, Ex. Engr., R&B, DAO
3	Communication	AC	Dy. Tahshildar, Mobile Operators, TV, Radio, Police, Forests, Fire
4	Alert and Warning	AC / SP	EOC / Disaster Tahshildar, District Information Officer (DIO)
5	Transport (ESF, Evacuation, relief supply)	RTO/DTO	RDC, DDO, DSO, SP, DMHO
6	SAR (Search and Rescue)	SP / Civil defense/SDRF/NDRF	Fire, civil defense, Home Guards & SDRF (when magnitude of any disaster would be beyond coping capabilities of these response agencies; NDRF may be requisitioned for search & rescue operations.)
7	Emergency Public Information	DIO	EOC/Police/Transport/Forest
8	Law and Order / Public Protection	SP	Dy. SP, Home Guards Commandant, NGOs, Para-military and Armed Forces
9	Public Works	Ex. Engr. R&B	Irrigation, Ex. Engr., Panchayat, NGOs, Water Supply Board, Municipalities, Home Guards, Police
10	Mass Care/Emergency Assistance / Shelters	Dist. Primary Education Officer	School Principal, Teachers, Health, PHC, State Transport, Water Supply, RTO, Tahshildar, TDO
11	Health and Medical Services, psycho social care	Civil Sergeant (CS)	Supt. Govt. Hospital, Municipality, PHCs, CHCS, Red Cross, Fire Brigade, Civil Defense, R&B, NGOs, Doctors, TDO, Tahshildar
12	Animal Health & Welfare	Dy. Director Animal Husbandry	Veterinary Inspector, NGOs
13	Water Supply and Sanitation	Ex. Eng. Total Sanitation	Dy. Ex. Engr., Talati, Tahshildar, TDO, Health, Dy. Engineer
14	Power	Supt. Engr. Electricity board	Ex. Engr., Dy. Engr. Technical, EB, Transport
15	Resource Management (Including food and relief	DDO	RTO, DSO, Private & Public sector, Municipal Water Supply Board,

	supplies and other logistic support)		Tahshildar, Dist. Supply Tahshildar
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7.4 Response plan is to develop and analyse courses of actions. This is important that while in the process of generating solutions, aspects of **scenario-based, functional and capabilities-based planning are combined**. Typically, such a process follows these steps:

1. Establish the timeline. Cover all mission areas in the timeline and typically use the speed of incident onset to establish the timeline. The timeline may also change by phases and the type of hazard. For example, a cyclone's speed of onset is typically days, while a major chemical incident's speed of onset is minutes. The timeline for a cyclone might be in hours and days, particularly during the pre and post-impact phases.

Placement of decision points and response actions on the timeline depicts how soon the different entities enter the plan. Timeline and Responsibility matrix will be a part of Standard Operating Procedure (SoP) to be drawn and annexed for each hazard relevant to district.

2. Identify and depict decision points. Decision points indicate the place in time, as incidents unfold, when leaders anticipate making decisions about a course of action. They indicate where and when decisions are required to provide the best chance of achieving an intermediate objective or response goal (i.e. the desired end-state). They also help planners determine how much time is available or needed to complete a sequence of actions.

3. Identify and depict operational tasks. For each operational task depicted, some basic information is needed.

- i. What is the action?
- ii. Who is responsible for the action?
- iii. When should the action take place?
- iv. How long should the action take and how much time is actually available?
- v. What has to happen before?
- vi. What happens after?
- vii. What resources does the person/entity performing the action need?

4. Select courses of action. Planners must compare the costs and benefits of each proposed course of action against the mission, goals and objectives. Based on this comparison, planners then select the preferred courses of action to move forward in the planning process. To the extent possible and appropriate, senior officials should approve course of action decisions during plan development.

5. Identify resources. Initially, the planning team identifies resources needed to accomplish operational tasks in an unlimited manner. Once the planning team identifies all the requirements, they begin matching available resources to requirements. The EOP should account for unsolvable resource shortfalls so that they are not just —assumed away.

6. Identify information needs. Planners identify a —listll of the information needs for each of the response participants, including the time they need it, to derive decisions and trigger critical actions.

7. Assess progress. This process should be periodically —frozenll so the planning team can:

- i. Identify progress made towards the end-state
- ii. Identify goals and objectives met and new needs or demands
- iii. Identify —single point failuresll (i.e., tasks that, if not completed, would cause the operation to fall apart)
- iv. Check for omissions or gaps
- v. Check for inconsistencies in organizational relationships.

The planning team should work through this process by using tools that help members visualize operational flow.

8. Hazard, Threat or Incident Specific SOP /Annexes

The contents of hazard, threat or incident specific annexes focus on the special planning needs generated by the subject hazard. These annexes contain unique and regulatory response details that apply to a single hazard.

9. Managing Crowds in public places

Recent incidents of stampedes in public places (including in places of worship) and conglomerations warrant special attention. An SOP for each of these events needs to be made.

10. Special Attention to marginalized section

Ensure that all relief personnel as well as persons dealing with emergencies on a day to day basis are sensitized and trained to cater to the needs of persons with disabilities women and children.

11. Out of box solutions to be explored depending upon protocol availability

These may include use of railway containers as shelters in cyclone prone areas. In areas where roads infrastructure or connectivity is likely to be affected, helipads to be planned.

7.5 Guidelines on Minimum Standards of Relief prescribed by National Disaster Management Authority.

1. Introduction:

Disaster Management Act (Section 12) mandates National Disaster Management Authority (NDMA) to recommend Guidelines for minimum Standards of relief to be provided to persons affected by Disaster Which shall include:

- a) The minimum requirements to be provided in the relief camps in relation to shelter, food drinking water, medical cover, sanitation.
- b) Special provisions to be made for widows and orphans.
- c) Ex gratis assistance on account of loss of life as also assistance on account of damage to houses and for restoration of means of livelihood.
- d) Such other relief as may be necessary.

2. Minimum Standards in respect of Shelter in relief Camps:-

- a) State/UT/District Administration shall take necessary steps to pre-identify locations/buildings like local schools, anganwadi centers/cyclone shelters/community centers/marriage halls etc which can be used as relief shelters where people can be accommodated in case of disaster in the area. In such centers, necessary facilities like sufficient number of toilets, water supply, generators with fuel for power back up during disaster shall be ensured.
- b) After a disaster, large covered space shall be required to accommodate the affected people. In order to avoid last minute arrangement and high cost, States/UTS/ can explore the option of advance MoUs with manufacturers/suppliers for supply of factory made fast track pre-fabricated shelters/tents/toilets/mobile toilets and urinals etc. which can be dismantled and taken back by the supplier after the closure of the camp. This arrangement shall avoid delay in setting up of camp and exorbitant billing of essential supplies.
- c) In the relief centers, 3.5 Sq. m. of covered area per person with basic lighting facilities shall be catered to accommodate the victims. In mountainous areas, minimum covered area shall be relaxed due to lack of available flat land/built up area. Special care shall be taken for safety and privacy of inmates, especially for women, widows and children. Special arrangements should be made for differently abled persons, old and medically serious patients.
- d) Relief centers shall be temporary in nature and be closed as soon as normalcy returns in the area.
- e) Sufficient number of sites based on population density shall be identified as relief centers and earmarked well in advance at the time of planning and development of a metro/city/town.

3. Minimum Standards in respect of food in relief Camps:-

- a) Milk and other dairy product shall be provided for the children and lactating mothers. Every effort shall be taken in the given circumstances to ensure sufficient quantity of food is made available to the affected people (especially for aged people and children staying in the relief shelters/camps).
- b) Sufficient steps shall be taken to ensure hygiene at community and camp kitchens. Date of manufacturing and date of expiry on the packaged food items shall be kept in view before distribution.
- c) It shall be ensured that men and women are supplied food with minimum calorie of 2,400 Kcal per day. In respect of children/infants, the food to be supplied would be 1,700 Kcal per day.

4. Minimum Standards in respect of Water in relief Camps:-

- a) Sufficient quantity of water shall be provided in the relief camps for personal cleanliness and hand wash.
- b) It may be ensured that the minimum supply of 3 liters per person per day of drinking water is made available in the relief camps. Further, the State/UT/District authorities shall adjust the minimum quantity of water etc as per the geographic, demographic and social practices of the region. If other means for providing safe drinking water is not possible at least double chlorination of water needs to be ensured.
- c) In order to ensure adequate water supply, the location of the source of water supply shall preferably be within the premises of relief shelter/camp. However, the maximum distance from the relief camp to the nearest water point shall not be more than 500 mtrs. if tapped water supply is available.

5. Minimum Standards in respect of Sanitation in relief Camps:-

- a) Number of toilets: 1 toilet for 30 persons may be arranged/built separate toilet and bath area be catered for women and children. At least 15 liters of water per person needs to be arranged for toilets/bathing purposes. Hand wash facility in toilets should be ensured. Steps may be taken for control of spread of disasters. Dignity kits for women shall be provided with sanitary napkins and disposable paper bags with proper labeling.
- b) Toilets shall not be more than 50 mtrs. away from the relief camps. Pit Latrines and Soak ways shall be at least 30 mtrs. from any ground water source and the bottom of any latrine has to be at least 1.5 mtrs. above the water level.
- c) Drainage of spillage from defecation system shall not run towards any surface water source or shallow ground water source.

6. Minimum Standards in respect of Medical cover in relief Camps:-

- a) Mobile medical teams shall visit relief camps to attend the affected people. Steps shall be taken to avoid spread of communicable diseases.
- b) If the relief camps are extended over a long time, then necessary arrangement may be made for psychosocial treatment.
- c) Helpline should be set up and contact number and details of which shall be displayed at the relief/shelters and adequately publicized to inform the people.
- d) For pregnant women, necessary basic arrangements shall be made by the local administration for safe delivery.
- e) Advance tie up/arrangement shall be made with Govt./private hospitals so that necessary doctors/para-medical staff are available at short notice for relief camps to attend to the affected people. In respect of people who are affected and being referred to hospitals for treatment/operation etc. suitable transportation shall be arranged to reach to refer hospital.
- f) In order to manage mass casualty in a disaster, advance contingency plans for management of multiple casualties shall be developed.

7. Minimum Standards of Relief for Widows and Orphans:-

- a) In each camp, a separate register shall be maintained for entering the details of women who are widowed and for children who are orphaned due to the disaster. Their complete details shall be entered in the register, duly counter signed by the concerned officials and this register shall be kept as a permanent record with the District administration.

- b) Special care shall be given to widows and orphans who are separated from their families. For widows, certificate by the District administration shall be issue stating that she lost her husband in the disaster and the same shall be issued **within 15 days of disaster.**
- c) As the widow/family shall be economically weak the State administration shall provide a reasonable amount for the funeral rites of her husband and this payment shall be deducted from the subsequent financial compensation/relief that shall be paid by the Government.
- d) Necessary financial compensation and other government assistance need to be arranged within 45 days of the disaster to the widow and to the orphaned children. In respect of orphaned children, similar certificate shall be issued and the children need to be taken care of properly and the funds that may be given to the children by the Government shall be duly deposited in a PSU Bank in a joint A/C where the collector/DC shall be the first account holder of the bank account. Interest from the fund can be given to the child/guardian every month for his/her proper upkeep. Education for the child shall be ensured by the District/local administration.
- e) As far as ex gratia assistance on account of loss of life as also assistance on account of damage to houses and for restoration of means of livelihood, the norms provided by Government of India (Ministry of Home Affairs) for assistance from SDRF should be the minimum standards of relief.

Chapter-VIII

8. Reconstruction, rehabilitation and recovery measures.

Reconstruction, rehabilitation and recovery measures are come under the post disaster activities or programme which means construction or restoration or rehabilitation of any property or habitant after a disaster. Recovery involves both short-term and long-term efforts for the rebuilding and revitalization of affected communities in the particular area. Recovery planning must provide for transition from response activities to short-term recovery operations—including restoration of interrupted utility services, re-establishment of transportation routes and the provision of food and shelter to displaced persons. Planners should design long-term recovery plans to maximize results through the efficient use of resources and incorporate national recovery doctrine.

Disaster recovery is a continuous process from relief/short term recovery through to medium/long term recovery to the resumption of normal business. This strategy has been developed to be flexible and to enable scaling up and down of recovery processes as required. The district committee is responsible for developing this District Community Recovery Plan.

Scope

This recovery strategy has been developed to:

- include all functions of recovery (human-social, infrastructure, economic and environmental);
- define broad parameters for the effective coordination of recovery operations within the district; and
- identify constraints to the coordination of recovery operations within the district.

Functions of Recovery

For the purpose of effective coordination aspects of recovery are conceptually grouped into four functions. It is important to acknowledge that the four functions of recovery overlap and recovery arrangements must reflect the inter-relationship between each of these functions.

Economic:

Economic recovery includes renewal and growth of the micro economy (within the affected area) and the macro economy (overall economic activity of the state). Economic recovery includes individual and household entities (e.g. employment, income, insurance claims), private and government business enterprises and industry. It includes assets, production and flow of goods and services. It includes capacity for the export of goods and services from the affected region, and securing confidence of overseas markets.

Environment:

Environment, or natural environment, recovery includes restoration and regeneration of biodiversity (species and plants) and ecosystems, natural resources, environmental infrastructure, amenity/aesthetics (e.g. scenic lookouts), culturally significant sites and heritage structures. It includes management of environmental health, waste, contamination and pollution and hazardous materials.

Human-social:

Human-social recovery includes personal support and information, physical health and emotional, psychological, spiritual, cultural and social well-being, public safety and education, temporary accommodation, financial assistance to meet immediate individual needs and uninsured household loss and damage.

Infrastructure:

Infrastructure, or built environment, recovery includes repair and reconstruction of residential and public buildings, commercial, industrial and rural buildings and structures, government structures, utility structures, systems and services (transport, water, sewage, energy, communications) and other essential services.

Parameters and Constraints

In many instances multiple agencies may be involved in the delivery of specific community recovery services. This is particularly the case with more significant or complex disaster events. In providing community recovery services agencies can adopt either a lead agency role or a support role.

Operational and Action Plans

Where a recovery team is formed and which undertakes recovery as the result of an event, a Recovery Group Implementation Plan is to be developed and forwarded to the DDMA for review and approval.

Following should form a part of this section: -

8.1 Damage assessment mechanism:

After occurrence of any disaster in Dumka district a Damage Assessment Team will be formed by the Dumka District Disaster Management Authority to assess the damages and loss of life. As soon as the Damage Assessment Team has been formed it needs to be forwarded to the DDMA for review and approval. On the basis of report submitted by Damage Assessment Team the DDMA will develop the recovery plan to handle the crisis situation.

8.2 Restoration of basic infrastructure:-

Short term - Restoration of Basic Infrastructure including roads, bridges, drinking water supply, electricity, communication network and roads/ paths leading to the villages; Restoration/ Repair of the lifelines/critical buildings – repair/reconstruct the lifeline buildings /critical buildings which are necessary for treating the affected people or rehabilitation in these buildings as shelters.

8.3 Reconstruction and Repairs

8.4 Recovery program (both short and long term)

Chapter-IX

9. Financial resources for implementation of DDMP.

District Disaster Response Funds and District Disaster Mitigation Funds are proposed to be created at the District Level as mandated by Section 48 of the DM Act. The disaster response funds at the district level would be used by the DDMA towards meeting expenses for emergency response, relief, rehabilitation in accordance with the guidelines and norms laid down by the Government of India and the State Government.

All State Government Departments, Boards, Corporations, PRIs and ULBs would prepare their DM plans, including the financial projections to support these plans. The necessary financial requirements would be made a part of their annual budgetary allocations and ongoing programmes and used for mitigation and preparedness measures. They will also identify mitigation projects and project them for funding in consultation with the SDMA/DDMAs to the appropriate funding agency. The guidelines issued by the NDMA vis-a-vis various disasters should be considered while preparing mitigation projects.

Other financing options for restoration of infrastructure/livelihoods. Like utilization of flexi fund within Central Sponsored Scheme for mitigation/restoration activities in the event of natural calamities in accordance with the broad objective of the Central Sector Scheme.

DDMA should also look at other options of new financial tools like catastrophe risk financing, risk insurance, micro-insurance etc. to compensate for massive losses on account of disasters.

Opportunities of CSR investments should also be explored and elaborated under this section by the DDMA for increasing district resilience.

9.1 Budget and other financial allocations:

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

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

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

50 – Emergency procurement and accounting. Where by reason of any threatening disaster situation or disaster, the National Authority or the District Authority is satisfied that immediate procurement of provisions or materials or the immediate application of resources is necessary for rescue or relief, -

- a) It may authorize the concerned department or authority to make the emergency procurement and in such case, the standard procedure requiring inviting of tenders will be deemed to be waived;
- b) A certificate about utilization of provisions or materials by the controlling officer authorized by the National Authority, State Authority or District Authority, as the case may be, shall be deemed to be a valid document or voucher for the purpose of accounting of emergency, procurement of such provisions or materials.

Special budget at district, block and village level should be allocated for training of various teams against disaster, purchasing of equipment to save the life and property of the people, organizing mock drills to create awareness among the people, updating the disaster management plans, etc.

Fund allocation should be made by Zilla Parishad, Panchayat Samiti and Gram Panchayat to carry out the following DRM activities:-

- a) To train Search and Rescue, First Aid groups
- b) To create awareness among the people
- c) To procure search and rescue materials

d) To evacuate and set up temporary shelter for disaster victims

Chapter-X

10. Procedure and methodology for monitoring, evaluation, updation and maintenance of DDMP.

The District Disaster Management Plan shall be reviewed periodically and also after every disaster that occurs in the district or in a neighboring district where support relief was provided by Dumka district. The effectiveness of the DDMP and Sub-plans shall be reviewed against the below mentioned criteria:

- The plan specifies roles and responsibilities of all lead combat and support agencies in response and recovery.
- The plan identifies key individuals by title who are responsible for carrying out specific functions in response and recovery.
- The plan identifies individuals by title with responsibility for plan development and maintenance.
- The plan includes a logical aim.
- The plan is consistent with higher-level plans.
- The plan provides for special needs of vulnerable community groups (e.g. the aged, disabled or destitute).
- The plan is reviewed and agreed to by all agencies assigned responsibilities.
- Provision is made for distribution of amendments to all plans holders.
- Private sector and voluntary organizations that can provide assistance are identified.

10.1. Post disaster Review of District Disaster Management Plan:

The District Disaster Management Plan is to be reviewed and updated after the occurrence of a disaster in the district. The main objective of the review is to record the event facts and first hand experiences of the department personal. This activity will help to make the DDMP better by identification of gaps and suggestions for filling of the same.

10.2 Periodic updation of District Disaster Management Plan:

The District Disaster Management Plan is to be reviewed every 6 months. This is to check for changes in the district conditions from the past 6 months and update based on the impacts of these changes. The updation is to be undertaken by all the Functional Departments at their levels. The following schedule is to be followed for periodic updation.

13.4. Creation of District Disaster Resources Network and LinkUp SDRN & IDRN

S. No	Teams required, Location	Remarks
1	A permanent NDRF team stationed in the district	Controlling all the holy gatherings and stampede issues that are most possible throughout the Year at Basukinath
2	A permanent Rapid Action Force (RAF) for Baidyanath Mandir	A RAF team dedicated to Saawan Gatherings of about 5 million people in entire season at Basukinath Mandir
3	A Fire Sub-station at Madhurpur	There is only one fire station in entire district that succumbs to fire accidents and a sub-station will be of greatest use.

Resources Required for Disaster Management in Dumka District:

Item Code	Name of the Resource	Numbers	Remarks
183	Advance Rescue Tender	1	Fire Department

181	Air Crash Fire Tender	1	Fire Department
169	N.B.C Suit	10	Fire Department
NA	Portable Chain Saw	5	Fire Department
166	Fire Suit	20	Fire Department
153	Diving Suit	10	Fire Department
	Rescue Suit	10	Fire Department
110	Hydraulic Cutter	1	Fire Department
112	Hydraulic Spreader	1	Fire Department
NA	Hydraulic Ram	1	Fire Department
NA	High Expansion Foam Generator	1	Fire Department
NA	HX Foam Compound	1	Fire Department
156	Life Jackets	41	Ranishwar, Jama, Ramghar, Masalia
160	Fiber Boats	11	Ranishwar, Jama , Basukinath
NA	CPR Equipment	4	Basukinath
161	Motor Boats	4	Basukinath
205	First-Aid Kits	300	All Panchayats and Govt. Offices
220	Mobile Medical Van	1	Emergencies
252	4WD Vehicle for Emergencies	1	Disaster Emergencies
246	Tarpaulin	5000 Mts	Emergency Public Shelter
201	Stretcher	10	Health and Welfare Department
NA	Search Light	220	All Panchayats
NA	lightning Rods	250	Lightning vulnerable areas

Chapter-XI

11. Co-ordination mechanism for implementation of DDMP.

Involvement of Defense, Para Military Forces and NGOs:

At district level whatever help would be required during disaster that will be immediately informed to the various departments by the district collector and possible support NGOs and other line agencies in the district would be tapped up. If the District Collector thinks that it cannot cope with the disaster then he can ask help from the defense and paramilitary force.

NDRF in Disaster Management

Ministry of Home Affairs, Government of India National Disaster Response Force, has raised the National Disaster Response Force (NDRF). The two broad mandate of NDRF is to undertake search and rescue operations during disaster and conduct training and capacity building program during peace time. During disaster, the NDRF may be called for search and rescue operation while services of NDRF can also be utilized for conducting capacity building and training programs for different response groups.

Temporary Shelter Management

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

Living in Designated Emergency Shelters

- ☐ Stay in the shelter until the local authorities say it's safe to leave
- ☐ Restrict smoking and ensure that smoking materials are disposed safely.
- ☐ Cooperate with local authorities and others staying in the shelter.
- ☐ Listen to radio broadcasts
- ☐ Watch out for fires
- ☐ Assist local authorities and volunteers in the management of water, cooked food and other relief supplies including medical care, if required.
- ☐ Make arrangement for pets and cattle before going to a public shelter.
- ☐ Organize recreation for children.
- ☐ Assist local authorities with the assistance of community members to maintain law and order.
- ☐ Immunize the population against epidemics.

Dealing with a major disaster requires resources from outside the district. When the capacities of a district administration are overwhelmed, higher levels are called upon to assist. Likewise, assets and capabilities in the corporate and non-governmental sectors available around the district may be brought to bear.

11.1 List of Agencies in Dumka District:-

Sl. No.	Name of the Agency	Contact Person	Contact numbers
1	Police	Sub-Inspector of Police, Dumka Thana	100/06434-222234
2	Fire Brigade	Emergency and Fire services Officer, Dumka Fire Station	101/06434-223901
3	Sadar Hospital (for Ambulance)	Fani	8982784082
		Dilip	9631389207

		Bablu	8809887736
4	Jai Mata Di Seva Samiti	Ambulance	9431156080
		Oxygen	9709295659
		Blood donation Cell	9470105764
5	Marwari Yuva Manch	Ambulance	9939475914/9931491443
		Oxygen	8409900237/9835511727
		Blood donation Cell	9334943155
6	Sadar Hospital Dumka	Dr. Dilip Keshri, Dy. Superintendent	9431395771
		Dr. Vinod Kr. Sinha, Child Specialist	9431178683
		Dr. R.P. Verma, Physician	9430167244
		Dr. Debashish Rakshit, Gen. Physician	9431190075
		Dr. A.K. Singh, Gen. Physician	9431339816
		Dr. Paul Hansdak, Gen. Physician	9931732566
		Dr. R.K. Singh, Gen. Physician	9973931991
		Dr. Ladhan Soren, Gen. Physician	9572006153
		Dr. Kumar Bagish, Gen. Physician	9430158338
		Dr. Nisit Kumar Jha, Eye Specialist	9572941648
		Dr. Kumar Abhay Pd., Orthopadic	9431490069
		Dr. Dilip Bhagat, Gen. Physician	9431367728
		Dr. Rudy A Choren, Female	9835126016
		Dr. Sweta Baxla, Female	9835574877
		Dr. Archana Mishra, Female	9939129392
		Dr. Shubhnarayan Ram, Dental	7856817502
Dr. Ritesh Verma, Dental	9470014547		
		Blood Bank	9304175878
7	Red Cross Society	Rahul Kumar Sinha, President	9431158010
		Bipul Shukla, Vice President	9470591001
		Sudhir Kumar, Vice President	9431158011
		Ajay Kr. Jha 'Mickky' Chairman	9661959938
		Amrendra Kr. Yadav, Secretary	9431190087
		Raj Kr. Upadhayay, Vice Chairman	9470147845
		Bipin Agrawal, Hon. Treasurer	9431177866
		Manoj Kumar Ghosh, Joint Secretary	9431190149
		Mohan Pd. Gupta, Joint Secretary	9430180311
8	District Administration	Rahul Kumar Sinha, DC, Dumka	9431158010
		Bipul Shukla, SP, Dumka	9470591001
		Chittranjan Kumar, DDC, Dumka	9431130083
		Smt. Indu Gupta, Additional Collector	8986846461
		Sudhir Kumar, SDO, Dumka	9431158011
		Dasrath Chndra, Das, PD, ITDA/DWO	9431259420
		Jay Jyoti Samanta, DSO	9431157619
		Dipu Kumar, DTO	9199997194
		Manisha Tirky, DSWO, Dumka	9572494570
		Abhishek Kumar, DFO, Dumka	9973762128
		Bijay Kumar, Ex. Magistrate	9431762388
		Ajay Kumar, DPO, Dumka	9431326674
		Shivnarayan Yadav, DPRO	9431134141
		Ajay Nath Jha, Dy. Director, PRD	9431313502
Parma Pd. Singh, Pahariya Welfare	9431145710		
Pritylata Murmu, Ex. Magistrate	9631100474		

		Masudi Tudu, DSE, Dumka	9431130453
		Piyush Kumar, ADPO, Dumka	9905504710
		Dr. Srikant singh, Prog. Coordinator,	9431130454
		Satish Ch. Sinku, DEO, Dumka	9199715046
		Ravi Ranjan, DIO, NIC	9835373300
		Om Prakash Chaudhary, DHO	8969228913
		Sushil Kumar Singh, Dairy Devl. Officer	9431857909
		Upendra Mehra, Dist. Statistical Officer	9431384591
		Ramesh Pd. Gupta, GM, Industry	9431632348
		Sudhir Kr. Singh, Agra Pariyojana	9431194155
		Devesh Kr. Singh, PD, ATMA	9431450469
		Abdesh Kr. Singh, Excise Superintendent	9431150165
		Dr. Abhay Kumar Singh, DMO	9431783284
		Dr. RKP Mehta, DAHO	9431129181
		Hem Krishna Das, Labour Superintendent	9798129240
		Dr. Yogendra Mahto, Civil Sergeant	8987489880
		Dr. NK Mehra, ACOMO	8292287847
		BN Singh, TDM, BSNL	9431134644
		L. Soren, SDO T, BSNL	9431134644
		Md. Suleman, MVI	8757820082
		Meharpal Singh, DAO	9431551331
		Ram Bilas Sahu, EE, Road	8235240456
		Mangal Purti, EE, PHE	9431765965
		Gorakhnath, EE, Mechanical	9431581787
		Surendra Kr. Singh, EE, EREP	9006070260
		Bijay Kr., EE, Special Division	9955380940
		Mithilesh Sinha, EE, Miner Irrigation	9934269424
		Shiv Kr. Prasad, EE, Irrigation	9431765417
		PN Singh, EE, Building	9431498782
		Sapan Dey, Dist. Engineer	9431310045
		Pradip Kumar Singh, EE, Health	9431445112
		Sushil Chdraborty, AE, RCD	9430437026
9	District Police Stations (06434)	IG	226499/226100/ 226300/9470590804
		DIG	222207/222217/ 9431339541
		SP, Dumka	222216/222226 9470591001
		Dy. SP (HQ-1)	222216/222327 9470591002
		Dy. SP (HQ-2)	222216/222259 9470591003
		Sergeant Major	237085/9470591004
		Inspector Sadar	222252/9470591005
		Town PS	222234/9470591008
		Shikaripara PS	268872/9470591009
		Raneshwar PS	268605/9470591010
		Masliya PS	255002/9470591011
		Tongra PS	290123/9470591012
		Inspector Kathikund	228079/9470591007

		Kathikund PS	228079/9470591019
		Gopikandar PS	251011/9470591020
		Mufassil PS	222313/9470591021
		Masanjor OP	269033/9470591022
		Inspector Basukinath	230631/9470591006
		Jarmundi PS	230631/9470591013
		Jama PS	258820/9470591014
		Taljhari PS	250022/9470591015
		Inspector Hansdiha	8292999770
		Sraiyahat PS	260957/9470591016
		Hansdiha PS	248244/9470591017
		Ramgarh PS	270050/9470591018
10	Nagar Parsad Dumka	Amita Rakshit, Chairperson	9331150157
		Vinod Kr. Lal, Vice Chairperson	9471780588
		Shivajee Bhagat, Executive Officer	9431904886
		Urmila Sharma, Ward-1	8809561268
		Manoj Kumar Dey, Ward-2	9431312142
		Kishorendra Das, Ward-3	8298098620
		Mahesh Ram, Ward-4	9939845009
		Indu Devi, Ward-5	9431368855
		Krishna Devi, Ward-6	9431909818
		Madhu Devi, Ward-7	9934555742
		Pawan Kr. Keshri, Ward-8	9431190074
		Tarun Kr. Sah, Ward-9	9939431664
		Sangita Devi, Ward-10	9431190117
		Avishek Chaurasiya, Ward-11	8521719639
		Sarita Sinha, Ward-12	9431368227
		Dipak Kumar, Ward-13	9304404953
		Archna Bharti, Ward-14	9334009396
		Manoj Kumar Daruka, Ward-15	9431945110
		Shobha Raut, Ward-16	9973762922
		Manju Modi, Ward-17	9835585308
		Arbi Khatun, Ward-18	8809566633
		Narendra Pd. Sah, Ward-19	9431945375
		Vinod Kumar Lal, Ward-20	9431156169
		Manoj Kumar Singh, Ward-21	9431156130
		Soni Hembrom, Ward-22	9801985454
11	Zila Parishad	Pulisnath Marandi, Chairman	9006533745
		Ashok Kumar, Vice Chairman	9431156075
		Chittranjan Kumar, CEO	9431130083
		Shivnarayan Yadav, DPRO	9431134141
		Amit Dasi, Member	8757699646
		Basanti Murmu, Member	8969688880
		Beli Kisku, Member	8002319719
		Bhagwat Raut, Member	9431549054
		Indu Devi, Member	9431945046
		Jagan Kisku, Member	9162444710
		Juli Yadav, Member	9431158274
		Kanhai Dehri, Member	8986674091
		Manoj Yadav, Member	8757799529

		Munni Hansda, Member	8002319532
		Nirmala Tudu, Member	9431946198
		Pankaj Sharma, Member	9470989684
		Rajesh Murmu, Member	9955565362
		Sachhi Devi, Member	8809534171
		Suhagini Marandi, Member	9939769166
		Sukhlal Soren, Member	9006556834
		Sulochna Devi, Member	9199792961
		Sumitra Soren, Member	8294067232
		Sunita Jaiswal, Member	9431130120
		Veronika Murmu, Member	9608751043
12	District Sports Association	Ajay Pathak, President	8809944529
		Ashish Kumar Bose, Vice President	9431909726
		Baidnath Tudu,	8757765269
		Bimal Bhushan Guha, Secretary	9430107082
		Devanand Soren	9431784849
13	Lions Club	Lion AK Bose, President	9431909726
		Lion AK Verma, Vice President	9431190186
		Lion Anand Gutgutia	9431156011
		Lion Chandrashekhar Poddar, Secretary	9431190080
		Lion DK Meharia	9431395705
14	Marwari Yuva Manch	Prem Kumar Agarwal, President	9431516222
		Naresh Kr. Sathaliya, Vice President	9304667255
		Vijay Verma	9939475914
		Ritesh Kr. Meharia, Secretary	9973607202
		Vikram Narnoli	9431983352
15	Advocates	Achal Kr. Verma	8409406201
		Ajay Kr. Sinha	9934525311
		Baby Kumari	9934525389
		Bikramaditya Pandey	9931566293
		Dharmvir Mishra	9955108071
		Ganga Ram Mahto	9801425599
		Kiran Tiwary	9905186822
16	Agriculture Goods	Vikash Enter Prise, Gandhi Maidan	9430198949
		Harun Enter Prise, Gandhi Maidan	9934165846
		Kisan Machinery Mart, Babupara, Dumka	8102271730
		Om Fertilizer, Court Compound, Dumka	9162998579
17	Agency Telecom	B. R. Distributors (Airtel), Bhagalpur road	9934564833
18	Alluminium steel works	Aditya Enterprises, Bhagalpur road, Dumka	9507630058
		Alluminium House, Bhagalpur road, Dumka	9835326735
19	Audio Video Recording Shop	Boom Audio & Video in front of Sahara	8292378242
20	Automobile Painter	Ranjeet Auto Paints, Bhagalpur road, Dumka	7739409429
21	Automobile Two & Four wheelers service centre	Aalam Auto Repairing, Tower chowk, Dumka	7549143373
		Chotu Garage, Bhagalpur road, Dumka	9470989928
		Dumka Engineering Works, Bhagalpur road, Dumka	9430181835
		Hindustan Moto, Bhagalpur road, Divya Place	9835309550
		Laxmi Auto, Rampurhat road, Dumka	9470995420
		M/S Jamaluddin Motor, Bhagalpur road, Dumka	9431395600
22	Auto Parts	Arman Auto, Bhagalpur road, Divya Place	9334791181
		Baba Tractor, Bhagalpur road, Dumka	9430347373

		Bharat Automobile, Tower Chowk, Dumka	9431164810
		Jharkhand Auto Mobile, Bhagalpur road, Dumka	9931566151
		Niyogi Automobiles, Bhagalpur road, Dumka	9431164799
23	Ayurvedic Medicine	Ayurvedic Drug Shop, Sunshine Gali Dumak	6434224187
		Basukinath Ayurvedic Bhawan, Bhagalpur road, Dumka	7870403591
		Dhanwantari Aoushadhalaya, Lallar Sah Ganesh Sah, Tin Bazar Karpuri Chowk, Dumka	7488070422
		Lalita Enterprises, Zila School Road	7870403591
24	Bag Shops	Bag Shop, Marwari Chowk, Dumka	8809945989
		Gupta Store, Bhagalpur Road, Dumka	9308309405
		Maya Store, Main road, Dumka	9097808576
		Santhaliya, Main road, Dumka	9431951292
		Smart Bag, Dangal Para, Dumka	9771262557
25	Banks (06434)	Central Bank	222384
		OBC	226053
		UCO Bank	224435
		Bank of India	223741
		Punjab National Bank	230210
		Co-Operative Bank	222271
26	State Bank of India	DGM	06432-240571
		CMGB	9331469934
		CM Credit	9771469964
27	ROB, Dumka	RM	7766918500
		CM Rural	7766918502
		Main Branch	223772
		Chief Manager, Bazar Branch	222366
		Dudhni Branch	222497
28	Allahabad Banks	SM4-Chief Manager, Dumka	9431355773
		MM2-Manager, Dumka	9430710200
		JM1-Officer, Dumka	9931165122
		JM1-Officer, Dumka	9431385081
		Officer	8116433071
		JM1-Agriculture field officer	9304742420
29	Vananchal Gramin Bank	Chairman	06434-226291
		General Manager (Admin)	06434-290437
		General Manager (NW-I)	06434-230599
		Manager (Personnel & HRD)	06434-236170
		Manager (Account & Compliance)	06434-226289
		Manager (Planning & Development)	06434-230173
		Manager (Vigilance)	06434-236172
		Manager (Audit & Ins)	06434-230252
		Manager (Loan)	06434-236171
		Manager (Board Sectt)	06434-222401
		Manager (IT)	06434-225082
30	Battery & Inverter Shops	B.K Interprises, Bhagalpur road, Dumka	9431310519
		Exide Power Center, Bhagalpur road, Dumka	9631077839
		Jai Mata Di Mobile, Babupara, Dumka	9955588394
		Kisan Batry House, Tin Bazar chowk Dumka	9431395640
		Kusbuu Mobile, Dumka	8002424877
		M/S Maa Tara Maa Traders, Thana Road	9162342459

		M/S Veenagudiya, Main Road Dumka	6434222261
		Mittal Battery, Bhagalpur road, Dumka	9431395867
		P.K Enterprises, Tin Bazar chowk Dumka	9431367633
		Raj & Raj Enterprises, Bhagalpur road, Dumka	9431156035
		Sai Enterprises, Pokhra Chowk Sabji Mandi	9334731452
31	Battery Repairing	Kishan Battery, Bhagalpur road, Dumka	9431395640
31	Binding Shop	Saraswati Industries, Marwari Chowk	9431339896
32	Biscuit Agency	Basant Sale Agency, Old Police Club Dumka	9635556550
		Ravi Store, Saray Road, Dumka	9122164506
33	Book Shop	Amit Books Depot, Bhagalpur Road, Dumka	8002373322
		Anil Book Depot, Bhagalpur Road, Dumka	8434228426
		Balaji Stationary, Tin Bazar chowk Dumka	7277442174
		Bidhyarthi Pustak Bhandar, Dumka Road, Hansdiha.	9931195555
		Bharti Book, Bhagalpur Road, Dumka	7739235909
		Durga Book Stall, Tin Bazar chowk Dumka	9973666822
		Jagdamba Store, Gandhi Maidan, Dumka	9693231854
		Jai Mata Di Book Store, Rasikpur Chowk	9709124170
		Jayant Book Shop, No-17 Dumka	8539088277
		Jyoti Store, Main Road Dumka	9570020041
		Kalpana Stationary, Main road Dumka	6434222462
		Drishna Book Dipo, Main Road Dumka	7870223348
		M/S A to Z, Main Road, Dumka	9955929972
		Mangaldeep Book Center, Bhagalpur Road, Dumka	9308105459
34	Bricks Supplier	Brick Supplier, Kewat para, Dumka	9470335693
35	Building Materials	Aman Steel, Tower Chowk, Dumka	9507937399
		Annapurna Enterprises, Babupara, Dumka	9661284636
		Dolphin Enterprises, Dumka	7870478303
		Ganpati Marbels, Karharbill College Road, Dumka	9934199177
		J.P Sales, Bhagalpur Road, Dumka	9431130001
		Jai Maa kali Enterprises, Karharbill, College Road, Dumka	9431150135
		Jeen Mata Enterprises, Hari Sabha Road	9431177905
		Kejriwal Enterprises, Gilaanpara, By pass road	9431156282
		Ma Tara Tiles Centre, Tin Bazar Cinema road	8651848442
36	Bus Ticket Center	Maa Tara Counter, Private Bus Stand Dumka	9931165152
37	Cable Operator	Sai Cable, Gandhi Nagar, Dumka	9431194123
38	Cake Shop	Cake Palace, Bhagalpur Road, Dumka	8809630272
		Cake Gift Corner, Bhagalpur Road, Dumka	9835927222
		Kajal Bakery, Tin Bazar, Dumka	7033245257
39	Carpenter	Ranjit Sharma	7654840943
		Vikki Sharma	8409081505
		Munna Sharma	8271585340
		Prem Mistri	9939329490
		Mukesh	9709037960
		Sudin	8986846547
		Vinod	7739777628
		Banga Mistri	9939182639
		Krishna	7631143637
		Doman Mistri	9430167861
40	Caterer	Jeet Catering, Jail Road Dumka	8271830467
		Keshri Cattering, Pokhara Chowk Road, Dumka	7631241125

		Dumka Tent House, Jail Road Dumak.	9939108136
41	Churi Shop	Chandni Churi Store, Bhagalpur Road, Dumka	8271830467
		Churi House, TinBazar, Dumka	9934039912
		Mini Amar Cinema, Dudhani	9431312770
42	Cinema Hall	Mini Amar Cinema, Dudhani	9431312770
43	Clinic	General Physician, TinBazar, Dumka	6434230282
		Maa Parwati Dental Clinic, In front of Sadar Hospital	8051073755
		O.K. Dental Clinic, Jail Road Dumak.	9973763940
		Prabhakar Sisu Seva Kendra, Bandpara, Dumka	9661204363
		Shree Sai Vivekanand, Bhagalpur Road, Dumka	6434222535
		Swabhiman, Bhagalpur Road, Dumka	9097641532
		Vivekanand Homio, Bhagalpur Road, Dumka	9431784499
44	Cloth Shops	Anand Vastralay, Main Road, Dumka	8271522111
		Anchal Vastralay, Zila School Opp. Dumka	9430388475
		Anupam Vastralay, Main Road Dumka.	9386058678
		Akash Dresses, Bhagalpur Road, Dumka	9534117060
		Baba Readymade, Main Road, Dumka	9934311396
		Beauty Collection, Main Road, Dumka	9801498259
		Big Shop, Bhagalpur Road, Dumka	6434230030
		Binod Vastralay, Shivpahar, Dumka	9122494947
		Binod Vastralay, Main Road, Dumka	9386915985
		Chahat Collection, Bhagalpur Road, Dumka	9934525546
		Chandni Dress, Main Road, Dumka	9546170577
		45	Coaching Institute
Advance Science Classes, Shanti Nagar, Dumka	9955483974		
All Competition Exam, Geelan Para, Dumka	9934524683		
Bharti Computer, Kumarpara, Dumka	9304363066		
BK's Classes, Sonwa Dngal Dumka	9431389132		
Career Coaching Centre, Marwari Chowk	8936010429		
Commerce Point, Shivpahar, Dumka	9934520652		
Golden Future Physics, Rasikpur, Dumka	7352382530		
Gurukul Coaching Centre, Rasikpur, Dumka	9386213794		
Gurukul Computer, Dangalpara, Dumka	9931345449		
Om Classes, Dudhani Chowk, Dumka	9334855543		
46	Computer Education Classes	BBM Computer, Taljhari, Dumka	9955621434
47	College	S.N. College of Management Science, Rasikpur, Dumka	7209735515
48	Computer Sales & Services	Aayan Computer, Thana Road, Dumka	9334499742
		Campco, Near Dharmsthan	9431156010
		J.E. Enterprises, Bhagalpur Road, Dumka	9431157264
		Kanak Computer, Bhagalpur Road, Divya Place	8862886912
		Mukesh communication, Bhagalpur Road, Dumka	9934080061
		Sai Enterprises, Bhagalpur Road, Dumka	9471134728
49	Consultancy	Parcham Consultancy Service Pvt. Ltd. Babupara, Dumka	7631129639
		SD Admission solution	9572569995
50	Courier	Indian Courier, TinBazar Chowk, Dumka	8084943902
51	Cyber Café	Deepak Infotech, Gandhi Maidan Chowk, Dumka	9955952980
		Indra Infotech, Bhagalpur Road, Dumka	9955382371
		I-Net, Bhagalpur Road, Dumka	6434237405
		Maa Ambey Internet Café, Gosala Road	7779863175
		It Solutions, Hizla Road, Dangal Para	7763099888
		Ravi-Raj Cyber café, Kumharpara, Dumka	9122343807

		Shiddhi Binayak Communication, Bhagalpur Road, Dumka	6434230018
		Web World, TinBazar Chowk, Dumka	9470110220
52	Cycle Sale & Repairing	Monu Cycle, Masaliya Road Dumka	8757530440
		Dudhani Cycle, Tower Chowk, Dumka	9263526011
		Annapurna Cycle, Rasikpur Main Chowk, Dumka	9661150623
53	Dairy	Kamdhenu, Zila School Road, Dumka	9334197960
54	Decorators	Bapi Decorator, Napit Para, Dumka	9431784990
		Dumka Tent House, Jail Road Dumka	9709147006
		Krishna Tent House, Kumharpara, Dumka	9431547361
		Kusum Tent House, Maharo, Dumka	9939707630
		Raghu Tent House, Kathikund Bazar, Dumka	9631411711
		Rajeev Light, Harnakundi Dumka	9973972600
		Rajlaxmi Decorator, Bandarjori, Dumka	9431194130
		Sunil Tent House, Dangal Para, Dumka	9431150171
		Tent House, Jail Road Dumka	9939108133
55	Electronic Goods & Mechanic	Ajay Electricall, Zila School Opp. Dumka	9430181350
		Azad Auto Electrical, Bhagalpur Road, Dumka	8578965411
		Balajee Enterprises, Marwari Chowk Dumka	9471140002
		Bhagat and Company, TinBazar, Dumka	8757747820
		Bhagat Brothers, Bhagalpur Road, Dumka	9431945309
		Dumka Electric Works, Shree Ram Para, Dumka	9431164794
		Emkay Traders, Main Road, Dumka	9934525342
		Krishna Electronics, Thana Road Dumka	9431547338
		Light Repairing House, Main Road Dumka	9430166700
		M.V. Electricals, Marwari Chowk, Dumka	9279938375
		Sharma Electronics, Hatiya Road, Hansdiha	9934080164
56	Eye Hospital	Loknath Jayprakash Eye Hospital, Jail Road, Dumka	6434236266
57	Flower Shops	Dumka Tent House, Jail Road, Dumka	9431194130
		Flower Decorator, TinBazar, Dumka	9931517993
		Muskan Fool, TinBazar Chowk, Dumka	9771559036
58	Fooding Hotels	Apna Hotel, Main Road, Dumka	9546165565
		Hotel Anan, Main Road, Dumka	6434222322
59	Football Academy	Football Academy, Dudhani Chowk, Dumka	8252579657
60	Fruit Store & Wholesale	Annapurna Fruits, Rasikpur Chowk, Dumka	9570077138
		Froot Centre, Main Road Dumka	8969578201
		R.K.P Store, Marwari Chowk, Dumka	9431310248
		Sazad Froot Store, TinBazar, Dumka	9773611484
61	Furniture and Plastic Goods	B.K. Enterprises, Shyam Bazar Road, Dumka	6434223816
		Bishnu Enterprises, Bhagalpur Road, Dumka	9631735728
		Calcutta Furniture, Bhagalpur Road, Dumka	7870907150
		Kokil Furniture, Baxi Bandh Road, Dumka	9631323756
		Kuri-On Furniture, Bhagalpur Road, Divya Place	8986736006
		R.S. Enterprises, Thana Road, Dumka	6434223305
		Sharma Furniture, Thakur Bari Road, Dumka	9431368066
		Sri Radheshayam Mill, Bhagalpur Road, Dumka	6434222267
		Veena Furniture, Bhagalpur Road, Dumka	9835359304
62	Gas Stove Seller	Uttam Store, Bhagalpur Road, Dumka	9934520610
63	General store	Mallik Kiran, L.I.C. Colony, Dumka	9572956466
		Anjniputra Kirana, TinBazar, Dumka	9470341365

		Anmol General Store, Bhagalpur Road, Dumka	9661017193
		Baba Basukinath General Stores, Bus Stand Road, Dumka	8051103504
		Baba Store, Statin Road, Dumka	9471475313
		Bajrang Traders, Neeche Bazar, Dumka	9097651701
		Bajrang Kirana, Saray Road, Dumka	9431784372
		Bani-Thani, Main Road, Dumka	9162160704
		Bashnavi Store, Dumka	8294730825
		Bhawani Store, Marwari Chowk, Dumka	9835793899
		Bhola Kirana Store, Rasikpur, Dumka	9507624187
64	Glass Shop	Glass Corner, Shyam Bazar Road, Dumka	9006811701
		Glass House, Azim Gali, Main Road, Dumka	9431395686
65	Grocery Shop	Manish Store, Shyam Plaza, Dumka	9534127499
		Shree Jain Bhandar, Shyam Plaza, Dumka	8002273304
66	Hardwares & Sanitary	Annapurna Enterprises, Rasikpur, Dumka	8051102849
		Ayush Traders, Main Road Dumka	9304043919
		Bhagwati Steel, Bhagalpur Road, Dumka	9431367617
		Bharat Hardware, Court Chowk, Dumka	9431368434
		Gupta Enterprises, Shivpahar,	9204209552
		Jay Mata Di Enterprises, TinBazar Chowk	9431547180
		Jay Ram Hardware, Durga Sthan Road, Dumka	8862887205
		Jitendra Hardware, Main Road Dumka	9386915985
		Keshri Brothers, Main Road Dumka	9431945184
		Kesri Hardware, Thakur Bari Road, Dumka	9431784846
		Maa Bhawani Hardware, Shivpahar, Dumka	9431547453
67	Hood Maker	Md. Sahabudin, Bhagalpur Road, Dumka	8603921694
68	Hotel	Aadarsh Hotel, Neeche Bazar, Dumka	9931116591
		Annapurna Hotel, Neeche Bazar, Dumka	8969155218
		Biryani House, Bhagalpur Road Dumka	9199993549
		Ganesh Hotel, TinBazar, Dumka	8294861135
		Hotel Shub, TinBazar, Dumka	9771819018
		Hotel Raj, Main Road, Dumka	9031418238
		Hotel Sagar, Gandhi Maidan, Dumka	8294725080
		Hotel Satkar, Baratha Kurbani Road, Dumka	6434230405
		Om Hotel, Court Compound, Dumka	8084189033
		Shiyaram Salty Dharamshala Road, Dumka	9572956453
		Sindh Hotel, Sindh Chowk, Dumka	9835317627
		Suman Hotel, Saray Road, Dumka	9934354176
69	Indian Gas	Kusum Gas Agency, Bhagalpur Road Dumka	6434222464
		Anchit Gas, Gaushala Road, Dumka	9470920500
70	Jewellery Shop	Annapurna Jewellers, Rasikpur Chowk, Dumka	8051227407
		Chandra Jewellers, Zila School Opp. Dumka	9308875193
		Ganpati Jewellers, Bara Thakurbari Road, Dumka	9934190339
		Golden Alankar, Zila School Opp. Dumka	8051047711
		Jai Mata Di Jewellers, TinBazar, Dumka	9955106981
		Jai Hind Jewellers, Main Road, Dumka	9631471970
		Jaiswal Jewellers, TinBazar, Dumka	9431547788
		M.K Jewellers, Station Road, Dumka	9570732468
		Maa Tara Jewellers, Masaliya, Dumka	9939473670
		Malaxmi Jewellers, Bhagalpur Road Dumka	9708567686

71	Khadi Cloth Shop	Khadi Bhandar, Bhagalpur Road Dumka	9430106062
		Khadi Gramodyog Bhandar Thakur Bari Road Dumka	9631579174
72	Laptop Service Center	Angel World, Bhagalpur Road Dumka	9709265737
73	Laundry	Dresso Drycleaners, Shree Ram Para Dumka	9973472052
		Madev Laundry, Bhagalpur Road Dumka	9006664492
		Sun-Shine Laundry, Sun-Shine Gali Dumka	993116389
74	Medicine Shops	Alok Medical, Napit Para, Dumka	8969269943
		Anjana Medical Hall, Bhagalpur Road Dumka	9431310505
		G.S. Medical, Marwari Chowk, Dumka	9431339812
		Himmatsinghka Medicine, Napit Para, Dumka	9431188400
		Hindustan Medical, Jail Road, Dumka	9934195567
		Jai Mata Di Medical, Tinbazar, Dumka	9934525619
		Janta Medical Hall, Gandhi Maidan Chowk, Dumka	8083198250
		Jyoti Medical, Jail Road, Dumka	9430786173
		Kalpana Medical Store, Napit Para, Dumka	9934354269
		Katyayini Medical Hall, Sunshine Gali, Dumka	9430783544
		Kiran Medical Hall, Bhagalpur Road Dumka	9431547355
		Mandal Medical, Jama	9801319761
		Ma Annapurna Medical, Rasikpur Chowk, Dumka	9570064768
		Ma Kali Medical Hall, Pokhra Chowk, Dumka	9431310338
		Ma Tara Enterprises, Tinbazar Karpuri Chowk, Dumka	9835923888
		Medichem Surgical, Dharamshala Road, Dumka	9431547364
		Neelima Medical Store, Pokhra Chowk Bara Band, Dumka	9431310528
		New Jharkhand Medical, Jail Road Dumka	9939304890
		Nisha Medical, Bhagalpur Road Dumka	9534117742
		Pawapuri Medico Surgical, Pokhra Chowk, Dumka	9431190108
75	Mobile Sale, Services & Repairing	A.M Telicome, Tailor Gali Dumka	6434222024
		Anil Bhandar, Saray Road, Dumka	9334778976
		Anjali Telicome, Thana Road Dumka	9934376093
		Abhishek Mobile Center, Ramgarh, Dumka	7209748955
		Apsra Mobile, Bhagalpur Road Dumka	8051060268
		Aryan Mobile, Shree Ram Para, Dumka	9386984248
		Asu Mobile Center, Tower Chowk, Dumka	9006804370
		Balaji Mobile, Marwari Chowk, Dumka	9572989912
		Chourasia Mobile, Dharmasthan Road, Dumka	8877155696
76	Non-Government Organization (NGO)	Aadava	9431130434
		World Vision India, Thana Raod, Dumka	9934011246
		Adhyuday Kalyan Ashram	9934556320
		Agrarian Assistance Association	9431156062
		Jan Kalyan Parishad	9955578047
		Jammat Shodh Sansthan	9431339804
		Jharkhand Kala Kendra	9431156245
		Johar Manav San. Vikas Kendra	8757690775
		Khadi Gram Rachna San.	9431784142
		Lok Kalyan Sewa Kendra, Sonwadangal	9006673781
		Lok Chirag Sewa Sansthan, Dudhani	9931338283
		Manav Kalyan Kendra	9431156245
		Manavi	9431310824
Navbharat Jagriti Kendra	9835208925		

		NELC	6434223177
		Pradan	9771181374
		Priya Seva Sadan	9430709629
		Rachana Bharti	9431339860
		Sarvoday Lok Shikchan Kendra	9939962473
		SETU	9934897810
		Social Development Centre	6434222583
		Yara	9955822102
77	Optical Shop	Gupta Optical, Veer Kunwar Chowk, Dumka	9403151112
		Jaiswal Optical, Durga Sthan Road Dumka	7033779988
		New Lights Optical, Napit Para Dumka	9471322786
78	Paper & Magazine Stall	Ashok Tea Stall, Private Bus Stand, Dumka	9955581278
		Magazine Shop, Shree Ram Para Dumka	9709147251
		Manoj Books, Tower Chowk, Dumka	9430145392
		Sachin Paper Shop, Tinbazar, Dumka	9199952823
79	Parle Biscuit Agency	Basant Sales Agency, Old Police Club, Dumka	9835556550
80	Petrol Pump	M/S Biswanath Pd. & Co., Dangalpara, Dumka	9801498943
		Petrol Pump, Thana Road Dumka	6464236016
		R.A Himmatsinghka Tata Showroom, Bhagalpur Road Dumka	7781019832
		T.P. Dumka, Bhagalpur Road Dumka	6434236016
		Universal Auto Agency, Dudhani	9431156029
81	Photocopy Shop	Amit Xerox & Photo, Dharmasthan Road Dumka	9534064606
		Bam Bam Bhole Photo State, Chuha Bagan, Dumka	9570142172
		Dial corner, Main Road Dumka	6434230360
		Dubey Baba, Chuha Bagan Dumka	9122709089
		Dutta Zerox, Shop No-17 Dumka	8102567531
		Madhur Wani Photo State, TinBazar Dumka	9334547301
		Raj Photo State, Chuha Bagan Dumka	8002515252
		Sai Baba Photo State, Chuha Bagan Dumka	8864025086
		Sanu Dial, Tower Chowk Dumka	8809113452
		Shanu Sourav Photo State, Bus stand road, Dumka	9631858727
		Shivam Associates, Bhagalpur Road Divya Place	6434230194
		Veena Printing Works, Main Road Dumka	9431156233
82	Plumber	Amit Kumar Mandal	9162371237
		Babu Jha	9708169430
		Chandra Shekhar Mandal	9546767527
		Deepak Kumar Sharma	8987423656
		Deepak Paswan	8987423656
		Firoj Ansari	9934535057
		Jagamath Takur	7352267134
		Jagdish Paswan	9534116266
		Jaykisan Sah	9546786442
83	Plastic Goods Shops	Ambika Store, Marwari Chowk Dumka	9470105141
		Birbal Store, Shyam Bazar Road, Dumka	9801703178
		Kundan Glass Store, Main Road Dumka	8969983480
		Rajeev Plastik Store, Main Road Dumka	9534116026
		Shakambari Canvas, Bhagalpur Road, Dumka	9431339563
		Shree Krishna Plastic, Saray Road Dumka	8298143938
84	Ply House	Ply House, Bhagalpur Road, Dumka	9431395697

85	Political Parties	Jharkhand Mukti Morcha	
		Hemant Soren	9431129541
		Prof Stiphan Marandi	9431130185
		Nalin Soren	9431130004
		Dr. Anil Murmu	9693748905
		Congress	
		Dr. Sushil Marandi	9470375346
		Shyamal Kishor Singh	9431177463
		Mahesh Ram Chndravansi	9931729443
		Krishnand Jha	9431367809
		Jharkhand Vikash Morcha	
		Paritosh soren	9431157431
		Dharmendra Singh	9431784414
		Binod Sharma	9431313377
		Chotu Murmu	9430192444
		Rashtriya Janta Dal	
		Amrendra Yadav	9431190087
		Aslam Parwej	9546475544
		Jaykant Jaiswal	9431310070
		Pravir Kumar Verma	8987430244
		Janta Dal United	
		Ranjit Jaiswal	9279142635
		Ajsu Party	
		Ajay Kumar	9939561105
		CPI M	
		Ahtesham Ahmad	9430775158
Subhash Hembrom	9431779445		
CPI ML			
Ramchandra Manjhi	9430144838		
86	Pot Shop	Meena Store, Azim Gali, Main Road Dumka	9431339699
87	Printer Repair	Aditya Computer, Bhagalpur Road, Dumka	9934353353
		Choudhary Enterprises, Chuha Bagan Dumka	9973763261
88	Printing Press	Aamntran, Thakurbadi Dumka	7763820266
		Classic Graphics, Bhagalpur Road, Dumka	9934080145
		Graphic Printer, Chuha Bagan Dumka	9973722869
		Laxmi Press, Bhagalpur Road, Dumka	9431367659
		Minerva Press, Srirampara Chowk, Dumka	9431945101
		Neha Computer, Chuha Bagan Dumka	9801290113
		Raja Printing And Card House, Patwari Gali Dumka	9939775557
		Sarda Press, School Para, Dumka	9234392188
		Shree Balaji Card, Sun-Shine Gali Dumka	9973824169
		89	Puja Samagree Shop
Maa Tara Puja Bhandar, Bhagalpur Road, Dumka	8409750679		
Maheswri Puja Bhandar, Bhagalpur Road, Dumka	9955930604		
Purnima Puja Bhandar, Tinbazar, Dumka	8877016401		
90	Pump Set Parts	Shanti Agency, Bhagalpur Road, Divya Place Dumka	9507315883
91	Refrigerator Sales & Service	Arayan Refrigerator, Babupara Dumka	9534200240
		Refrigerator Work Shop, Bhagalpur Road, Dumka	9431306639
92	Rest House	Hotel Kanak, Main Road Dumka	9470110001
		Hotel Saket, Bhagalpur Road, Dumka	9835927222

		Hotel Saswat, Vir Kuwar Singh Chowk Dumka	6434227193
		Sona Hotel, Sona Complex, Dumka	8809105961
		The Green Hotel, Saray Road Dumka	9431157314
93	Schools	Aarti Mission, Ramgarh, Dumka	9431552400
		Adarsh Gyan Mandir, Kathikund, Dumka	9771171156
		Adarsh Shiksha Niketan, Kumharpara, Dumka	9234551937
		Bal Bharti, Thana Road, Dumka	9431156078
		Bachpan, Dudhani	9576517243
		Bal Vikash Mandir, Barapalasi, Dumka	9939554672
		Basic Children School, Kathikund, Dumka	9939221756
		Bat Bharti School, Jarmundi, Dumka	9431784549
		Bat Bharti School, Ramgarh, Dumka	8084961790
		Bat Sainik School Dumka	9431945350
		S.S. Vidyavihar, Kumharpara Dumka	6434230776
		Saraswati Shishu Vidhya Mandir, Ramgarh, Dumka	9097184099
		Saraswati Shishu Vidhyapit, Asanbani, Raneshwar, Dumka	9955440234
		Science Academy High School, Mal Bhandaro, Dumka	9162466470
		Shiksha Bharti School, L.I.C Colony, Dumka	9431943708
		Shishu u Bharti Vidyalaya, Dangal Para, Dumka	8757789064
		Shishu Gyandeep, Dangal Para, Dumka	9470319411
		Shishu Vikash Vidyalaya, Nonihat, Dumka	9708116001
		Sido Kanhu High School, Thana Road, Dumka	9431983084
		St. Jonn's School, Chandorpur, Dumka	8252409970
		St. Mother Teresa School, Dumka	9431547638
		St. Thomas English School, V.N. Path, Dumka	9931168697
		St. Xavier's Public School, Lakhi Kundi, Dumka	9431900096
		Tagore English School, Gandhi Nagar, Dumka	9534064662
		Swami Vivekanand Public School, Hansdiha, Dumka	9661857931
		The Heaven English School, Hansdiha, Dumka	9572735877
94	Shoe & Chappal Shop	Deepak Shoe Center, Ramgarh, Dumka	7549165068
		Fancy Show Store, Main Road Dumka	9097846755
		Manpasand Shoe, Main Road Dumka	9431773004
		Pawan Shoe House, Tinbazar, Dumka	9709277948
		Prabhat Shoe House, Babupara, Dumka	9939304531
95	Showrooms	Bikes India (Honda), Bhagalpur Road Dumka	9431942171
		Chandra Auto Mobiles (Bajaj), Rampurhat Road Dumka	6434236005
		Classic Automobiles (Car), Bhagalpur Road, Dumka	9661436699
		Hero Showroom, Bhagalpur Road, Dumka	6434222110
		Hero Honda Showroom, Main Bazar Dumka	9431157452
		Jai Motors (Bajaj), Bhagalpur Road, Dumka	7209868274
		Maruti Showroom, Tower Chowk, Dumka	8102924851
		Master Auto (Mahindra), Gosala Road, Dumka	9955588665
		Mira Traders (Godrej), Bhagalpur Road, Dumka	9471110111
		Siddhi Vinayak Showroom (Microsoft) Marwari Chowk	9431945333
		Sri Hyundai, Bhagalpur Road, Dumka	9472045189
96	Sound DJ	Jai Shree Sound, Kewatpara Dumka	9430320386
		S.K. Sound, Rakhabani Dumka	7352785713
		Vishwakarma Sound, Rakhabani Dumka	970178043
97	Sports Goods Shop	Dumka Sports House, Srirampara Dumka	9006085540

		Sports House, Sun-Shine Gali Dumka	8809656570
		Ten Sports, Bhagalpur Road, Dumka	8051202745
98	Steel Furniture	Ajay Steel, Bhagalpur Road, Dumka	9431395728
		Israphil Steel, Gilaanpara By Pass Road, Dumka	5839837699
99	Sudha Dudh Shop	Sudha Dodh Parlour, Rampurhar Road Dumka	9934390175
100	Sweet Shops	Amar Sweets, Station Road Dumka	9006694436
		Annapurna Sweets, Tinbazar Dumka	9835959606
		Ashish Sweets, Tinbazar Chowk Dumka	9308531181
		Baba Mistan Bhandar, Rasikpur Dumka	8969077340
		Dasrath Misthan Bhandar, Ramgarh Dumka	9546403105
		Maharaja Sweets, kachahari Road Dumka	8986617153
101	Tailors	Aaksan Tailor, Near Reymond Showroom, Dumka	8969269002
		Ajmeri Tailor, Hizla Road Dangal Para Dumka	8171062407
		Ajimudin Superstar Tailor, Ramgarh Dumka	9097841413
		Deep Sidha Ladies Tailor, Zeela School Road Dumka	9431945294
		My Fair Tailor, Durgasthan Road Dumka	8228981276
102	Tailor Goods & Repairing	Hindustan Silai Machine, Tinbazar Karpuri Chowk	9934055049
		Thread Batan, Azim Gali Main Road, Dumka	9955459545
103	Tata Sky Distributers	M/S Raj, Pokhra Chowk Sabji Mandi, Dumka	6434236203
104	Tata Spare Parts	Anup Enterprises, Bhagalpur Road, Dumka	9470920003
105	Tractor Sales & Spare Parts	Ambika Motors, Bhagalpur Road, Dumka	9431339667
		Anuj Automobiles, Bhagalpur Road, Dumka	9835553313
		Deoghar Tractors, Rasikpur Road Dumka	6434230333
106	Truck Spare Parts	Shiv Durga Motor, Tower Chowk Dumka	9934520927
107	Tier Resol Dealer & Shop	Jaiswal Motor, Bhagalpur Road, Dumka	9431178673
		Krishna Auto Mobiles, Phokhra Chowk Dumka	9798315300
		New Hindustan Tier Resol, Rampurhat Road Dumka	9431188397
		R.K Enterprises, New Kuldip Singh Road Dumka	9504287162
		S.K. Tiers and Enterprises, Bhagalpur Road, Dumka	6434221439
		S.K. Tier (MRF) By Pass Road, Dumka	6434230979
108	Uninor Store	Rajshree Telecom, Tinbazar Karpuri Chowk Dumka	7870555312
109	Universities	Prof. Satya Narayan Munda, Vice Chancellor, Sido Kanhu Memorial University, Dumka	9430789345
		Dr. P.K. Ghosh, Registrar	9534040203
		Dr. Vinod Kumar Jha, Dean Student Welfare	8674907642
		Dr. Sujit Kumar Soren, Development Officer	9006556515
110	Watch Shop & Repairing	Guruji Watch Services, Bhagalpur Road, Dumka	9708992877
		M.B. Watch. Com, Marwari Chowk Dumka	9097841652
		National Watch Main Road Dumka	9470922004
		Standard Time, Bhagalpur Road, Dumka	8603642052
		Watch Repairing House, Main Road Dumka	9693102851
111	Vivah Bhawan	K.V. Watika, Dumka	9431547551
		Maihar Garden, DC Chowk, Dumka	6434237100
112	X-Ray Lab	Ankita X-Ray, Phokhra Chowk, Dumka	8651930848
		Bhagalpur X-Ray, Durga Sthan Road Dumka	9801573791
		Mandal X-Ray, Napit Para Dumka	9931126975
113	Media	Anand Jayswal, Bureau Chief, Prabhat Khabar, Dumka	8409073199
		Hindustaan	9431190194
		Hindustaan Times	8051130201
		Times of India	9431177479

		Dainik Jagran	9431367572
		Dainik Bhaskar	9431130322
		Indian Punch	9304544502
		Ranchi Express	9835943438
		Shwet Patra	9955382286
		Sahara News	9431129520
114	Blood Bank	Archy Jharkhand Blood Bank	06434-6455072
		Apollo, Ranchi	227517/227699
		Birsa Blood Bank, Bariatu Road	254247
		Bhartiya Red. Society	2360587/2360290
		Blood Bank, H.E.C Hospital	9835539866
		C.C.L	8987784280
		Gandhi Nagar Hospital	2230852
		Nag. Modi Seva Sadan	2207406/2209699
115	RIMS	Ranchi	2542928/2542835
		Sadar Hospital	2312618
		Indian Red Cross Society	2360290
		S.D.A. Mission Hospital	2545649
116	Eye Bank	Jharkhand Eye Bank Hospital Bariatu Medical Chowk Toll Free No.: 1919	2545333/2543486

There are many actions undertaken by participants in disaster management that support this goal, both pre-disaster (to forestall or reduce potential damage) and post-disaster (to recover from actual damage) and ideally these activities would reduce the potential effects of a disaster significantly. For achieving this objective, the plan should have a pre-established and practiced mechanism for Inter, intra and extra agency coordination.

Communication is the most important tool for effective coordination. Generally, Emergency Operation centre (EOC) is the enabler of communication and coordination. EOC communication and coordination plan (EoC-SoP) should specify procedures for interfacing with different stakeholders during all phases of emergency, as stated in the DDMP framework.

Pre-Disaster meetings to review the DDMP with all stakeholders should also be planned in the month of May 2016.

Chapter-XII

12. Standard Operating Procedure (SOPs) and Checklist

Standard Operating procedures (SOPs)

Standard Operating Procedures (SOPs) are a common method of implementing instructions. SOPs provide response protocols for carrying out specific responsibilities. They describe who, what, when and how SOPs are appropriate for complex tasks requiring step-by-step instructions for performing a task. It is necessary to prepare and annex - SOPs for all relevant hazards to one's district – like – Earthquake, Flood, Cyclone, Landslide, Tsunami, Manmade disasters

Hazard or incident specific annexes usually identify hazard specific risk areas and evacuation routes, specify provisions and protocols for warning the public and disseminating emergency public information and also specify the types of protective equipment and detection devices required by responders.

The annexes have work aids for items including maps, charts, tables, checklists, resource inventories and summaries of critical information. As indicated previously, hazard-specific annexes follow the basic plan's content organization.

Hazard-specific operations information includes:

- I. Assessment and control of the hazard (natural and manmade including mass gathering at places of congregation).
- II. Identification of unique prevention and CIKR protection activities to be undertaken to address the hazard or threat, as appropriate
- III. Selection of protective actions
- IV. Conduct of public warning
- V. Implementation of protective actions
- VI. Implementation of short-term stabilization actions
- VII. Implementation of recovery actions.

Maps:

- I. Geographical boundaries and features
- II. District boundaries
- III. Locations of the key facilities
- IV. Transportation and evacuation routes

Forms:

Common forms used for implementing instructions as given in IRS guidelines may be included under this portion.

Operating Procedure Guidelines and Standards for Departments

A. Standard Operating Procedures for Police

- The Superintendent of Police must work in close coordination with the District Collector/Deputy Commissioner on receipt of a warning or alert on an emergency situation.
- The Superintendent of Police will designate three senior officers of the Police Department and must depute them to report to the District Collector for coordinating the activities of the Police Department in the District Control Room.

- These senior officers deputed by the Superintendent of Police for the District Control Room will work in three shifts in the Control Room.
- During normal times, the Police Department under the Superintendent of Police must assess the preparedness level and report the same as per format to the District Control Room every six months.
- The Police Department under the Superintendent of Police must maintain a list of disaster prone areas in the district, along with the details of nearest Police Stations and their contact phone numbers.
- The Police Department under the Superintendent of Police must organize training programmes on handling of hazardous chemicals for Police Officers in collaboration with Director of Industrial Safety and Health to facilitate more effective handling of road accidents involving hazardous substances.
- The Police Department under the Superintendent of Police must identify a Police Station in the city, which can be used as a public information centre for disseminating information to the public.

1. Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Within the affected district, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Management. District Magistrate/Collector/Deputy Commissioner.
- Establish radio communications (and assist in precautionary evacuation activities) with
 - Emergency Operation Centre
 - Divisional Commissioner
 - District Control Room and
 - Departmental Offices within the division
- All district level officials of the department would be asked to report to the Collector.
- Appoint one officer as “Nodal Officer Police” at the State level.
- Appoint one officer as “Officer-in-Charge - Police” at the District level.
- The Deputy Commissioner to provide “Officer-in-Charge - Police” or the field staff as the need be, with all needed authorizations with respect to
 - Recruiting Casual Labourers
 - Procuring locally needed emergency tools and equipment and needed materials
 - Expending funds for emergency needs.
- The “Officer-in-Charge - Police” will ensure that all field staff and other officers submit the necessary reports and statement of expenditure in a format as required by District Collector.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Fill department vehicles with fuel and park them in a protected area.
- Provide guards as needed for supply depots such as cooperative food stores and distribution centres.
- Provide convoys for relief materials.
- Identify anti-social elements and take necessary precautionary measures for confidence building.

2. Evacuation

- All evacuations will be ordered only by the Collector, Police, Fire Brigade or by the Industries Security Officer.
- For appropriate security and law and order evacuation should be undertaken with assistance from community leaders.
- For evacuation follow the evacuation procedures as outlined in operating procedures of evacuation.

3. Relief and Rehabilitation

- Immediately after the disaster dispatch officers to systematically identify and assist people to communities in life-threatening situations.
- Help identify the seriously injured people and assist the communities in organising emergency transport of seriously injured to medical treatment centres.

- Ensure that the police stations are functioning immediately after the disaster at all required locations, as may be requested by the district control room and that staff are available for the variety of needs that will be presented.
- Assist and encourage the community in roadclearing operations
- Identify roads to be made oneway, to be blocked, alternate routes, overall traffic management and patrolling on all highways, and other access roads to disaster site.
- Provide security in transit and relief camps, affected villages, hospitals and medical centres and identify areas to be cordoned off.
- Transport carrying transit passengers (that is, passengers traveling through trains or buses and passing through the district) should be diverted away from the disaster area.
- Provide security arrangements for visiting VVIPs and VIPs.
- Assist district authorities to take necessary action against hoarders, block marketers and those found manipulating relief materials.
- In conjunction with other government offices, activate a public information centre to :
- Respond to personal inquiries about the safety to realities in the affected areas compile statistics about affected communities, deaths, complaints and needs
- Respond to the many specific needs that will be presented
- Serve as a rumor control centre
- Reassure the public
- Make officers available to inquire into and record deaths, as there is not likely to be time nor personnel available, to carry out standard post mortem procedures
- Monitor the needs and welfare of people sheltered in relief camps.
- Coordinate with armed forces personnel in the area.

a) Preparedness Checklist for Police

(To be filled in by the Department Head and submitted to the District Collector before every year)

Preparedness measures taken	Details	Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.		
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff		
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 		
Adequate warning mechanisms established for evacuation		
An officer has been designated as Nodal Officer for disaster management		
Sources of materials required for response operations have been identified		

Reported by :
Designation
Signature
Date

b) Checklist for Police

(To be filled in by "Officer-in-Charge" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Radio communications established with <ul style="list-style-type: none"> ➤ Emergency Operation Centre ➤ Divisional Commissioner ➤ District Control Room ➤ Other Police Headquarters within the division 		

An officer appointed as "Officer-in-Charge - Police"		
Police Stations are functioning immediately after the disaster at all required locations as requested by the district control room.		
Anti-social elements identified Precautionary measures for confidence building taken		
Community assisted in organising emergency transport of seriously injured to medical treatment centres		
Community assisted in road-clearing operations.		
Overall traffic management and patrolling on all highways and other access roads to disaster site being carried out.		
The following roads have been identified <ul style="list-style-type: none"> ➤ To be made one-way ➤ To be blocked ➤ Alternative routes. 		
Transport carrying transit passengers (that is, passengers traveling through trains or buses and passing through the district), are diverted away from the disaster area.		
Security being provided in <ul style="list-style-type: none"> ➤ Transit camps ➤ Feeding centres ➤ Relief camps ➤ Cattle camps ➤ Affected areas ➤ Hospitals and medical centres Areas to be cordoned off identified.		
Guards provided for supply depots such as cooperative food stores and distribution centres		
Security arrangements provided for visiting VVIPs and VIPs		
District authorities assisted for taking necessary action against hoarders, black marketers and those found manipulating relief material		
A public information centre activated		
Officers made available to inquire into and record of deaths		
Coordination with military service personnel in the area being carried out.		

Inspected by:

Designation :

Signature

Date

B. The Operating Procedure Guidelines for Public Health Departments

1. Normal Time Activity

- Assess preparedness level and report the same as per the format to district control room every six months.
- Ensure that hospital staff are aware of which hospital rooms/buildings are damage-proof.
- In the case of hospitals located in proximity to industrial areas obtain chemical data sheets from various industries.

2. Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Within the affected district/taluka, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager.
- Establish radio communications with Emergency Operation Centre, Divisional Commissioner, District Control Room, and hospitals (including private) within the division
- Ensure that personnel working within the district come under the direction and control of the Collector/Civil Surgeon.

- Appoint one person as “Nodal Officer Health Services” at the State level.
- The Civil Surgeon will act as “Officer-in-Charge - Health Services” at the District level.
- All the district level officials of the department would be asked to report to the Collector/Deputy Commissioner.
- Review and update precautionary measures and procedures and review with staff, the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Fill department vehicles with fuel and park them in a protected area.
- Stock emergency medical equipment which may be required after a disaster.
- Determine type of injuries illness expected and drugs and other medical items required and accordingly ensure that extra supplies of medical items be obtained quickly.
- Providing information to all hospital staff about the disasters, likely damages and effects, and information about ways to protect life, equipment and property.
- Discharge all ambulatory patients whose release does not pose a health risk to them. If possible, they should be transported to their home areas.
- Non-ambulatory patients should be relocated to the safest areas within the hospital. The safest rooms are likely to be :
 - ❖ On ground floor
 - ❖ Rooms in the centre of the building away from windows
 - ❖ Rooms with concrete ceilings.
- Equipment supplies such as candles, matches lanterns and extra clothing should be provided for the comfort of the patients.
- Surgical packs should be assembled and sterilized.
- A large enough number should be sterilized to last four to five days.
- The sterilized surgical packs must be stored in protective cabinets to ensure that they do not get wet. Covering the stock with polythene is recommended as an added safety measure.
- All valuable instruments, such as surgical tools, ophthalmoscopes, portabgle sterilizers, CGS, dental equipments, etc., should be packed in protective coverings and stored rooms considered to be the most damage proof.
- Protect all immovable equipment, such as x-ray machines, by covering them with tarpaulins or polythene.
- All electrical equipments should be unplugged when disaster warning is received.
- Check the emergency electrical generator to ensure that it is operational and that a buffer stock of fuel exists. If an emergency generator is not available at the hospital, arrange for one on loan.
- All fracture equipment should be readied.
- If surgery is to be performed following the disaster, arrange for emergency supplies of anaesthetic gases (usually) supplied on a daily basis).
- Check stocks of equipments and drugs which are likely to be most needed after the disaster. These can be categorized generally as :
 - Drugs used in treatment of cuts and fractures, such as tetanus toxoid, analgesics and antibiotics.
 - Drugs used for the treatment of diarrhea, water borne diseases and flu (including oral rehydrating supplies).
 - Drugs required to treat burns and fight infections
 - Drugs needed for detoxification including breathing equipments.
- Assess the level of medical supplies in stock, including
 - Fissure materials
 - Surgical dressings
 - Splints
 - Plaster rolls
 - Disposable needles and syringes
 - Local antiseptics.

- Request central warehouse immediate dispatch of supplies likely to be needed, to hospitals, on an emergency priority basis.
- Fill hospital water storage tanks and encourage water savings. If no storage tanks exist, water for drinking should be drawn in clean containers and protected.
- Prepare an area of the hospital for receiving large number of casualties.
- Develop emergency admission procedures (with adequate record keeping).
- Orient field staff with DDMAP, standards of services, procedures including tagging.
- Hospital administrators should
 - Establish work schedules to ensure that adequate staff are available for in-patient needs
 - Organise in-house emergency medical teams to ensure that adequate staff are available at all times to handle emergency casualties.
 - Set up teams of doctors, nurses and dressers for visiting disaster sites.

3. Evacuation

- All evacuations will be ordered only by the Collector, Police, Fire Brigade Health Department or by the Industries Security Officer.
- For appropriate security and law and order evacuation should be undertaken with assistance from community leaders.
- All evacuations should be reported to Collector or District Superintendent of Police immediately.

Evacuation of Marooned Persons

- A Senior medical officer will ensure that water supplied is in accordance with acceptable standards of potable water and is packed under appropriate conditions and containers.
- A Senior medical officer should accompany the rescue team along with required medical kit and ensure priority for shifting of those seriously injured or requiring immediate medical attention (the procedure for tagging as given in the Annexure should be followed).

4. Relief and Rehabilitation

Field Office Priorities

- Transport should be arranged for the transfer of seriously injured patients from villages and peripheral hospitals to general hospitals. If roads are blocked a method should be established to request helicopter transport.
- Establish health facility and treatment centres at disaster sites.
- The provision of medical services should be coordinated by the district civil surgeon with district control room and SOCs.
- Procedures should be clarified between
 - Peripheral hospitals
 - Private hospitals
 - Blood banks
 - General hospitals and
 - Health services established at transit camps, relief camps and affected villages.
- Maintain checkpoints and surveillance at each railway junction, ST depots and all entry and exist points from the affected area, especially during the free or existence of an epidemic.
- An injury and disease monitoring system should be developed to ensure that a full picture of health risks is maintained. Monitoring should be carried out for epidemics, water and food quality and disposal of waste in transit and relief camps feeding centres and affected villages.
- Plan for emergency accommodations for auxiliary staff from outside the area.
- Information formats and monitoring checklists should be used for programme monitoring and development and for reporting to Emergency Operations Centre. This is in addition to existing reporting system in the department.
- Seek security arrangements from district police authorities to keep curious persons from entering hospital area and to protect staff from hostile actions.

- Establishment of a public information centre with a means of communication to assist in providing an organized source of information. The hospital is responsible for keeping the community informed of its potential and limitations in disaster situations.
- The local police, rescue groups, and ambulance teams should be aware of the resources of each hospital.

5. Head Office Priorities

On the recommendation of the EOC “NODAL OFFICER – Health Services” Collector/district control room/the Public Health Department will

- Send required medicines, vaccines, drugs, plasters, syringes, etc.
- Arrange for additional blood supply.
- Provide for sending additional medical personnel equipped with food, bedding, and tents.
- Send vehicles and any additional medical equipments.

6. Standards of Service



Tagging

- Tagging is a process of prioritizing transfer of injured, based on first hand assessment of the medical officer in the disaster site. It is based on the medical criterion of chance of survival. Decision is made regarding cases, which can wait for treatment, those which should be taken to more appropriate medical units, and those which have no chances of surviving. The grouping is based on the benefit that the casualties can expect to derive from medical care, not on the seriousness of the injuries.
- Whenever possible, the identification of patients should be accomplished concurrently with triage. This is done by attaching a tag to each patient, usually color-coded to indicate a given degree of injury and the priority for evacuation.
- **Red Tag**
This tag signifies that the patient has a first priority of evacuation. Red-tagged patients need immediate care and fall into one of the following categories :
 - 1) Breathing problems that cannot be treated at the site.
 - 2) Cardiac arrest (witnessed).
 - 3) Appreciable loss of blood (more than a litre)
 - 4) Loss of consciousness.
 - 5) Thoracic perforations or deep abdominal injuries
 - 6) Certain serious fractures :
 - a. Pelvis
 - b. Thorax
 - c. Fractures of cervical vertebrae
 - d. Fractures or dislocation in which no pulse can be detected below the site of the fracture or dislocation
 - e. Severe concussion
 - f. Burns (complicated by injury to the air passages).
- **Green Tag**
Green tag identifies these patients who receive second priority for evacuation. Such patients need care but the injuries are not life threatening. They fall into the following categories :
 - 1) Second degree burns covering more than 30 per cent of body.
 - 2) Third degree burns covering more than 10 per cent of body.
 - 3) Burns complicated by major lesions to soft tissue or minor fractures.

- 4) Third degree burns involving such critical areas as hands, feet or face but with no breathing problems present.
- 5) Moderate loss of blood(500-1,000 cc)
- 6) Dorsal lesions, with or without injury to the spinal column.
- 7) Conscious patients with significant cranio-cerebral damage (serious enough to cause a subdural hematoma or mental confusion). Such patients will show one of the following signs :
 - a. Secretion of spinal fluid through ear or nose
 - b. Rapid increase in systolic pressure
 - c. Projectile vomiting
 - d. Changes in respiratory frequency
 - e. Pulse below 60 ppm
 - f. Swelling or bruising beneath the eyes
 - g. Anisocoric pupils
 - h. Collapse
 - i. Weak or no motor response
 - j. Weak reaction to sensory stimulation (profound stupor).

- **Yellow Tag**

Used on patients who are given third priority for evacuation and who fall into the following categories :

Minor Lesions

- 1) Minor fractures (fingers, teeth, etc.).
- 2) Other minor lesions, abrasions, confusions.
- 3) Minor burns :
 - a) Second-degree burns covering less than 15 per cent of the body.
 - b) Third-degree burns covering less than 2 per cent of the body surface.
 - c) First-degree burns covering less than 20 per cent of the body, excluding hands, feet, and face.

- **Fatal Injuries**

- a) Second and third-degree with burns over more than 40 per cent of the body.
- b) Second and third-degree burns over more than 40 per cent of the body, with other major lesions, as well as major fractures, major cranio-cerebral lesions, thoracic lesions, etc.
- c) Cranial lesions with brain tissue exposed and the patient unconscious.
- d) Cranio-cerebral lesions where the patient is unconscious and has major fractures.
- e) Lesions of the spinal column with absence of sensitivity and movement.
- f) Patient over 60 years old with major lesions.

It should be noted that the line separating these patients from red tag casualties is very tenuous. If there are any red-tag patients, this system will have to be followed. If there are none, the yellow-tag patients with apparently fatal injuries become red tag candidates. The reason is simple : If there are many red-tag patients with a chance to survive and there are yellow tag patients who apparently cannot be saved because of their injuries, the time spent on the dying wounded could be better spent on the patients with a chance to survive.

- **Black tag**

Black tags are placed on the dead, i.e., casualties without a pulse or respiration who have remained in that condition for over 20 minutes, or whose injuries render resuscitation procedures impossible.

Evacuation Procedures under the following Conditions :

- 1) Casualties not trapped or buried. Evacuate in the following order :
 - a) Red-tag casualties
 - b) Green-tag casualties
 - c) Yellow-tag casualties

- 2) Casualties trapped or buried. Evacuate in the following order :
 - a) Red-tag casualties
 - b) Green-tag casualties
 - c) Yellow-tag casualties
 - d) Black-tag casualties not trapped or buried
 - e) Trapped black-tag casualties

➤ **Vector Control Standards**

Vector control programmes should be planned so as to cope with two distinct situations:

- The initial phase immediately following the disaster, when control work should concentrate on the destruction, by a physical or chemical process, of vermin on persons, their clothing, bedding, and other belongings, and on domestic animals. An emergency sanitation team should be available from the beginning for carrying out this disinfestations.
- The period after the disaster subsided, control work should be directed towards proper food, sanitation, safe disposal of wastes, including drainage and general and personal cleanliness.

➤ **Suggested Vector Surveillance Equipment and Supplies**

- Collecting bag
- Collecting forms
- Mouth or battery powered aspirators
- Tea strainer
- Flashlight and spare batteries
- Grease pencil
- Memo pad
- Sweep net
- Pencil
- Tweezers
- White enameled dipper
- Keys and other references
- Labels
- CDC light traps (optional)
- Collecting vials
- Aedes aegypti ovitraps (optional)
- Bulb syringe or medicine dropper
- Fly grill
- Mirror
-

➤ **Suggested Rodent Surveillance Equipment and Supplies**

- Teaching aids
- Transfer bags
- Plastic bags
- Vials
- Plastic cups
- Alcohol

- Rubber bands
- Forceps
- Scissors
- Insecticide dusting pan
- Snap traps
- Formaldehyde
- Live traps
- Acute rodenticides
- Gloves
- Anticoagulant rodenticides
- Flashlights and batteries

➤ **Materials and Equipment**

In the absence of clear indication from the field, the advance party should carry a minimum kit comprising of the following materials and equipments to the disaster site:

1)	Equipment for pediatric intravenous use	36
2)	Tensiometers for children and adults	12
3)	Assorted ferrules	2 boxes
4)	tracheal cannulae	36
5)	Set of laryngoscopes for infants, children, and adults	1 each
6)	Endotracheal tubes, No.7 Murphy	36
7)	Endotracheal tubes, No.8	36
8)	Nasogastric probes	36
9)	Oxygen masks, for adults and children	2 boxes
10)	Large scissors for cutting bandages	3
11)	Plastic linings	60
12)	Phonendoscopes	15

➤ **Sterilization Unit Supplies**

1)	Tracheotomy set	6
2)	Thorachotomy set	6
3)	Venous dissection set	6
4)	Set for small sutures	12
5)	Bottles for drainage of thorax	10
6)	Hand scissors, No.4	6
7)	Syringes (disposable) x 2 cc	60
8)	Syringes (disposable) x 10 cc	90
9)	Syringes (disposable) x 50 cc	60
10)	Ambulance Fleet	

The ambulance will carry the following equipments:

- 1) Oxygen, Oxygen mask, and manometer
- 2) Stretchers and blankets
- 3) Emergency first aid kit
- 4) Suction equipment
- 5) Supplies for immobilizing fractures
- 6) Venoclysis equipment
- 7) Drugs for emergency use
- 8) Minimal equipment for resuscitation maneuvers.

- At least a physician, a nurse, a stretcher-bearer and a driver should staff each ambulance. The medical and paramedical personnel should be experienced in procedures for management of patients in intensive care units.
- Equipment and Supplies required for Vermin control for a population of 10000

Power sprayers	2
Hand-pressured sprayers, capacity 20-30 litres	50
Dusters (hand operated, plunger type)	50
Dusters power operated.	2
Space sprayer	1
Adequate supply of accessories and spare parts for the above equipment insecticides	
DDT. Technical powder	0.5 tons
	1.2 tons
DDT, 75% water wettable	
DDT, 75% powder	1 ton
Dieldrin, 0.625 – 1.25% emulsifiable concentrate or wettable powder	100 kg
Lindane, 0.5% emulsifiable concentrate or wettable powder	100 kg
Chlordane, 2% emulsifiable concentrate or wettable powder	100 kg
Malathion 1% emulsifiable concentrate or wettable powder	100 kg
Dichlorvos emulsion	100 litres
Rodenticides, anticoagulant type (warfarin, etc.)	1.2 kg
Rodent traps	100
Screen for fly control	10 rolls
Garbage cans, capacity 50-100 litres	300-500

A* Quantity depends on availability and on distribution points.

a) Preparedness Checklist for Public Health Department

(To be filled in by the Civil Surgeon and District Health Officer and submitted to the District Collector before every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Hospital staff are aware of damage proof hospital rooms/buildings.	
Reviewed and updated <ul style="list-style-type: none"> • Precautionary measures and procedures • The precautions to be taken to protect equipments • The post-disaster procedures to be followed. 	
All hospital staff have been informed about the possible disasters in the district, likely damages and effects, and information about ways to protect life, equipment and property.	
An area of the hospital has been identified for receiving large number of casualties.	
Emergency admission procedures with adequate record keeping developed.	
Field staff oriented about <ul style="list-style-type: none"> • DDMAP • Standards of services 	

• Procedures for tagging	
An officer has been designated as Nodal Officer for disaster management	
Sources of materials required for response operations have been identified	

Reported by :
 Designation
 Signature
 Date

b) Checklist for Public Health Department

1. Check list of Hospitals (To be filled in by the "OFFICER-IN-CHARGE- Health Services" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Radio communications established with <ul style="list-style-type: none"> ➤ Emergency Operation Centre ➤ Divisional Commissioner ➤ District Control Room ➤ Hospitals ➤ Private Hospitals 		
The Civil Surgeon designated as "Officer-in-Charge – Health Services"		
The following emergency medical equipment are stocked. <ul style="list-style-type: none"> • Drugs used in treatment of cuts and fractures, such as tetanus toxoid, analgesics and antibiotics. • Drugs used in treatment of diarrhea, water-borne diseases and flu (including oral rehydrating supplies). • Drugs required to treat burns and fight infections. • Drugs needed for detoxification including breathing equipments. 		
Discharge of all ambulatory patients whose release does not pose a health risk to them.		
No ambulatory patients relocated within the hospital to safest areas.		
Equipments supplied such as candles, matches, lanterns and extra clothing provided for the comfort of the patients.		
Emergency Generator available.		
Adequate supplies of anesthetic gases for surgery cases available.		
The hospital water storage tanks were filled.		
An area of the hospital designated for receiving large number of casualties.		
Emergency admissions <ul style="list-style-type: none"> • Procedures developed • Records maintained. • Work schedules to ensure availability of adequate staff. 		
In-house emergency medical teams to ensure that adequate staff available at all times to handle emergency casualties. Emergency accommodations provided for, for medical personnel from outside the area.		
Security arrangements made at hospitals		
Public information centre established at hospitals		
The local police, rescue groups and ambulance teams were made aware of the resources of each hospital.		

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Designation :

Signature

Date

c) Checklist for Field Centres

(To be filled in by the "OFFICER-IN-CHARGE- Health Services" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Surgical packs assembled and sterilised		
Field staff aware of tagging procedures		
Emergency admissions <ul style="list-style-type: none">• Procedures developed• Records maintained• Work schedules to ensure that adequate staff are available.		
Teams of Psychiatrists and Social Workers for trauma care and counseling to be set up		
Teams of doctors, nurses and dressers for visiting disaster sites set up		
Transport for the transfer of seriously injured patient from villages and peripheral hospitals to general hospitals available		
Health facility and treatment centres established at disaster sites.		
Water quality monitoring done at <ul style="list-style-type: none">• Transit camps• Relief camps• Feeding centres• Sources of water• Affected areas.		
Epidemic surveillance is being done at <ul style="list-style-type: none">• Transit camps• Relief camps• Affected areas• Feeding centres		

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Signature

Date

d) Casualty Treatment Post at camp sites and affected villages :

(To be filled in by the "OFFICER-IN-CHARGE - Health Services" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Liaise with SOC for suitable location		
Finalise suitable location <ul style="list-style-type: none">• Near water supply• Clear access/egress routes• Communication link with SOC		

<ul style="list-style-type: none"> • Close to disaster site • Suitably protected against weather conditions • Sufficient privacy • Separate area for relatives and visitors • Adequate sanitation facilities for patients • Adequate sanitation facilities for staff • Adequate sanitation facilities for relatives and visitors 		
Coordinating hospital notified		
First Aid facilities available		
Inform Police of location		
Whether Police personnel posted at treatment post		
Request for additional medical assistance sent to <ul style="list-style-type: none"> • Civil hospital • District Control Room 		
Stocks of triage tags are available on hand		
Records kept on <ul style="list-style-type: none"> • Names and addresses of casualties (As far as possible) • Type of injuries (As far as possible) • Whether transferred for further treatment 		
Records communicated to <ul style="list-style-type: none"> • Police • SOC 		
Information about intentions to close Casualty Treatment Post communicated to <ul style="list-style-type: none"> • Police • SOC 		

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e) Report and Checklist on Epidemics for each camp site and affected village

(To be filled in by the "OFFICER-IN-CHARGE - Health Services" and submitted to the District Control Room and the Department Head)

Time : _____

Name of the village :

Name of the camp

An epidemic exists at the location :

An active threat of epidemics does not exist at the location :

Brief description of type of epidemic/affected area/location :

Brief description of assessment of risk of epidemic/affected area/location and reasons thereof :

Services/disciplines mobilized :

Discipline/Orga-nisation	Noti-fied (Y/N)	Time	Whether Mobilised (Y/N)	Stand-by (Y/N)	Alert (Y/N)	Contact person with address, phone no.

Complied by:

Designation :

Signature
Date

f) Checklist for Epidemic Situations :

(To be filled in by the "OFFICER-IN-CHARGE - Health Services" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Warning and instructions to public issued		
Condoning of affected areas recommended		
Logistical support required		
Condoning off of roads required		
Alternate routes to and from affected areas required		
Alternative communication		
Waste disposal system adequate		
Sterilisation systems adequate		
Life saving drugs adequate		
Facilities for inoculation and vaccination exist		
Supply of inoculation and vaccination exists		
Accommodation for required number exists		
Facilities for special diet exists		
Risk of spread exists		
Isolation of affected persons done		
Facilities for treatment of contaminated water waste water exists		
Suitable protection of workers ensured		

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Designation :
Signature
Date

C. Operating Procedure Guidelines Jharkhand State Electricity Board (JSEB)

➤ **Normal Time Activity**

- Assess preparedness level and report the same as per the format to district control room every six months.
- Establish at each sub-station a Disaster Management tool kit comprising cable cutter, pulley blocks, jungle knives, axes, crowbars, ropes, hacksaws and spanners.
- Tents for work crew should also be in storage.
- Action Plan Objective in a Disaster Situation should be to restore the power supply and ensure uninterrupted power to all vital installation facilities and sites.

➤ **Activities on Receipt of Warning or Activation of District DMAP (DDMAP)**

- Within the affected district/taluka, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
 - All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager/District Magistrate/Collector/Deputy Commissioner.
 - Establish radio communications with Emergency Operation Centre, Divisional Commissioner, District Control Room and your Departmental Offices within the division
 - All district level officials of the department would be asked to report to the Collector.
 - Appoint one officer as “Nodal Officer-Power Supply” at the State level.
 - Appoint one officer as “Officer-in-Charge - Power Supply” at the District level.
 - Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
 - Assist the State authorities to make arrangements for standby generators in the following public service offices from the time of receipt of alert warning
 - ✓ Hospitals
 - ✓ Water department
 - ✓ Collectorate
 - ✓ Police stations
 - ✓ Telecommunications buildings
 - ✓ Meteorological stations
 - Fill department vehicles with fuel and park them in a protected area.
 - Check emergency tool kits, assembling any additional equipment needed.
 - Immediately undertake inspection from the time of receipt of alert warning of
 - ✓ High tension lines
 - ✓ Towers
 - ✓ Substations
 - ✓ Transformers
 - ✓ Insulators
 - ✓ Poles and
 - ✓ Other equipments
 - Review the total extent of the damage to power supply installations by a reconnaissance flight, if possible.
 - On the recommendations of the Collector/District Control Room/ “Officer-in-Charge – Power Supply” of the department in the district will
- Instruct district staff to disconnect the main electricity supply for the affected area.
- Dispatch emergency repair gangs equipped with food, bedding, tents, and tools.

B. Relief and Rehabilitation

➤ **Field office priorities**

- Hire casual labourers on an emergency basis for clearing of damaged poles and salvage of conductors and insulators.
- Begin repair/reconstruction.

- Assist hospitals in establishing an emergency supply by assembling generators and other emergency equipments, if necessary.
- Establish temporary electricity supplies for other key public facilities, public water systems, etc.
- Establish temporary electricity supplies for transit camps, feeding centres, relief camps and SOC, district control room and on access roads to the same.
- Establish temporary electricity supplies for relief material godowns.
- Compile an itemized assessment of damage, from reports and made by various electrical receiving centres and sub-centres.
- Report all activities to head office.
- Plan for emergency accommodations for staff from outside the area.

➤ **Head Office Priorities**

On the recommendation of the EOC (Nodal Officer – Power Supply)/ Collector/District Control Room at the State level WBSEB will

- Send cables, poles, transformers and other needed equipments.
- Send vehicles and any additional tools needed.
- Provide additional support as required.

➤ **Preparedness Checklist for JSEB**

(To be filled in by the Department Head and submitted to the District Collector before May every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 	
An officer has been designated as Nodal Officer for Disaster Management	
Sources of materials required for response operations have been identified	

Reported by :
 Designation
 Signature
 Date

➤ **Checklist for JSEB**

(To be filled in by “Officer-in-Charge” and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Radio communications established with <ul style="list-style-type: none"> ➤ Emergency Operation Centre ➤ Divisional Commissioner ➤ District Control Room ➤ Departmental offices within the division 		
An officer appointed as “Officer-in-Charge – Power Supply”		
Standby arrangements for temporary electric supply or generator made for <ul style="list-style-type: none"> ➤ Hospitals ➤ Water department ➤ Collectorate 		

<ul style="list-style-type: none"> ➤ Police Stations ➤ Telecommunications buildings ➤ Meteorological stations ➤ Transit camps ➤ SOC ➤ Feeding centres ➤ Relief camps ➤ Cattle camps ➤ Godown for storing relief materials ➤ Access roads 		
Each depot provided with Disaster Management tool kit		
Inspection and repairs if needed, carried out for <ul style="list-style-type: none"> ➤ High tension lines ➤ Towers ➤ Substations ➤ Transformers ➤ Insulators ➤ Poles 		
Clearing of damaged poles carried out		
Salvage of conductors and insulators done		
Emergency accommodations undertaken for staff from outside the area.		
An itemized damage assessment carried out		

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 Date

D. Operating Procedure Guidelines Irrigation Department.

➤ Normal Time Activity

- Assess preparedness level and report the same as per the format to district control room every six months.
- Identify flood prone rivers and areas and activate flood monitoring mechanisms in all flood prone areas from 1st of June every year.
- Water level gauges should be marked on rivers, dams and minor tank structures not having level gauges.
- Action Plan Objective in a Disaster Situation would be to monitor flood situation, monitor and protect irrigation infrastructure and restore damaged infrastructure.

➤ Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Within the affected district/taluka, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager/District Magistrate/Collector/Deputy Commissioner.
- Establish radio communications with Emergency Operation Centre, Divisional Commissioner, District Control Room and your Departmental Offices within the division
- All personnel working within the district come under the direction and control of the Collector/Deputy Commissioner.
- All district level officials of the department would be asked to report to the Collector/Deputy Commissioner.
- Appoint one officer as “Nodal Officer-Irrigation” at the State level.
- Appoint one officer as “Officer-in-Charge - Irrigation” attached to the District Control Room.

- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Fill department vehicles with fuel and park them in a protected area.
- Organize round the clock inspection and repair of
 - ✓ Bunds of dams
 - ✓ Irrigation channels
 - ✓ Bridges
 - ✓ Culverts
 - ✓ Control gates and
 - ✓ Overflow channels
- Organise round the clock inspection and repair of
 - ✓ Pumps
 - ✓ Generators
 - ✓ Motor equipments and
 - ✓ Station buildings
- The officer responsible for the tanks of an area should also be designated an emergency officer, knowledgeable about disasters, their effects, and understand well the appropriate emergency procedures.
- Officers should ensure that all staff are well aware of precautions to be taken to protect their own lives and personal property.
- Each technical assistant should have instructions and operating procedures for disaster conditions.
- Irrigation engineers should review with technical assistants emergency actions that are required.
- Emergency tool kits should be prepared for all technical assistants in disaster prone areas. These tool kits should include :
 - ✓ Ropes
 - ✓ Pulley blocks
 - ✓ Jungle knives
 - ✓ Shovels
 - ✓ Cement in bags
 - ✓ Concrete pans
 - ✓ Gunny bags
 - ✓ Cane baskets
- Emergency tool kits with each technical assistant should be checked.
- The officers on site should ensure that, the level of impounding in the tanks is reduced to create increased capacity, and coordinate the same with officers on other dam sites and the district control room, if heavy rains are expected. The amount of lowering will depend on the rainfall forecast. In case of possibilities of flooding in the downstream, the settlements should be forewarned, and necessary warnings for evacuation should be given, to the adjoining districts and to those districts beyond the state borders.
- The inlet and outlet to tanks should, be inspected to ensure that waterways are unobstructed by trees or vegetation.
- Any repairs/under construction activity should be well secured with sandbags, rockfalls, etc.
- Materials likely to be damaged by rains, such as concrete in bags, electric motors, office records, etc., should be covered with plastic and well secured even though stored inside.

Relief and Rehabilitation

➤ Field office priorities

- Continue round the clock inspection and repair of bunds of dams, irrigation channels, bridges, culverts, control gates, and overflow channels as may be necessary.
- Continue round the clock inspection and repair of pumps, generators, and motor equipment and station buildings.
- The officers on site should continue to ensure that, the level of impounding in the tanks is reduced to create increased capacity, and coordinate the same with officers on other dam sites and the district control room, if heavy rains are expected. The amount of lowering will depend on the rainfall forecast. In case of possibilities of flooding

in the downstream, the settlements should be forewarned, and necessary warnings for evacuation should be given to the adjoining districts and to those districts beyond the state borders.

- Clearing the inlet and outlet to tanks to ensure that waterways are unobstructed by trees or vegetation on an on-going basis.
- Information formats and monitoring checklist should be used for programme monitoring and development and for reporting to Emergency Operations Centre. This is in addition to existing reporting system in the department.

➤ **Head Office Priorities**

On the recommendations of the EOC (“Nodal Officer – Irrigation”)/ Collector/District Control Room, the Irrigation Department will

- Provide for sending additional support along with food, bedding, tents
- Send vehicles and any additional tools and equipments needed.
- Coordinate with other states about release of water and dissemination of warning

a). Preparedness Checklist for Irrigation Department

(To be filled in by the Department Head and submitted to the District Collector before May every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 	
Flood Monitoring mechanisms can be activated in all flood prone areas from 1 st June.	
All staff are well aware of precautions to be taken to protect their own lives and personal property.	
Each technical assistant has instructions and knows operating procedures for disaster conditions	
Methods of monitoring and impounding the levels in the tanks evolved. Methods of alerting officers on other dam sites and the district control room, established Mechanisms evolved for <ul style="list-style-type: none"> ✓ Forewarning settlements in the downstream ✓ Evacuation ✓ Coordination with other dam authorities 	
An officer has been designated as Nodal Officer for Disaster Management.	
Sources of materials required for response operations have been identified	

Reported by :
Designation
Signature
Date

b). Checklist for Irrigation Department

(To be filled in by “OFFICER-IN-CHARGE” and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Radio communications established with		

<ul style="list-style-type: none"> ➤ Emergency Operation Centre ➤ Divisional Commissioner ➤ District Control Room ➤ Departmental offices within the division 		
An officer appointed as "OFFICER-IN-CHARGE – IRRIGATION"		
Emergency tool kits for all technical assistants prepared		
Water level gauges on minor tank structures not having level gauges marked.		
Repairs/under construction activity are well secured		
Round the clock inspection and repair being carried out of <ul style="list-style-type: none"> ➤ Bunds of dams ➤ Irrigation channels ➤ Bridges ➤ Culverts ➤ Control gates, and ➤ Overflow channels as may be necessary. 		
Round the clock inspection and repair being carried out of <ul style="list-style-type: none"> ➤ Pumps ➤ Generators ➤ Motor equipment and ➤ Station buildings. 		
Level of impounding in the tanks reduced. Coordination of this action with other districts is done.		
Inlet and outlet to tanks are cleared.		

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➤ **Inter Agency coordination for the Management of Floods**

The District Collector will coordinate an inter agency meeting of all concerned officials before the onset of the monsoons for assessing and reviewing the preparedness of the district administration to respond to floods. The officials in the Irrigation Department will play a significant role in the preparedness and response functions related to the management of floods.

E. Operating Procedure Guidelines Agriculture Department

Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Within the affected district/taluka, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager/District Magistrate/Collector.
- Establish communications with Divisional Commissioner, District Control Room and Agricultural Colleges, seed banks, nurseries (private and public) within the division
- Appoint a designated representative of Director, Agriculture as “NODAL OFFICER-Agriculture” at the State level.
- The Superintending Agriculture Officer (SAO) will act as “OFFICER-IN-CHARGE - Agriculture”.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Fill department vehicles with fuel and park them in a protected area.
- Check available stocks of equipments and materials, which are likely to be most needed after the disaster.
- Stock agricultural equipments which may be required for a disaster.
- Determine what damage, pests or diseases may be expected, and what drugs and other insecticide items will be required, in addition to requirements of setting up extension teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly.
- Provide information to all concerned, about disasters, likely damages to crops and plantations, and information about ways to protect the same.
- All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.
- All electrical equipments should be unplugged when disaster warning is received.
- Extension Officers should be assisted to
 - ✓ Establish work schedules to ensure that adequate staff are available.
 - ✓ Set up teams of extension personnel and assistants for visiting disaster sites.

Relief and Rehabilitation

- Assess the extent of damage to soil, crop, plantation, micro-irrigation systems and storage facilities and the requirements to salvage or replantation.
- Establish contact with soil and water testing laboratories.
- Provision of agricultural services should be coordinated with irrigation department, DRDA district control room, SOCs.
- Estimate the requirement of
 - Seeds
 - Fertilizers
 - Pesticides and
 - labour
- Organise transport, storage and distribution of the above with adequate record keeping procedures.
- Ensure that adequate conditions through cleaning operations are maintained to avoid water-logging and salinity.
- A pests and disease monitoring system should be developed to ensure that a full picture of risks is maintained.
- Plan for emergency accommodations for agriculture staff from outside the area.
- Information formats and monitoring checklists as given in the section on “Information and Monitoring Tools” should be used for programme monitoring and development and for reporting to district control room. This is in addition to existing reporting system in the department.

- Establishment of public information centre with a means of communication to assist in providing an organized source of information. The department is responsible for keeping the community informed of its potential and limitations in disaster situations.
- The NGOs and other relief organizations should be aware of the resources of the department.
- Assist farmers to re-establish their contracts with agriculture produce market and ensure that appropriate price be offered to them.

a). Preparedness Checklist for Agriculture Department

(To be filled in by the Department Head and submitted to the District Collector before May every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 	
Information provided to all concerned about the disasters likely damages to crops and plantations, and information about ways to protect the same.	
The NGOs and other relief organizations are informed about the resources of the department.	
An officer has been designated as Nodal Officer for Disaster Management.	
Sources of materials required for response operations have been identified	

Reported by :
Designation
Signature
Date

b). Checklist for Agriculture Department

(To be filled in by "OFFICER-IN-CHARGE" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Communication link within the division established with <ul style="list-style-type: none"> ➤ Divisional Commissioner ➤ District Control Room ➤ Agricultural colleges ➤ Seed banks, ➤ Nurseries (private and public) 		
The Superintending Agriculture Officer (SAO) designated as "OFFICER-IN-CHARGE – Agriculture"		
Agricultural equipments, which may be required, stocked.		
Water level gauges on minor tank structures not having level gauges marked.		
Contact established with soil and water testing laboratories		
Extent of damage assessed for <ul style="list-style-type: none"> ➤ Soil ➤ Crop ➤ Plantation ➤ Micro-irrigation systems and ➤ Storage facilities 		
Requirement for salvage or replantation assessed.		

information provided to all concerned about the disasters, likely damages to crops and plantations, and information about ways to protect the same		
Actions coordinated with <ul style="list-style-type: none"> ➤ Irrigation Department ➤ DRDA 		
Organise transport, storage and distribution of <ul style="list-style-type: none"> ➤ Seeds ➤ Fertilizers ➤ Pesticides and ➤ labour 		
Cleaning operations carried out to avoid water logging and salinity.		
Surveillance for pests or diseases being carried out.		
Public information centre established		
NGOs and other relief organizations informed of the resources of the department		
Farmers assisted to reestablish their contacts with agriculture produce market.		
Adequate facilities provided to field teams.		

Inspected by:
 Designation :
 Signature
 Date

F. Operating Procedure Guidelines of Animal Husbandry Department

Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Within the affected district/taluka, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager/District Magistrate/Collector.
- Establish radio communications with
 - Emergency Operation Centre
 - Divisional Commissioner,
 - District Control Room and
 - Veterinary centres and hospitals (including private practitioners) within the division
- Appoint one officer as “NODAL OFFICER-Veterinary Services” at the State level.
- The District Animal Husbandry Officer will act as “OFFICER-IN-CHARGE - Veterinary Services”.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Fill department vehicles with fuel and park them in a protected area.
- Stock emergency medical equipments, which may be required for a disaster.
- Determine what injuries/illness may be expected, and what drugs and other medical items will be required, in addition to requirements of setting up cattle camps, and accordingly ensure that extra supplies of medical items and materials be obtained quickly.
- Provide information to all staff of veterinary hospitals and centres about disasters, likely damages and effects, and information about ways to protect life, equipment and property.
- Surgical packs should be assembled and sterilized.
- Enough stock of surgical packs should be sterilized to last for four to five days.

- Sterilized surgical packs must be stored in protective cabinets to ensure that they do not get wet. Covering the stock with polythene is recommended as an added safety measure.
- All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.
- All electrical equipments should be unplugged when disaster warning is received.
- Check the emergency electrical generator to ensure that it is operational and that a buffer stock of fuel exists. If an emergency generator is not available at the hospital, arrange for one on loan.
- Arrange for emergency supply of anesthetic drugs.
- Check stocks of equipments and drugs, which are likely to be most needed after disaster.
- Request central warehouses, on an emergency priority basis, that those supplies likely to be needed be dispatched to the hospital immediately.
- Fill hospital water storage tanks and encourage water savings. If no storage tanks exist, water for drinking should be drawn in clean containers and protected.
- Prepare an area of the hospital for receiving large number of livestock.
- Develop emergency admission procedures (with adequate record keeping).
- Cattle camps and hospital administrators should
 - ✓ Establish work schedules to ensure that adequate staff are available.
 - ✓ Set up teams of veterinary doctors and assistants for visiting disaster sites.

1. Relief and Rehabilitation

- Organise transfer of seriously injured livestock from villages to veterinary aid centres wherever possible.
- The District Animal Husbandry Officer with District Control Room should coordinate the provision of medical services room, SOC's and cattle camp.
- Establish cattle camp and additional veterinary aid centres at disaster sites and designate an OFFICER-IN-CHARGE for the camp.
- Estimate requirement of water, fodder and animal feed, for cattle camps and organize the same.
- Ensure that adequate sanitary conditions through cleaning operations are maintained to avoid outbreak of any epidemic.
- An injury and disease monitoring system should be developed to ensure that a full picture of risks is maintained.
- Plan for emergency accommodations for agriculture staff from outside the area.
- Information formats and monitoring checklists as given in Annexure should be used for programme monitoring and development and for reporting to Emergency Operation Centre. This is in addition to existing reporting system in the department.
- Establishment of public information centre with a means of communication to assist in providing an organized source of information. The hospital is responsible for keeping the community informed of its potential and limitations in disaster situations.
- The local police, rescue groups should be aware of the resources of each hospital.

2. Standards for Cattle Camps

- The minimum number of cattle in the cattle camp should be about 100 and the maximum 500.
- The cattle camps should be located at suitable sites, bearing in mind, that adequate supply of water and shade are most essential for the well being of the cattle.
- Cattle sheds constructed should not exceed 20 sq. feet per animal. Suitable arrangements for water trough and manager(s) should be made.
- The feeding centres for cattle should be located in such a manner that
 - There is adequate supply of drinking water.
 - There is sufficient shade for cattle to rest during the afternoon
 - They are located as near the rail head as possible.
 - They are conveniently located, not beyond a radius of 8 Km from the affected villages.

- The cattle will require 6 Kg per cattle head per day of fodder and 1 to 1.5 kg per cattle head per day, of concentrate like Bagass molasses.
- Each cattle camp will have a minimum of one camp manager, two labourers and two sweepers.

a). Preparedness Checklist for Animal Husbandry Department

(To be filled in by the Department Head and submitted to the District Collector before May every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 	
Hospital staff are aware of which hospital rooms/buildings are damage-proof.	
All veterinary hospitals and centres staff have been informed about the possible disasters, likely damages and effects, and information about ways to protect life, equipment and property.	
An area of the hospital has been identified for receiving large number of livestock.	
Emergency admission procedures with adequate record keeping developed.	
An officer has been designated as Nodal Officer for Disaster Management.	
Sources of materials required for response operations have been identified	

Reported by :
Designation
Signature
Date

b). Checklist for Field Activities of Animal Husbandry Department

(To be filled in by "OFFICER-IN-CHARGE" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/ Remarks
Radio communications established with <ul style="list-style-type: none"> ➤ Emergency Operation Centre ➤ Divisional Commissioner ➤ District Control Room ➤ Veterinary aid centres and ➤ Hospitals (including private practitioners) within the division 		
The District Animal Husbandry Officer designated as "Officer-in-Charge – Veterinary Services"		
Emergency medical equipments are stocked.		
All staff of veterinary hospitals and centres informed about disasters, likely damages and effects, and ways to protect life, equipment and property.		
Emergency electrical generator arranged.		
Emergency supplies of anesthetic drugs arranged.		
The hospital water storage tanks were filled.		
An area of the hospital designated for receiving large number of casualties.		
Emergency admissions Procedures developed (with adequate record keeping)		
Transfer of seriously injured livestock from villages to veterinary aid centres and hospitals organized.		
Establish at disaster sites		

<ul style="list-style-type: none"> • Cattle camps • Additional veterinary aid centres. 		
Organised for cattle camps <ul style="list-style-type: none"> • Water • Fodder and • Animal feed 		
Adequate sanitary conditions maintained Cleaning operations being carried out Epidemiological surveillance is being undertaken.		
Emergency accommodations provided for, for medical personnel from outside the area.		
Public information centre established at hospitals		
The local police, rescue groups and ambulance teams were made aware of the resources of each hospital.		

Inspected by:
Designation :
Signature
Date

G. Operating Procedure Guidelines of Public Works Department

Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Within the affected district/taluka, all available personnel will be made available to the District Disaster Manager. If more personnel are required then out of station officers or those on leave may be recalled.
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager/District Magistrate/Collector.
- Establish radio communications with
 - Emergency Operation Centre
 - Divisional Commissioner,
 - District Control Room and
 - Your departmental offices within the division
- All district level officials of the department would be asked to report to the Collector.
- Appoint one officer as “NODAL OFFICER-PWD” at the State level.
- Appoint one officer as “OFFICER-IN-CHARGE - PWD” at the district level.
- The “Officer-in-Charge - PWD” will be responsible for mobilizing staff and volunteers to clear the roads in his section, should a disaster strike.
- The “NODAL OFFICER-PWD” should be familiar with pre-disaster precautions and post-disaster procedures for road clearing and for defining safe evacuation routes where necessary.
- All officers (technical officers) should be notified and should meet the staff to review emergency procedures.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary.
- Extra transport vehicles should be dispatched from headquarters and stationed at safe strategic spots along routes likely to be affected.
- Heavy equipments, such as front-end loaders, should be moved to areas likely to be damaged and secured in a safe place.
- Inspect all roads, road bridges by a bridge engineer, including underwater inspection of foundations and piers. A full check should be made on all concrete and steelworks.
- Inspect all buildings and structures of the state government (including hospital buildings) by a senior engineer and identify structures, which are endangered by the impending disaster.
- Emergency tool kits should be assembled for each division, and should include :
 1. Crosscut saws
 2. Axes
 3. Power chain saw with extra fuel, oil
 4. Sharpening files
 5. Chains and tightening wrenches
 6. Pulley block with chain and rope
- The designation of routes strategic to evacuation and relief should be identified and marked, in close coordination with police and district control room.
- Establish a priority listing of roads which will be opened first. Among the most important are the roads to hospitals and main trunk routes.
- Give priority attention to urgent repair works that need to be undertaken in disaster affected areas.
- Work under construction should be secured with ropes, sandbags, and covered with tarpaulins if necessary.
- Emergency inspection by mechanical engineer of all plant and equipment in the district workshops.
- If people are evacuating an area, the evacuation routes should be checked and people assisted.
- Identify locations for setting up transit and relief camps, feeding centres and quantity of construction materials and inform DCR accordingly.

1. Relief and Rehabilitation

- All work teams should be issued two-way communication link.
- Provide a work team carrying emergency tool kits, depending on the nature of the disaster, essential equipments such as
 - Towing vehicles
 - Earth moving equipments
 - Cranes etc.
- Each unit should mobilize a farm tractor with chain, cables and a buffer stock of fuel.
- Adequate road signs should be installed to guide and assist the drivers.
- Begin clearing roads. Assemble casual labourers to work with experienced staff and divide into work gangs.
- Coordinate with Building and Construction Department of Zilla Parishad
- Mobilise community assistance for road clearing by contacting community organizations.
- Undertake repair of all paved and unpaved road surfaces including edge metalling, pothole patching and any failure of surface, foundations in the affected areas by maintenance engineer's staff and keep monitoring their conditions.
- Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for disaster victims.
- As per the decisions of the district control room, undertake construction of temporary structures required, for organising relief work and construction of relief camps, feeding centres, medical facilities, cattle camps and SOC/s.
- An up-to-date report of all damage and repairs should be kept in the district office report book and communicate the same to the district control room.
- If possible, a review of the extent of damage (by helicopter) should be arranged for the field Officer-in-Charge, in order to dispatch most efficiently road-clearing crews, and determine the equipments needed.

2. Standards for Relief Camps

➤ Tent Camps

- The layout of the site should meet the following specifications :
 - 1) 3-4 hectares of land/100 persons
 - 2) Roads of 10 meters width
 - 3) Minimum distance between edge of roads and tents of 2 mtrs.
 - 4) Minimum distance between tents of 8 meters
 - 5) Minimum floor area/tent of 3 square meters per person.
- Water distribution in camp sites should consist of
 - ❖ Minimum capacity of tanks of 200 liters
 - ❖ Minimum capacity/capita of 15 liters/day
 - ❖ Maximum distance of tanks from farthest tent of 100 meters.
- Solid waste disposal containers in tent camps should be
 1. Waterproof
 2. Insect-proof and
 3. Rodent-proof
 4. The waste should be covered tightly with a plastic or metallic lid
 5. The final disposal should be incineration or by burial.
- The capacities of solid waste should be, 1 litre/4-8 tents; or 50-100 litres/25-50 persons.
- Excreta and liquid waste should be disposed in bore-holed or deep trench latrines in tent camps. Specifications for these are :
 1. 30-50 meters from tents
 2. 1 seat provided/10 persons
 3. Modified soakage pits should be used for wastewater by replacing layers of earth and small pebbles with layers of straw, grass or small twigs. The straw needs to be removed on a daily basis and burned.

4. Washing should take place with an ablution bench that is :
 - ❖ 3 metres in length
 - ❖ Double-sided
 - ❖ 2/100 persons.

5. Buildings

Buildings used to accommodate victims during relief should provide the following :

1. Minimum floor area of 3.5 sq.metres/person
2. Minimum air space of 10 sq.metres/person
3. Minimum air circulation of 30 cubic metres/person/hour and
4. There should be separate washing blocks for men and women.
5. Washing facilities to be provided are :
 - 1 hand basin/10 persons or
 - 1 wash bench of 4-5 metres/100 persons and 1 shower head/50 persons in temperate climates
 - 1 shower head/30 persons in hot climates.
6. Toilet accommodations in buildings housing displaced persons, should meet these requirements :
 - 1 seat/25 women and
 - 1 seat plus 1 urinal/35 men
 - Maximum distance from building of 50 metres.
7. Refuse containers are to be plastic or metallic and should have closed lids. To be provided are :
 - 1 container of 50-100 liters capacity/25-50 persons.

a). Preparedness Checklist for Public Works Department

(To be filled in by the Department Head and submitted to the District Collector before May every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 	
All officers are familiar with pre-disaster precautions and post-disaster procedures for road clearing and for defining safe evacuation routes where necessary.	
An officer has been designated as Nodal Officer for Disaster Management.	
Sources of materials required for response operations have been identified	

Reported by :
 Designation
 Signature
 Date

b). Checklist for Public Works Department

(To be filled in by "OFFICER-IN-CHARGE" and submitted to the District Control Room and the Department Head)

Action Taken	Y/N	Details/Remarks
Radio communications established with <ul style="list-style-type: none"> ➤ Emergency Operation Centre ➤ Divisional Commissioner ➤ District Control Room ➤ Veterinary aid centres and ➤ Departmental offices within the division. 		
An Officer appointed as “Officer-in-Charge – PWD”		
Extra transport vehicles dispatched from headquarters		
Work under construction secured		
Heavy equipments, such as front-end loaders, have been secured.		
All work teams issued two-way communication link.		
Inspection and emergency repairs, if necessary, carried out for all <ul style="list-style-type: none"> • Roads, • Road bridges • Underwater inspection of foundations and piers • Concrete and steel works. 		
Inspection and emergency repairs, if necessary, carried out for all buildings and structures of the state government (including hospital buildings)		
Emergency inspection by mechanical engineer of all plant and equipment in the District workshops carried out.		
Priority listing made for which roads to be opened first.		
Essential equipments such as <ul style="list-style-type: none"> • Towering vehicles • Earth moving equipments • Cranes etc. Made available.		
Begin clearing roads		
Community assistance mobilized for road clearing.		
The following activities were undertaken <ul style="list-style-type: none"> • Cleaning of ditches • Grass cutting • Burning or removal of debris and • Cutting of dangerous trees along the roadside in the affected area. 		
The following repair works were undertaken <ul style="list-style-type: none"> • All paved and unpaved road surfaces • Pothole patching and • Any failure of surface foundations in the affected areas. 		
Construction work undertaken for temporary to serve access to <ul style="list-style-type: none"> • Temporary transit camps • Relief camps 		

<ul style="list-style-type: none"> • Medical centres 		
Construction work undertaken for temporary structures required for organising relief work such as <ul style="list-style-type: none"> • Relief camps • Feeding centres • Medical facilities • Cattle camps and SOC/s 		
An up-to-date report of all damage and repairs kept in the district office report book		

Inspected by:
Designation :
Signature
Date

H. Operating Procedure Guidelines for Bharat Sanchar Nigam Ltd. (BSNL)/Department of Telecom (DOT)

Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Establish radio communications with Emergency Operation Centre, Divisional Commissioner, District Control Room and your Departmental Offices within the division
- All personnel required for Disaster Management should work under the overall supervision and guidance of District Disaster Manager/District Magistrate/Collector.
- Appoint one officer as “Nodal Officer-Communication” at the State level.
- Appoint one officer as “Officer-in-Charge - Communication” at the District level.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Ensure that all staff are aware of recommended precautions to protect life and personal property.
- Fill department vehicles with fuel and park them in a protected area.
- Check emergency tool kits, assembling any additional equipment needed.
- Inspect and repair all
 - ✓ Radio masts
 - ✓ Anchorages
 - ✓ Foundations and cables
 - ✓ Poles
 - ✓ Overhead circuits
- Upgrade outside equipment to withstand wind speeds and other adverse weather conditions.
- Designate at each exchange a member of staff (such as an inspector) as a disaster officer.
- He must live in the area, be instructed in the likely effects of a disaster, and should be knowledgeable about necessary precautions and post-disaster procedures.
- House all electrical and switching equipment in damage-proof buildings.
- Store batteries clear of areas likely to be affected.
- All storage batteries should be charged fully during an alert, for use in the post disaster period, when the electricity supply is not likely to be available.
- Establish an emergency tool kit at each exchange, including :
 1. cable cutters
 2. cutting pliers
 3. spanners
 4. ropes
 5. ratchet tension
 6. crosscut saws
 7. pulley blocks with rope
 8. hand gloves
- Check emergency tool kits and assemble any additional equipment needed.
- Provide at least two tarpaulins in every building with radio equipment, teleprinter equipment, and manual and auto-exchanges.
- Install standby generators in all exchange buildings for the recharging of batteries.
- Secure all outside equipment to the extent possible.
- Arrange for the transport of additional vehicles for inspectors.
- Assemble equipment and emergency stocks of materials likely to be necessary for restoration of services.
- Arrange emergency standby cable for dispatch to the affected area immediately after the disaster.
- Remove fuses from the lines and disconnect the power supplies to equipment in disaster areas, if necessary.

1. Relief and Rehabilitation

Field office priorities

- Give priority and concentrate on repairs normalization of communication in disaster areas.
- Identify the public services within the affected community for which communication links are most vital and establish a temporary service, if feasible.
- Carry out an assessment of overall damage, listing specifically :
 - ✚ Overhead route damage (in miles/kilometers)
 - ✚ Cable damage (in yards metres)
 - ✚ Specific equipment damaged.
- Establish a temporary communication facility, wherever necessary through mobile exchanges, on priority for use by
 - District control room
 - Non-officials (MLAs, MPs, Mayors and ZP Presidents)
 - Transit and relief camps
 - Cattle camps
 - Medical centres
 - Site operations centre and
 - Temporary establishment of all government and non-government agencies engaged in relief activities.
- Establish temporary communication facility for use by the public.
- Identify requirements, including :
 - ❖ Manpower needed
 - ❖ Vehicles needed
 - ❖ Materials and equipments needed
- Begin restoration by removing and salvaging wires and poles from the roadways through recruited casual labourers.
- Establish a secure storage area for incoming equipments and salvaged materials.
- Carry out temporary building repairs for new equipments.
- Report all activities to head office.

2. Head Office priorities

- Dispatch standby technical work groups to the affected area, ensuring that they take with them adequate food, bedding, tents, and tools.
- Dispatch additional vehicles, emergency equipment, and stocks for restoration of the affected area.
- Provide authorizations needed by staff, to effectively carry out emergency reconstruction.

a). Preparedness Checklist for Telecommunications

(To be filled in by the Department Head and submitted to the District Collector before May every year)

Preparedness measures taken	Details Remarks
The Department is familiar with disaster response plan and disaster response procedures are clearly defined.	
Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff	
Reviewed and updated <ul style="list-style-type: none"> ➤ Precautionary measures and procedures ➤ The precautions to be taken to protect equipments ➤ The post-disaster procedures to be followed. 	

All staff are aware of recommended precautions to protect life and personal property.	
An officer has been designated as Nodal Officer for Disaster Management	
Sources of materials required for response operations have been identified	

Reported by :

Designation

Signature

Date

I. Operating Procedure Guidelines for Railways

Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Establish radio communications with Emergency Operation Centre, Divisional Commissioner, District Control Room and your Departmental Offices within the division
- Appoint one officer as “Nodal Officer-Railways” at the State level.
- Appoint one officer as “Officer-in-Charge - Railways” at the District level.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed.
- Officers should ensure that all staff are well aware of recommended precautions to protect life and personal property.
- Fill department vehicles with fuel and park them in a protected area.
- Plans should be finalised for sending auxiliary staff and repairmen into the affected areas to assist local staff.
- Maintenance and repairmen should be instructed to assemble and check repair equipments.
- Contingency plans should be established for providing food and emergency shelter for local staff and for auxiliary staff being sent into the affected area.
- Rail schedules should be revised and special trains brought into the area to assist the increased volume of traffic.
- A schedule, for the departure of the last trains prior to the disaster, should be developed by station masters and posted.
- An evaluation of the number and location of sidings and passing places should be carried out, to ensure that an increased number of trains can operate in an emergency situation.
- Emergency train operating procedures, such as the pilot working system, should be developed. All staff should be well trained to implement the emergency systems.
- Within the emergency operating framework, emergency procedures should be developed to provide the stationmasters with authority, to dispatch or hold trains and take other emergency decisions in a disaster-threatening situation.
- Systems should be developed for increasing the ability to carry increased number of passengers in an emergency situation.
- If halting or termination of passenger trains is intended, arrangements for alternate means of transport and availability of adequate food supplies must be ensured.
- Arrange for transport to the affected area
 - ✓ Tractor shovel
 - ✓ Tripper and
 - ✓ Auxiliary jeeps
- All new construction and repair activities should be halted, and the work secured as far as possible with sandbags, tarpaulins, etc.
- Polythene should be acquired for the protection of freight and equipments.
- All perishable and breakable items should be loaded into goods wagons and padlocked.
- For any coaches remaining in the area, shutters should be pulled down and doors closed.
- Reserve stocks of fuel should be checked.

- Inspection of all railroad bridges, by a bridge engineer including an underwater survey of foundations, piers and abutments. A full check on all concrete and steelworks should be included, and any repairs needed should be promptly carried out.
- Continuous regular weeding, cleaning of ditches and the burning and removal of debris should be carried out by the maintenance engineer's staff.
- Continuous inspection and repair by maintenance engineer of all
 - Railroad track
 - Ballasting,
 - Cess damage
 - Fish plates and
 - Holding down bolts

1. Relief and Rehabilitation

- Emergency repairs of rail lines, if affected, must be carried out.
- A system for priority transport of relief goods and personnel must be developed.
- Relief goods may be considered for exemption from freight charges.
- Railway stations, particularly terminal and junction stations, should be equipped with emergency communication equipments.
- Every work gang should have tools, which will be needed in an emergency. This should include crosscut saws, axes and rope. Each district tree cutters gang should have a chain saw.
- Raincoats, caps and gumboots should be made available to work gangs in an emergency.

J. Operating Procedure Guidelines for Airport Authority of India (AAI)

Activities on Receipt of Warning or Activation of District DMAP (DDMAP)

- Airport officials in the district should coordinate with the district collector with regard to specific requirements of the disaster situation.
- Establish radio communications with Emergency Operation Centre, Divisional Commissioner, District Control Room and with other airports with respect to disaster situation.
- Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipment and the post disaster procedures to be followed and also the capacity for storage of cargo, resulting from possible disasters.
- Review and update schedules, and take other measures, and review with staff the effects of the additional passenger/flight pressures, and handling of cargo, that may be required for relief and rehabilitation.
- Inspect
 - ✓ Runways
 - ✓ Drainage systems inside the airport perimeter
 - ✓ Culverts
 - ✓ Ditches
 - ✓ Wind walls and
 - ✓ Foundations.
- Inspect and repair all buildings, stores, hangars, fuel dumps, with special attention to the disaster consequences.
- Inspect the radio tower and communications equipments, including lightening rods.
- Remove all serviceable aircrafts from the disaster area.
- Unless the hangar has been certified to be safe, it may be safer to move remaining airplanes from the hangar to outside tie-downs.
- Securely anchor all unserviceable aircrafts to holding-down bolts, if safe hangar space is not available.
- Auxiliary equipments such as pumps, wagons, etc. should be moved indoors.
- All radio and weather instruments should be stored in a damage-proof room.

- Wind direction indicator should be removed. The amount of aviation fuel should be checked and auxiliary fuel stocks brought in.
- Contingency plans should be prepared for post-disaster use of the airport, including:
 - ❖ Need for emergency control tower equipment
 - ❖ Need for emergency control tower staff.
 - ❖ Need for emergency linemen for fueling.
 - ❖ Emergency fuel supplies.
 - ❖ Temporary storage facilities.
- The auxiliary electrical system, if available, should be checked.
- Large glass windows should be taped to prevent the shattering of glass.

Relief and Rehabilitation

- Provide priority clearance arrangements for relief supplies.
- Provide priority travel facility to relief personnel.

1. Standards for Relief Work, Transit and Relief Camps and Feeding Centres.

1.1 Standards for Food

1.1.1 For Marooned Persons

- A senior medical officer should accompany the rescue team along with required medical kit and ensure priority of shifting seriously injured, or those required immediate medical attention. The procedure for tagging should be followed.
- Provision for both infants and adults must be included in the food supplies.
- Only non-perishable, ready to eat, and long-lasting food items should be included.
- Food must be packed in small packets for individual use.
- Drinking water should be packed in one litre bottles/plastic bags.
- Air-dropping should be done from minimum height with ropes and hooks to ensure that supplies reach the people with minimum damage.
- As far as possible, supplies should be dropped from stationary helicopters, and not when they are on the move.
- Use of boats should be preferred over helicopters, for supplies to marooned people.

1.1.2 Storage

- Keep food in the driest and coolest spot in the store – a dark area if possible.
- Keep food covered at all times.
- Wherever necessary, store food items in plastic bags and keep in tight containers to prevent from moisture.
- Open food boxes and cans carefully, so that they can be closed tightly after each use.
- Store packages susceptible to pests, like open packages of sugar, in screw-top jars or airtight cans.
- Store wheat, rice, dal and edible oil on sealed containers.
- Store powdered milk in packed cans for long term storage.
- Keep salts and spices air-tight in their original packages.
- Inspect all items daily, to make sure that the stocks are in good condition, and that there are no signs of degradation.
- Post guards at warehouses and supply depots, to prevent looting.
- Stimulate community action to clear roads to warehouses and stores.
- Separate the damaged stocks from other stocks, to protect from odour and damage.
- Maintain food stock condition register, and report to appropriate authorities.
- Arrange for immediate disposal of all unusable food items.
- Maintain prompt transport schedules for delivery of perishable food stocks.
- Store kerosene and other combustible items, including pest control chemicals, in a separate room, away from food stores.

1.1.3 Cooking

- Food should be cooked using firewood, or a charcoal grill or kerosene stove, preferably outdoors.
- Canned foods should be heated in a different container and not in the supply can.
- Follow the checklists for feeding centres supplying cooked food, to ensure food sanitation.

1.1.4 Standard Assessment

Staff	Required Number for	
	1000 persons	2000 persons
Cooks	2	3
Assistants	4	6
Kitchen helpers	10	15
Servers	6	10
Queue controllers	4	6

Hygiene (washing up/garbage disposal)	4	6
Total	30	46

1.1.5 Standards for Potable Water

- Warn people, of the hazard of drinking contaminated water. Such sources should be identified and informed to the people.
- Sources located in the vicinity of sewage outfalls, chemical plants, solid waste disposal fields, abandoned mines and other hazardous places should be considered suspect.
- Malodorous, highly coloured, or highly polluted water should be avoided.
- Water suspected of contamination by human or chemical waste should not be used until it has undergone laboratory analysis.
- Wells which have been contaminated by disaster should be emptied immediately.
- It is important that all debris in the wells, such as leaves, sticks, silt and mud, etc. be removed after the water is pumped or dipped out.
- Topical chlorinated lime (TCL) or bleaching powder should be added to all wells to avoid further contamination.
- The post-disaster emphasis for the provision of drinking water, should be on the restoration of local water sources, rather than on transporting water from outside the area.

1.1.6 Requirements

Minimum water requirements for drinking, cooking, and basic cleanliness are :

- (1) Field hospitals and first aid stations : 40-60 litres per person per day.
 - (2) Mass feeding centres : 20-30 litres per person per day.
 - (3) Temporary shelters and camps : 15-20 litres per person per day.
 - (4) During Evacuation – 6 litres per person per day.
- (With no restrictions, use of water may approach 100 litres per person per day)

1.1.7 Storage

- Emergency storage of water can be improvised in plastic containers, with capacity upto 10 cu.m. Polyethylene containers erected in pits, dug to size, can provide upto 50 cu.m storage capacity. If the purpose of storage is only to provide contact time after chlorination, the minimum capacity should be such as to secure contact for at least 30 minutes. The total storage capacity for water distribution should be equal to the amount required for 12-24 hours. Elevated tanks can be set up within a short, time by using drums, iron sheeting, or asbestos-cement tanks. Wooden poles, timber, or iron tubing can be used for the supports. In many countries, elevated storage tanks are manufactured, in standard sizes with all parts prefabricated. They can be transported and erected rapidly.
- In long-term relief camps, all reservoirs should be covered, primarily, for protection from sunlight and consequent growth of algae, which produce tastes in water, and secondarily; for protection from birds, insects, and dust. The roof may be made of asbestos-cement sheets or corrugated iron sheets. An overflow pipe should be provided, care being taken that the overflow water should not endanger foundations. The inlet pipe will normally discharge at the top of the reservoir and be fitted with a float valve. The outlet pipe should be about 5 cm above the bottom of the tank. A small drain pipe should be installed flush with the bottom of the tank and the manhole on the roof is necessary to permit cleaning, inspection and repair. The openings of vent pipes should be screened to keep out insects and small birds.

1.1.8 Distribution

- In most disasters, water is distributed from tankers, which may be provided by fire brigades, the army, dairies, beverage plants, or other sources. Each family may be issued with a water container, made of plastic or galvanized iron. A tanker with a storage tank (or tanks) at the site should be able to provide

water for 1000 persons. Environmental health workers are responsible for seeing that the tankers are filled from acceptable sources in a hygienic manner and chlorinated under their supervision.

- If there is a municipal distribution system within reasonable distance, it may be possible to extend this to a temporary camp, by means of light and quick-coupling steel or plastic pipes. In long-term camps, distribution pipes may be laid to feed water points.
- Water points usually have two or more taps, and one tap should be provided for every 100 persons. No shelter should be more than 100 m away from a water point.

1.2. Standards for Feeding Centres

- The location and layout of field centres for mass feeding should be selected and arranged in consultation with sanitation officers.
- Only potable water may be used in feeding premises. Where there is no piped supply, water must be transported, stored, and handled in a sanitary manner.
- Sufficient number of basins, each with soap, nail brush and a clean towel, must be provided exclusively for the use of food handlers.
- Separate washing place must be provided for washing all sorts of eating and cooking utensils.
- Before washing, any grease or food scraps on the utensils should be scraped into a refuse bin.
- Washed utensils should be disinfected by immersing in boiling water for 5 minutes.
- An alternative method of disinfecting washed utensils is, to immerse them in a sterilizing solution, preferably hot, of either chlorine (100 mg/litre for 30 seconds) or quaternary ammonium compounds (200 mg/litre for 2 min).
- Wiping the utensils dry is unnecessary and undesirable.
- The baskets or trays being laid down for drying utensils must be in a dust-free place.
- Arrangements should be provided for washing all fruits and vegetables before cooking. The serving of raw vegetables and soft-skinned fruits should be forbidden.
- In special diet cases the vegetables and fruits must be thoroughly washed immersed in a chlorine solution (100 mg/litre for 3 min.) and rinsed until the smell of chlorine disappears.
- Sanitation facility for the staff should be provided close to the mass feeding centre with adequate standards.
- Liquid wastes from kitchens must be deposited immediately in garbage bins. No filled bins should remain in preparation and cooking areas, without being tightly covered, and should be removed outside for collection and disposal after every cooking session. Basins, tables, chopping blocks, and all other furniture and equipments must be kept as clean as possible when in use, and thoroughly cleaned after each meal.

- Only food that is to be used the same day may be kept in the kitchen. Food not in the process of preparation or cooking, or which has already been prepared, must be kept in fly-proof containers.
- Where refrigeration facilities are non-existent or inadequate, perishable foods should be bought on a daily basis and cooked and served as soon as possible.
- No non-vegetarian food should be made available through feeding centres.
- Supplies of powdered milk, biscuits and other food items for infants must be arranged.
- Left-over food should not be used/served for next meal.
- Condensed or powdered milk must be reconstituted with potable water only, and under the best possible sanitary conditions. If natural milk is available for infants and hospital patients, it must be boiled before use.
- An adequate supply of detergents, disinfectants, brushes, cloths, brooms, and other housekeeping necessities must be provided to kitchen staff.
- Disposable (bio-degradable) plates, cups, etc. must be used in mass feeding centres and especially when disaster victims are on the march.
- Common drinking cups must not be tolerated.

1.3 Standards for Environmental Health Measures

1.3.1 During Search, Rescue and Evacuation

- There are very few sanitary measures that can be taken while people are being moved to transit or relief camps, and the journey should therefore be as short as possible. They should be told to take along as much food, water, and clothing as they will need.
- The relief or welfare authorities should be advised that, during this transitional period, only unperishable foods, which do not require cooking should be distributed.
- It is very difficult to ensure sanitary excreta disposal while people are on the march and not much can be done about refuse collection.
- At rest points, however, sanitation squads should bury excreta and solid wastes in holes or trenches at least 60 cm deep. After use, the hole or trench should be filled in with the excavated earth and trampled on.
- It may also be necessary to control body vermin by the application of insecticides.

1.3.2 Solid Waste disposal in the camps or in affected villages:

Excreta disposal

Unsatisfactory disposal of excreta is common immediately after natural disasters. The measures applicable depend on the nature of the existing facilities.

Cities and towns with sewerage system

- When a disaster occurs, sewerage and sewage treatment installations in cities and towns may be put out of service.
- Generally, any repairs made to sewer lines during the emergency should be of a permanent nature. However, temporary repairs may be necessary where a sewer line or manhole must be replaced quickly, to restore traffic on a main street. Asbestos-cement pipes, wooden conduits or some other type of quick coupling pipes should be used to expedite emergency repairs.

1.3.3 Temporary shelters and camps

- Depending on the time that temporary shelters or camps are expected to be in use, excreta disposal installations of different types, and varying service life, must be provided. The area must be adequately lighted and the approach road clearly demarcated. The most suitable types are :
 - (a) Shallow trench latrines
 - (b) Deep-trench latrines
 - (c) Pit privies
 - (d) Borehole latrines
 - (e) Aqua (or septic) privies
 - (f) Urinals; and
 - (g) Mobile latrines
- As far as possible people must be discouraged from open defecation.

1.3.4 Community Latrines

- Attempts should be made to provide communal latrines with water, so that cleaning is practicable.
- Five seats should be provided for every 100 persons, in separate blocks for men and women.
- Latrines should be located downhill from any water source, and at least 1.5 m away from it.
- Where the ground water is used for drinking or other purposes, the bottom of the latrine should be at least 1.5 m above the ground water table. In the presence of limestone formations of fissured rocks, additional precautions are necessary to protect sources of water supply.

- The site should be dry, well drained, and above flood level; the immediate surroundings of latrines should be cleared of all vegetation, wastes and debris. Various types of excreta disposal installation are described briefly below :

1.3.5 Hallow trench latrine

- This is simply a trench dug with ordinary tools (picks and shovels). The trench is 30 cm wide and 90-150 cm deep.
- Its length depends on the number of users: 3-3.5 m is necessary for every 100 people.
- Separate trenches should be provided for men and women.
- The earth from the trench should be piled up at the side. Shovels should be left at the site, and people should be instructed to cover faeces with earth each time they use the latrine. However, these instructions may not be carried out and it will be necessary for the sanitation squad to complete the work, twice a day, to keep the fly population and odour under control.
- It may be necessary to place lumber or boards along the sides of the trench, to provide for footing and to prevent the walls from caving in.
- Privacy may be secured by the use of brush, canvas, wood, or sheet-metal fencing
- Water should be provided.
- The shallow trench is a rudimentary arrangement for a short period (up to one week). When the trench is filled to 30 cm below ground level, it must be covered with earth, heaped above ground level and compacted. If necessary, a new trench must be dug. Before a trench is abandoned, sanitation personnel should see that it is properly filled in.

1.3.6 Deep Trench Latrine

- This type of latrine is intended for camps of longer duration from a few weeks to a few months.
- The trench is 1.8-2.5 m deep and 75-90 cm wide. A fly-proof floor covers the top of the trench.
- A squatting hole is provided.
- A superstructure is built for privacy and protection.
- Other requirements are the same as for shallow trenches.

1.3.7 Bore-hole latrine

- In estuaries and places where the subsoil does not contain rock, this type of latrine offers a fast solution for excreta disposal in disasters.
- Mass production of concrete slabs for the latrine floor may be undertaken on the site.

1.3.8 Aqua (or septic) privy

- This type of privy consists essentially of a watertight tank (filled with water) in which excreta are discharged, stored and digested.
- It has been used with success in some long-term camps as a communal latrine.
- Aqua privies take rather a long time to construct, and are not recommended during disasters, except, perhaps, for field hospitals, first-aid stations and mass feeding centres.

1.3.9 Urinals

- These may be provided in communal blocks of latrines for men to reduce the number of seats needed.
- One urinal space for 25 males is recommended.
- Odour from urinals can be kept under control by applying chlorine solution.

1.3.10 Mobile Latrines

- Mobile latrines are tanks mounted on a truck or a rail wagon they are used in post-disaster situations.
- They are necessary in disaster areas where the ground water table is high.

- Sanitation personnel are responsible for supervising the proper disposal of the tank contents and the washing, and disinfection of tanks after each emptying.

1.4 Miscellaneous installations

- In temporary shelters and camps, communal facilities for maintaining personal cleanliness should be provided. These may include showers, washrooms, laundries, and disinfestations and disinfection rooms. They will help to prevent skin diseases and infestations that lead to vector-borne diseases. Disinfection rooms are necessary for preventing the spread of infectious diseases. Proper operation and maintenance of these services depend on constant supervision by sanitation personnel.

1.5 Baths and Showers

- One bath should be provided for every 100 persons.
- Over- all consumption of water for bathing should be calculated on the basis of 30-35 litres per person per week.
- For both hygienic and economic reasons, proper arrangements should be made for the disposal of wastewater from baths.
- People should be discouraged from using ponds, and stagnated water for baths for both sanitary and safety reasons.

1.6 Laundries

- In temporary encampments people may be expected to wash their clothes in plastic or iron tubs.
- One washing stand for every 100 persons is recommended.
- Proper drainage and soap traps should be provided for the wastewater.

1.7 Disinfection and disinfestations

- Methods used in disinfection and disinfestations involve the use of chemical agents such as sulfur dioxide, phenol, and carbolic acid. Some of these agents are dangerous, and should only be used under expert supervision.

1.8 Waste disposal

- Waste disposal should be in a shallow, all purpose trench of the following dimensions :
 - 10 centimetres deep X 45 centimetres wide X 3 metres long/1000 persons.

Tent	1
Blankets	5
Camp beds	5
Bed sheets	5
Sleeping bags	5
Pillows with spare covers	5
Kerosene or gas stove	1
Kerosene lantern	1
Flashlights (with spare batteries)	5
Rubber boots 5 pairs	5 pairs
Felt-covered water bottles	5
Cooking utensils (assorted)	1 set

1.9 Facilities for Relief Workers

1.9.1 Steeping and cooking equipments for a team of 5 relief workers

Eating utensils (assorted)	1 set
Detergents, soap, water disinfecting tablets, etc.	As required
Bath unit	1
Water containers (plastic or metal), capacity 10-20 litres	2
Kerosene containers (plastic or metal), capacity 10-20 litres	2
Camp chairs	5
Camp tables	2

1.9.2 Checklist for Transit Camps, Relief camps and

Feeding Centres.

1.9.3 Checklist for each Transit Camp

(To be inspected by Camp Officer and sent to SOC)

Action	Y/N	Details/Remarks
Location approved/conveyed to <ul style="list-style-type: none"> ➤ District Control Room ➤ Police Control 		
Accommodation should provide for the following <ul style="list-style-type: none"> ➤ Protection against adverse weather conditions ➤ Treatment for minor ailments and minor injuries ➤ Control over access and egress evacuation routes ➤ Equipped with a mobile PA system ➤ Update on disaster situation ➤ Drinking water ➤ Food arrangements ➤ Adequate lighting arrangements ➤ Sanitation facilities ➤ Easy accessibility for transport to and from the SOC ➤ Facilities for storage of bulk belongings of evacuees ➤ Facilities for accommodation of cattle and pets 		
Police personnel provided		
Information desk available		

Inspected by :
Designation
Signature
Date

1.10 Checklist for Feeding Centre

(To be filled in by site manager, SOC and submitted to district control room and the Department head)

Action	Y/N	Details/Remarks
Managed by : <ul style="list-style-type: none"> ➤ Government ➤ Voluntary relief organizations ➤ Red Cross ➤ Salvation Army ➤ Meals on wheels ➤ Religious organizations 		
Location approved by district control room		
Protection against adverse weather conditions		
Person in-charge designated for <ul style="list-style-type: none"> ➤ Overall In-charge of feeding centre ➤ Shift (supervisor) 		

<ul style="list-style-type: none"> ➤ Kitchen ➤ Stores/stock control ➤ Food distribution ➤ Hygiene and sanitation 		
Care and comfort and transport of volunteers		
Adequate arrangements made for <ul style="list-style-type: none"> ▪ Crowd control ▪ Police protection ▪ Food resources ▪ Storage of rations appropriate for control of insects and rodents in stores ▪ Infant foods ▪ Milk distribution centres ▪ Fire control measures ▪ Cleaning of premises where food is handled ▪ Area for eating on-site ▪ Drinking water ▪ Cleaning of premises where food is handled ▪ Area for eating on-site ▪ Drinking water ▪ Cleaning of utensils ▪ Disposal of waste water ▪ Kitchen equipments ▪ Cooking ▪ Utensils ▪ Detergents, disinfectants, brushes, cloths, brooms, and other housekeeping necessities. 		

Inspected by :
Designation
Signature
Date

1.11 Checklist for Relief Camps and transit camps of more than three days duration

(To be inspected by Camp Officer and sent to SOC)

Action	Y/N	Details/Remarks
Location approved/conveyed to district control room		
Protection against adverse weather conditions		
Whether the site has adequate building/s		
Site has adequate space for building temporary shelters		
Separation of groups necessary		
Separation of sexes necessary		
Is there sufficient slope for drainage during rains		
Managed by : <ul style="list-style-type: none"> ➤ Government ➤ Voluntary relief organizations ➤ NGOs ➤ Religious organizations ➤ International relief organisations 		

Person in-charge designated for <ul style="list-style-type: none"> ➤ Officer In-charge Relief Camp ➤ Shift (supervisor) ➤ Kitchen ➤ Stores/stock control ➤ Relief distribution ➤ Hygiene and sanitation 		
Adequate arrangements made for <ul style="list-style-type: none"> ▪ Telephone lines and other communication links ▪ Easy accessibility for transport to and from SOC ▪ Facilities for storage of bulk belongings of evacuees ▪ Access points ▪ Exit points ▪ Fire fighting ▪ Crowd control ▪ Feeding Centre (refer to checklist) ▪ Medical facility ▪ Potable water ▪ Water for other purposes ▪ Food storage ▪ Storage of relief materials ▪ Lighting ▪ Recreation space ▪ Educational facility ▪ Counseling facility ▪ Sanitation blocks ▪ Disposal of waste water ▪ Disposal of waste 		
Police desk		
Arrangements for staff and volunteers <ul style="list-style-type: none"> • Tents, bedding, etc. • Transport • Rest and recreation facility • Space for office work • Personal kits • Sanitation blocks 		
Records or register for <ul style="list-style-type: none"> • Expenses on administration and management • Cash and credit vouchers • Issue of relief tickets • Issue of gratuitous relief • Cash disbursements • Issue of relief materials • Issue of rations • Receipt of cash • Receipt of rations • Inventory of valuables with families • Missing persons • Persons requiring special assistance 		

<ul style="list-style-type: none"> • Births and deaths • New arrivals • Departures • Inventory of non-consumables (dead stock register) 		
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Inspected by :
 Designation
 Signature
 Date

**2.1 Resident Incident Commander
 Phone Numbers – Office**

**Resi.
 Fax.**

A. Response Action for

- ❖ Rescue and evacuation
- ❖ Emergency transport for the seriously injured at the earliest possible time.
- ❖ Emergency supplies of water and cooked food
- ❖ Salvage operations
- ❖ Disposal of dead
- ❖ Transfer of marooned persons to transit camps at the earliest possible time.
- ❖ Within shortest possible time for marooned persons, water, medicines, first-aid, cooked food
- ❖ Transit camps (in accordance with standards laid down) to be set up at the earliest

B. Implement procurement/purchase/hire/requisition plans of materials available at the district level

C. Establishing communication links

- ❖ EOC
- ❖ Office of Divisional Commissioner
- ❖ Police, Railways, Fire Brigade, Defence Services, Civil Defence, FCI, CISF, CPWD, PWD, WBSEB, Irrigation, WBWSSB, RTO, WBPCB, IMD, and Inter departmental relief activities within the district.
- ❖ Mutual Aid and Response Group
- ❖ NGOs and NGO coordinating committee
- ❖ Private donors

D. Reporting

- ❖ Dispatch of Preliminary Information Report and Action taken Report to Emergency Operations Centre and Divisional Commissioner.
- ❖ Dispatch of all information and any other as asked for by Emergency Operation Centre and Divisional Commissioner
- ❖ Report to Emergency Operations Centre and Divisional Commissioner on deployment and reinforcements of staff and resources.
- ❖ Identify specific items for follow-up actions on the directives of the District Disaster Manager.

E. Supervision and Monitoring of disaster management and relief activities within the district.

F. Market Intervention

- ❖ Promote and encourage revitalization of local economic activities for speedy recovery
- ❖ Prevent hoarding, price hiking and corruption and unauthorized sale of relief materials
- ❖ Initiate legal action on those engaged in hoarding, price hiking, corruption and unauthorized sale of relief materials

G. General

- ❖ Disseminate details about legal and official procedures, eligibility criteria with respect to relief and compensation for loss of life, injuries, livestock, crop, houses, required to be adopted, as received from EOC.
- ❖ Maintenance of records (date of joining, period of service, leave record, overtime, etc.) for all the persons deployed for relief work within the district
- ❖ Obtaining orders, instructions, clearances, clarifications from state and divisional headquarters
- ❖ Ensure implementation of orders, instructions, from EOC and divisional headquarters at the disaster site.
- ❖ Requisition of accommodation, structure, vehicles and equipments for relief duty
- ❖ Issue of passes and identification stickers for vehicles on relief duty
- ❖ Issue of passes and identity cards to relief personnel including the persons from NGOs
- ❖ Sanctioning expenses for reimbursement with the approval of the District Disaster Manager (DDM)

2.2 Services Desk –

Deputy Magistrate/Deputy Commissioner

Phone Numbers – Office

Resi.

Fax

A. Assess

- Search and rescue requirements as per information
- Relief requirements as per information

B. Organise and coordinate

- Relief camps (in accordance with standards laid down) to be set up
- Arrangements for dry rations and family kits for cooking
- Cattle camps
- Relief supplies to Transit and Relief camps or to Site Operations Centre
- Supplies of fodder and cattle-feed to cattle camps
- Supply of seeds, agriculture inputs and services to Site Operations Centre
- Welfare Services
- Law and order (e.g., prevent looting and theft)

C. Coordinate NGO activities through necessary support to ensure community participation

- Establishing coordination mechanisms among district level NGOs and other state level NGOs such as Indian Red Cross, Ramakrishna Mission, Bharat Sevashram, Swami Narayan Trust, Bharatiya Jain Sanghatna, OXFAM, CARE, CASA, CARITAS
- Identification of NGOs to serve on committees, task force
- Assign well-defined area of operations and report to EOC.
- Assigning specific response functions to specialized NGOs and report to EOC.
- Reporting upon procurement and disbursement of relief materials received through government and non-government channels.
- Mobilise and coordinate work of volunteers ensuring community participation

2.3 Infrastructure Desk

Ex. Engineer, PWD.

Phone Numbers – Office

Resi.

Fax.

A. Organise and coordinate clearance of debris

B. Temporary Repairs to damaged infrastructure

- Power
- Water
- Transport
- Telecommunication
- Roads
- Bridges
- Canals
- Public buildings

C. Constructure of facilities

- Shelters with sanitation and recreation facilities
- Provision of hand-pumps and borewells
- Temporary structures for storage
- Educational facilities
- Medical facilities
- Postal facility
- Helipads

2.4 Health Desk

Civil Surgeon,

Phone (O)

(R)

Fax

A. Organise and maintain records on

- ❖ Treatment of the injured and sick
- ❖ Preventive medicine and anti-epidemic actions
- ❖ Disposal of dead bodies
- ❖ Disposal of carcasses
- ❖ Reports on food, water supplies, sanitation and disposal of wastes

B. Assess, supply and supervise

- ❖ Medical relief for the injured
- ❖ Number of ambulances required and hospitals where they could be sent (public and private);
- ❖ Medical equipment and medicines required
- ❖ Special information required regarding treatment as for epidemics, etc.

C. Supervision of maintenance of standards

- ❖ Identification of source for supply of drinking water through tankers and other means of transport
- ❖ Transit and relief camps for cooking arrangements, sanitation, water supply disposal of waste, water stagnation and health services

- ❖ Communities for storage of rations, sanitation, water supply, disposal of waste, water stagnation and health services
- ❖ Standards in cattle camps with arrangements for water, fodder, disposal of solid waste, veterinary services.

2.5 Logistics Desk

Incident Commander

Phone Number : Office

Resi.

Fax

A. General

- ❖ Assessment of reinforcement needs including manpower and deployment of resources as per information (formats given)
- ❖ Requirement, availability and location of depots, and transportation of wood to the locations for mass cremation
- ❖ Identification of location where carcasses can be disposed of and manpower and transport that would be required for this work.
- ❖ Requesting for additional resources from other districts/divisional headquarters/EOC.
- ❖ Arrangements with petrol pumps for supply of fuel for authorized relief vehicles against credit coupons
- ❖ Coordinating and supervising issuing of Village relief tickets to affected families
- ❖ Ensuring safe storage, and transport of relief supplies.
- ❖ Coordinate supplies distributed directly by NGOs and other organizations including private donors
- ❖ Ensure proper maintenance of vehicles and equipment

B. Coordination of Transport with

- ❖ Railways
- ❖ MSRTC
- ❖ Private transporters
- ❖ Boat Operators
- ❖ State Government Aircrafts
- ❖ State Government Helicopters

C. Organising Transport for

- ❖ Rescue parties
- ❖ Relief personnel
- ❖ Marooned persons
- ❖ Water, medicines, first aid and cooked food for marooned persons
- ❖ Volunteers
- ❖ Relief materials
- ❖ Seriously injured and sick

2.6 Agriculture Desk

Block/Sub Divisional Agriculture Officer

Phone (O)

(R)

Fax

Organise and coordinate

- ❖ Rehabilitation of agricultural production
- ❖ Ensuring interim crop production through supply of seeds and other inputs

- ❖ Services of extension staff

2.7 Communication and Information Management Desk (Communication Room)

District Information Officer

Phone (o)

(R)

Fax

A. Set up an information centre DCR to organize sharing of information

- B. Monitor disaster warnings and weather conditions in coordination with and on the advice of**
- IMD, Irrigation, MERI, Industries

C. General

- ❖ Send out-Messages on behalf of DDM
- ❖ Maintaining In-Message, Out-Message Register
- ❖ Collect information from Site Operations Centre
- ❖ Organise information for EOC and information on demand from Divisional Commissioner/EOC.
- ❖ Serve as data bank required for managing operational aspects of disaster situations.

D. Keep readily available all the information contained in DDMAP, including

- ❖ Office and residence telephone numbers, fax numbers, and mobile numbers where applicable of Chief Secretary and other Secretaries including Divisional Commissioner.
- ❖ Phone numbers, names addresses and pager numbers where applicable of the officers and staff of the district and Emergency Operations Centre
- ❖ List of people on the spot who can organize and coordinate the relief activities,
- ❖ Phone numbers fax numbers wireless etc. of the other control rooms;
- ❖ Phone numbers, names, and addresses of the field officers
- ❖ Phone numbers, names, and addresses of Non-officials (like MPs, MLAs, and Corporates) in the District.
- ❖ Planning Information required including maps incorporated in DDMAP
- ❖ Disaster Site Map and indications on extent to which other areas may be affected, etc.
- ❖ Information regarding alternate routes, water sources, layout of essential services which may be affected, etc.

2.8 Resources Desk

Nazareth Deputy Collector :

Phone (O)

(R)

Fax

A. Maintenance of

- ❖ Books of account for all cash receipts according to source of funding
- ❖ Books of accounts for all cash disbursements according to source of funding
- ❖ Stock register for all relief materials
- ❖ Issue register for all relief materials
- ❖ Dead stock register for all non-consumables (inventory)

- ❖ Record of all personnel payment on TA & DA, daily wages and other incidentals made to relief personnel.
- ❖ Records of all expenses incurred on administration and disaster management
- ❖ Records of all transfer of funds (as advances) to other government departments (suspense account)
- ❖ Records of all cash vouchers and credit vouchers
- ❖ Records of all gratuitous relief
- ❖ Records of all compensation paid
- ❖ Preparation of records relating to finance and accounts as per the formats for dispatch to Emergency Operations Centre.

B. Issuing of receipts for

- ❖ All cash receipts
- ❖ All materials receipt

C. General

- ❖ All payments of approved expenses, dues, claims, daily wages
- ❖ Reimbursement of expenses approved by administration
- ❖ Issue of cash vouchers and credit vouchers for petrol and diesel.

Table I

Site Operations Centre

(at a convenient location from the disaster site for coordinating site operations)

Activities	
A.	<p>Response Action for</p> <ul style="list-style-type: none"> ❖ Rescue and evacuation ❖ Salvage Operations ❖ Disposal of dead ❖ Transit camps (in accordance with standards laid down) ❖ Feeding Centres (in accordance to the Checklist) for two weeks to be set-up at the earliest ❖ Emergency supplies of water and cooked food
B.	<p>Communication with</p> <ul style="list-style-type: none"> ❖ Emergency Operations Centre ❖ District control room ❖ District administration staff in the area ❖ Camp Officer for transit camps, relief camps and cattle camps ❖ NGOs and NGO coordinating committee
C.	<p>Communicate to DCR</p> <ul style="list-style-type: none"> ❖ Search and rescue requirements ❖ Resource requirements ❖ Cash Compensation ❖ Receive, store, secure, transport, relief materials for transit, relief and cattle camps and affected villages ❖ All information and subsequent demands to district control room
D.	<p>Organise</p> <ul style="list-style-type: none"> ❖ Preventive medicine and anti-epidemic actions ❖ Inspection of food, water supplies, sanitation and disposal of waste

**Table III
Relief Camps (Components)**

(at a convenient location from the disaster site for relief)

Desk Assignments	Functions
Operations Desk	<p>A. Undertake Response Action for</p> <ul style="list-style-type: none"> ❖ Salvage Operations ❖ Feeding Centres for two weeks to be set up at the earliest <p>B. Coordination with</p> <ul style="list-style-type: none"> ❖ Site Operation Centre ❖ District Control Room ❖ District administration staff in the area ❖ NGOs ❖ Private donors <p>C. Manage</p> <ul style="list-style-type: none"> ❖ Dispatch of all information (as per the formats) and subsequent demands to DCR/Site Operations Centre ❖ Organise shifts for staff and Supervision of the same. <p>D. General</p> <ul style="list-style-type: none"> ❖ Maintenance of records (date of joining, period of service, leave record, overtime, etc) for all the persons deployed for relief work at operations centre ❖ Get sanction for expenses for reimbursement from the DDM through Site Operations Centre.
Services Desk	<p>A. Assess</p> <ul style="list-style-type: none"> ❖ Resource requirements <p>B. Organise</p> <ul style="list-style-type: none"> ❖ Arrangements for dry rations and family kits for cooking within two weeks of the disaster ❖ Relief supplies to families or to households including water, clothing, and food <p>C. Provide Welfare services</p> <ul style="list-style-type: none"> ❖ Restoration of family (including locating missing children, relatives, friends) ❖ Assistance in locating missing cattle ❖ Assisting students to continue with their studies ❖ Services for the orphans ❖ Assisting individuals with special needs (pregnant women, infants, handicapped, old, widows, etc.) ❖ Counseling services ❖ Promotive services for mental health
Infrastructure	<p>A. Clear debris</p> <p>B. Mobilise community participation and coordinate building of</p> <ul style="list-style-type: none"> ❖ Shelters for affected people with sanitation facilities ❖ Temporary structures for storage ❖ Kitchens ❖ Medical facilities ❖ Education facility ❖ Recreational facility ❖ Postal facility

	<ul style="list-style-type: none"> ❖ Temporary repair to damaged infrastructure
Health Desk	<p>A. Organise</p> <ul style="list-style-type: none"> ❖ Disposal of dead bodies ❖ Disposal of carcasses ❖ Disposal of waste and waste water ❖ Treatment of the injured and sick ❖ Preventive medicine and anti-epidemic actions ❖ Inspection of food, water supplies, sanitation and disposal of waste
Logistics Desk	<ul style="list-style-type: none"> ❖ Issue Village relief tickets to affected families ❖ Organize distribution of relief supplies ❖ Receive store, secure, relief materials for relief camps and affected villages ❖ Coordinate supplies distributed directly by NGOs and other organizations including private donors ❖ Ensure proper maintenance of vehicles and equipment ❖ Ensure optimum utilization of resources such as fuel food, and other relief materials ❖ Mobilize and coordinate work of volunteers ensuring community participation ❖ Organize facilities for staff volunteers
Communication and Information Management Desk	<p>Collect and dispatch following information to Site Operations Centre</p> <ul style="list-style-type: none"> ❖ Data collection ❖ Record keeping ❖ Assistance in locating missing persons ❖ Information centre ❖ Organization of information for Site Operations Centre and on specific demands. ❖ Maintaining In-Message and Out-Message Register ❖ Sending all out-Messages on behalf of Camp Officer of Relief Camp
Resources Desk	<p>A. Maintenance of</p> <ul style="list-style-type: none"> ❖ Books of account for all cash receipts ❖ Books of accounts for all cash disbursements ❖ Stock register for all relief materials ❖ Issue register for all relief materials ❖ Dead stock register for all non-consumables (inventory) ❖ Records of all expenses incurred on administration and disaster management at relief camp ❖ Records of all gratuitous relief ❖ Records of all compensation paid ❖ Preparation of records relating to finance and accounts as per the formats for dispatch to Site Operations Centre. <p>B. General</p> <ul style="list-style-type: none"> ❖ All cash donations must be deposited with District Control Room and a receipt for the same obtained ❖ All material donations must be entered in stock register and made available for inspection to officer from the District Control Room or Site Operations Centre ❖ Maintain record of all issue of cash vouchers and credit vouchers for petrol and diesel

Chapter-XIII

Mainstreaming Disaster Risk Reduction & Climate Change Adaptation in district Level Development Plan:

Change in weather patterns and climatic condition have posed great threat to the development pace in the countries firstly due to increased frequency and intensity of hydro-meteorological hazards such as floods, droughts, heat waves, cyclone, storm surges etc. and secondly due to degradation or alteration of ecosystems (structure, extent and services), decreased food production, reduced availability of water and negative impacts on livelihood, etc. This is posing serious challenge before maintaining the pace of development in developing countries like India, where agriculture and other natural resources serve as primary resource base for livelihood and economic development. This calls for recognition of ecosystem services in development.

Over the decades, scientists have noticed that certain hazards occurred in the recent past at few regions, which were actually not present there in the past. Like, one of the striking features observed is that more areas that were not conventionally "flood prone" are now facing devastating floods. The consecutive flash floods in three major cities in the same year-Mumbai in July 2005, Chennai in October 2005 and again in December 2005, and Bangalore in October 2005 caused heavy damages to the economy, loss of life and property, etc. besides causing likely permanent and complex consequences on environment and landscapes.

CCA and DRR approaches are integrated to some extent at national level through India's commitment to Hyogo Framework for Action (HFA1), 2005-15, the National Action Plan on Climate change (NAPCC, 2008) and other ministerial level programmes. Furthermore, an array of Sectoral departments such as Water Supply, Health, Agriculture, Rural Development and Urban Development undertake activities that influence climate and disaster resilience. However, when the overall implementation of such projects and schemes is observed at the state or district level, low horizontal & vertical coordination exists between departments, especially on integration DRR and CCA concerns into their sectoral programmes. These gaps undermine the ability to translate concepts and DRR or CCA policies into action on the actual field.

Disaster Risk Reduction:

DRR denotes both a policy goal or objective and the strategic and instrumental measures employed for anticipating future disaster risk; reducing existing exposure, hazard, or vulnerability and improving resilience. DRR concepts and practices relate to the paradigm shift in approach from response and relief centric' to 'prevention and preparedness (mitigation) centric' approach. However, now the focus is taking a new shift away from concentration on 'disaster event' and minimizing effect of disasters' towards more on addressing hazards, reducing vulnerability and ensuring sustainability along environment centric approach. This change is offering better opportunities for CCA and DRR convergence and is now referred to as 2nd paradigm shift in disaster management.

Climate Change:

A change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcing, or persistent anthropogenic change in the composition of the atmosphere or in land use.

Coping Capacity:

It is the ability of people, organizations, and systems using available skills, resources and opportunities, to address, manage, withstand and overcome adverse conditions or shocks. The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during crisis or adverse conditions. Coping capacities contribute centrally to the reduction of disaster risk.

Adaptation:

The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. The broader concept of adaptation also applies to non-climatic factors such as soil erosion or surface subsidence. Adaptation can occur in autonomous fashion, for example through market changes, or as a result of intentional adaptation policies and plans. Many disaster risk reduction measures can directly contribute to better adaptation.

The word 'adaptation' has been widely and variedly defined and used primarily in ecology, physiology/medical science and now a broader perspective in the sense of adaptation to climate-change as an explanation of ecological adaptation by humankind. Thus, the term "adaptation" refers to the ability of different species with different genetic makeups to cope with a specific range of circumstances such as climate, food supply, habitat, defense and movement. Adaptation to climate is the process through which people reduce the adverse effects of climate on their health and well-being, and take advantage of the opportunities that their climatic environment provides. Adaptive capacity is known as the potential or capability of a system to adapt to climatic stimuli whereas the 'Adaptability' is understood as the ability, competency or capacity of a system to adapt to climatic stimuli.

Objectives:

- ❖ Mainstreaming of climate change and DRR measures in legal and policy frameworks at various levels.
- ❖ Integrating convergence of the climate change and DRR measures into schemes and projects.
- ❖ Local adaptation practices used by the local communities to reduce impacts of climate change and DRR measures.

Issues of Climate Change in Disaster Risk Reduction and Development:

It is evident that the excessive use of fossil fuels, deforestation and changes in land-use pattern has led to an increase in greenhouse gases (e.g. carbon, methane, water vapour) in the atmosphere, causing the Earth's temperature to rise. This has already and will continue to result in changing rainfall patterns, increase in the frequency & magnitude of extreme weather events such as storms, floods and droughts; changes in temperature; and rising sea levels.

The studies indicate that since 1850, temperature rise of +0.74°C and sea level rise in 20th century to 17cm which is going to have significance on the impacts of cyclones and coastal flooding. Historic data clearly shows that there is a steady rise in temperature since 1900. Carbon dioxide levels are highest in last 6,50,000 years. Global average sea level has risen since 1961 at an average rate of 1.8 mm/year and since 1993 at 3.1 mm/year. There are observed changes in the sea level temperature as well.

As per a report of World Water Council, there were 26 major flood disasters worldwide in the 1990s, compared to 18 in the 1980s, 8 in the 1970, 7 in the 1960s and 6 in the 1950s. These events, and associate impacts such as decreasing water availability, changes in agriculture and fisheries, inundation of coastal areas, spread of respiratory, vector and water-borne diseases, and population displacement, will dramatically alter ecosystems and the lives and livelihoods of women, men and children. However, from years of DRR work, we have learned that climate hazards happen, but climate disasters are created by human behavior.

India is one region where the heavy rainfall event has increased in certain state like floods in Mumbai, Uttar Pradesh, Bihar and Odisha. For example, over the decades, the state of Uttar Pradesh has become sensitive to floods due to change in pattern of rainfall and climate, resulting vulnerabilities to agro-climatic conditions causing land degradation and deforestation which resulted in increased frequency of flash floods, dry spells during floods, longer or delayed flood timings and increased duration and area of water-logging.

Climate Change Impacts:

Climate change impacts can be roughly divided into two groups;

Environmental impacts	Socio-economic impacts
<ul style="list-style-type: none"> ➤ Physiological effects on crops, pasture, forests and livestock (quantity, quality); ➤ Changes in land, soil and water resources (quantity, quality); ➤ Increased weed and pest challenges; ➤ Shifts in spatial and temporal distribution of impacts; ➤ Sea level rise, changes to ocean salinity; ➤ Sea temperature rise causing fish to inhabit different ranges. 	<ul style="list-style-type: none"> ▪ Decline in yields and production; ▪ Reduced marginal GDP from agriculture; ▪ Fluctuations in world market prices; ▪ Changes in geographical distribution of trade regimes; ▪ Increased number of people at risk of hunger and food insecurity; ▪ Migration and civil unrest.

Methods and approaches for including DRR into Development Planning:

Disaster Risk Management covers all aspects from prevention, mitigation, preparedness to rehabilitation, reconstruction and recovery. It provides for:

- Establishing techno-legal and institutional framework for effective planning implementation and finance.
- Inclusion of multi-sectoral DM concerns into the developmental process and mitigation measures through schemes and projects.
- Integration of disaster risk reduction planning and policies in a holistic, participatory, inclusive and sustainable manner.

Provision of Mainstreaming DRR Measures into Development Process (as per DM Act, 2005):

- i. Chapter 4, Section 32 provides for DM Plans by different district disaster management authorities and their implementation by setting out the following, namely:- (a) provisions for prevention & mitigation measures assigned to the department of agency concerned; (b) provisions for taking measures relating to capacity-building and preparedness as laid down in the District Plan; (c) the response plans and procedures, in the event of, any threatening disaster situation or disaster; (d) coordinate the preparation and the implementation of its plan with those of the other organizations at the district level including local authority, communities and other stakeholders.
- ii. Chapter-2, Section 11 indicates that the National Plan shall be prepared by the National Executive Committee having regard to the National Policy and in consultation with the preventive and mitigation measures, integration of mitigation measures in the development plans, measures for capacity building and roles & responsibilities of different ministries and departments of Government of India.
- iii. Chapter-5, Section 36 and Section 37 provides for the responsibilities of Ministries or Departments of Government of India to take measures for prevention, mitigation, preparedness and capacity building, to integrate into its development plans and projects, the measures for prevention or mitigation of disasters, to review the policies, acts, rules with a view of incorporation of provisions for prevention, mitigation and preparedness and to allocate necessary funds for such activities.
- iv. Chapter-6, Section-41 Local authority shall ensure trained staff in DM, resources related to DM are readily available and maintained to tackle the event of disaster, to ensure all construction based projects under its jurisdiction conform to the standards and specification laid down for prevention and mitigation by national, state and district level authority.

Inclusion of DRR into Development Schemes and Projects:

1. Jawaharlal Nehru National Urban Renewal Mission (JNNURM);
2. Rajiv Awas Yojana (RAY);
3. National Rural Health Mission (NRHM);
4. Sarva Shiksha Abhiyan (SSA);
5. Pradhan Mantri Gram Sadak Yojana (PMGSY);
6. Indira Awas Yojana (IAY);
7. National Rural Livelihood Project (NRLP);
8. Urban Infrastructure Development Scheme for Small & Medium Towns (UIDSSMT);
9. Accelerated Rural Water Supply Programme (ARWSP)
10. Special package for Drought Mitigation Strategies

Other Projects and Schemes

1). Swajal, 2).Swajaldhara, 3). Total Sanitation, 4) National Watershed Development Project for Rainfed Areas, 5).Integrated Wasteland Development Programme; 6). Backward Region Grant Fund (BRGF); 7). Rashtriya Krishi Vikas Yojana; 8).Integrated Child Development Services, 9).Drought Prone Areas Programme; 10). Mid-day-Meal Scheme; 11) Integrated District Approach.

As envisaged in the DM Act, 2005, the ongoing schemes and programmes can be used as access points for mainstreaming Climate Change Adaptation (CCA) and Disaster Risk reduction (DRR) measures into development planning. An approach to mainstream CCA & DRR measures into the ongoing developmental programme may be delineated as following:

- I. Classification of Key programmes/Projects at ministerial level along with the area of implementation.
- II. Integration of structural and non-structural measures in the programme objectives. Guideline shall be prepared for indentifying structural and non-structural measures in programmes/schemes. For example all the programmes with objectives to construct physical infrastructures such as roads, houses, schools and sanitation & water facilities must confirm to the structural measures to ensure disaster resilient construction. Similarly, the social projects shall have objectives to mainstream non-structural measures viz. awareness generation, capacity building and preparedness activities as a part of their schemes/projects. An exercise shall be conducted to identify access points within the programmes for inclusion of DRR measures at several administrative levels.

Chapter-XIV

Important phone numbers:

Sl. No.	Name of the Agency	Contact Person	Contact numbers
1	Police	Sub-Inspector of Police, Dumka Thana	100/06434-222234
2	Fire Brigade	Emergency and Fire services Officer, Dumka Fire Station	101/06434-223901
3	Sadar Hospital (for Ambulance)	Fani	8982784082
		Dilip	9631389207
		Bablu	8809887736
4	Jai Mata Di Seva Samiti	Ambulance	9431156080
		Oxygen	9709295659
		Blood donation Cell	9470105764
5	Marwari Yuva Manch	Ambulance	9939475914/9931491443
		Oxygen	8409900237/9835511727
		Blood donation Cell	9334943155
6	Sadar Hospital Dumka	Dr. Dilip Keshri, Dy. Superintendent	9431395771
		Dr. Vinod Kr. Sinha, Child Specialist	9431178683
		Dr. R.P. Verma, Physician	9430167244
		Dr. Debashish Rakshit, Gen. Physician	9431190075
		Dr. A.K. Singh, Gen. Physician	9431339816
		Dr. Paul Hansdak, Gen. Physician	9931732566
		Dr. R.K. Singh, Gen. Physician	9973931991
		Dr. Ladhan Soren, Gen. Physician	9572006153
		Dr. Kumar Bagish, Gen. Physician	9430158338
		Dr. Nisit Kumar Jha, Eye Specialist	9572941648
		Dr. Kumar Abhay Pd., Orthopadic	9431490069
		Dr. Dilip Bhagat, Gen. Physician	9431367728
		Dr. Rudy A Choren, Female	9835126016
		Dr. Sweta Baxla, Female	9835574877
		Dr. Archana Mishra, Female	9939129392
		Dr. Shubhnarayan Ram, Dental	7856817502
Dr. Ritesh Verma, Dental	9470014547		
	Blood Bank	9304175878	
7	Red Cross Society	Rahul Kumar Sinha, President	9431158010

		Bipul Shukla, Vice President	9470591001
		Sudhir Kumar, Vice President	9431158011
		Ajay Kr. Jha 'Mickky' Chairman	9661959938
		Amrendra Kr. Yadav, Secretary	9431190087
		Raj Kr. Upadhayay, Vice Chairman	9470147845
		Bipin Agrawal, Hon. Treasurer	9431177866
		Manoj Kumar Ghosh, Joint Secretary	9431190149
		Mohan Pd. Gupta, Joint Secretary	9430180311
8	District Administration	Rahul Kumar Sinha, DC, Dumka	9431158010
		Bipul Shukla, SP, Dumka	9470591001
		Chittranjan Kumar, DDC, Dumka	9431130083
		Smt. Indu Gupta, Additional Collector, Dumka	8986846461
		Sudhir Kumar, SDO, Dumka	9431158011
		Dasrath Chndra, Das, PD, ITDA/DWO	9431259420
		Jay Jyoti Samanta, DSO	9431157619
		Dipu Kumar, DTO	9199997194
		Manisha Tirky, DSWO, Dumka	9572494570
		Abhishek Kumar, DFO, Dumka	9973762128
		Bijay Kumar, Ex. Magistrate	9431762388
		Ajay Kumar, DPO, Dumka	9431326674
		Shivnarayan Yadav, DPRO	9431134141
		Ajay Nath Jha, Dy. Director, PRD	9431313502
		Parma Pd. Singh, Pahariya Welfare	9431145710
		Pritylata Murmu, Ex. Magistrate	9631100474
		Masudi Tudu, DSE, Dumka	9431130453
		Piyush Kumar, ADPO, Dumka	9905504710
		Dr. Srikant singh, Prog. Coordinator,	9431130454
		Satish Ch. Sinku, DEO, Dumka	9199715046
		Ravi Ranjan, DIO, NIC	9835373300
		Om Prakash Chaudhary, DHO	8969228913
		Sushil Kumar Singh, Dairy Devl. Officer	9431857909
		Upendra Mehra, Dist. Statistical Officer	9431384591
		Ramesh Pd. Gupta, GM, Industry	9431632348
		Sudhir Kr. Singh, Agra Pariyojana	9431194155
		Devesh Kr. Singh, PD, ATMA	9431450469
		Abdesh Kr. Singh, Excise Superintendent	9431150165
		Dr. Abhay Kumar Singh, DMO	9431783284
		Dr. RKP Mehta, DAHO	9431129181
		Hem Krishna Das, Labour Superintendent	9798129240
		Dr. Yogendra Mahto, Civil Sergeant	8987489880
		Dr. NK Mehra, ACOMO	8292287847
		BN Singh, TDM, BSNL	9431134644
		L. Soren, SDO T, BSNL	9431134644
		Md. Suleman, MVI	8757820082
		Meharpal Singh, DAO	9431551331
		Ram Bilas Sahu, EE, Road	8235240456
		Mangal Perti, EE, PHE	9431765965
		Gorakhnath, EE, Mechanical	9431581787
		Surendra Kr. Singh, EE, EREP	9006070260
		Bijay Kr., EE, Special Division	9955380940

		Mithilesh Sinha, EE, Miner Irrigation	9934269424
		Shiv Kr. Prasad, EE, Irrigation	9431765417
		PN Singh, EE, Building	9431498782
		Sapan Dey, Dist. Engineer	9431310045
		Pradip Kumar Singh, EE, Health	9431445112
		Sushil Chdraborty, AE, RCD	9430437026
9	District Police Stations (06434)	IG	226499/226100/ 226300/9470590804
		DIG	222207/222217/ 9431339541
		SP, Dumka	222216/222226 9470591001
		Dy. SP (HQ-1)	222216/222327 9470591002
		Dy. SP (HQ-2)	222216/222259 9470591003
		Sergeant Major	237085/9470591004
		Inspector Sadar	222252/9470591005
		Town PS	222234/9470591008
		Shikaripara PS	268872/9470591009
		Raneshwar PS	268605/9470591010
		Masliya PS	255002/9470591011
		Tongra PS	290123/9470591012
		Inspector Kathikund	228079/9470591007
		Kathikund PS	228079/9470591019
		Gopikandar PS	251011/9470591020
		Mufassil PS	222313/9470591021
		Masanjor OP	269033/9470591022
		Inspector Basukinath	230631/9470591006
		Jarmundi PS	230631/9470591013
		Jama PS	258820/9470591014
		Taljhari PS	250022/9470591015
		Inspector Hansdiha	8292999770
		Sraiyahat PS	260957/9470591016
		Hansdiha PS	248244/9470591017
		Ramgarh PS	270050/9470591018
10	Nagar Parsad Dumka	Amita Rakshit, Chairperson	9331150157
		Vinod Kr. Lal, Vice Chairperson	9471780588
		Shivajee Bhagat, Executive Officer	9431904886
		Urmila Sharma, Ward-1	8809561268
		Manoj Kumar Dey, Ward-2	9431312142
		Kishorendra Das, Ward-3	8298098620
		Mahesh Ram, Ward-4	9939845009
		Indu Devi, Ward-5	9431368855
		Krishna Devi, Ward-6	9431909818
		Madhu Devi, Ward-7	9934555742
		Pawan Kr. Keshri, Ward-8	9431190074
		Tarun Kr. Sah, Ward-9	9939431664
		Sangita Devi, Ward-10	9431190117
		Avishek Chaurasiya, Ward-11	8521719639

	Sarita Sinha, Ward-12	9431368227
	Dipak Kumar, Ward-13	9304404953
	Archna Bharti, Ward-14	9334009396
	Manoj Kumar Daruka, Ward-15	9431945110
	Shobha Raut, Ward-16	9973762922
	Manju Modi, Ward-17	9835585308
	Arbi Khatun, Ward-18	8809566633
	Narendra Pd. Sah, Ward-19	9431945375
	Vinod Kumar Lal, Ward-20	9431156169
	Manoj Kumar Singh, Ward-21	9431156130
	Soni Hembrom, Ward-22	9801985454

दुमका जिला स्थित प्रखण्ड विकास पदाधिकारियों का मोबाइल नम्बर

क्रमांक	पदाधिकारी का पदनाम	पदाधिकारी का नाम	कोड न0	कार्यालय न0	मोबाइल न0
1	प्रखण्ड विकास पदाधिकारी, दुमका	श्री दिलिप कु0 महतो	06427	251008	9608365410 9431195859
2	प्रखण्ड विकास पदाधिकारी, जरमुण्डी	श्री संजय कुमार दास	06431	230675	7739043135 9470185106
3	प्रखण्ड विकास पदाधिकारी, षिकारीपाड़ा	श्री अमित बेसरा	06427	268917	9905790547 7543031878
4	प्रखण्ड विकास पदाधिकारी, काठीकुण्ड	श्री छुटेष्वर कुमार दास	06427	243230	9431537106
5	प्रखण्ड विकास पदाधिकारी, सरैयाहाट	श्री गौतम कुमार	06431	260902	9534093283 9631315411
6	प्रखण्ड विकास पदाधिकारी, मसलिया	श्री चन्द्रजीत सिंह	06434	255003	7759047318 7061040330
7	प्रखण्ड विकास पदाधिकारी, जामा	श्री बिबेक कुमार सुमन	06431	258805	8986720690 7781861606 8579099386
8	प्रखण्ड विकास पदाधिकारी, रानेष्वर	श्री कौषल कुमार			9798541661 7781818668
9	प्रखण्ड विकास पदाधिकारी, रामगढ़	श्री राज किशोर प्रसाद			8986774849
10	प्रखण्ड विकास पदाधिकारी, गोपीकान्दार	श्री प्रवीण केरकेटा			9199057058 9835329977

दुमका जिला स्थित अंचल अधिकारियों का मोबाइल नम्बर

क्रमांक	पदाधिकारी का पदनाम	पदाधिकारी का नाम	कोड न0	कार्यालय न0	मोबाइल न0
1	अंचल अधिकारी, दुमका	प्रभार बी. डी. ओ, दुमका			
2	अंचल अधिकारी, काठीकुण्ड	श्री सुरेन्द्र कुमार			9431500604
3	अंचल अधिकारी, जामा	श्री शौलेश कुमार सिंह			8521458658
4	अंचल अधिकारी, रामगढ़	श्री सुनील कुमार			9430361876
5	अंचल अधिकारी, जरमुण्डी	श्री परमेश कुषवाहा			8002313224 7488189519
6	अंचल अधिकारी, मसलिया	श्री संजय कुमार बाखला			9471353808

7	अंचल अधिकारी, गोपीकान्दार	श्री सोमा उरांव			9430140187 7859068915
8	अंचल अधिकारी, षिकारीपाड़ा	श्री मोहन लाल मराण्डी			7762923023
9	अंचल अधिकारी, रानेष्वर	श्री प्रभष चन्द्र दास			9934585501
10	अंचल अधिकारी, सरैयाहाट	श्री जयंत जेरोम लकड़ा			8969988710

**District Disaster Management Plan
Dumka District
Annexure 1 - Control Room / DM team at each Block**

ØØ	Block	पदनाम	मोबाईल नं०	अभ्युक्ति
1		2	3	4
1	Gopikander	प्रखंड विकास पदाधिकारी –सह- अंचल अधिकारी	9199057058/ 9835329977	bdogopikander005@gmail.com
2		थाना प्रभारी, गोपीकान्दर	9798508176/ 8002068400	
3		प्रमुख, गोपीकान्दर	9771133359	
4		उप-प्रमुख, गोपीकान्दर	9905317891/ 9430709075	
5		मुखिया, गोपीकान्दर पंचायत	8252493742/ 9693076307	
6		मुखिया, खरौनीबाजार पंचायत	7250388546	
7		मुखिया, कुश्चरा पंचायत	9608509936/ 9471139714	
8		मुखिया, मूसना पंचायत	9798010671/ 9572286044	
9		मुखिया, ओड़मो पंचायत	8294245089/ 8809671933	
10		मुखिया, सुरजूडीह पंचायत	8102645744	
11		मुखिया, टांयजोर पंचायत	9798732596/ 8292944870	
12	Jama	श्री बिदेक कुमार सुमन, प्रखण्ड विकास पदाधिकारी, जामा	7781861606	
13		श्री शैलेश कुमार सिंह, अंचलाधिकारी, जामा	8521458658	
14		थाना प्रभारी, जामा	9431396402	
15		प्रखण्ड कार्यक्रम पदाधिकारी,(मनरेगा)जामा	8809531157	
16		प्रखण्ड पंचायती राज पदाधिकारी, जामा	9471612320	
17		प्रखण्ड सहकारिता प्रसार पदाधिकारी, जामा	8002285202	
18		श्री सुशील कुमार कनीय अभियन्ता, जामा	9431614452	
19		श्री विरेन्द्र नाथ मुर्मू, प्रधान सहायक, जामा	9430347481	
20		श्री रमेश मुर्मू प्रखण्ड नाजीर, जामा	9431306707	
21		मो० तनवीर प्रभारी अंचल निरीक्षक	8521247989	
22		श्री दाउद मुर्मू प्रभारीप्रधान सहायक अंचल, जामा	9431784989	
23		श्री श्रीकांत दास अंचल नाजीर, जामा	8969193672	
24		मो० एजाज आलम ऊर्दू टंकक	9431194097	
25	Kathikund	प्रखण्ड सहकारिता प्रसार पदाधिकारी, जामा8002285202	9955660354	
26		श्री सुशील कुमार कनीय अभियन्ता, जामा9431614452	9431391328	
27		श्री विरेन्द्र नाथ मुर्मू, प्रधान सहायक, जामा 9430347481	9430785065	
28		श्री रमेश मुर्मू प्रखण्ड नाजीर, जामा 9431306707	9546293769	
29		मो० तनवीर प्रभारी अंचल निरीक्षक 8521247989	9006669664	
30		श्री दाउद मुर्मू प्रभारीप्रधान सहायक अंचल, जामा9431784989	9955549505	
31		श्री श्रीकांत दास अंचल नाजीर, जामा 8969193672		
32	Ranishwar	Ramrup Murmu (H.A.)	94319844285	
33		Bhanupratap Singha (C.I.)	8292318367	
34		Ram Tudu (K.C.)	9430723551	
35		Nilkant Ghosh (Peon)		
36	Saraiyahat	प्रखण्ड विकास पदाधिकारी, सरैयाहाट	9534093283, 6431260704	
37		थाना प्रभारी सरैयाहाट	9470591016	
38		थाना प्रभारी, हंसडीहा	9470591017	
39		प्रखण्ड चिकित्सा पदाधिकारी, सरैयाहाट		
40		प्रखण्ड सांख्यिकी पदाधिकारी, सरैयाहाट	9431518050	
41		प्रखण्ड शिक्षा प्रसार पदाधिकारी, सरैयाहाट	8797407954	
42		प्रभारी अंचल निरीक्षक, सरैयाहाट	9431517983	
43		प्रखण्ड आपूर्ति पदाधिकारी, सरैयाहाट	9955189119	
44	प्रभारी प्रखण्ड कृषि पदाधिकारी, सरैयाहाट	9801302305		
45	Shikaripara			
46		प्रखण्ड विकास पदाधिकारी	9905790547 7543031878	
47		प्रभारी चिकित्सा पदाधिकारी	7250800396	
48		थाना प्रभारी	9470591009	
49	प्रखण्ड पंचायत राज पदाधिकारी	8969903330		
	Masaliya			
	Dumka			

	Jarmundi			
	Ramgarh			

Annexure-3

दुमका प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	दुमका हवाई अड्डा	24	13	46 N	87	16	10 E
2	दुमका प्रखंड के दरबारपुर पंचायत के नीमपहाड़ी	24	09	14 N	87	20	52 E
3	दुमका प्रखंड के मालभंडारो, पंचायत पकरिया	24	24	45 N	87	20	24 E
4	दुमका प्रखंड अन्तर्गत गांदो मैदान	24	16	25 N	87	21	12 E
5	उत्कर्मित मध्य विद्यालय काटीजोरिया के बगल वाले मैदान	24	14	02 N	87	20	17 E
6	दुमका प्रखंड अन्तर्गत नुतनपारा	24	05	51 N	87	20	38 E

मसलिया प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	हाट मैदान, मसलिया	24	09	24 N	87	11	15 E
2	रांगा पंचायत के झिलुवा ग्राम	24	09	53 N	87	10	10 E
3	गुमरो मैदान	24	10	20 N	86	59	48 E
4	मोहनपुर मैदान (हथियापाथर पंचायत)	24	03	41 N	87	13	20 E
5	मसलिया प्रखंड के लहरजोरी फुटबॉल मैदान	24	11	36 N	87	07	14 E
6	मसलिया प्रखंड के गुमरो पंचायत अन्तर्गत भुताही डंगाल	24	10	20 N	86	59	47 E
7	मसलिया प्रखंड के दलाही उच्च विद्यालय के सामने मैदान	24	05	04 N	87	09	26 E
8	हाट मैदान दलाही चौक	24	05	04 N	87	09	40 E
9	टोंगरा थाना मसलिया का मैदान	24	03	15 N	87	16	12 E
10	उ०म० वि० पालन (स्कूल से आधा कि०मी० की दूरी पर फुटबॉल मैदान)	24	08	10 N	87	14	41 E

जामा प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	जामा हाईस्कूल एवं मिडिल स्कूल के बीच मैदान	24	20	26 N	87	09	05E
2	जामा प्रखंड के सिकटिया पंचायत आसनसोल कुरुवा के बगल में केन्दुआटांड मैदान	24	17	32 N	87	02	23 E
3	जामा प्रखंड के वारापलासी स्कूल मैदान	24	22	44 N	87	11	39 E
4	जामा प्रखंड के सुखवारी भुटकोरिया के बीच मैदान	24	16	01 N	87	10	05 E
5	जामा प्रखंड अन्तर्गत सिमरा हाट मैदान	24	19	21 N	87	07	27 E
6	जामा प्रखंड अन्तर्गत उपर सितुआ डंगाल, पंचायत थानपुर (टेकुडीह)	24	23	44 N	87	14	14 E
7	जामा प्रखंड अन्तर्गत लकड़जोरिया	24	15	42 N	87	06	53 E
8	जामा प्रखंड के कैराबनी उच्च विद्यालय मैदान	24	15	18 N	87	04	26 E
9	जामा प्रखंड के चांदनी चौक से पश्चिम का मैदान	24	17	00 N	87	07	55 E
10	जामा प्रखंड के जामा हाट मैदान	24	21	04 N	87	08	54 E
11	जामा उच्च विद्यालय के बगल का मैदान	24	20	11 N	87	08	58 E

रानेश्वर प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	रघुनाथपुर फुटबॉल मैदान	24	02	32 N	87	24	29 E
2	रानेश्वर प्रखंड अन्तर्गत कस्तुरबा गांधी विद्यालय, रानीग्राम मैदान	24	01	38 N	87	25	21 E
3	रानेश्वर प्रखंड के दक्षिणजोल	24	06	04 N	87	25	48 E
4	मध्य विद्यालय मैदान रानेश्वर	24	01	38 N	87	25	20 E
5	उच्च विद्यालय, आसनबनी, स्कूल भवन से 100फीट की दुरी पर मैदान	24	07	34 N	87	27	39 E
6	मध्य विद्यालय गोविन्दपुर, स्कूल भवन से 200फीट की दुरी पर मैदान	24	00	31 N	87	24	10 E
7	प्राथमिक विद्यालय जयतारा स्कूल भवन से 150 फीट की दुरी पर मैदान	24	01	56 N	87	20	43 E
8	प्राथमिक विद्यालय भवन, डुमरा, रानेश्वर प्रखंड स्कूल भवन से 300 मीटर पर मैदान	24	01	51 N	87	23	10 E

काठीकुंड प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	मध्य विद्यालय मैदान, काठीकुंड	24	21	32 N	87	26	00 E
2	उच्च विद्यालय काठीकुंड का मैदान	24	21	32 N	87	26	00 E

गोपीकांदर प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	गोपीकांदर प्रखंड मुख्यालय	24	25	27 N	87	28	58 E
2	डाक बंगला सिलंगी	24	30	55 N	87	26	16 E
3	कचुवा कांदर	24	30	04 N	87	25	01 E
4	ओरमो	24	29	52 N	87	31	29 E
5	कारुडीह, खरौनी	24	21	38 N	87	33	48 E
6	म0 वि0 नारगंज, आमगाछी (स्कूल से आधा किलोमीटर आगे दाएं तरफ का मैदान)	24	25	42 N	87	24	22 E
7	उ0 म0 वि0 विलायकांदर (स्कूल से आधा किलोमीटर आगे दाएं तरफ का मैदान)	24	18	27 N	87	29	45 E
8	झिलीमिली (स्कूल से आधा किलोमीटर पीछे डाकबंगला मैदान के सामने)	24	17	09 N	87	24	48 E

सरैयाहाट प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	गुरुमापहाड़ी	24	34	23 N	87	00	25 E
2	हंसडीहा हाईस्कूल मैदान	24	35	26 N	87	04	56 E
3	कुरमाहाट मैदान	24	32	26 N	87	06	51 E
4	पगवारा मैदान	24	35	44 N	87	04	26 E

जरमुंडी प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	खुर्दबेलगुमा (वासुकिनाथ बस पड़ाव के पास)	24	23	10 N	87	05	04 E
2	जरमुंडी प्रखंड के ग्राम बन्दरजोरी	24	21	03 N	87	00	48 E
3	जरमुंडी प्रखंड के ग्राम बनबारा	24	27	04 N	87	03	55 E
4	सोनारायटाड़ी के विज्ञां हटिया के बगल का मैदान	24	18	37 N	86	54	24 E
5	जरमुंडी प्रखंड के वासुकिनाथ बस स्टैंड के बगल में फुटबॉल मैदान	24	23	11 N	87	05	03 E
6	प्राथमिक स्वास्थ्य केन्द्र जरमुंडी के पीछे का मैदान	24	23	40 N	87	03	11 E
7	जौका पंचायत में बागझोपा स्थित प्रस्तावित सत्यम पब्लिक स्कूल मैदान	24	26	55 N	88	56	56 E
8	जरमुंडी प्रखंड अन्तर्गत अम्बा मैदान	24	19	44 N	86	59	32 E

रामगढ़ प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	प्रखंड कार्यालय के पीछे बस पड़ाव के बगल में	24	33	12 N	87	14	59 E
2	रामगढ़ प्रखंड के गम्हरिया एवं परमा के बीच रोलडीह फुटबॉल मैदान	24	32	59 N	87	09	59 E
3	रामगढ़ प्रखंड के अन्तर्गत कारुडीह चांदनी चौक मैदान	24	33	49 N	87	18	42 E
4	रामगढ़ प्रखंड अन्तर्गत डाड़ो मितिल स्कूल मैदान	24	30	29 N	87	20	47 E
5	रामगढ़ प्रखंड के धाबिया मैदान, दुधवा, थाढ़ीहाट	24	25	41 N	87	15	29 E
6	रामगढ़ प्रखंड के गम्हरिया कुरुवाकिता पहाड़ी मैदान	24	34	03 N	87	10	35 E
7	रामगढ़ हटिया मैदान, पंचायत धोबा	24	33	23 N	87	14	55 E
8	रामगढ़ प्रखंड के मंगला हटिया के पीछे का मैदान	24	33	23 N	87	14	55 E
9	रामगढ़ प्रखंड स्थित ब्लॉक मैदान	24	33	12 N	87	14	58 E
10	म0 वि0 सिन्दुरिया	24	30	04 N	87	11	29 E
11	पंचायत भवन भतुरिया ए (अर्जून पहाड़ी)	24	28	48 N	87	07	49 E
12	म0 वि0 थाढ़ीहाट	24	25	40 N	87	16	10 E

शिकारीपाड़ा प्रखंड मुख्यालय के निकटवर्ती हेलीपैड का अक्षांश एवं देशांतर की सूची।

क्रमांक	स्थान का नाम	अक्षांश			देशांतर		
		डिग्री	मिनट	सेकेन्ड	डिग्री	मिनट	सेकेन्ड
1	प्रखंड परिसर मैदान	24	14	06 N	87	28	37 E
2	शिकारीपाड़ा प्रखंड अन्तर्गत बांकीजोर पंचायत में सीदाचातर मैदान	24	07	08 N	87	31	34 E
3	शिकारीपाड़ा का प्रतापपुर मैदान (खाडूकदमा)	24	15	31 N	87	28	49 E
4	शिकारीपाड़ा प्रखंड के कजलादाहा मोर, हरिपुर	24	12	51 N	87	36	47 E
5	शिकारीपाड़ा महाविद्यालय के बाहर स्टेडियम	24	14	12 N	87	29	9 E
6	उच्च मध्य विद्यालय गन्द्रकपुर, शिकारीपाड़ा का मैदान	24	11	46 N	87	21	24 E
7	उ0 वि0 दलदली स्कूल का मैदान	24	06	25 N	87	33	28 E
8	उ0 वि0 बेनागड़िया का मैदान	24	11	26 N	87	37	01 E
9	म0 वि0 सरसडंगाल के बगल से गुजरती पी0सी0सी0 रोड पर विद्यालय से करीब 1000 फीट पर स्थित मैदान	24	12	46 N	87	36	03 E