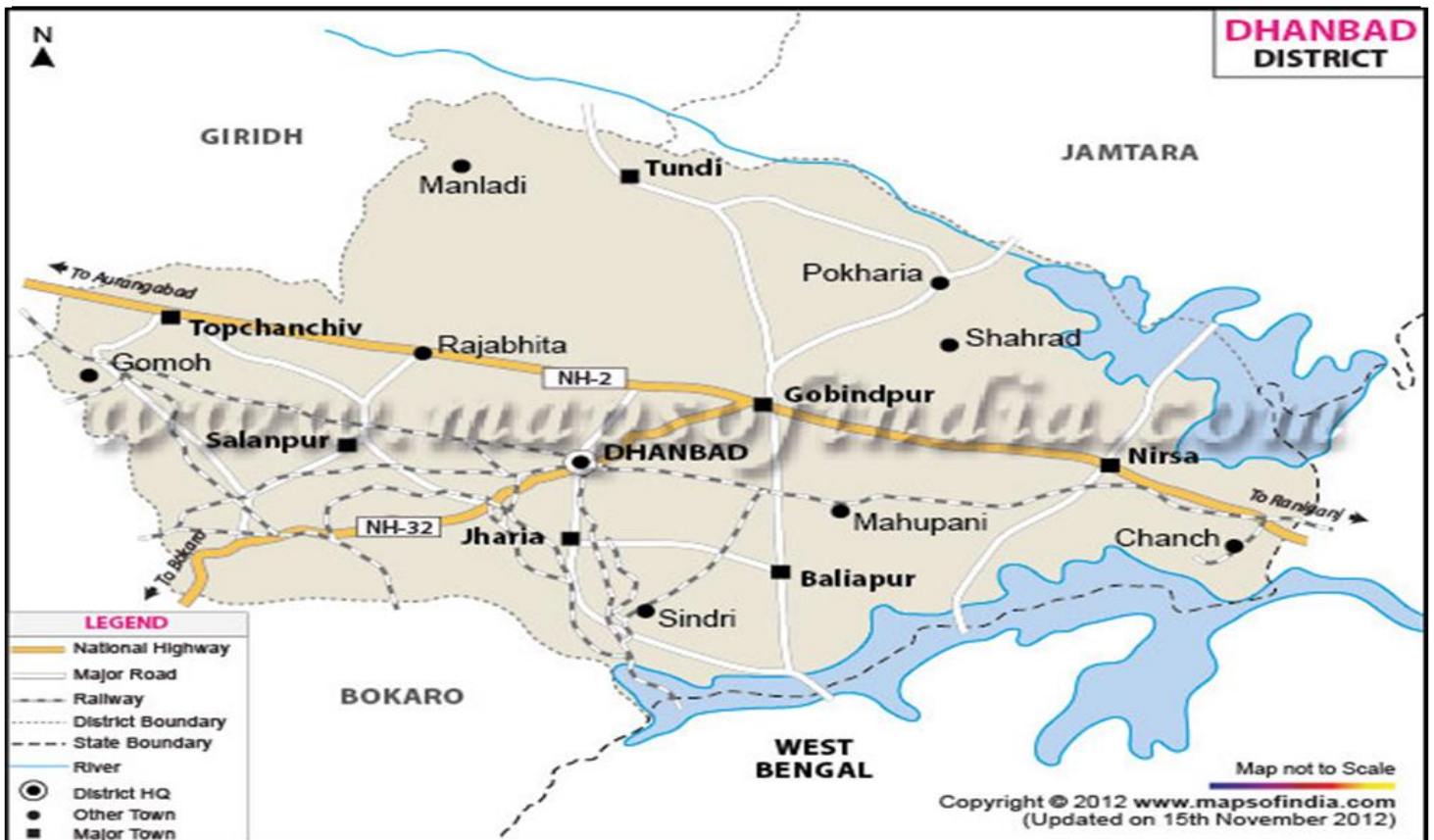




# DISTRICT DISASTER MANAGEMENT PLAN



*Prepared by:*

## DISTRICT DISASTER MANAGEMENT AUTHORITY DHANBAD

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## **Executive Summary**

The District Disaster Management Plan is a key for management of emergency or disaster. It will play a significant role to address the unexpected disasters that occur in the district effectively. The information available in DDMP is valuable in terms of its use during disaster. Based on the history of various major incidents & disasters that occur in the district, the plan has been designed. Utmost attention has been paid to make it handy, precise rather than bulky one. This plan has been prepared which is based on the guidelines provided by the National Disaster Management Authority (NDMA). While preparing this plan, most of the issues, relevant to crisis management, have been carefully dealt with. During the time of disaster there will be a delay before outside help arrives. At first, self help is essential and depends on a prepared community which is alert and informed. Efforts have been made to collect and develop this plan to make it more applicable and effective to handle any type of disaster.

The DDMP developed involves some significant issues like Incident Response System (IRS), Hazard, Risk, Vulnerability and Resource Mapping, the response mechanism in disaster management. In fact, the response mechanism, an important part of the plan is designed with the IRS, a best model of crisis management has been included in the response part for the first time. It has been the most significant tool to the response manager to deal with the crisis within the limited period and to make optimum use of the available resources.

Details of resources are given an importance in the plan so that during disaster their optimum use can be derived. The resource inventory, the IDRN is now shared with all the line departments for updates which are vital to cope with the crisis. It will give the detail information to any officer at the time of disaster. S/he can view the available resources and order them at the time of disaster. The most necessary equipments, skilled manpower and critical supplies needs to be included in the inventory resources. During disaster, the resources from this website can be ordered without delay which will make the response time lesser. List of Nodal Officers of Emergency Support functionaries and their resources, control room of various departments, ambulances, blood banks, public health centers, and government and private hospitals, RWA's, School's have been included in this plan.

As a whole, this is a genuine effort of district administration to develop the plan and if you have any suggestions and comments, be free to convey the same so that we can include them in the next edition. We are thankful to all the institutions and persons who have provided us the vital information in process of making the Plan.

**(Anjaneyulu Dodde, IAS)**  
**Deputy Commissioner/Chairman of DDMA, Dhanbad**

**Date:**

## **Abbreviations Used in the Document**

AIR	All India Radio
BIS	Bureau of Indian Standards
CEO	Chief Executive Officer
CDMO	Chief District Medical Officer
DD	Doordarshan
DDA	Delhi Development Authority
DDMA	District Disaster Management Authority
DDMC	District Disaster Management Committee
DDMP	District Disaster Management Plan
DMT	Disaster Management Team
EOC	Emergency Operation Center
GOI	Government of India
IAP	Incident Action Plan
ICP	Incident Command Post
ICS	Incident Command System
IRS	Incident Response System
IDRN	India Disaster Response Network
IMD	Indian Meteorological Department
NDRF	National Disaster Response Force
NGO	Non Governmental Organization
NIDM	National Institute of Disaster Management
NSS	National Social Service
PHC	Public Health Centre
PWD	Public Work Department
QRT	Quick Response Team
RCC	Reinforced Cement Concrete
SOP	Standard Operating Procedure

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## **Chapter-I: Introduction**

<b>Sub – Division– 1 (Dhanbad)</b>	<b>Municipal Cooperation – 1</b>	<b>Male- 14,05,776</b>
<b>Revenue Villages – 1348</b>	<b>No. of Circles– 10</b>	<b>Female - 12,76,815</b>
<b>No. of Halka – 81</b>	<b>Total Panchayat – 383</b>	<b>Child Population –3,73,394</b>
<b>Area –2886 sq km</b>	<b>Agriculture land–69323 hec.</b>	<b>Sex Ratio – 1000:909</b>
<b>Forest Area – 504503 hec.</b>	<b>Population Density-1,316</b>	<b>Disable Population –12,661</b>
<b>Nagar Panchayat –1(Chirkunda)</b>	<b>Literacy Ratio – 74.52 %</b>	

Disaster Management has undergone a paradigm shift in recent years from the earlier approach of *response to disasters* to the current holistic approach of *disaster mitigation and preparedness*, which yields long term benefits while minimizing damage due to disasters. Among other natural calamities and human induced calamities to which Dhanbad is prone, the state is most vulnerable to earthquakes, Drought & lighting. As per the Seismic Map of India the Dhanbad falls in Zone III which is the severe seismic zone.

### **1.1 Aim :**

*The basic aim for formulating a DDMP Plan is to ensure that the District Administration is prepared to handle any unprecedented situation that may arise in the District Dhanbad. The plan is essential to institutionalize Disaster Management in the District and to deal with future disasters in an efficient and effective manner.*

### **1.2 The basic objectives for formulating a Plan are as under:**

The basic objective of the District Disaster Management Plan is to protect the residents of the district and their property from all sorts of untoward incidents through the following objectives:

- Institutionalization of Disaster Management in the District
- Encouraging a culture of Disaster Preparedness in the District
- Vulnerability Reduction and Disaster Mitigation through better planning process
- Creation of the best government mechanism to handle any unprecedented events
- Instant response and effective decision making in disasters
- Better coordination of relief and rehabilitation after a disaster
- Better coordination of all line departments in Disaster Management
- Encouraging and empowering the local community to own Disaster Management
- Regular updation of resources available in and around the district.

Essentially, communities draw their support from the existing social institutions, the administrative structures, and their values and aspirations they cherish. Disasters may temporarily disorganize these institutions and the administrative system and disrupt their lives built around these values and aspirations. A systematic effort to put back the social life on its normal footing, with necessary technology support and resources, will contribute significantly to the resilience of the community and nation. In pursuance of this policy, the District Disaster Management Plan addresses itself to strengthening the pre-disaster and post-disaster responses of Emergency Support functionaries and stakeholders including the “victims” of the disaster.

### **1.3 Authority for the DDMP, Dhanbad : DM Act 2005**

As per Section 31 of the DM Act 2005 there shall be a plan for disaster management for every district of the State. The District Disaster Management Plan, Dhanbad, has been prepared by the District Authority, after due consultation with all the stakeholders as per the Guidelines of National Disaster Management Authority and Jharkhand State Disaster Management Authority.

The District Disaster Management Plan, Dhanbad, has included-

- (a) the areas in the district vulnerable to different forms of Disasters.
- (b) the measures to be taken, for prevention and mitigation of disaster, by the Departments of the Government at the district level and local authorities in the district;
- (c) the capacity-building and preparedness measures required to be taken by the Departments of the Government at the district level and the local authorities in the district to respond to any threatening disaster situation or disaster;
- (d) the response plans and procedures, in the event of a disaster, providing for-
  - (i) allocation of responsibilities to the Departments of the Government at the district level and the local authorities in the district;
  - (ii) prompt response to disaster and relief thereof;
  - (iii) procurement of essential resources;
  - (iv) establishment of communication links; and
  - (v) the dissemination of information to the public;
- (e) such other matters as may be required by the State Authority.

The District Plan shall be reviewed and updated annually. The copies of the District Plan referred to in sub-sections (2) and shall be made available to the Departments of the Government in the district. The District Disaster Management Authority, Dhanbad, has sent a copy of the DDMP Plan to the State DDMA-Jharkhand State Disaster Management Authority, for final approval.

The DDMA, Dhanbad, is reviewing time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

#### **1.4 Evolution of the Plan in brief :**

Preparation of the District Disaster Management Plan, Dhanbad, is the responsibility of the District Disaster Management Authority of the district Dhanbad.

The main steps involved in the development of this plan are:

- Data collection from all line departments
- Data analysis
- Discussion with experts
- Reference of national and international literature
- Preparation of action plans for all line departments
- Preparation of draft plan document
- Mock drill to check the viability and feasibility of the implementation methodology
- Wide circulation for public and departmental comments
- Preparation of the final plan document

#### **1.5 Stakeholders & their responsibilities:**

As per Section 31 of the DM Act 2005, 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.

### **1.6 How to use the Plan :**

- Plans will work only in the case when present organizational structure is responsible to its non-emergency duties i.e. if a job is done well everyday; it is best done by that organization during emergency.
- Crisis should be met at the lowest and most immediate level of government. Plans call for local response supplemented if necessary, by the next higher jurisdiction.
- Voluntary response and involvement of the private sector should be sought and emphasized. The emergency management partnership is important to all phases of natural and man-made disasters.

### **1.7 Approval Mechanism of the Plan: Authority for implementation (State Level/ District Level orders):**

As per Section 31(2) of the Disaster Management Act 2005, there shall be a plan for disaster management for every district of the State. The DDMP, Dhanbad, has been prepared by the District Disaster Management Authority, Dhanbad, after consultation with the line departments and Emergency Support functionaries in the district.

Also, as per Section 31(6) of the Disaster Management Act 2005, the District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government. The approved draft plan has been sent to Jharkhand State Disaster Management Authority for final approval.

### **1.8 Plan Review & Updation: Periodicity**

As per Section 31(4) The District Plan shall be reviewed and updated annually. Also, As per Section 31(7) The District Authority shall, review from time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

DDMP, Dhanbad, is a dynamic document and being discussed annually in the meeting of District Disaster Management Authority, Dhanbad.

### **1.9 District Profile of District, Dhanbad:**

#### **1.9.1 History of District:**

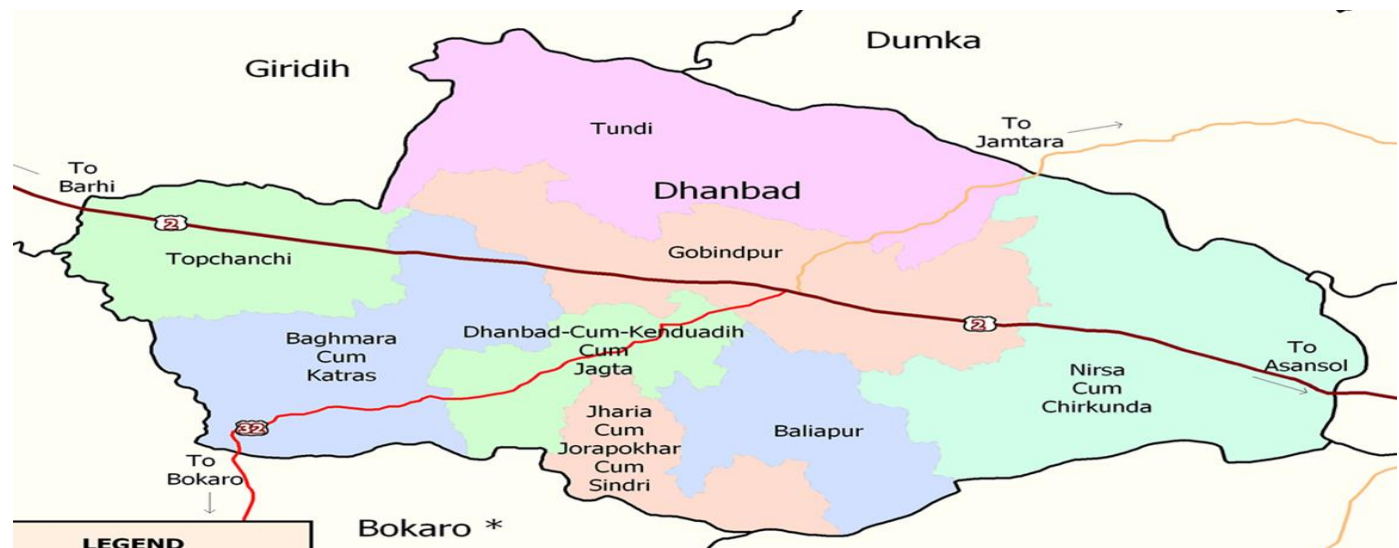
- Dhanbad district was constituted in 1956 by carving out the old Dhanbad subdivision, Chas and Chandankiyari police stations of the Sadar subdivision of the erstwhile Manbhum district. Dhanbad is Police district since 1928. The re-organisation of the districts in the State of Bihar which took place after 1971 did not affect the district of Dhanbad. Dhanbad Municipality is the chief town and the headquarters of the district.
- The early history of the greater part of the Chotanagpur plateau is shrouded in mystery and that of Dhanbad district is particularly so. Details of even later periods are difficult to trace as the present district formed but a small and insignificant part of Manbhum.
- In the Settlement Report for Manbhum (1928) it has been stated that no rock inscriptions, copper plates or old coins were discovered and not a single document of copper plate or palm leaf was found in course of the Survey and Settlement operations. The oldest authentic documents produced were all on paper and barely even a hundred years old.
- In view of these circumstances the District Gazetteer for Dhanbad (1964) merely reproduces the chapter on history in the Settlement Report of 1928 which pertains to the entire district of Manbhum. It was a small village of the erstwhile district of Manbhum which had its headquarter in Purulia (now in West Bengal). Manbhum in turn, derived its name from Raja Man Singh who was gifted this territory by Emperor Akbar, following his victory in a certain battle. The district being extremely vast and far-flung soon got divided into Birbhum, Manbhum and Singhbhum, for administrative purposes.
- However, on 24.10.56 Dhanbad was declared a District on the Recommendation of the State Reconstitution Commission vide notification 1911. Its geographical length, extending from North to South, was 43 miles and breadth, 47 miles, stretching across East to West. In 1991 a part of Dhanbad was sliced away from Bokaro district, diminishing thereby its total area to 2995 Sq.Kms.
- Earlier, the district was split into two sub - divisions - Dhanbad Sadar and Baghmara. The former incorporated 6 blocks, while the latter had four and together they enclosed 30 Nagar Palikas, 228

Panchayats and 1654 villages. The then vastness of the district called for two police headquarters, based at Bokaro and Dhanbad respectively.

### **1.9.2 Administrative Features:**

The district as it stands today, has only one sub-division called the Dhanbad Sadar. There are presently, 9 blocks here viz. *Jharia, Baghmara, Dhanbad, Nirsa, Govindpur, Baliapur, Tundi, East Tundi and Topchanchi*. The blocks in turn have *181 panchayats and 1348 villages*. The new blocks are proposed from nirsa block - *Kaliasol & Egarkund*.

### **1.9.3 Map & Location of the District:**



The Dhanbad district is situated in the state of Jharkhand and lies between 23°37'3" N and 24°4' N latitude and 86°50' E longitude.

There are 100850 acres of hillocks and 56454 acres of forests. It is about 500-1000 feet above Sea level.

- Dhanbad has an average elevation of 227 m (745 ft). Its geographical length (extending from North to South) is 15 miles (24 km) and the breadth (stretching across East to West) is 10 miles (16 km). It shares its boundaries with West Bengal in the Eastern and southern part, Dumka & Giridih in the North and Bokaro in the west. Dhanbad comes under the Chota Nagpur Plateau.
- Further north, a branch of the Parasnath hill runs through Topchanchi and Tundi, the highest point of 1,500 feet being reached at Lalki. The southern part of the district is largely comprised of undulating land. The general slope is from west to east, the direction followed by the two major rivers, Damodar and Barakar.

**1.9.4 Demographic Trend:**

- As of 2011 India provisional census Dhanbad had a population of 2,684,487. Males constitute 53% of the population and females 47%. It has a sex ratio of 909.
- The density population of Dhanbad district for 2011 is 1,316 people per sq. km. There was change of 11.99 percent in the population compared to population as per 2001

1. DEMOGRAPHY		(as per 2011 census)
*A	POPULATION	TOTAL
*A1	Total Population	2,684,487
*A1.1	Male Population	1,405,956
*A1.2	Female Population	1,278,531
*A1.3	Scheduled Caste (S.C) population	382969 ( as per 2001 census)
*A1.4	Scheduled Tribe (S.T) population	202729 ( as per 2001 census)
*A1.5	Others	18,11,404 ( as per 2001 census)
*A1.6	Children between the age of 0-6 years	373,394

*A2 Permanent Disability	
*A2.1	Handicapped Persons 12,661
*A3	Total No of Families 5,07,064
*A3.1	Total BPL Families 78,778
<b>*A4 Literacy Rate of District</b>	
*A4.1	Male Literacy Rate 83.81%
*A4.2	Female Literacy Rate 64.29%
*A4.3	Total Literacy Rate 74.52%



### 1.9.5 Physiography:

#### **1.9.5.1 Occupational Structure:**

The district can be divided into three broad natural divisions, viz.,

- The north and north western portions consisting of the hilly region,
- The uplands containing coal mines and most of the industries and
- The remaining uplands and plains lying to the south of the Damodar River consisting of cultivable

Flat lands. The north and north western division is separated for the entire length by the Grand trunk road.

#### **1.9.5.2 Geography:**

- Rivers – The Damodar is the most important river of the Chotanagpur plateau besides that there are other small rivers like Gobai, the Irji, the Khudia besides the river Katri. Rivers Damodar, Katrijore, Karijore, Khudijore, Jamunia, Ekrajore, Bagdihijore, Barakar etc. and Maithan Dam, Panchet Dam, Bekarbandh, Domgarh water works, Jamadoba water works, Raibandh, Raja talab, Pampu Talab, Rajlibandh.
- Mountains - In the western middle part of the district are the Dhangi hills and Parasnath hill in the north.
- Plain area - uplands and plains lie to the south of the Damodar River consisting of cultivable flat lands. The north and north western division is separated for the entire length by the Grand trunk road.

#### **1.9.5.3 Climate:**

The climate of Dhanbad district is very pleasant especially in the cold weather months November to February during which the temperature varies from lowest minimum of 47° F to the highest maximum of 94° F.

After February the climate becomes warmer and warmer until the rains break in the middle of June. The temperature during these four months March to June varies from the lowest minimum of 56° F to the highest maximum of 114° F. During the remaining months, July to October, which includes the rainy season, the temperature range is from the lowest minimum 59° F to 97° F.

#### **1.9.5.4 Rainfall:**

The average annual rain fall in the district is approximately **1307.9** mm, the rainy season begins in the middle of June to middle of October. The rainfall around Parasnath hills is reported to be more than the average.

**1.9.5.5 Agriculture & Animal Husbandry:**

Agriculture is the most affected sector of economy during on disaster like flood, cyclone & earthquake, and needs much support to rescue work as it fulfils the primary requirement for food as well as material for industries

**1.9.5.6 Crops:**

Paddy, Maize, Marua, Arhar, Urad, Moong, Kulthi, Groundnut, total pulses, total oil seeds, Til, Jowar, Bajra, Mahua, Wheat, Maize, lineseed, mustard and pea.

**1.9.5.7 Hydrology:**

The development of any area largely depends upon the quality as well as the quantity of ground water. As far as Dhanbad District is concerned drinking water is obtained from wells/tube wells

**1.9.5.8 Irrigated Areas:**

<b>Agricultural land use</b>	<b>Area ('000 ha)</b>
Net sown area	37.7
Area sown more than once	4.8
Gross cropped area	42.5

<b>Irrigation</b>	<b>Area ('000 ha)</b>
Net irrigated area 1.9	1.9
Gross irrigated area	2.3

**1.9.5.9 Major Soils** (common names like red sandy loam deep soils (etc.,))

- Stony and gravelly soils
- Sandy soils
- Loamy soils
- Clay Soils

### 1.9.5.10 Industrial profile:-

#### Industry Classification and Distribution

- Highly polluting industries (17 categories)
  - There are 4 highly polluting industries of 17 categories
- Red category industries (54 categories)
  - There are 586 industries of 54 categories
- Orange and Green category industries
  - There are around 1000 industries under these categories
- Grossly polluting industries
- High density of Coal mines ( 103) Coal washeries (8) Captive Thermal power plants(3) Beehives coke oven plants(126) Soft coke plants(25) Refractory plants (72), Coke briquette plants (25), Stone crusher (110), Brick Kilns (118)
  - **No. of Notified industrial area** – 1.Kandra Industrial Area, 2.Sindri Industrial Area
- In Dhanbad there are industries like coal, lead and silver refining also a smelting industry is in the district. One other major industry in the district is the Refractory and Ceramic Industry.
- The famous Jharia Coalfield in the district is the richest treasure-house of India. The list of government and PSU organisations are as follows:
  - Bharat Coking Coal Limited-
  - CCWO- Central Coal Washery organization, unit of BCCL is situated at Saraidhela. This looks after the works of all coal washeries of Bharat Coking Coal Limited.
  - CCSO- Central Coal Supply Organization (CCSO), a unit of SAIL, is situated in Saraidhela, Dhanbad District of Jharkhand and has branch offices at Kolkata, Asansol, Adra and Bilaspur.
  - Central Coal Supply Organization looks after the daily movement of indigenous washed coking coal and boiler coal to SAIL steel plants; BSP, RSP, DSP, BSL and ISP.
  - BEML- BEML Limited (formerly Bharat Earth Movers Limited)
  - HURL- Hindustan Urwarak Rasayan Limited

**Chapter 2 :Hazard, Vulnerability, Capacity & Risk Assessment****2.1 Hazard, Risk and Vulnerability Assessment**

The district has been traditionally vulnerable to different mining disasters on account of its unique geo-climatic condition. Like other districts of Jharkhand, Dhanbad district is highly prone to Drought, Fire incidents, lightning, Industrial Accidents and Earthquake. Certain parts of Dhanbad District are vulnerable to Land Subsidence and Drinking Water as well. Dhanbad district is vulnerable to multiple Natural, Technological, Human-caused and Biological Hazards. They include, but are not limited to the following:

**Table 2.1**

S. No	Hazard Risk	Hazards	Who/ What is at risk	Vulnerability
1.	High Risk Hazards	Mining Fire	Human Life Houses and Property	High
		Mining Flood	Human Life Houses and Property	High
		Fire	Human Life,Cattle Life,Houses andProperty	High
		Land Subsidence	Human Life Houses and Property	High
		Earthquake	Human Life, House and property, Slums, Community Infrastructure	High
		Drought	Human Life,Cattle Life, Kutchha and PaccaHouses, CommunityInfrastructure	High
		Industrial	Human Life Houses and Property, Industrial Infrasture	High
		Lighting	Human Life Houses and Property	High
		Severe Summer Weather/Extreme Heat	Human Life, Cattle life, Crops	High

2.	Moderate Risk Hazards	Building Collapse	Human Life House and Property Community Infrastructure	Moderate
		Hailstorm	Human Life, Crops & Property	Moderate
		Cyclone	Transport, Houses, Constructions, Drinking Water, Equipments, Educational Institutions , Slum dwellers, Vulnerable Groups	Moderate
		Oil Spill	Human Life, House and property, Slums, Community Infrastructure	Moderate
		Epidemics	Human Life, Animals, Vulnerable sections	Moderate
		Road Accidents	Human Life, Road Side	Moderate
		Rail Accidents	Human Life, Rails, Indian Railways Infrastructure	Moderate
		Dam Failure	Human Life, Electricity, Water supply, House & property	Moderate
		Utilities Failure (Energy, Water system and telecommunication)	Human Life, Rails, Infrastructure	Moderate
		Terriost Attack <ul style="list-style-type: none"> <li>• Attack of naxal elements on trains and Railway Infrastructures.</li> <li>• Taking hostage of Railway employees by naxal elements.</li> <li>• Taking hostage of dignitaries/general public by naxal elements.</li> <li>• Bomb Explosion/ Sabotage by naxal elements/terrorists.</li> <li>• Attack of naxal elements on dams.</li> </ul>	Human Life, Oil Installations, Dam, Railways Infrastructure , Religious Places	Moderate
		Elephant Attack	Human Life, property and livelihood	Moderate
3.	Low Risk Hazard	Chemical Disaster Biological Disaster Radiological Disaster Nuclear Disaster	Human Life Environment & Eco-system Economy	Low
		Religious riots	Human Life, Community Infrastructure,	Low

## **2.2 Matrix of Past Disasters**

More than eleven human and twenty five animal death cases has been reported in the District due to lighting only in the year 2018-19. More than two time earthquakes tremors were felt in the district in last six months in the District. *The last tremor felt on 25<sup>th</sup> May 2019 in the district Dhanbad having epicenter Bakura having magnitude of 4.8 in the richter scale.* More than 30 calls of fire received by mines rescue cell Dhanbad till Jan 2018 from different mines from the District. Still District doesn't have the the full functional Emergency Operation center. The work on operationalisation has been started in collaboration with National Disaster Management Authority (NDMA) which will help to maintain data of different hazard specific incidences in the district.

## **2.3 Risk**

Risk can be defined as the product of the probability of a defined circumstance occurring and the consequence of the occurrence of said circumstance. Risks also continuously evolve and change. Assuming and managing risk is the essence of any decision-making process. The proper management of risks is one of the biggest challenges that co-operation has to face today. (Dr. Stephan Bieri, UNDP, 2004)

## **2.4 Risk Assessment for the Dhanbad District**

Four broad aspects namely physical, socio-economic, housing and response are being studied according to the risk levels and the present risk assessment provides the breakup of how the mix of factors contributes towards district's vulnerability.

### **2.4.1. Physical Setup**

1. Dhanbad district is largely used for industrial purpose especially for mining. Under ground fire in Jharia and landslides due to land subsidence loss in Govindpur, Bagmara & Nirsa makes condition prone to Disaster. Anyhow, as entire region falls under Zone III exposed to a moderate to high level of earthquake.
2. Most of the region having ground water having high contents of iron which aggravates the erosions in the building.
3. Industrial incident like fire and other explosion is prone in the area of Railway cinema road, Joda Phatak, Purani Bazar, Nirsa and Dhanbad block as depots of companies like Indian oil, HPCL, and BPCL are located in close proximity to each other. Other such company is IDL explosives which has its On-site manufacturing facilities for non-explosive emulsion matrix.
4. Existence of unplanned building in the urbanized town like Dhanbad, Jharia and some other blocks of the districts makes it more hazard prone.

#### **2.4.2 Socio-Economic Aspect**

1. The population density is far greater concern during disasters. The block wise analysis reveals that the Dhanbad, Jharia and Bagmarais more densely populated and consists of almost 50% of the population. Topchachi, Govindpur & Baliapur consists of agricultural land and village clusters therefore hold least population density in comparison to the other sub-divisions of the district.
2. Residential density is also very high in Dhanbad especially in Hirpur, Bank More & Saraidela area. It consists of a large number Group Housing Society in Saraidela & Bank More and unplanned colonies in most of the parts of the District.

#### **2.4.3 Housing Related Aspects**

1. The analysis typically comes out with housing concerns, as the housing conditions are bad to worse when it comes to its disaster resistance.
2. There are mostly unplanned residential areas and many other non-conforming areas in the district. Due to large-scale potential of job-opportunities for labour class a sprawl of *jhuggies*, slums and densely built housing clusters are very common.
3. A safety audit needs to be conducted in the area to check quality of materials used for construction and Designing as well as to analysis the fire safety norms in the buildings.

#### **2.4.4 Preparedness and Response Aspects**

1. Preparedness and response measures build capacity of local authority in taking appropriate decisions in case of emergency. Generally local authorities need to take up decisions for conducting search and rescue, communication, transportation, fire fighting, evacuation, and relief and rehabilitation etc.
2. The local administration's effort in creating public awareness is taking place at large scale. The physical, social, economic, housing and response factors vary significantly across the district but the administration does not have any prioritized initial interventions. The present risk assessment framework provides a firm basis of delineating the focus areas of intervention in a short time because there the need of know-how is very crucial.

3. Medical capacities to manage disasters are another concern area. Medical emergency plan needs be prepared in the District. The hospitals do practice large causality management and smooth run of medical resources remains a concern even during the normal operations.

**2.4.5 Review of Risk Potentialities**

<b>Type of Disaster</b>	<b>Major Impact</b>	<b>Damage Prone Areas-Wards</b>
Mining Fire	Loss of life and infrastructure, distruption in production, workers unrest	Jharia, Baghmara, Nirsa
Mining Flood	Loss of life and infrastructure, distruption in production, workers unrest	Jharia, Baghmara, Nirsa
Fire	Human Life Houses and Property	Dhanbad, Jharia, Nirsa are highly prone.
Land Subsidence	Human Life and infrastructure, Impact on Economy, Houses and Property	Jharia
Earthquake	Loss of life and infrastructure	Entire district
Flood	Loss of crop, human and animals, and infrastructure also loss of forest area.	Eastern and southern part of the district mainly Nirsa,baliapur, and Tundi block
Heat Waves	Loss of life ( man and animal)	Entire district
Fire	Human loss and damage of property	Entire district
Road Accident	Human life loss, Increase in Disability	Entire district
Lightening	Human loss and damage of property	Vulnerable blocks are Jharia, Baghmara Tundi, Topchachi and Baliapur
Cyclone	Loss of crop, human and animals, and infrastructure also loss of forest area.	Eastern portion of the district mainly Nirsa and Tundi blocks



**2.5 VULNERABILITY ANALYSIS****Disaster Vulnerability and Impacts**

<b>TYPE OF DISASTER</b>	<b>POTENTIAL IMPACT</b>	<b>AREAS TO BE AFFECTED</b>
Cyclone	Loss of crop, human and animals, and infrastructure also loss of forest area.	Eastern portion of the district mainly Nirsa and Tundi blocks
Earthquake	Loss of life and infrastructure	Entire district
Flood	Loss of crop, human and animals, and infrastructure also loss of forest area.	Eastern and southern part of the district mainly Nirsa, baliapur, and Tundi block
Sunstroke	Loss of life ( man and animal)	Entire district
Fire	Loss of life ( man and animal)	Entire district
Road Accident	Loss of life ( man and animal)	Entire district
Chemical(Industries)	Human life loss	Entire district
Elephant attack	Loss of life ( man and animal)	Mostly all the villages of Tundi and purvi Tundi

The vulnerability of the district is defined by the ability to anticipate, cope with, resist and capacity to recover from any probable disaster. The factors like limited livelihood opportunities, low per capita income, under developed infrastructure, unplanned development, rapid urbanization, prevalent social structures, demographic expansion and environmental degradation make Dhanbad District highly vulnerable to multi disaster.

**2.5.1 Economic Vulnerability:** Being a Coal Capital of India, the economy of district is primarily dependent on Coal Mining and its allied sector. The average size of land holding in the district is small and fragmented and as per census, more than 25 percent of the work force in Dhanbad district comprises of marginal workers. The agriculture in Dhanbad is highly dependent on the local rainfall which makes the district highly vulnerable to drought. Further the technology and other services are not much developed in the district which makes the district one of the India's vulnerable districts which resist the coping capacity of the district to anticipate, resist and recover from any threatening situation. Economic vulnerability is generally defined in terms of poverty therefore Dhanbad district being economically poor and backward is highly vulnerable to multi hazards. This is a major

concern in the district. Large number of mining accidents reported in the district due to unauthorised mining or illegal mining. Still large no of population especially area like Jharia didn't vacated after several repeatedly request. Jharia Rehabilitation Development Authority (JRDA) working on the rehabilitation of the inhabited of underground fire.

- 2.5.2 Social Vulnerability:** The social structure of Dhanbad is divided on Caste, religion and ethnic lines which makes the minorities and poor highly vulnerable. The District having of the population of Schedule Castes, Dalits and Schedule Tribes. Such groups generally get excluded in various programs and become more vulnerable out of their social status. Further, a large population is exposed to risk as the district is highly populated and the literacy rate is very poor. Understanding of hazard, risk, dos & don'ts, and preparedness & mitigation methods etc. is very limited as a large section of the community is illiterate. The vulnerable groups like children and women are at higher risk in the district as they are dependent on others.
- 2.5.3 Environmental Vulnerability:** Due to urbanization and limited livelihood opportunities in the rural areas, people are migrating to urban areas creating additional pressure on the limited resources. These altogether form the key reasons for exploitation of the available resources, deforestation, unplanned development and various other related aftereffects including environmental degradation & risk of increasing man-made & human-induced disasters like accidents, industrial/ chemical disasters etc.
- 2.5.4 Technological Vulnerability:** There is lack of proper and effective technology to forecast, monitor and disseminate early warning information of onset of any threatening event in the district. This increases the risk of people living in vulnerable areas. Besides, lack of appropriate Technology and information also resists the capacity of the district to mitigate the risk.
- 2.5.5 Vulnerability due to Climate:** The poor, marginal and farmers are vulnerable to seasonal hazards like heat waves, Hail Storm, unseasonal rains and Drought. The sudden onset of monsoon and heavy rainfall not only damages the standing crops but also takes lives of the people and livestock. On the other hand, some parts of the district face drought due to deficient rains.
- 2.5.6 Structural Vulnerability:** Due to rapid urbanization, the buildings, constructions, and other infrastructures have been developed rapidly without taking into consideration the disaster vulnerability of the district. Most of the constructions are not disaster resilient or earthquake safe which increases the vulnerability of the population to various hazards. This is a major concern in the district. A large number of fire accidents take place in District Dhanbad due to lack of precaution while construction of unauthorized colony and houses. District Dhanbad has a large number of unauthorized areas. Unfortunately they neither seek permission from the administration nor take any

precaution to prevent calamity. There are a large number of fire accidents in such areas where electricity has been taken illegally from the electric poles directly.

**2.5.7 Non structural vulnerability:** Dhanbad district is highly vulnerable to multi hazards and few of the disasters are annual such as Mining Incidents, fire, Drought, heat & cold waves etc. The community is aware of these recurrent disasters and has some understanding & experience towards these disasters. However, the community is unaware of the risks arising out of rapid urbanization, unplanned development, deforestation, environmental degradation and other such potential disasters. This unawareness and inexperience to these situations poses added vulnerability to the community.

## **2.6 Capacity/Resource Analysis**

Considering the remoteness of the district it is analyzed that sufficient resources are not available within the district. Material resources, financial resources and skilled human power are not sufficient in the District to manage any larger calamities. District Dhanbad has decentralized its administration by increasing people's participation in various levels. Strengthening the capacity of line department is key for effective Disaster response. To take part in this effort it has a large number of elected Village representative (Mukhiya) in the district. The entire Community Based Disaster Management planning process needs to be designed in such a way that each panchayat territory has to prepare their own plans and sensitize its residents on disaster managements. The Non Governmental Organizations (NGOs) working in District Dhanbad plays a significant role in educating the public on various Disaster issues and their preventive measures.

### **2.6.1 Conclusion**

- EOC, Dhanbad, should be made functional with manned with permanent and experienced manpower.
- Strengthening and enhancement capacity in Disaster preparedness & response of all the line department.
- Strengthening and more publicity of the toll free like 100 & 101.
- GPS should be used in the entire emergency vehicle.
- Communication network needs to updated and strengthen-
  - ✓ *Installation & Patching of tetra sets with all the line departments.*
  - ✓ *Using of Sat Phone, HAM radio*
  - ✓ *Early warning should be connected with all the telecom service providers*
- Preparation of Village, Ward, MTA's, Hospitals and School Plan
- Training of teams on 'First Aid, fire fighting and Search & Rescue' as per the stakeholders plan
- Disaster Management Center of fire should be established in the district.
- DMC Disaster Management, Dhanbad, should be established.
- Berento ladders should be made available in the district.
- Establishment of Civil Defence in the District.
- State Disaster Resource Force-for more effective disaster response.

## **Chapter 3: Institutional Arrangements for Disaster Management**

### **3.1. Introduction**

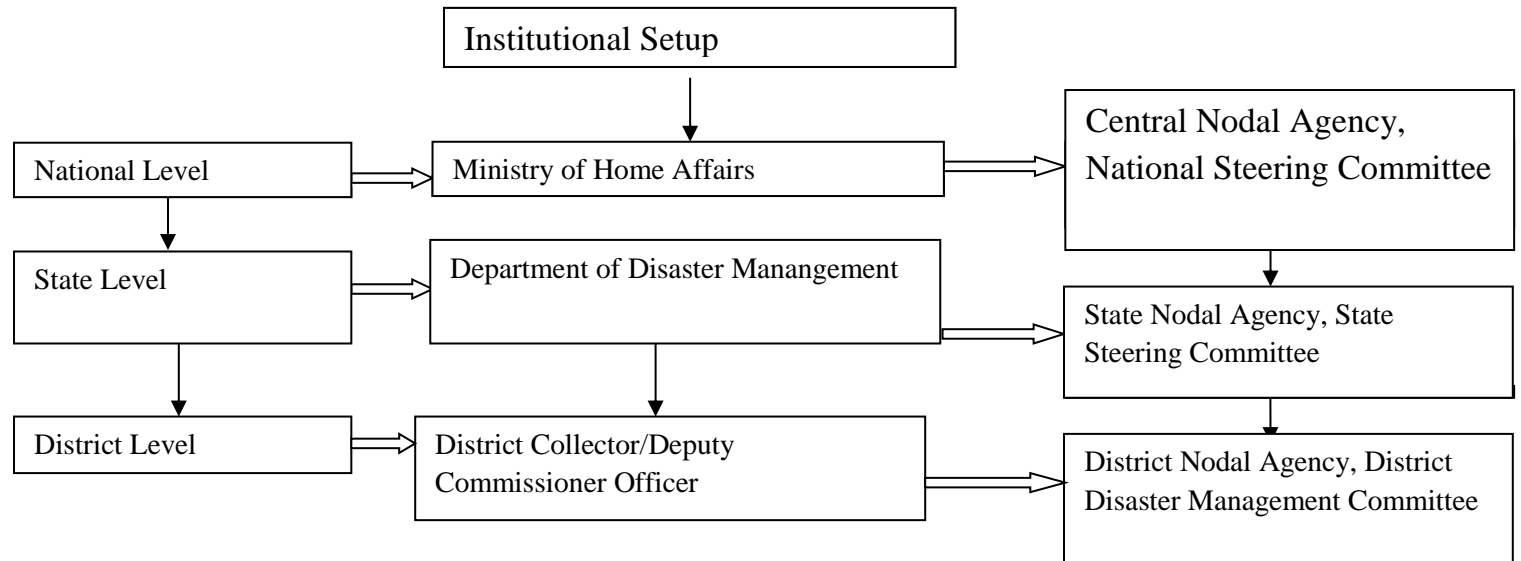
Most of the disaster situation is to be managed at State and District levels. The centre plays a supporting role and provides assistance when the consequences of disaster exceed district and State capacities. The centre mobilizes support in terms of providing emergency teams, support personnel, specialized equipments and operating facilities depending on the scale of the disaster and the need of the State and District. Active assistance to an affected State/District would be provided only after the declaration of a national level disaster, the national response mechanism has to be prepared and any impending State or District disaster has to be impending State or District disaster has to be monitored in order to provide immediate assistance whenever required.

The Disaster Management Act, 2005 (DM Act, 2005) lays down institutional and coordination mechanisms for effective disaster management (DM) at the national, state, and district levels. As mandated by this Act, the Government of India (GoI) created a multi-tiered institutional system consisting of the National Disaster Management Authority (NDMA), headed by the Prime Minister, the State Disaster Management Authorities (SDMAs) by the Chief Ministers and the District Disaster Management Authorities (DDMAs) by the District Collectors and co-chaired by elected representatives of the local authorities of the respective districts. These bodies have been set up to facilitate the paradigm shift from the hitherto relief-centric approach to a more proactive, holistic and integrated approach of strengthening disaster preparedness, mitigation and emergency response. *(Source NDMA guidelines)*

### **3.2 National Disaster Management Authority (NDMA)**

At the national level, the Ministry of Home Affairs is the nodal Ministry for all matters concerning disaster management. National Disaster Management Authority (NDMA) has been constituted for better coordination of disaster management at national level under the Disaster Management Act, 2005. The Prime Minister of India is the Chairperson of National Authority. This is a multi disciplinary body with nodal officers from all concerned Ministries/ Departments/ Organizations. Apart from these developments, the Government of India has its National Contingency Action Plan prepared by the nodal ministry of Disaster Management. A National Emergency Operations Center (NEOC) has been started functioning in the Ministry of Home Affairs with all sophisticated equipments with most modern technology for disaster management.

**Fig.: 3.1 Institutional Arrangements for Disaster management**



**3.2.1 Constitution of National Disaster Management Authority (NDMA)**

As per Sub-Section (2) of Section (3) of Disaster Management Act 2005, the National Authority shall consist of the Chairperson and such number of other members, not exceeding nine, as may be prescribed by the Central Government and, unless the rules otherwise provide, the National Authority shall consist of the following:-

- The Prime Minister of India, who shall be the Chairperson of the National Authority, ex officio;
- Other members, not exceeding nine, to be nominated by the Chairperson of the National Authority.

In pursuance of Ministry of Home Affairs Notification S.O. No. 3288 (E) dated 29<sup>th</sup> Decemner 2014, the Chairperson of NDMA has reconstituted the said Authority and nominated following three members in the rank and status of Secretary to the Government of India:

- i. Dr. D.N. Sharma
- ii. Shri Kamal Kishore
- iii. Lt. Gen. N.C. Marwah, PVSM, AVSM (Retd.)

Ministry of Home Affairs vide Notification S.O. 573 (E) dated 19.02.2015 has further conveyed that the Chairperson, NDMA has also nominated Shri R.K.Jain, Secratry NDMA as a Memner, NDMA and he will function as Menmber Secretary, NDMA.

**3.2.2 Powers and functions of the National Authority;**

As per Section (6) of Disaster Management Act 2005, the National Authority shall have theresponsibility for laying down the policies, plans and guidelines fordisaster management for ensuring timely and effective response todisaster. The National Authority may (a) lay down policies on disaster management;

- (b) Approve the National Plan;
- (c) Approve plans prepared by the Ministries or Departments of the Government of India in accordance with the National Plan;
- (d) lay down guidelines to be followed by the State Authorities in drawing up the State Plan;
- (e) lay down guidelines to be followed by the different Ministries or Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects;
- (f) Coordinate the enforcement and implementation of the policy and plan for disaster management;
- (g) Recommend provision of funds for the purpose of mitigation;
- (h) Provide such support to other countries affected by major disasters as may be determined by the Central Government;
- (i) take such other measures for the prevention of disaster, or the mitigation, or preparedness and capacity building for dealing with the threatening disaster situation or disaster as it may consider necessary;
- (j) Lay down broad policies and guidelines for the functioning of the National Institute of Disaster Management.

### **3.2.3 Crisis Management Group:**

Each Nodal Ministry will establish a Crisis Management Group for dealing with the crises which fall within the ambit of its responsibility. The Crisis Management Group will be responsible for dealing with a Crisis situation and for reporting all developments to the National Crisis Management committee (NCMC) and Seeking its directions and guidance as and when necessary. NCMC would be apex body of high level officials of the Government of India for dealing with a major crisis which has serious or national ramifications. The composition of the Committee would be as follows:

(a) Cabinet Secretary	-	Chairman
(b) Secretary/Principal Secretary to PM	-	Member
(c) Secretary, MHA	-	Member
(d) Secretary, MHA	-	Member
(e) Secretary (Security)	-	Member
(f) Director, IB	-	Member
(g) Secretary, R&AW	-	Member
(h) Deputy, NSA	-	Member
(i) Secretary, NDMA	-	Member

Joint Secretary (TS Cell), Cabinet Secretariat will be the Convener of NCMC. In case of nuclear scenario NDMA will be kept fully informed and also have the major coordination and advisory role.

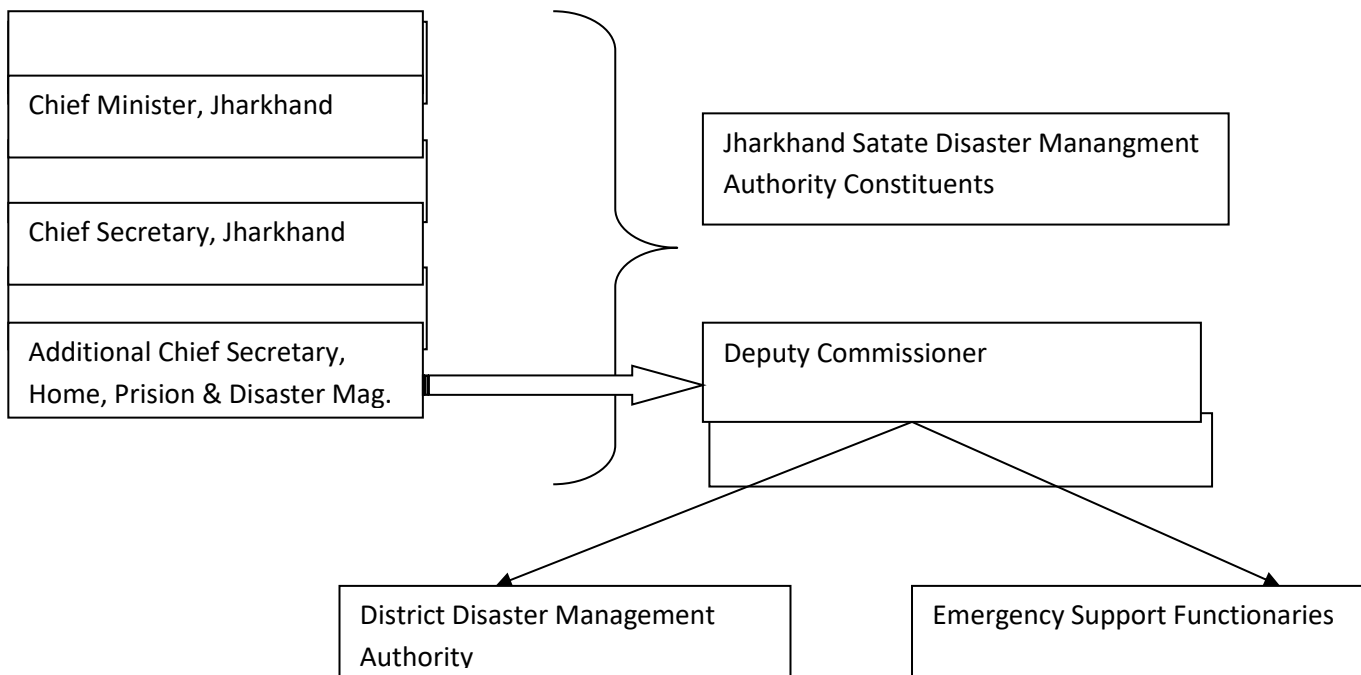
**3.3 Jharkhand State Disaster Management Authority:**

The vision of the authority is:

- To create a dedicated body that will assess, plan and implement the vital aspects of disaster management (Prevention, mitigation, preparedness and response) for Jharkhand.
- To ensure smooth coordination between Central and State Governments in the event of a disaster.
- To create a unified command, control and co-ordination structure for disaster management in Jharkhand, integrating the various wings and agencies of government that are necessary for emergency response, as well as for preparedness, mitigation and prevention activities.

**3.3.1 Institutional Arrangements for Disaster Management**

**Fig.: 3.2 Disaster Management Hierarchical in Dhanbad**



**3.3.2 Control Room of State/ Jharkhand State Disaster Management Authority**

State EOC has started running 24x7 at O/o Department of Disaster Management, Ranchi. Emergency toll free number (1070 or 0651-2446923) for Disaster has also been got activated.

**3.4 District Disaster Management Authority (DDMA) :**

District Disaster Management Authority (DDMA) is created under Section 25 of the Disaster Management Act, 2005 by the Parliament of India. The same has been notified by Government of Jharkhand vide letter no.2/DM-40/2010-824/DM-Ranchi dated 22.09.10. DDMA, Dhanbad, is the apex planning body responsible for disaster risk reduction initiatives in the district.

The DDMA consist of the following:

- |   |                            |
|---|----------------------------|
| 1. Deputy Commissioner of the District:                                   | Chairperson, ex-officio    |
| 2. Chairperson, Zila Parisad  | Co-Chairperson, ex-officio |
| 3. Additional Collector/<br>Ex-officio, Chief Executive Officer           | Member, ex-officio         |
| 4. Deputy Development Commissioner  | Member, ex-officio         |
| 5. Suprintent of Police   | Member, ex-officio         |
| 6. Chief Medical Officer  | Member, ex-officio         |
| 7. Executive Engineer<br>DW&SD (Drinking water and Sanitation Department) | Member, ex-officio         |

**Fig.: 3.3 Layout of District Disaster Management Authority (District Dhanbad)**

**Chairperson**

**Sh. Anjaneyulu Dodde, IAS**  
Deputy Commissioner (Dhanbad)/  
Chairperson, DDMA Dhanbad  
Ph.:0326-2312401, 9471191601

**Members**

Sh.Robin Gorai  
Chairperson, Zila Parisad (Dhanbad)  
Ph: 9934567272

Sh. Kishore Kaushal, IPS  
SSP (Dhanbad)  
Ph: 0326-2220802, 9431120900

Sh. Shashi Ranjan, DDC (Dhanbad)  
Ph:0326-2310331,9471191602

Sh. S.N. Ram, Additional Collector (Dhanbad)  
Chief Executive Officer, DDMA (Dhanbad)  
Ph: 9471191603



Dr. Pradeep Baski, CMO (Dhanbad)  
Ph: 0326-2312148, 9431711098

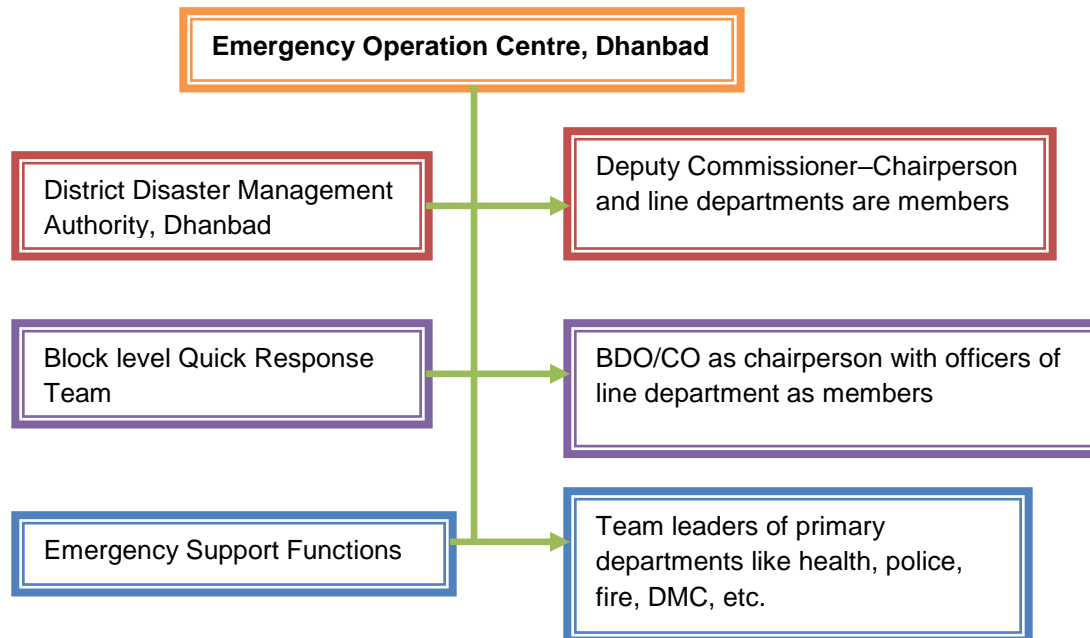
Sh. Harender Mishra, EE (Urban)  
Ph: 6206342859  
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The Chairperson of the District Authority shall, in addition to presiding over the meetings of the District Authority, exercise and discharge such powers and functions of the District Authority as the District Authority may delegate to him.

The Chairperson of the District Authority shall, in the case of an emergency, have power to exercise all or any of the powers of the District Authority but the exercise of such powers shall be subject to ex post facto ratification of the District Authority.

The District Authority or the Chairperson of the District Authority may, by general or special order, in writing, delegate such of its or his powers and functions, under sub-section (1) or (2), as the case may be, to the Chief Executive Officer of the District Authority, subject to such conditions and limitations, if any, as it or he deems fit.

**Fig 3.4: Institutional Arrangements at Dhanbad District**



The District Authority shall act as the district planning, coordinating and implementing body for disaster management and take all measures for the purposes of disaster management in the district in accordance with the guidelines laid down by the National Authority and the State Authority.

**As per the DM Act, 2005, the District Disaster Management Authority may:**

- Prepare a disaster management plan including district response plan for the district;

## ***District Disaster Management Plan (Dhanbad)***

- Coordinate and monitor the implementation of the National Policy, State Policy, National Plan, State Plan and District Plan;
- Ensure that the areas in the district vulnerable to disasters are identified and measures for the prevention of disasters and the mitigation of its effects are undertaken by the departments of the Government at the district level as well as by the local authorities;
- Ensure that the guidelines for prevention of disasters, mitigation of its effects, preparedness and response measures as laid down by the National Authority and the State Authority are followed by all departments of the Government at the district level and the local authorities in the district;
- Give directions to different authorities at the district level and local authorities to take such other measures for the prevention or mitigation of disasters as may be necessary;
- Lay down guidelines for prevention of disaster management plans by the department of the Government at the districts level and local authorities in the district;
- Monitor the implementation of disaster management plans prepared by the departments of the Government at district level;
- Lay down guidelines to be followed by the Departments of the Government at the district level for purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefore;
- Review the state of capabilities for responding to any disaster or threatening disaster situation in the district and give directions to the relevant departments or authorities at the district level for their up gradation as may be necessary;
- Review the preparedness measures and give directions to the concerned departments at the district level or other concerned authorities where necessary for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation;
- Organize and coordinate specialized training programmes for different levels of officers, employees and voluntary rescue workers in the districts;
- Facilitate community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, government and non-governmental organizations;
- Set up, maintain, review and upgrade the mechanism for early warnings and dissemination of proper information to public;
- Prepare, review and update district level response plan and guidelines;
- Coordinate response to any threatening disaster situation or disaster;

## *District Disaster Management Plan (Dhanbad)*

- Ensure that the Departments of the Government at the district level and the local authorities prepare their response plans in accordance with the district response plan;
- Lay down guidelines for, or give direction to, the concerned Departments of the Government at the district level or any other authorities within the local limits of the district to take measures to respond effectively to any threatening disaster situation or disaster;
- Advise, assist and coordinate the activities of the Departments of the Government at the district level, statutory bodies and other governmental and non-governmental organizations in the district engaged in the disaster management;
- Coordinate with, and give guidelines to, local authorities in the district to ensure that measures for the prevention or mitigation of threatening disaster situation or disaster in the district are carried out promptly and effectively;
- Provide necessary technical assistance or give advise to the local authorities in the district for carrying out their functions;
- Review development plans prepared by the Departments of the Government at the district level, statutory authorities or local authorities with a view to make necessary provisions therein for prevention of disaster or mitigation;
- Examine the construction in any area in the district and, if it is of the opinion that the standards for the prevention of disaster or mitigation laid down for such construction is not being or has not been followed, may direct the concerned authority to take such action as may be necessary to secure compliance of such standards;
- Identify buildings and places which could, in the event of any threatening disaster situation or disaster be used as relief centers or camps and make arrangements of necessary items;
- Establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at a short notice;
- Provide information to the State Authority relating to different aspects of disaster management;
- Encourage the involvement of non-governmental organizations and voluntary social-welfare institutions working at the grassroots level in the district for disaster management ;
- Ensure communication systems are in order, and disaster management drills are carried out periodically;
- Perform such other functions as the State Government or State Authority may assign to it or as it deems necessary for disaster management in the district

After constitution of District Disaster Management Authority, District Disaster Management Committee has been formed meeting with Emergency Support Agencies (ESF) are regularly been held under the chairmanship of DC (Dhanbad). These departments play a major role in preparedness and mitigation. Each nodal officer will be accountable to his own department in terms of the disaster management. District Disaster Management Officer have been appointed in the district to look after the day-to-day affairs of disaster management in the district.

The objective of ESF Department is to provide necessary guidance and inputs in preparedness, mitigation and management planning through a participatory approach. It is responsible for all disaster management activities (prevention, mitigation, preparedness, relief, rehabilitation, reconstruction) at the district level, including formation and training of Disaster Management Teams in specific areas such as warning dissemination, damage assessment, first aid & medical relief, search & rescue, trauma counseling, shelter management, water & sanitation, carcass disposal, relief & coordination etc. Capacity building and training activities at all levels, awareness generation; preparing District Disaster

Management Plan; replication of activities at the sub-divisional, block and community levels, periodic organization of mock drills and disaster preparedness exercises at various levels involving co-ordination of the various agencies, are contributing significantly in attaining the ultimate goal of disaster management.

#### **3.4.1 Block level– Special Response Team:**

In view to strengthening the Disaster Preparedness of the district, Special Response Team (SRT) at Sub division level has been constituted for medical response, search and rescue including heliborne medical evacuation and heliborne fire services. The above Special Response Teams (SRT) shall be responsible for:

- Development of response plan and procedure at the respective Block level and Updation of the same.
- Immediate provision of search, rescue and medical response in the event of any disaster.
- Ensuring resource availability relating to management of disaster.
- Coordination and mobilization of equipment during disaster.
- Reporting about the situation to the higher authorities.
- Any other activity that may be assigned by District Disaster Management Authority.

The Chairman of the Special Rescue Team shall send quarterly progress report to the district for the placement of the same before DDMA.

### **3.4.2 District Crisis Management Group**

Crises Management Plan (CMP) – 2013, Framework of Ministry of Home Affairs addresses following crises situations:  
- **Public Disorder, Terrorist Outrages, Mutiny, Migration/Exodus/Infiltration, Major Natural Calamities and Security of Major Installations in the District.**

Further it envisages that each district will prepare/ update internal security schemes/crises/ Disaster Management Plans by incorporating therein the sequence of actions required to be taken by each department/Agency in any crises/emergency/natural disaster related situation.

CMP- 2013 calls for constitution of District Crises Management Group **headed by Deputy Commissioner/ Commissioner of Police** having following members

- i) Superintendent of Police.
- ii) A representative of IB.
- iii) Dy. Development Commissioner/ Additional District Magistrate
- iv) Any other District officer whose inclusion is considered necessary in the light of the emerging situation may be co-opted as a member.

This group will be responsible for on – scene management of the incident/emergency.

CMP-2013 envisages that District Emergency Operation Centers will have GIS based maps indicating the roads/railways/hospitals and other essential infrastructure. They will have online access to India Disaster Resource Network (IDRN)

Further during Response/ Crisis Management phase all operational decisions shall be taken by the District Crisis Management Group/ Crisis Management Team at the spot. It shall seek directions and advice wherever necessary from the State Crisis Management Group, Crisis Management Group of MHA or the National Crisis Management Committee

In any emergency involving hostage taking, Seizure of a building or kidnapping perpetrated by terrorist groups, giving into blackmail or threat and conceding to the demands of the terrorist group is counter – productive from the point of view of national security. However, there should be no hesitation in starting negotiations as a matter of strategy as it serves as an effective ploy for buying time. The District Group will guide the negotiations. The district group will take guidelines from State Group .In cases involving foreign governments or where a national personality is involved Crisis Management Group of MHA will arrange for a Central negotiating team.Regarding media handling it is mentioned in CMP-2013 that the District

Magistrate/ Commissioner of Police will brief Media from time to time regarding the progress in handling Contingency/Emergency.

### **3.5. District Emergency Operation Centre, Dhanbad**

Space has been earmarked for establishment of Emergency Operation center in Dhanbad in the premises of the Office of the Deputy Commissioner, Dhanbad. National Disaster Management Authority (NDMA) is developing the the Emergency Operation Center (EOC), Dhanbad. VSAT, Computer, Telephone, Online Battery Back-up already being installed in EOC. Initiatives has been taken by DDMA, Dhanbad to connect EOC with other control rooms of the Government Departments. A resource data base inventory needs to be uploaded in IT network. The resource inventory would include all the information related to availability and location of the equipments, vehicles and manpower available with the various department such as Fire service, Police Service, Health Department, Municipal Corporation, Food and Civil Supply, Transport Department, Road and Building, Public Welfare Department etc. This inventory would be helpful in mobilizing the available resources within various districts and states at the time of emergency.

#### **3.5.1 Partnership with Social Organizations**

Dhanbad district has been partnering with various social organizations like Indian Red Cross Society, NGO's etc for creating awareness in the district.

### **3.6 Conclusion**

At national level-NDMA has been constituted. An emergency control room along with crises management committee and groups has been constituted. At state level, Office of Divisional Commissioner has been identified as focal point for disaster management. DDMA, State EOC, State Executive Committees under the Chairmanship of Chief secretary of Jharkhand, are some of the important organizations laid down to regulate disaster management activities in the state.

Dhanbad District has played a vital role in institutionalizing disaster management within various government and non-government agencies. District has been able to develop a separate control room from where all the disaster management related activities are getting regulated.

## **Chapter 4: Prevention & Mitigation Measures**

### **4.1 Introduction**

Disaster Mitigation contributes to lasting improvement in safety and is essential to integrate disaster management in mainstream planning. Broadly mitigation ways can be divided into two parts i.e. structural measure and non-structural measures. Structural measures undertake to strengthen buildings, lifelines and infrastructure to withstand any hazard. Non-structural measures emphasis on land-use planning, programmes for sustaining awareness, dissemination of information materials on do's and don'ts at the time of disaster. Once the area has been identified as hazard prone, it becomes important that the government and the community should practice these above-said measures. Based on this ideology, mitigation plan may vary according to hazards. The Dhanbad district is being considered prone to earthquake, Industrial Disaster, Mines Disaster, Drought, lightning and fire related hazards, incidences of land slides due to loss of subsidence are also very frequent in District Dhanbad.

### **4.2 Disaster Mitigation Measures**

As it has been discussed in the previous chapters that district Dhanbad lies in Zone III. Risk gets compounded when hazard meets with Vulnerabilities as high dense population, weak physical structures and conventional construction technologies. Similarly, district is also vulnerable to high degree of Industrial Disaster, Mines Disaster, Drought, lightning and fire related hazards, incidences of land slides due to loss of subsidence and chemical explosions. Although, district has not faced any high intensity earthquake but studies envisages that Dhanbad can receive an earthquake of 6 to 7 richter scale band.

Earthquakes can destroy buildings and infrastructure with secondary effects i.e. fires, embankments failures, release of poisonous gases, release of nuclear radiations, liquefaction etc. Therefore it is important to consider both primary and secondary effects into disaster mitigation planning.

So, an effective mitigation planning is necessary to reduce the risk involved in the district. For efficient disaster mitigation, the pre-disaster phase needs to be utilized for planning and implementing preventive measures on the one hand and working on preparedness activities on the other. Disaster is caused due to failure of manmade structures, lack of preparedness and awareness. So far, disaster mitigation efforts are mostly reactive. (HPC, 2001)

#### 4.2.1 Structural Mitigation Measures

**a. Retrofitting of Buildings:** Generally buildings of the district can be characterized in three parts i.e. Slums and JJ clusters, non-engineered and engineered buildings (Table 4.1).

**Table 4.1: Categorization of housing typology in the district**

S.No	Categories	Construction description	Resistance
1	Unplanned colonies etc	Weak constructions	May get damaged due to moderate intensity of earthquake
2	Non-engineered buildings	Brick construction Masonry buildings	May damage due to moderate to high intensity of earthquake
3	Engineered Buildings	R.C.C constructions with good designs but not necessarily earthquake resistant	May damage due to high intensity of earthquake.

*\* Note: Above table is based on reconnaissance survey and general observations*

The Bureau of Indian Standards (BIS) has developed its first code on a seismic design in 1962 (IS:1893-1962). However, till date there is lack of efficient legal framework to implement seismic code provisions in Dhanbad. As a result most of the building in Dhanbad does not meet codal requirements on seismic resistance. Even if new constructions may fulfill the requirement of seismic code provisions in their buildings, still a very large inventory of old buildings will remain deficient for seismic safety. Therefore we need to develop a rational seismic retrofitting plan for the government owned buildings and private constructions on priority bases. Generally public buildings are given first priority because they are lesser in number and at the time of disaster people can take shelter in these public buildings. Some of the important public buildings are schools, hospitals, government officers, community halls, fire and police stations, cultural buildings, communication buildings, cinema halls, meetings halls, historical monuments and important installations etc. The proposal for certification of such critical buildings from the point of view of disaster resilience needs to be carried out in futher.

#### **b. Need of systematic study to evaluate construction typology in the district:**

Systematic studies are needed on vulnerability of different types of constructions in the area.



This will require experimental studies to evaluate strength, stiffness and ductility of different types of constructions as well as analytical studies such as the Push over Analysis. Experiences of past earthquakes both in India and abroad have clearly outlined the vulnerability of multistory reinforced concrete buildings if not designed and constructed correctly. Huge number of upcoming multistory reinforced concrete buildings in Dhanbad, particularly those with open ground storey to accommodate vehicle parking, could also pose a major challenge in the event of a strong earthquake.

### **c. Construction Control**

The best mitigation measure is to build strong built-in environment in the district. The district must ensure the implementation of building codes. The quality of buildings measured by their seismic resistance has its fundamental importance. Minimum designs and construction standards for earthquake resistant structures legislated nationally are an important step in establishing future minimum level of protection for important structure. India has building codes and regulations for seismic resistant design which needs to be enforced by municipal bodies. The DDMA, Dhanbad, is planning to take up this issue with JMADA and DMC to urgently carry out structural audit of buildings in Dhanbad with the assistance of experts from NDMA, using RVSA (Rapid Visual Screening Assessment) and DVA (Detailed Vulnerability Assessment) methods.

## **4.2.2 Non-Structural Measures**

### **a. Land Use Planning**

Damage of buildings depends primarily upon the soil conditions and topology of the area which are moderately favorable in the district. Anyhow, to analyze risk within district microzonation planning should take place. It will help to guide modify landuse planning in the district accordingly.

### **b. Capacity Building and awareness generation**

Country have a very few experts in mitigation planning. We must focus our attention to the institutionally and manpower development at all levels. There is a need to train architects, engineers, planners and masons in developing safe housing and infrastructure facilities. District has already arranged two trainings for engineers & masons. Manuals have also been developed outlining methodologies for new constructions and retrofitting of old ones. A strong legal and enforcement framework with appropriate incentives and punitive

Measures is required together with awareness programmes for general public. All these components must be taken up simultaneously; ignoring one aspect for the other could be counterproductive.

**c. Insurance**

Insurance brings quality consciousness in the infrastructure and a culture of safety by insisting to follow building codes, norms, guidelines, quality materials in construction. It would enforce safety standards by bringing accountability. Hazardous area should be announced, notified and publicly displayed so that people would be motivated not to settle in those areas and insurance be mandatory in insurance prone areas. Premiums can be changed on the basis of risk proneness. Urban Development Department, Jharkhand, may be asked to draft a scheme to incentivize house owners to take up retrofitting of their houses.

**4.2 Non-Structural Mitigation Measures**

**Important Mitigation Measures**

Sl. No.	Strategies	Actions involved	Suggested Institutions involved
1	<b>Retrofitting of buildings</b>	Prioritization of buildings according to their importance during emergency. <i>First priority buildings are:</i> <ol style="list-style-type: none"> <li>1. District administration office building, all police and fire stations</li> <li>2. Nodal</li> <li>3. All Schools (Government and Public )</li> <li>4. Residences of District Commissioner, Superintendent of Police</li> </ol> <i>Second priority buildings are:</i> <ol style="list-style-type: none"> <li>1. Hospitals and clinics</li> <li>2. Community centres</li> <li>3. Residences of other key officials</li> <li>4. Office buildings of DMC, JMADA, and Important installations in the district</li> </ol> <i>Third Priority buildings are</i> <ol style="list-style-type: none"> <li>1. Remaining Government Buildings and colonies</li> </ol>	<b>MCD/PWD engineers</b>
2.	<b>Enforcement of Building codes</b>	Review and updation of building codes Implementation of codes in new engineered and non-engineered constructions	<b>BIS</b> <b>DMC</b>
3.	<b>Community Awareness</b>	Large-scale information dissemination about basics of new constructions and retrofitting of existing buildings and encouraging fire-fighting arrangements in the building	<b>DMC, PWD, District Administration</b>

		Information dissemination about dos' and don'ts at the time of earthquake event and fire-outbreak	<b>District administration, Fire and police department, NGO's</b>
<b>4.</b>	<b>Capacity Building</b>	Priority-wise training to the engineers, architects, and masons for disaster-resistance. These people may further utilized for providing assistance in retrofitting and reconstruction exercises.	<b>District administration, DMC and PWD</b>
<b>5.</b>	<b>Insurance</b>	Identification of hazardous areas in the district	<b>DC Office, DMC</b>
		Provisions of insurance according to building bye laws, codes and hazard proneness	<b>Insurance companies, BDO's/CO's</b>

### **4.3. Disability in Disaster Management**

Reasons for disability inclusion in Disaster Management

- During disaster responses, people with a disability are often invisible and excluded from accessing emergency support and essential services such as food distribution, medical care, shelter and water, sanitation and hygiene (WASH) facilities.
- Information on disaster preparedness is often not in accessible formats so people with a disability are less aware and prepared for a disaster.
- Environmental, social and attitudinal barriers result in requirements of the 15% of the world's population with a disability not being met within disaster management responses. It is therefore crucial that disability inclusion in all phases of disaster management occurs so as to ensure the full and equal fulfilment of human rights of people with a disability.
- Disability inclusion in emergency management reduces morbidity and mortality.
- The rate of disability increases during an emergency due to direct trauma, illness from poor living conditions, the breakdown of health services and lack of rehabilitation and an increase in psychological stress.

Inclusion people with a disability in disaster management Disability inclusion in all phases of disaster management including disaster risk reduction - preparedness, prevention and mitigation, along with disaster relief, rehabilitation and recovery is crucial. Disaster preparedness can incorporate disability measures through building knowledge and capacities of governments, organisations, communities and individuals to anticipate disability impact and inclusively respond to and recover from disasters and emergencies. Such preparedness can include disability contingency planning and training; stockpiling of mobility aides and other devices along with general supplies; planning for accessible evacuation and public information in alternative formats. Risk reduction,

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often done concurrently with preparedness, can incorporate reducing exposure to hazards which can cause disability along with decreasing the vulnerability of people with an existing disability.

Awareness programme with the disability in the district will be chalked out and all the plans with –**School, Panchayats and MTA**’s needs to be prepared by emphasizing the disability friendly environment. All the institution has been sensitized to create disability friendly infrastructure.

### **4.4 Pre-Disaster Period**

<b>Preparation</b>	<b>Objective</b>	<b>Action Initiated by</b>
Convening District Level Committee on natural calamity in the month of May	To suggest the least of relief work to be undertaken, advise on the precautionary measures to be taken, directions for stocking of food grains in strategic or key points.	District Emergency Operation Center
Identification of vulnerable points according to the expected disaster.	Repairing of breaches, stocking of the sand bags, alerting people near highly vulnerable pockets.	Additional collector, COs, BDOs, Executive engineers of different departments
Identification & Indent of essential commodities for the inaccessible/scarcity pockets	Stocking of food grains and other essential things in GP headquarters	COs, BDOs,
Selection of Shelters	Arrangements for shelter during emergency	Additional collectors, Cos, BDOs through PRIs and local people
Requirement of medicines, formation of mobile teams, identifying epidemic areas	Stocking of medicines and deputation of personals.	Civil surgeon
Arrangement of food and fodder for the cattle	Stocking of the same	ADM (food & civil Supply)
Organizing Mock drills	Awareness generation and practice	District level officers

**4.5 Immediate pre disaster**

<b>Preparation</b>	<b>Objective</b>	<b>Action Initiated by</b>
Receipt of information	From IMD/SRC control room/DEOC	DEOC
Dissemination of information	From DEOC to all Cos/BDOs/line depts.	DEOC, Head of line depts. ,sub collectors, BDOs, COs
Immediate setting and operational of control room round the clock Rescue and evacuation	To evacuate vulnerable people to identified shelters and logistic arrangements	Police personals, armed forces, fire officers, red-cross team ready with rescue kits which are to be made available to them through the DEOC
Arrangement of free kitchen	To provide immediate feeding to the evacuated people	BDOs/CDPOs/NGOs
Sanitation and medicines	To prevent epidemics and infections	Executive engineer of PHED/Civil Surgeon
Ensuring transportation of relief materials to affected pockets	To ensure that the relief materials reach in time to the affected people	DSO/SDM/BSOs/DTO
Ensuring safety of life and belongings	To prevent anti-social activities	SP/DSP/Inspector and SI of the affected block/NGOs
Ensuring availability of safe drinking water, provision of health facilities and minimum sanitation	To check the onset of epidemics	CS/Executive engineers of PHED
Meeting of field level officers in every 24 hours to review the situation	Better co-ordination	DC, DDC at district level and SDM at sub-divisional level
Collection of information by the core group of the EOC and daily reporting to concerned officers	Triangular linkage between field, district and state control room	Core group of EOC/Officers of line departments
Estimation of number of vehicles – Light/Medium/Heavy	To ensure smooth transportation for relief works	DTO
Arrangement of road cleaners/power sow and other essential equipments	To clean the roads, cut the fallen trees, clear the debris etc.	DTO, Executive Engineer, Executive Officer – Nagar Panchayat
Arrangement of trucks loaded with generators	To move to the field immediately after the disaster is over	DTO

**4.6. During Disaster:**

<b>Preparation</b>	<b>Objective</b>	<b>Action initiated by</b>
Alertness & Readiness to gear up in action, immediately after the disaster	To rescue the trapped and injured persons	All the stakeholders
Control room functional round the clock	To mitigate the effects of the disaster	District control room, all line depts., BDOs, Cos
Monitoring	To review the rescue and relief work	DC, SDM

**4.7 Post Disaster:**

<b>Preparation</b>	<b>Objective</b>	<b>Action Initiated by</b>
Distribution of relief as per provisions	To provide food and other essential commodities for survival	SDM, BDOs, COs, NGOs
Assessment of Damage	To ascertain the exact loss for reporting to the govt.	All line depts., COs, BDOs, Executive engineers, Sub Collectors
Monitoring the relief operations organized by external agencies/UN agencies/Red Cross / NGOs /Other States etc. by the dist. Authorities	To maintain uniformity of relief administration	DC, SDM
Restoration of communication – Roads & Railways	For timely and Prompt delivery/transportation of relief articles/deployment of rescue teams	Executive engineers of concerned depts., Military and paramilitary forces, police
Restoration of electronic communication system	To ensure proper co-ordination linkage	BSNL Technocrats of police signals
Immediate arrangement of free kitchen for the effected people	To avoid starvation	CO's/BDOs/Line depts./PSUs
Documentation of the entire event- Written, Audio, Video	For reporting purposes and institutional memory	SDM /COs/BDOs
Monitoring	To review the relief works and remove the bottlenecks	DC/DDC/AC

**4.8 Mitigation Plan for the vulnerable groups**

<b>Activity</b>	<b>Directly responsible</b>	<b>Sub division monitor</b>	<b>District Monitor</b>
ICDS centers must run without fail	CDPO	COs/BDOs	DSWO
NPEGEL schools orphanages must run without fail	Project Director, NPEGEL	COs/BDOs	DEO/DSWO
Uninterrupted MDM must be provided in all schools	BEEO/BDO	COs/BDOs	DEO/DSWO

**4.9 Drinking Water for people**

<b>Activity</b>	<b>Directly responsible</b>	<b>Sub division monitor</b>	<b>District Monitor</b>
Pipelines repaired within 48 hours of receiving a complaint at block / PHD / Rural water supply and sanitation (RWSS)	Concerned SDO, PHED	COs/BDOs	Executive Engineer, PHED
Prompt/Immediate repair of stand posts	Concerned SDO, PHED	COs/BDOs	Executive Engineer, PHED
New tube wells installed at strategic points	Concerned SDO, PHED	COs/BDOs	Executive Engineer, PHED
Digging of drinking water wells at the place of need	BDO	COs/BDOs	DRDA
Renovation of traditional drinking water sources with departmental fund of Rural water supply and sanitation (RWSS)	BDO	COs/BDOs	Executive Engineer, PHED

**4.10 Public Distribution System**

<b>Activity</b>	<b>Directly responsible</b>	<b>Sub division monitor</b>	<b>District Monitor</b>
To keep close watch on rates of essential commodities and report deviations	Inspector of supplies / Marketing officer	SDO	AC/DSO
Monitoring of off take/lifting	Inspector of supplies / Marketing officer	SDO	AC/DSO
Arrangement for sale of rice, wheat, atta in the affected areas	Inspector of supplies / Marketing officer	SDO	AC/DSO

**4.11 Wage Employment/Minimum wages for the able**

<b>Activity</b>	<b>Directly responsible</b>	<b>Sub division monitor</b>	<b>District Monitor</b>
Labours shall be provided with work Model percolation tanks shall be dug	BDO	SDO	DC/DRDA
Minimum wages reinforced	DLO	SDO	DLO
Liasioning with govt. for immediate allocation of funds for taking up LI work	BDO	SDO	DC, DRDA
Only labour intensive works will be taken up	BDO	SDO	DC, DRDA

**4.12 Epidemic Control and Animal Diseases**

<b>Activity</b>	<b>Directly responsible</b>	<b>Sub division monitor</b>	<b>District Monitor</b>
Steps taken on war footing for control of epidemics	Medical Officer	ACMO	CS
Prevention and Control of Animal Diseases	Block Animal Husbandry Officer	SAHO	DAHO



**4.13 Plan for capacity Building and Awareness Generation**

<b>Activity</b>	<b>Agency Responsible</b>
Training Program on Search and rescue for the teams	Police, Fire Department, Home Guard
Training program on disaster preparedness for the frontline workers of the line depts. (AWW, ANM, Sahiya)	NGOs, CS, DSWO
Training on first aid, Health Care, Sanitation for the panchayat members	CS, BDOs, NGOs
Mock drills in govt. and non govt. schools	DEO, District fire officer
Wall paintings, street plays	CS-Through field agencies BDOs-Through CBOs/volunteers NGOs-Through block level NGO network
Slide in cinema halls	DPRO and BDO
Hand bills, Paper advertisement, press release	DPRO and BDO
Meetings and group discussions by community leaders	DPRO and BDO

**4.14 Lightening:**

Lightening is a natural phenomenon of the district. Every year people as well as cattle die due to the lighting. 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.

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

### **Do's and Don'ts during Lightning**

- If caught on high ground or in an open area, seek shelter in a low area and stay away from trees
- If you are swimming, get out of the water immediately, and move away from the body of water. Being near water is extremely dangerous during a lightning storm
- If you are caught in a lightning storm with a group of people, maintain a distance of at least 50-100 feet between each person
- While inside, keep windows closed, and try to stay within inner rooms of the structure
- In a car, try to avoid touching any part of the metal frame or the car's glass
- Stay inside at least 30 minutes after the last strike. Don't go out if the rain starts letting up

### **4.15 Drought**

There is no substitute for good drought response planning to guide District and local officials in the management of a drought situation. Even with these plans in place, there remains a substantial amount of uncertainty among many communities on how to proceed when a drought event occurs. Improving the effectiveness of local drought response is a primary mitigation action that should be undertaken as part of the District drought plan.

Many of the recommended actions will have direct applications for use in addressing risk to other drought impact sectors including agriculture, the environment, and economic development.

### **Drought Management:**

#### **Drinking Water**

- There should not be shortage of drinking water
- Drilling rigs should be deployed over drought affected areas for digging adequate no. of wells at strategic points.
- Tankers with potable water should be deployed to the affected rural areas making 3-4 rounds during the day.
- Installation and repairing of Hand Pumps

<b>Task</b>	<b>Activity</b>	<b>Directly Responsible</b>	<b>Sub- Divisional monitor</b>	<b>District Monitor</b>
Drinking water for people	Repair within 48 hrs. of receiving a complaint at Block/ PHD/RWSS office	Concerned SDO, PHED	COs/BDOs	Exe. Engineer, MI/PHED
New tube wells	Shall be sunk in order of priority	Concerned SDO, PHED	COs/BDOs	Exe. Engineer, MI/PHED
Drinking water wells/Sinking of wells in Ponds	To de dug at the place of need in consultation with Block out of Pas Fund	BDO	COs/BDOs	DRDA
Renovation of traditional drinking water resources	To be taken up immediately out of departments fund of RWSS in consultation with BDO	BDO	COs/BDOs	Exe. Engineer, MI

### **Contingency Crop Plans**

- Choosing suitable crops/crop varieties
- Alternative crop strategies
- Agriculture Officer should seek out contingency plan from the Ministry of Agriculture and provide awareness to the farmers.

<b>S.N</b>	<b>Stages of plant growth</b>	<b>Measures to be taken by farmers</b>
1.	Seedling/ Nursery Stages	Change of micro climate by smoking around the field especially during night.
2.	Vegetative Stage	Irrigating the field, smoking the field during night.
3.	Reproductive Stage	
4.	Harvesting Stage	Harvest the crop at physiological maturity stage

### **Livestock Management**

- Herds of sheep and goats recover fast, but cattle, buffaloes etc. grow slowly in numbers
- Department of Animal Husbandry should ensure the provision of adequate fodder for protection of livestock
- Farmers can use sugarcane husk, sunflower heads, groundnut/red gram/green gram etc. as cattle feed

### **Drought Proofing:**

#### **Harvest rain, involve communities, move from ‘drought management’ to ‘monsoon management’**

- Building of dams and irrigation systems
- Revive and strengthen traditional knowledge in water harvesting and conservation if possible.
- If the runoffs of forest areas, mountains and other uninhabited terrain can be harvested, the potential for rainwater harvesting is enormous.
- Making available adequate no. of tanks/ponds in villages for recharging ground water
- Village scale water harvesting must be put higher priority as running water gets lost in a huge amount due to evaporation, infiltration into soil etc.
- A large no. of micro catchments (E.g. 0.1 hectare) provide larger amount of rainwater harvested than a larger catchment though the land area remains the same.

**Household Strategies**

As drought is a frequent phenomenon in Jharkhand, households, the District organisations have evolved various strategies for coping before and after drought.

<b>Before Drought</b>	<b>After Drought</b>
<ul style="list-style-type: none"> <li>• crop diversification/ crop variety diversification</li> <li>• livelihood diversification</li> <li>• staggering of seedling periods</li> <li>• early migration</li> <li>• keeping land fallow</li> <li>• limited re-sowing</li> </ul>	<ul style="list-style-type: none"> <li>• increased re-sowing if the rains come</li> <li>• shift to pulses on upland and medium-level land</li> <li>• early sowing of rabi crop</li> <li>• providing irrigation to paddy seedlings</li> <li>• transplantation of over-mature paddy seedlings to get straw for feeding animals</li> <li>• migration</li> <li>• asset depletion</li> <li>• borrowings</li> <li>• reduction in consumption</li> </ul>

**Drought Measures**

1. Strengthening of long range, medium range and short range forecasting of monsoon by IMD at Meteorological Sub-Division, District and Block level.
2. Artificial recharging of ground water, watershed programmes in privately owned small/marginal farms, laying of pipes/channels for exclusive transportation of water to dry areas.
3. Programme for reconstruction and preservation of traditional water harvesting structures, construction of canals for transportation of water from surplus to non-surplus areas, establishment of cost-effective drip /sprinkle irrigation practices etc.
4. Construction of “Community Ponds” through Panchayati Raj Institutions (PRI) and maintenance by levying user charges.
5. Ensuring provision of medicines and critical health care in the risk prone areas during drought for humans and animals.

<b>Before Disaster</b>	<b>During Disaster</b>	<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Dams/reservoirs and wetlands to store water</li> <li>• Construction of warehouses and cold storages for preservation / storage of food grains</li> <li>• Water rationing</li> <li>• Proper selection of crop for drought-affected areas</li> <li>• Watershed management</li> <li>• Education and training to the people</li> <li>• Participatory community programmes</li> <li>• Reducing deforestation and fire-wood cutting in the affected areas</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring prompt availability of food grains and fodder</li> <li>• Ensure availability of drinking water and water needed for basic needs</li> <li>• Mobilise district level plans in terms of releasing additional funds to improve irrigation</li> <li>• Ensuring prompt supply of inputs like seeds, fertilizers and credit</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement in agriculture through modifying cropping patterns and introducing drought-resistant varieties of crops</li> <li>• Animal husbandry activities can help in mitigation with use of improved and scientific methods</li> <li>• Arrangements for distribution of gratuitous relief and cash doles</li> </ul>

#### **4.16 Earthquake- Measures For Earthquake Risk Reduction**

For better understanding of all the possibilities of earthquake risk reduction, it is important to classify them in terms of the role that each one of them could play. Therefore, in the pre-earthquake phase, preparedness, mitigation and prevention are concepts to work on. Post-disaster, immediate rescue and relief measures including temporary sheltering soon after an earthquake until about 3 months later and reconstruction and rehabilitation measures for a period of about six months to three years need to follow. To encapsulate, the most effective measures of risk reduction are pre-disaster mitigation, preparedness and preventive measures to reduce vulnerability and expeditious, effective rescue and relief actions immediately after the occurrence of the earthquake. Depending upon the calamity and its consequences, strategies can also be divided into long term (five to fifteen years), medium term (one to five years) and short term (to be taken up immediately in high risk areas). Since it has been realized that earthquakes don't kill people but faulty constructed buildings do, the task of reducing vulnerability of structures and buildings will be the key to earthquake risk reduction. Also, pre-disaster preparedness through a post-earthquake response plan, including training of the concerned personnel in various roles, is considered essential for immediate and effective response after an earthquake occurrence. The major action points are highlighted in the following paragraphs.

#### **PRE-DISASTER PREVENTIVE MEASURES**

##### **Long-term measures**

- Re-framing buildings' codes, guidelines, manuals and byelaws and their strict implementation. Tougher legislation for highly seismic areas.
- Incorporating earthquake resistant features in all buildings at high-risk areas.
- Making all public utilities like water supply systems, communication networks, electricity lines etc. earthquake-proof. Creating alternative arrangements to reduce damages to infrastructure facilities.
- Constructing earthquake-resistant community buildings and buildings (used to gather large groups during or after an earthquake) like schools, dharamshalas, hospitals, prayer halls, etc., especially in seismic zones of moderate to higher intensities.
- Supporting R&D in various aspects of disaster mitigation, preparedness and prevention and post-disaster management.
- Evolving educational curricula in architecture and engineering institutions and technical training in polytechnics and schools to include disaster related topics.

##### **Medium term measures**

- Retrofitting of weak structures in highly seismic zones.
- Preparation of disaster related literature in local languages with dos and don'ts for construction.
- Getting communities involved in the process of disaster mitigation through education and awareness.
- Networking of local NGOs working in the area of disaster management.

#### **POST-DISASTER PREVENTIVE MEASURES**

- Maintenance of law and order, prevention of trespassing, looting etc.
- Evacuation of people & Recovery of dead bodies and their disposal.
- Medical care for the injured and supply of food and drinking water.
- Temporary shelters like tents, metal sheds etc.
- Repairing lines of communication and information.
- Restoring transport routes.
- Quick assessment of destruction and demarcation of destroyed areas, according to the grade of damage.
- Cordoning off severely damaged structures that are liable to collapse during aftershocks.

## ***District Disaster Management Plan (Dhanbad)***

Co-ordination between various agencies involved in rescue and relief work is extremely important to avoid gaps (both in communication and field work) and duplication of effort. Pre-disaster preparation can be conceptualized on the basis of an exercise on hypothetical earthquake occurrence and well-thought out estimates of magnitude of work involved etc.

The following efforts will be useful for preparedness:

- Train communities in high-risk areas in post-disaster search, rescue and relief.
- Practice an extensive programme of mass drills in high-risk areas for earthquake damage reduction.
- Train local NGOs and strengthen their capacity and capabilities.
- Inculcate basic know-how amongst school kids on earthquake dos and don'ts along with safety drills.
- Train field personnel in the science and art of carrying out post disaster damage surveys, for (a) urgent relief purposes and (b) for repair, reconstruction and retrofitting purposes.

During emergencies, affected people need to be involved in the relief activities so as to create a feeling of self-reliance. Also, the sooner they are integrated, the shorter will the period of relief will be.

### **Post-disaster work would involve:**

- Detailed survey of buildings for assessment of damage and repair/ reconstruction and seismic strengthening or demolition.
- Selection of sites for new settlements, if required.
- Execution of the reconstruction programme.
- Review of the existing seismic zoning maps and risk maps.
- Review of seismic codes and norms of construction.
- Training of personnel, engineers, architects, builders and masons.

<b>Before Disaster</b>	<b>During Disaster</b>	<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Application of science and technology and engineering inputs to improve building design, construction and siting</li> <li>• Conducting extensive public awareness programme and dissemination of information about risks, preparedness and mitigation measures</li> <li>• Installing devices that will keep breakages in electrical lines and gas mains from producing fires</li> </ul>	<ul style="list-style-type: none"> <li>• Setting up of field hospitals in the affected areas and deployment of mobile hospitals</li> <li>• Arrangement for food, clothing, blanket / bedding, drinking water, sanitation and hygiene, lighting arrangements and essential medicines</li> <li>• Mobilization of specialized equipment and machinery to affected areas</li> <li>• Cordoning of affected areas with control of entry and exit</li> <li>• Establishment of Temporary shelters for evacuees</li> <li>• Setting up of field hospitals in the affected areas and deployment of mobile hospitals</li> </ul>	<ul style="list-style-type: none"> <li>• Restoration of basic infrastructure facilities, for example, ports, airports, power stations etc.</li> <li>• Identify the trauma cases and counsel them appropriately</li> <li>• Special attention to ladies, children and elders</li> <li>• Arrangements for distribution of gratuitous relief and cash doles</li> <li>• Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries</li> </ul>

## **4.17 Cyclones**

### **1. Functioning of Control Rooms:-**

- From the start of June, the control Room will be operational 24X7 at the District & Block Head Quarter level.
- During normal time control room should monitor the preparedness activities during pre-disaster, disaster & post disaster, dissemination of early warning on cyclone situation received from Revenue Authorities.
- Ensuring initiation of implementation of public health measures, monitoring trend of diseases and cope with any situation arising out of disaster.
- The line list of district RRT & block RRT with mobile No. of key nodal persons in the cut of areas should be available at district level.

### **2. Identification of Cyclone Prone areas (Hazard Mapping) & Formation of Zones:-**

- The district authorities should identify cyclone prone areas of the district (Block, G.P & Village wise with population) and the list of the affected health institutions based on the last flood / cyclone.
- While hazard mapping, the areas completely submerged / marooned during the last flood / cyclone should be mentioned.
- The districts may be divided into suitable zones keeping in view the operational aspects & each zone is to be assigned to an officer of the rank of ADMO/SDMO for supervision and monitoring and to ensure inter – departmental coordination for smooth implementation of activities.
- Coordination with revenue division needs to be done for identification of marooned/partially marooned areas, shelter homes, high land & low land areas.

### **3. Casualty Services & Contingency Plan for Medical Relief Centre:-**

- During disasters arrangements should be made to provide casualty services 24X7 at all health institutions.
- Contingency plan to open medical relief centers (MRC) at strategic places to be planned in advance. Those centers should be located at strategic places, so that they can render services to disadvantaged population where existing infrastructures are likely to be ineffective.
- State experiences disasters/cyclone/epidemic each year, the contingency planning should be made in such a way that we need not do the same plan each year & people should be made aware about the plan.
- Mobile Medical team should render the services regularly to displaced persons at their place of shelter and in marooned villages.
- Steps may be taken to make the people aware about the availability of services of 108 ambulances in the districts where ever it is available.

### **4. Ambulance Services:-**

- All the Ambulances of different health institutions of the districts should be kept in readiness.
- Simultaneously, other vehicles have got to be repaired & kept in road worthiness as far as practicable so that they can be pressed in to service during emergency situation.
- In case of non-availability of institutional ambulances, the ambulances may be hired using Untied/ RKS fund of NRHM.
- Wherever 108 ambulance services are available it must be utilized for referral of case

<b>Before Disaster</b>	<b>During Disaster</b>	<b>After Disaster</b>
<ul style="list-style-type: none"> <li>• Cyclone alert and warning at least 48 hours and 24 hours respectively before the commencement of the bad weather</li> <li>• Ensure that all critical activities (mainly industrial production) in areas likely to be affected are shutdown</li> </ul>	<ul style="list-style-type: none"> <li>• Setting up of field hospitals in the affected areas and deployment of mobile hospitals</li> <li>• Mobilization of specialized equipment and machinery to affected areas</li> <li>• Arrangement for food, clothing, blanket / bedding, drinking water, sanitation and hygiene, lighting arrangements and essential medicines</li> </ul>	<ul style="list-style-type: none"> <li>• Creation/ Retrofitting of structures – including roads, bridges that may have been destroyed/ damaged due to the disaster</li> <li>• Special attention to ladies, children and elders</li> <li>• Arrangements for distribution of gratuitous relief and cash doles</li> </ul>

### **4.18 Mining Disasters**

#### **Disaster in the Coal Mines**

##### **a) Prevention of Mine Disaster from Explosion**

- The workers should be well informed about the explosion.
- The area under explosion should be critically examined.

##### **b) Prevention of Mine Disaster from Inundation**

- Each Mine shall be critically examined for its proneness to inundation and deliberated in the safety committee of the mine and information disseminated as widely as possible.
- Suitable infrastructure at area level may be provided for drilling advance boreholes to detect presence of waterlogged working in advance.
- Embankment provided against river to guard against inundation should be constructed and properly shown in the underground plan and water danger plan.
- Detailed precautions against inundation by framing and implementation standing order for the safe withdrawal of persons with effective communication system.
- Mechanism may be developed for warning mines about impending heavy rains opening of dams in the river on the upstream side should be examined.



**4.19 Fire**

Fire accident is the most common accident that occurs in the district. A considerable amount of lives are lost each year due to fire accidents. Below are some of the steps that need to be followed for reduction of loss incurred due to the damaging havoc caused by fire.

<b>Before Disaster</b>	<b>During Disaster</b>	<b>Post Disaster</b>
<ul style="list-style-type: none"><li>• To familiarize professionals like fire fighters, medical personnel with special tactics and hazards, and enabling them to test their part of the plan</li><li>• To review the total plan, including communications and logistics, so that updating modifying and training activities can be improved</li></ul>	<ul style="list-style-type: none"><li>• Control emergency by arresting leakages, spillage, fighting fire, shutting off the valves and / or equipment etc. by utilizing the combat team</li><li>• Take measures to preserve the property and minimize damage to environment and loss of material by segregation, covering, salvaging and diverting fire as required</li><li>• Take care of the surrounding areas to reduce the ‘domino effect’</li><li>• Nullifying the sources of leak / toxic release</li></ul>	<ul style="list-style-type: none"><li>• To ensure that law and order is maintained at evacuation/ relief centres and in the affected areas as well</li><li>• Identify the trauma cases and counsel them appropriately</li><li>• Identify and characterise the source and its origin</li><li>• Arrangements for distribution of gratuitous relief and cash doles</li><li>• Special attention to ladies, children, elders and disabled</li></ul>

**4.20. Conclusion**

- District consists of weak and illegal constructions which compounds its vulnerability to earthquake and fires.
- Buildings constructed through good design are not necessarily built with earthquake safe design.
- There is a need of an urgent mitigation planning under which new constructions should come up as per building-byelaws and standard codes.
- Retrofitting techniques are very much important to re-strengthen old and weak constructions which needs to be taken up by Dhanbad Municipal Coorporation, Jila Parishad, JMADA, Nagar Panchayat and District Administration.
- Fire safety assessments and fire-fighting arrangements shall be promoted in multistoried buildings, Martket Places and residential communities.
- Insurance of buildings according to their hazard proneness is important to promote in the district under the supervision of local administration
- Life-line buildings like Major hospitals, Deputy Commissioner office, residences of key officials, schools, community spaces, police and fire stations etc. shall be retrofit on priority basis.

## **Chapter 5: Preparedness Measures**

### **5.1 Introduction**

Disaster causes sudden disruption to the normal life of society and causes damage to the properties and lives to such an extent that normal social and economic mechanism available to the society get disturbed. Those who are unaware and unprepared generally get affected more due to their lack of knowledge and physiological pressure. Hitherto, the approach towards coping the effects of disasters has been post-disaster management, involving many problems related to law and order, evacuation, communications, search and rescue, fire-fighting, medical and psychiatric assistance, provisions of relief and shelters etc. After initial trauma next phase starts with long-term reconstruction planning which takes about 5 to 6 years to normalize the life-style in a particular area.

In view of these problems the district administration, has prepared a comprehensive plan. The plan basically detailed out preparedness strategy under which communities and district authorities would be prepared so that level of destruction and unnecessarily delay in relief and response can be reduced. The preparedness measures include setting up disaster relief machinery, formulation of community preparedness plans, training to the specific groups and earmarking funds for relief operations (UNDRO, 2004).

### **5.2 Measuring Community Preparedness**

Generally community preparedness depends upon following four major components (Cottrell et al- 2001):

- Population characteristics (number of children, squatter settlement etc )
- Building and critical infrastructure such as road, drinking water, communication network, health and sanitation
- Physical environment
- Social environment (social groups)

In view of these components, risk assessment study has been conducted and identified that Dhanbad District is densely built and consists of a high number of urban population. Any major earthquake or fire/chemical explosion, lightening and land subsidence can affect district very badly. Although many steps have been taken by the district but still a high degree of awareness and training is required to lay down an organization system within communities.

### **5.3 Components of Preparedness Plan**

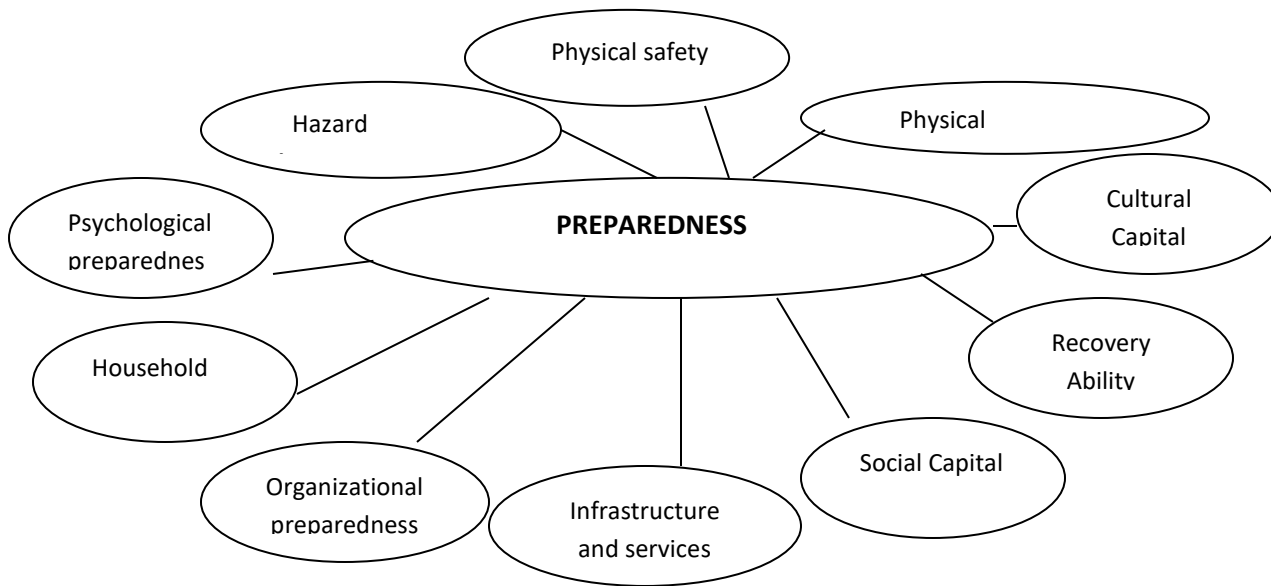
Looking at the complexity of repose mechanism during disasters two sets of components have been studied to prepare this plan.

### **5.3.1 Components of Community Preparedness Plan**

Several previous attempts have been made by researchers to measure community preparedness within various indicators. Some of the important components of measuring preparedness are given below (refer fig. 5.1)

1. **Physical Safety:** i.e. how safe community members are in view of the physical danger from these hazards? The parameters essentially tries to measure how effective structural mitigation measures are e.g. resistance of building structures for earthquakes, availability of safe shelters and its capacity etc.
2. **Hazard awareness** i.e. awareness level about hazards which have a reasonably higher probability of occurrence
3. **Organization preparedness** i.e. how far the community is organized to face disaster i.e. existence of committee at community level, task forces, local volunteers, trained disaster management teams and community disaster management plan etc
4. **Infrastructure and services** which tries to measure current state of these services and how well restoring critical services as and when disruptions occur
5. **Recovery ability** i.e. ability of the community members to recover from the impact of the hazard
6. **Physical environment** i.e. state of environment to face hazards e.g. Condition of sub-surface aquifers and vegetation etc
7. **Social capital** i.e. degree to which social networking and cooperation exists among community members
8. **Psychological preparedness** i.e. how safe and prepared do community members feel in view of these hazards
9. **Cultural capital** i.e. cultural richness such as existence, recognition and use of traditional mechanism to cope with such disasters
10. **Household preparedness** i.e. preparedness at a house hold members

**Fig 5.1: Components of Community Preparedness**



### **5.3.2 Components of Administrative Preparedness**

Administrative preparedness is another very important issue which helps in reducing relief and response time in a disaster situation. Preparedness plan is based on below-given components

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

## **5.4 Preparedness Plan**

Based on above-mentioned components following arrangements needs to be maintained at district level preparedness plan.

### **5.4.1 Emergency Operation Centre, Dhanbad**

Emergency Operation Centre, Dhanbad, is the nodal control & coordination point for management of pre and post disasters in the district. The EOC shall be activated in 24x7 basis with trained staff. The primary function of EOC is to facilities information dissemination, smooth inflow and outflow of relief and other disaster related activities. These EOCs act as bridges between District, State and Centre Government. In normal times, the EOC shall have only limited support staff. A register of all incoming and outgoing calls is maintained by EOC Operators.

#### **(a) Activities of EOC, Dhanbad**

To ensure that warning and communication systems are in working conditions

- Collection and compilation of district level information related to hazards, resources, trained manpower etc.
- Networking and coordination with community, district and state level departments
- Monitoring and evaluation of community and inter-intra organization level disaster management plans
- Develop a status report of preparedness and mitigation activities under the plan
- Allocation of tasks to the different resource organizations and decisions making related to resource management
- Reviewing and updating response strategy
- Supply of information to the state government

Presently, Emergency Operation Centre, Dhanbad, is being establishing with collaboration with National Disaster Management Authority (NDMA) in the premises of the Office of the Deputy Commissioner, Dhanbad, Jharkhand, which is also prone to earthquake due to visible fault line like in Deoghar and Bakura. In view of that District Disaster Management Authority (DDMA) is also planning to create substitute EOC in a distance in case of running EOC will be affected badly.

**(b) Facilities with EOC**

Presently, the emergency operation centre shall be operating in 24/7 mode well-equipped with computer, wireless and telephone facilities. In future EOC would include a well-designed control room with workstation, hotlines and intercoms. **Following other facilities shall be made available within the EOC:**

- A databank of resources, action plans, district disaster management plan, community preparedness plan would be maintained at EOC
- Maps indicating vulnerable areas, identified shelters, communication link system with state government and inter and intra district departments would strengthened
- Inventory of manpower resources with address, telephone numbers of key contact persons has been maintained
- EOC have to identify desk arrangements during disaster situations
- Frequently required important phone numbers would be displayed on the walls so that they can be referred whole other phones and addresses would be kept under a easy-retrieval and cross-referring system
- Retrofitting of building shall be done so that it can be operational during disaster also.
- EOC shall be operational 24 hours with the help of police, fire and home guard department
- GIS map shall be made available within EOC for effective and smooth coordination.

**(c) Transport Facility**

A vehicle shall be assigned to the EOC (Dhanbad) during normal times. Quick Response Vehicle manned with trained manpower shall be stationed at EOC, Dhanbad.

**(d) EOC Staffing**

To make EOC operational during and post disaster situation there would be a need of keeping adequate staff. There is a need of regular staff, staff-on requirement and staff-on disaster duty. Therefore, trained manpowershall be working 24 hours on shift basis for managing the communication and transportation of rescue equipments in EOC during any disaster. More manpower shall be hired for supporting in rescue and relief operation during emergencies. Staff on disaster duty can be appointed by Deputy Commissioner, Dhanbad. This staff can be drawn from the various government departments.

**(e) Desk arrangement**

In case of emergency, DC and other team members would be present round the clock in the EOC. Therefore senior officers have been appointed in the capacity of desk officers for the coordination of following emergency response functions:

#### **5.4.2 Reliable Communication Systems**

During emergency communication plays a very important role. Although Dhanbad being a coal capital has already registered a phenomenal growth but yet incase of disaster like earthquakes and underground fire witnessed collapse of general communication system which delays flow of information from the disaster site and consequently resulting delays in relief operations. Therefore a reliable communication is also one of a very important action. Till now TETRA wireless communication system has been found most suitable to rely upon. But this plan also seeks for installation of satellite phones and HAM equipments in the EOC for strengthened communication system in the district. Plan also advocates training some volunteers of home guards etc in HAM operations.

#### **5.4.3 Preparation of a Response Plan**

One of the important tasks during preparedness phase is formulation of a response plan. It basically helps in quick mobilization of manpower, resources and in performing various duties. The response plan explains a hierarchal system of emergency response functions in-term of tasks and assigned responsibilities to different agencies. It also lay down an Incident Response System under the directions of Deputy Commissioner of the district. This whole exercise may help in prevent confusions during the response phase and result in prompt and coordinated response. Activation of trigger mechanism, functioning of EOC and Response of Emergency Support Functions can be tested every year to resolve perplexity occurring during actual scenario.

## **CHAPTER 6: CAPACITY BUILDING AND TRAINING MEASURES**

### **6.1 Training and Capacity Building**

A number of training programmes shall be and are already being organized for specialized groups like, school teachers and principals, engineers, doctors, etc. The professionals from all departments and sections shall be trained. All the volunteer based organizations (VBOs) like, NCC, NYKS, NSS, etc., in the district, which have thousands of volunteers working with them will also be sensitized and given training on disaster management. Besides, Schools, Hospitals, MTA's, PRIs and NGOs in the district will also be given training on disaster management. All the VBOs, and NGOs shall also be encouraged and supported to organize awareness campaigns in their areas. These have been identified as organizations which can help percolate the idea deeper into the society.

### **6.2 Awareness Generation Programmes**

Disaster strikes everywhere and everyone irrespective of caste, creed or gender. It doesn't differentiate the rich from the poor. The district administration has been trying to generate awareness at all levels in the district. A series of awareness programmes has been organized to reach out to the local residents and general public of the district and the programmes are continuing through out the district. Awareness/sensitization programmes have been conducted at schools, colleges, communities etc. Basic information related to different kind of disasters is given in the form of Information, Education and Communication (IEC) materials. Different kinds of strategies are being evolved to address different audiences. Special efforts are being made to address the most vulnerable groups during disasters e.g. women, children, the disabled and the old. The total population of the district is 27 lakhs and the district administration intends to reach as many people as possible and different methods are being adopted to spread awareness i.e.

- Public meetings
- Distribution of reading materials/ pasting of posters
- Street plays
- Involvement of Electronic media
- Audio/video shows
- Banners and Public Hoardings
- Painting/ quiz competition especially in schools, rallies involving students
- Observing Disaster Management Week, Fortnight, Month etc.



### **6.3 Community Awareness and Community Preparedness Planning**

The hazard analysis of the district indicates that there is a high need of community awareness through public awareness programmes on the following themes of disaster:

- Types of disasters and basic do's and don'ts related to those disasters
- Post disaster epidemic problems
- Construction and retrofitting techniques for disaster resistant buildings
- Communication of possible risk based vulnerable areas in the district
- Evacuation related schemes and community preparedness problems

Volunteers and social organizations also play a vital role in spreading mass scale community awareness. Media can also play an important role in raising awareness and educating people.

Community Disaster Management Planning is one of the vital components of community preparedness. It involves all important parameters related to hazard awareness, evacuation planning, resource inventory, community level taskforces and committees etc which helps community members in organizing themselves to combat disaster in a pre-planned manner. Preparation of community plans encourages promotes preparedness planning at community level. District administration is also imparting trainings on regular basis to the volunteers of Home Guards, Nehru Yuva Kendra Sangthan, PRI's, Market Trade Associations, Self Help Group, and NGOs etc to involve them to into community planning.

### **6.4 Capacity Building of Community Task forces**

Community taskforces and community committees has been constituted and trained in all types of communities by government and non-government agencies. District administration, Medical officers, Trained volunteers, Jharkhand fire Services, Home Guard volunteers, NYKS etc. are playing important role in building capacities of community task forces in building their capacities in search and rescue, fire-fighting, warning dissemination, first-aid and damage assessment etc.

Medical Officer has organized seminars to train taskforces and volunteers in basic first-aid. Home Guard, St. John Ambulance and CMO's offices are helping Medical Officer in providing trainings and lectures. Similarly Jharkhand Fire Service along with HG gives trainings on search and rescue and fire fighting. Jharkhand Police provides trainings on warning dissemination, traffic norms, communication and damage assessment.

### **6.5 Conducting of Mock Drills:**

As per Section 30 (2) (x) of DM Act 2005, the District Authority shall review the state of capabilities for responding to any disaster or threatening disaster situation in the district & give directions to the relevant departments or authorities at the district level for their up gradation as may be necessary.

As per Section 30 (2) (xi) of DM Act 2005, the District Authority shall review the preparedness measures & give directions to the concerned departments at the district level or other concerned authorities where necessary for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation.

Awareness Generation, prevention and mitigation measures, raining and Capacity Development, Conduction of Mock Drills are vital activities to be covered under Pre Disaster Phase of the Disaster Management Cycle. Mock-drills help in evaluating response and improving coordination within various government departments, non-government agencies and communities. They help in identifying the extent to which the SOPs and Plans are effective and also aid in revising these if required. These drills enhance the ability to respond faster, better and in an organized manner during the response and recovery phase.

Drills/Simulations/Exercises are based on a set of assumptions about the circumstances during a disaster:

- 1) A high level of tension and anxiety under which the concerned personnel would operate both at the central and field levels
- 2) Highly unreliable information which requires critical assessment
- 3) Criticality of time where rapid decisions must be taken.
- 4) Necessity for coordination among technical personnel and government officers, who do not usually interact
- 5) Prominence of political and social factors in the aftermath of a disaster

The approach for conducting a mock-drill varies as per the complexity of scenario depending upon the potential hazards, response system of the institution and the target community. Therefore, to ensure proper implementation of a drill programme, roles and responsibilities (SOPs) of the concerned personnel, departments, corporate bodies, stakeholders, and mechanisms for conducting the drill should be delineated clearly.

Regardless of the size, complexity and risk involved in the implementation of the drill, an effective drill/exercise programme should have the following essential elements as prerequisites:

- Emergency Response Plan: explaining institutional response structure, emergency response functions and standard operating procedures for various departments Team personnel at head quarter and field level trained on their standard operating procedures
- Trained quick response teams in various possible operations like search and rescue, law and order, fire-fighting, medical, water arrangements, relief and shelter and electricity restoration etc

## ***District Disaster Management Plan (Dhanbad)***

- Updated database of resources, equipment and manpower available
- Updated Emergency Directory with important contact details of members of Incident Management Team and Emergency Response function
- Mock-drill Scenario and detailed action plan for Mock-drill
- Evaluation formats for concerned departments and definite criteria for evaluation
- Observers and Qualified evaluators

Lessons learnt from the actual drills and exercises would be useful to revise operational plans and serve as a basis for the training of various stakeholders across different sectors. The drills and exercises will help to -

- Identify planning gaps
- Revise SOPs to enhance coordinated emergency response
- Increase public awareness and community readiness
- Enhance capacities of professionals, departments and trained volunteers
- Test plans and systems in simulation exercises

### **6.6 Community Preparedness Strategies**

<b>S.No</b>	<b>Tasks</b>	<b>Mode of conduct</b>	<b>Nodal Agencies</b>	<b>Supporting Agencies</b>
1	<p>Priority-wise information dissemination of various hazards and their do's and don'ts. Also preparation of community based disaster management plans shall be promoted in these areas.</p> <p>First priority shall be given to the schools, industrial clusters, Market Trade Associations and densely populated area</p> <p>Second Priority shall be given to the communities living in the outer part of the district especially villages.</p>	<p>Through Nukaad Nataks, Film Shows, Rallies, Media, Newspaper Media, Posters and Pamphlets, Group discussions and workshops etc</p>	DDMA, Dhanbad	<p>Home guards volunteers( HG), Nehru Yuva Kendra Sangthan(NYKS), PRI's members, Market trade Associations(MTAs), Rotary Clubs, Non Government organizations(NGOs), Schools and colleges volunteers, NSS, NCC etc.</p>

***District Disaster Management Plan (Dhanbad)***

2.	Constitution of Community Based Disaster Management Committees and Taskforces	Through community level meetings	DDMA, Dhanbad	PRIs and MTAs Members, Local Volunteers etc.
3.	Capacity Building of Community Members	Through mock-drills, preparation of community plans, trainings and workshops on disaster specific topics	DDMA, Dhanbad	HG, Local NGOs, NYKS, St. John Ambulance, etc.
4.	Trainings to the taskforces and committee members  - First-Aid and Trauma Counseling - Search and rescue and fire-fighting - Warning Dissemination etc.	Trainings and workshops	DDMA, Dhanbad along with Health, Police and Fire Departments	HG, St. John Ambulance and NGOs
5.	Post disaster epidemic problems	Seminars and community meetings	Health department	Local health departments, and NGOs
6	Trainings for construction of seismic resistant buildings and retrofitting of the buildings. Target groups are contractors, masons, engineers, architects and local communities (especially those who are taking loans for building constructions and provided assistance under Indira Awas Yojana and other developmental programmes)	Showing Films, videos, distributing posters and brochures, reading materials, etc in trainings and workshops or any other community gathering	DDMA, Dhanbad	DMC, PWD, Private contractors and NGOs etc

**District Disaster Management Plan (Dhanbad)**

**6.7. Training & Capacity Building Calendar of FY: 2018-19 With budget Details**

Sl. No.	Name of Training Programme/Workshop	Training details	Participants	Type of Training	level of training	No of Training for the year	Frequency of the Training	Expected time of the training	Unit cost (per Training)	Total Expenditure
<b>Block Level Training</b>										
1	Training of DM for PRI members on Community based DRR and Formulation of Village Disaster Management plan.	2 days training Programmes at all 9 blocks have to organize 5 trainings on the given 5 modules. This training has to organize in 5 months. (monthly One training on one topic in 9 blocks)	All PRI members at all 8 blocks of Dhanbad (Sarpanch and Panchayat Sevak)	2 days	Block Level	8	once in a year	Aug-Dec 19	57,700.00	513,000.00
2	Training programme on School Safety Programme and Preparation of Scholl Disaster Management Plan'		Principals or Teachers or Administrators of the School/College	2 days	Block Level	8	once in a year	Aug-Dec 19	57,700.00	513,000.00
3	Training Programme on Hospital Disaster Management & Hospital Disaster Management Plan		Hospital staff, Doctors, Nursing Staff & Administrators	2 days	Block Level	8	once in a year	Aug-Dec 19	57,700.00	513,000.00
4	Training Programme on Disaster Management and Block Disaster Management Plan.		Training on DM and IRS for block administration.	2 days	Block Level	8	once in a year	Aug-Dec 19	57,700.00	513,000.00
5	Training of DM and IRS for Police Department.		Training on DM and IRS for Police Administration for Police Department.	2 days	Block Level	8	once in a year	Aug-Dec 19	57,700.00	513,000.00
<b>SUB TOTAL- 1</b>						<b>45</b>				<b>₹ 2,565,000.00</b>
6.	FAMAX with NDRF			7 days	Block/ Institution	14	once in a year	January 20	26,700.00	<b>₹ 3,738,00.00</b>
Total										<b>29,38,800.00</b>

**6.7.1. Expenditure Details for 2 days Training program of 40 participants**

S.No.	Particulars	Amount in Rs. (Per Unit)	Number of Unit	Total Amount (RS)
1	Resource Persons (2)	1,500.00	2	3,000.00
2	Venue Arrangements (Hall Charge, PA System, Tables, Chairs, Projector etc)	10,000.00	2	20,000.00
3	Stationary (Folder, Pen and Writing Pad)	60.00	40	2,400.00
4	FOOD COST (Lunch+Tea +Water + Snacks) (Rs. 150 Lunch +50 snacks)	200.00	80	16,000.00
5	Banners (One 6x4 ) ( One hindi and one English)	300.00	2	600.00
6	Miscellaneous (IEC Materials, charts, Markers, xerox, travelling cost for monitoring etc.)			15,000.00
	<b>TOTAL</b>			<b>₹ 57,000.00</b>

**6.7.2. Expenditure Details for 1day Training program of 40 participants**

S.No.	Particulars	Amount in Rs. (Per Unit)	Number of Unit	Total Amount (RS)
1	Resource Persons (2)	1,500.00	1	1,500.00
2	Venue Arrangements (Hall Charge, PA System, Tables, Chairs, Projector etc)	10,000.00	1	10,000.00
3	Stationary (Folder, Pen and Writing Pad)	60.00	40	2,400.00
4	FOOD COST (Lunch+Tea +Water + Snacks) (Rs. 150 Lunch +50 snacks)	200.00	40	8,000.00
5	Banners (One 6x4 ) ( One hindi and one English)	300.00	2	600.00
6	Miscellaneous (IEC Materials, charts, Markers, xerox, travelling cost for monitoring etc.)			10,000.00
	<b>TOTAL</b>			<b>₹ 32,500.00</b>

**6.7.3. Expenditure Details for half day Training program of 40 participants**

S.No.	Particulars	Amount in Rs. (Per Unit)	Number of Unit	Total Amount (RS)
1	Venue Arrangements (Hall Charge, PA System, Tables, Chairs, Projector etc)	10,000.00	1	10,000.00
2	Stationary (Folder, Pen and Writing Pad)	60.00	40	2,400.00
3	FOOD COST (Tea +Water + Snacks))	100.00	40	4,000.00
4	Banners (One 6x4 )	300.00	1	300.00
5	Miscellaneous (IEC Materials, charts, Markers, xerox, travelling cost for monitoring etc.)			10,000.00
6	<b>TOTAL</b>			<b>₹ 26,700.00</b>

## **CHAPTER 7: RESPONSE AND RELIEF MEASURES**

### **7.1 Introduction**

The need for an effective disaster management strategy is to lessen disaster impact which can be achieved through strengthening and reorienting existing organizational and administrative structure from district – state to national level. The emergency response plan is a first attempt to follow a multi-hazard approach to bring out all the disasters on a single platform and incorporates the ‘*culture of quick response*’. Under the plan, common elements responsible for quick response have been identified and a set of responsible activities has been articulated. It provides a framework to the primary and secondary agencies and departments, which can outline their own activities for disaster response. The plan will also include specific disaster action plans along with modal scenarios in detail to conduct practice drills at district administration level.

### **7.2 Methodology of Response Plan**

- Identification of disasters in the district depending on:
  - Past records
  - Micro-zonation according to the geological settings
  - Vulnerability associated in context to the disaster
  - Risk assessment according to the socio-economic conditions
- Identification of emergency response functions in consultation to the guidelines provided by state nodal agency
- Identification of responsible government and non-government agencies according to the response functions
- Identification of responsible officers, manpower and resources according to the activities of the identified agencies
- Identification of primary and secondary agencies and demarcation of roles and responsibilities according to their functions
- Conducting regular trainings, meetings and mock drills

### **7.3 Various Response Levels**

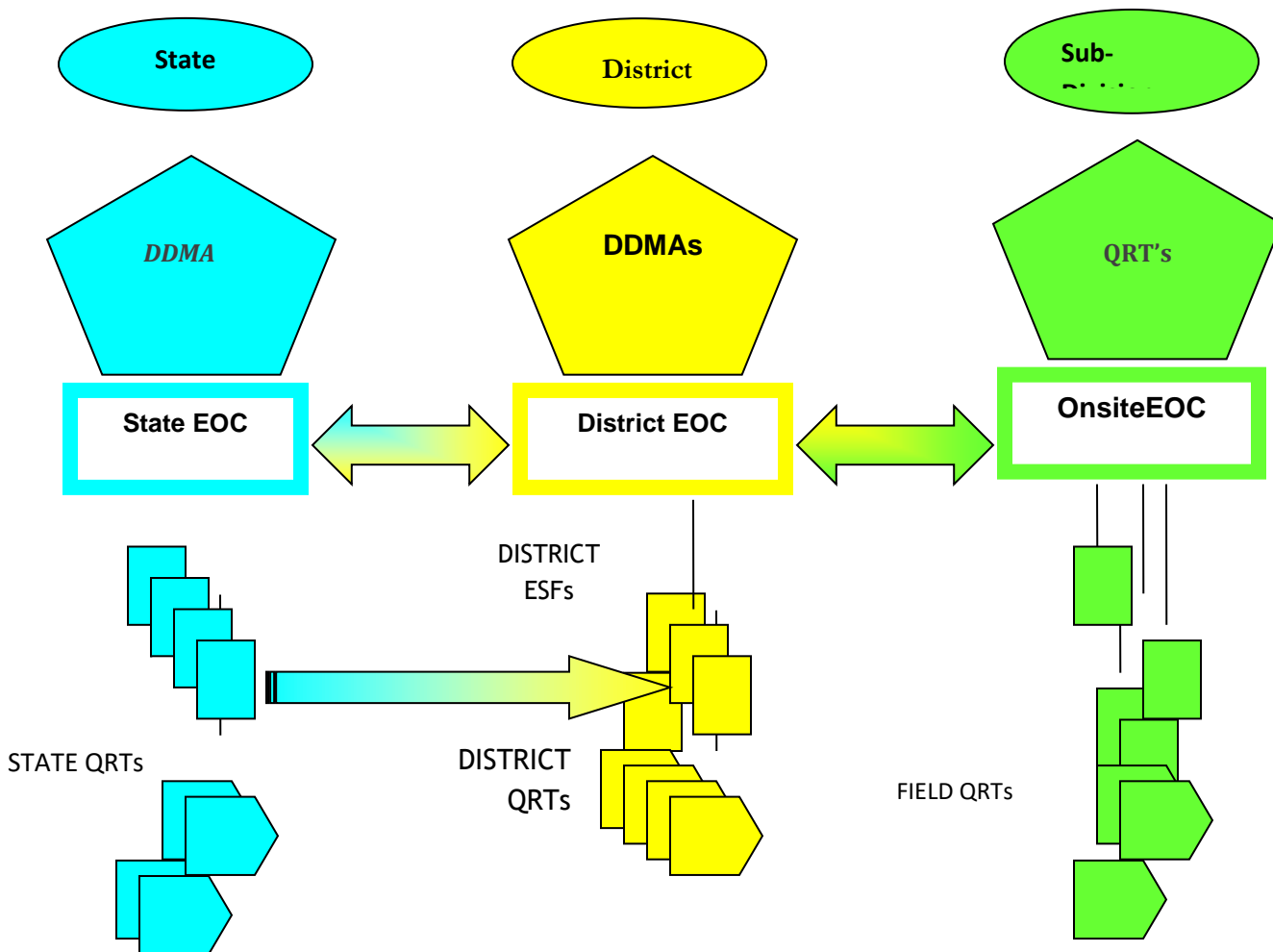
Most of the disasters are to be managed at the state and district level. The centre plays a supporting role in providing resources and assistance. It will mobilize support in terms of various emergency teams, support

personnel, specialized equipments and operating facilities depending upon the scale of the disaster. Active assistance would be provided only after the declaration of national emergency level. (National Disaster Response Plan, 2001)

In case disaster may be managed at the district level, district emergency operation system would be activated where state and national level authorities would be on guard in case of assistance needed. Incident commander (IC) of the district would activate the emergency support functions and Incident Response System and similarly according to the guidance disaster management teams and quick response teams would respond.

If disaster may not be managed with district level and required active participation of state resources, State EOC would activate and Commissioner would take over the IC system.

**Fig 7.1 Various Response Levels for Disaster Management**





## **7.4 Important Systems Used in the Response Plan**

### **7.4.1 Response Plan**

The Response plan establishes an organized setup to conduct ESF operations for any of the Natural and Manmade Disasters. It outlines an implementing framework of sharing resources as per the requirement during an emergency situation. The Response Plan has structured the response of concerned department's i.e. primary and supporting departments to be organized and function together with grouping capabilities, skills, resources, and authorities across the State and district Government with the ESF plan. The plan unifies the efforts of State Departments and supporting agencies to be involved in emergency management for a comprehensive effort to reduce the effects of any emergency or disaster within the state. (Annexure-..)

### **7.4.2 Incident Command System (ICS)**

The ICS was first established in 1970 after a wild fire outbreak of California. It is widely accepted by Americans and now many other parts of world too. It is assumed that ICS can also be adapted by the Indian system of disaster response. ICS is a modal tool to command, coordinate and use of resources at the site of the incident. It is based on the management and direction tools that experts and managers are already aware too. It is a very flexible, cost effective and efficient management system.

### **7.4.3 Emergency Support Functions (ESFs)**

The ESF activates under the guidance of Incident Commander (Deputy Commissioner) who is also a head of Incident Response System (IRS). Under the IRS, a team of 11 ESFs nodal officers works together also called as Disaster Management Team (DMT). DMT would also be constituted at District level with district level nodal officers. The members of Disaster Management team would also heads primary agency and simultaneously coordinate with the secondary agencies. Each of the primary and secondary agencies would also comprise of quick response team trained to carry out their functions at the response site. The success of ESF will be of critical importance and would reflect in the lives saved in the first few hours.

### **7.4.4 Primary and Secondary Agencies**

The designated primary agency action as a central agency would be assisted by one or more supporting agencies (secondary agencies) and will be responsible to manage activities of the ESFs and ensuring the mission accomplished. The primary and secondary agencies have the authority to execute response operations to directly support the state needs.

#### **7.4.5 Situation Reports**

Situation reports provide an update of relief operation at regular intervals. These reports are crucial for planning out response actions to be undertaken in affected areas. The situation reports provide information about the disaster status, casualties, status of flow of relief materials, arrival/departure of teams etc.

#### **7.4.6 Quick Response Teams (QRTs)**

The QRTs at district level should leave for the affected site within 3 to 6 hours of the event after the declaration of emergency. They have to be adequately briefed by their respective departments. Team should be self-sufficient in terms of resources, equipments, survival kits and response work.

#### **7.4.7 Role Emergency Operation Centre (EOC) for Relief:**

EOC is a nodal point for the overall coordination and control of relief work in case of any disaster situation. In case of any disaster district level EOC has to be activated. The primary function of EOC is to facilitate smooth inflow and outflow of relief and other disaster related activities. These EOCs act as bridges between State and Centre government.

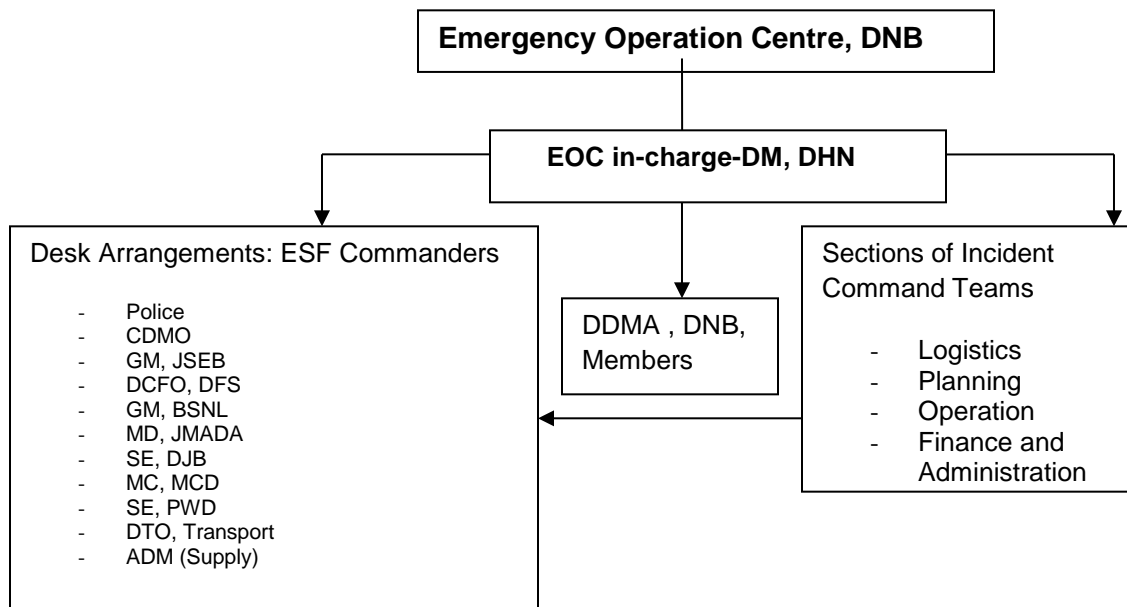
### **7.5 Operational –Coordination Structure**

Each organization generally has a framework for direction of its operation and coordination between its different units. Disaster Management generally requires partnership between organizations and stakeholders. An effective and early response requires mobilization of manpower, equipments and materials belonging to different organisations which may not be working together during normal times. Therefore a framework needs to be prescribed as a part of emergency planning for operational directions and coordination during response phase. This plan recognizes role of Deputy Commissioner in providing overall operational direction and coordination for all the response functions. With the help of District Disaster Management Committee and District Emergency Operation Centre, Deputy Commissioner has formulated following coordination structure for response plan.

### **7.5.1 Trigger Mechanism**

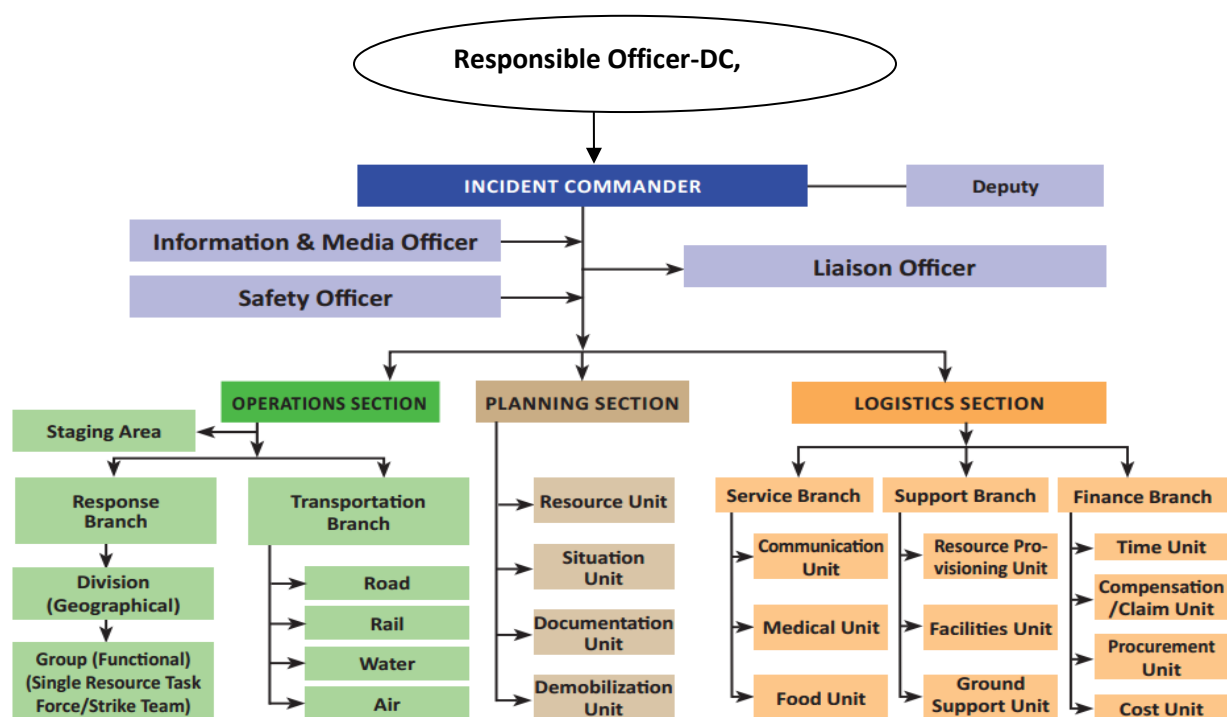
As soon as Emergency Operation centre would get the information about any emergency, the staff on duty in EOC will pass the information the DC-Dhanbad and seek for his instruction for further actions. If the information pertains to the occurrence of a disaster in any part of the district, the staff on duty will also try to inform DDMA members, Emergency Support Functions-team leaders, major hospitals and State Disaster Management Authority etc. The staff on duty will also be responsible to reclaim information related to type, magnitude and location of the disaster and also inform it to responsible authorities. The EOC in-charge will also inform all the details to Commissioner and State EOC. All the desk officers/team leaders and Incident Response Team members will also be informed to immediately report at District EOC. Incident Response team and Desk officials would respond as per their standard operating procedures and directions of Incident Commander (IC).

**Fig 7.2 : Trigger Mechanism for District EOC, DNB**



### **7.5.2 Activation of Incident Response System**

The emphasis in Disaster Management has shifted from relief centric approach to proactive regime, and as such a well coordinated response with clockwork precision becomes one of the most important goals. Incident Response System has been developed in this regard.



**Fig. 7.3. Structure of Incident Response System, Dhanbad**

Outline of Responsibility of Main Functionary of district Dhanbad for IRS

Responsible Officer	<b>Primarily responsible for effective response</b>
Incident Commander	<b>Overall In-charge of the Incident Response Team &amp; its Effective Functioning.</b>
Operations Sections	<b>Direct &amp; supervise all tactical actions.</b>
Planning Sections	<b>Collect/Analyse data, Workout need of required resources and prepare action plan for incident/Disaster of the district Dhanbad.</b>
Logistics & Finance Section	<b>Provide logistic support, procurement &amp; cost accounting</b>

## ***District Disaster Management Plan (Dhanbad)***

### **7.5.3 Designated Officers of District Dhanbad for IRS responsibilities**

<b>S.No.</b>	<b>IRS Position</b>	<b>Designated Officer/Person for DNB District IRS</b>
1.	Responsible Officer	Deputy Commissioner (Dhanbad)
1 (a)	Deputy Responsible Officer	Superintendent of police (SSP)
2.	Head Quarter Coordinator	DDC (Dhanbad)
2 (a).	Deputy Head Quarter Coordinator	DSP Contrpl Room (Dhanbad)
3.	Incident Commander	Additional Collector (Dhanbad)
3 (a).	Deputy Incident Commander	ADM (Law & Order)
4	Liaison Officer	District Disaster Management Officer & Nazarat Deputy Collector (Dhanbad)
5	Information and Media Officer	DPRO ( Dhanbad)
6	Safety Officer	District Fire Officer ( Dhanbad)
7	Operations Section Chief	SDO (Dhanbad), Executive Magistrate's & Circle Officer's of affected area
8	Staging Area Manager	Circle Officer's of affected area
9	Response Branch Director	SDO & District Fire Officer (Dhanbad)
10	Transportation Branch Director	District Transport Officer (Dhanbad)
11	Planning Section Chief	Additional Collector (Dhanbad)
12	Situation Unit Leader	District land Acquisition Officer (Dhanbad)
13	Resource Unit Leader	SDO (Dhanbad)
14	Documentation Unit Leader	District Disaster Management Officer (Dhanbad)
15	Demobilization Unit Leader	Circle Officer's of affected area
16	Technical Specialist	Specialist from SDMA/DDMA/NIDM/NDRF
17	Logistic Section Chief	Nazarat Deputy Collector ( Dhanbad) and Circle Officer's of affected area
18	Service Branch Director	Executive Magistrate (Dhanbad)
19	Support Branch Director	Executive Magistrate (Dhanbad)
20	Communication Unit Leader	GM, BSNL (Dhanbad)
21	Food Unit Leader	District Supply Officer (Dhanbad)
22	Facilities Unit Leader	ADM, Supply (Dhanbad)
23	Ground Support Unit Leader	Circle Officer's of affected area
24	Medical Unit Leader	CMO ( Dhanbad)
25	Finance Branch Director	Nazarat Deputy Collector ( Dhanbad)
26	Time Unit Leader	Circle Inspectors' of affected area
27	Cost Unit Leader	Nazarat Deputy Collector ( Dhanbad)
28	Procurement Unit Leader	Nazarat Deputy Collector ( Dhanbad)
29	Compensation Unit Leader	Circle Officer's of affected area

#### **7.5.4 Responsibilities under Incident Response System**

##### **(i) Responsible Officer: DC/SSP, Dhanbad**

- Ensure that IRTs are formed at District, Sub-Division, Circle/Block levels and IRS is integrated in the District DM Plan of district Dhanbad as per Section 31 of the DM Act, 2005. This may be achieved by issuing a Standing Order by the RO to all, CO's and BDOs of district Dhanbad.
- Ensure web based / on line Decision Support System (DSS) is in place in EOC Dhanbad and connected with Circle/Block level IRTs for support.
- Ensure that toll free emergency numbers existing for Police, Fire and Medical support etc. are linked to the EOC, Dhanbad for response, command and control. For e.g., if there is any fire incident, the information should not only reach the fire station but also the EOC, Dhanbad and the nearest hospital to gear up the emergency medical service.
- Obtain funds from Capacity Building Fund of State Government and ensure that a training calendar for IRTs of District is prepared and members of IRTs are trained through ATIs and other training institutions of the District Dhanbad.
- Activate IRTs at District headquarter, Sub-Division, Circle / Block levels, as and when required.
- Appoint / deploy, terminate and demobilize IC and IRT(s) as and when required.
- Decide overall incident objectives, priorities and ensure that various objectives do not conflict with each other.
- Ensure that Incident Action Plan (IAP) is prepared by the IC and implemented.
- Coordinate all response activities.
- Give directions for the release and use of resources available with any department of the Government, Local Authority, public & private sector etc. in the District.
- Ensure that local Armed Forces Commanders are involved in the planning process and their resources are appropriately dovetailed, if required.
- Ensure that when Armed Forces arrive in support for disaster response, their logistic requirements like camping grounds, potable water, electricity and requirement of vehicles etc. are sorted out.
- Appoint a Nodal Officer at the District level to organize Air Operations in coordination with the State and Central Government. Also ensure that all ICs of IRTs of the District are aware of it.
- Ensure that the NGOs carry out their activities in an equitable and non discriminatory manner.
- Deploy the District Headquarter IRTs at the incident site, in case of need.
- Ensure that effective communications are in place with all ESFs of district Dhanbad, EOC, Dhanbad and State EOC.
- Ensure that telephone directory of all ESF is prepared and available with EOC, Dhanbad and members of IRTs.
- Take other necessary action as the situation demands.

**(ii) Incident Commander: AC/ADM (L&O), Dhanbad**

- Obtain information on:
  - Incident situation status like number of people and the area affected etc.
  - Availability and procurement of resources;
  - Requirement of facilities like ICP, Staging Area, Incident Base, Camp, Relief Camp, etc.;
  - Availability and requirements of Communication system;
  - Future weather behavior from IMD;
  - Any other information required for response from all available sources and analyses the situation
- Determine incident objectives and strategies based on the available information and resources.
- Establish immediate priorities, including search & rescue and relief distribution strategies for effected peoples.
- Assess requirements for maintenance of law and order, traffic etc. if any at the incident site, and make arrangements with help of the local police.
- Brief higher authorities about the situation as per incident briefing form (See Annexure) and request for additional resources, if required.
- Establish appropriate IRS organization with Sections, Branches, Divisions and/or Units based on the span of control and scale of the incident.
- Establish ICP at a suitable place. There will be one ICP even if the incident is multijurisdictional. Even a mobile van with complete communication equipment and appropriate personnel may be used as ICP. In case of total destruction of buildings, tents or temporary shelters may be used. If appropriate or enough space is not available, other Sections can function from a different convenient location. But there should be proper and fail safe contact with the ICP in order to provide quick assistance.
- Ensure that the IAP for the district as well as the incidents is prepared.
- Ensure that team members are briefed on performance of various activities as per IAP.
- Approve and authorize the implementation of an IAP and ensure that IAP is regularly developed and updated as per debriefing of IRT members. It will be reviewed every 24 hours and circulated to all concerned.
- Ensure that planning meetings are held at regular intervals. The meetings will draw out an implementation strategy and IAP for effective incident response. The decision to hold this meeting is solely the responsibility of the IC. Apart from other members, ensure that PSC attend all briefing and debriefing meetings.
- Ensure that all Sections or Units are working as per IAP also that adequate safety measures for responders and affected communities are in place.
- Ensure proper coordination between all Sections of the IRT, agencies working in the response activities and make sure that all conflicts are resolved.
- Ensure that computerized and web based IT solutions are used for planning, resource mobilization and deployment of trained IRT members.

## ***District Disaster Management Plan (Dhanbad)***

- Consider requirement of resources, equipment which are not available in the functional jurisdiction, discuss with PSC and LSC and inform R.O. regarding their procurement.
- Approve and ensure that the required additional resources are procured and issued to the concerned Sections, Branches and Units etc. and are properly utilized. On completion of assigned work, the resources will be returned immediately for utilization elsewhere or to the department concerned.
- If required, establish contact with PRIs, ULBs, CBOs, and NGOs etc. and seek their cooperation in achieving the objectives of IAP and enlist their support to act as local guides in assisting the external rescue and relief teams.
- Approve the deployment of volunteers and such other personnel and ensure that they follow the chain of command.
- Authorize release of information to the media.
- Ensure that the record of resources mobilized from outside is maintained so that prompt payment can be made for hired resources.
- Ensure that Incident Status Summary (ISS) as per given in annexure is completed and forwarded to the R.O..
- Recommend demobilization of the IRT, when appropriate.
- Review public complaints and recommend suitable grievance redressal measures to the R.O..
- Ensure that the NGOs and other social organizations deployed in the affected sites are working properly and in an equitable manner.
- Ensure preparation of After Action Report (AAR) prior to the demobilization of the IRT on completion of the incident response.
- Perform any other duties that may be required for the management of the incident of the district Dhanbad.
- Ensure that the record of various activities performed by members of Branches, Divisions, and Units/Groups are collected and maintained in the Unit Log as per format given in annexure.
- Perform such other duties as assigned by R.O..

### **(iii) Information and Media Officer (IMO): DPRO (DNB)**

- Prepare and release information about the incident to the media agencies and others with the approval of IC.
- Jot down decisions taken and directions issued in case of sudden disasters when the IRT has not been fully activated and hand it over to the PS on its activation for incorporation in the IAP.
- Ask for additional personnel support depending on the scale of incident and workload.
- Monitor and review various media reports regarding the incident that may be useful for incident planning.
- Organize IAP meetings as directed by the IC or when required; coordinate with IMD to collect weather information and disseminate it to all concerned.
- Maintain record of various activities performed as per format.
- Perform such other duties as assigned by IC.



(i) **Liaison Officer (LO): District Disaster Management Officer & Nazarat Deputy Collector (Dhanbad)**

The LO is the focal point of contact for various line departments, representatives of NGOs, PRIs and ULBs etc. participating in the response. The LO is the point of contact to assist the first responders, cooperating agencies and line departments. LO may be designated depending on the number of agencies involved and the spread of affected area of the district The LO Dhanbad will:

- Maintain a list of concerned line departments, agencies (CBOs, NGOs, etc.) and their representatives at various locations in the district Dhanbad
- Liaison with all concerned agencies including NDRF, SDRF and Armed Forces and line departments of Government.
- Monitor Operations to identify current or potential inter-agency problems.
- Participate in planning meetings and provide information on response by participating agencies in the district.
- Ask for personnel support if required.
- Keep the IC informed about arrivals of all the Government and Non Government agencies and their resources.
- Help in organizing briefing sessions of all Governmental and Non Governmental agencies with the IC.
- Maintain record of various activities performed in the district Dhanbad as per format.
- Perform such other duties as assigned by IC Dhanbad.

(V) **Safety Officer: District Fire officer, DNB**

The SO's function is to develop and recommend measures for ensuring safety of personnel, and to assess and/or anticipate hazardous and unsafe situations. The SO in Incident Response System is authorized to stop or prevent unsafe acts. SO may also give general advice on safety of affected communities. The SO Dhanbad will:

- Recommend measures for assuring safety of responders and to assess or anticipate hazardous and unsafe situations and review it regularly.
- Ask for assistants and assign responsibilities as required.
- Participate in planning meetings for preparation of IAP.
- Review the IAP for safety implications.
- Obtain details of accidents that have occurred within the incident area if required or as directed by IC and inform the appropriate authorities.
- Review and approve the Site Safety Plan, as and when required.
- Maintain record of various activities performed as per Format and perform such other duties as assigned by IC.

**(VI) Operational Section Chief: SDO, Executive Magistrate's (Dhanbad) & Circle Officer's of affected area**

The overall chief of operation section is Circle Officer and SDO (Dhanbad) of affected areas as an Operational Section Chief (OSC). He is fully responsible for directing all tactical actions to meet the incident requirement. The OSC will report to Incident Commander. If any Operational activity increases because of the largeness and magnitude of the disaster in District Dhanbad, OSC will deploy more and more functional team to handle the situation.

- Coordinate with the activated Section Chiefs.
- Manage all field operations for the accomplishment of the incident objectives.
- Ensure the overall safety of personnel involved in the OS and the affected communities.
- Deploy, activate, expand and supervise organizational elements (Branch, Division, Group, etc.) in his Section in consultation with IC and in accordance with the IAP.
- Assign appropriate personnel, keeping their capabilities for the task in mind and maintain On Duty Officers list as per format for the day.
- Brief the personnel in OS at the beginning of each operational period.
- Ensure resolution of all conflicts, information sharing, coordination and cooperation between the various Branches of his Section.
- Consult the IC from time-to-time and keep him fully briefed.
- Determine the need for additional resources and place demands accordingly and ensure their arrival.
- Ensure record of various activities performed (as per format) by members of Branches, Divisions, Units/Groups are collected and maintained in the Unit Log (format enclosed) and perform such other duties as assigned by R.O. / IC.

**(VII) Response Branch Director-District fire Officer, Dhanbad**

Response Branch consist Response Branch Director. There is RBD from each of the frontline department in order to performing various functions. Depending on the scale of disaster, RBD may create own divisions as per requirement of the incident. Roles & Responsibilities of RBD are:

- Work under the supervision of the OSC and is responsible for the implementation of IAP as per the assigned role.
- Attend planning meetings as required by the OSC, Dhanbad.
- Review Assignment Lists (format enclosed) for Divisions or Groups under his Branch.
- Assign specific tasks to Division and Groups-in-Charge.
- Report to OSC regarding modifications required if any in the IAP, need for additional resources, availability of surplus resources and when hazardous situations or significant events occur, etc.
- Provide Single Resource, Strike Team and Task Force support to various operational areas of district Dhanbad.
- Ensure that all team leaders maintain record of various activities performed as per format relating to their field Operations and send to OSC of district Dhanbad.
- Perform any other duties assigned by the OSC Dhanbad.

**(VIII) Division Supervision:**

- Ensure Implementation of Division or group assignment list.
- Assign resources within the Division or Group under them.
- Report on the progress of Operations, and the status of resources within the Division or Group.
- Circulate Organizational Assignment List (Divisional / Group) as per format as enclosed in Annexure to the leaders of the Group, Team and Task Force.
- Coordinate activities with adjacent Divisions or Groups, if required.
- Submit situation and resource status to the RBD and the OSC.
- Report all hazardous situations, special occurrences or significant events (e.g., accidents, sickness, deteriorating weather conditions, etc.) to the RBD and the OSC.
- Participate in the development of IAP for next operational period, if required.
- Ensure that record of various activities performed (as per format) are collected and sent to the RBD and OSC.

**(IX) Group Leader:**

- Take charge of necessary equipment and supplies.
- Assess local weather and environmental conditions, law and order situation etc. in the assigned area and report to the in-charge.
- Perform the assigned duty and Keep contact with his supervisor.
- Perform any other duties that may be assigned by his supervisor.

**(X) Team Leader:**

- Review assignments with members of his team.
- Report on work progress.
- Establish and ensure communications.
- Perform any other duties assigned.
- Maintain record of various activities.

**(XI) Transportation Branch Director: DTO, Dhanbad**

The transportation branches comprise three operational groups such as Road, rail and air. These groups may be activated as when required. The TB supports the response efforts by transporting different resources, relief materials, personnel to the affected site and also transportation of victims if necessary. Air Operations is an important transportation activity during disasters which requires coordination at the National, State and District level. For the Coordination of air operation, the IC of Dhanbad may designate Nodal Officer. Transportation branch director is responsible for the activation of various functional groups in the district as per requirement of the response to an incident. His/her functions are:

- Activate and manage different Operations Groups like Road, Rail, and Air.
- Coordinate with railways, road transport, and airport authorities for support.
- Provide ground support to the air operations and ensure appropriate security arrangements.
- Provide Road transport support to the Rail Operations group as required.
- Ensure that all units moving in the area are familiarized with route with the help of road maps or local guides.
- Prepare transportation plan, and also determine the need for additional resources, their proper and full use and place demand accordingly in advance.
- Ensure the maintenance of the status of hired resources, their full utilization.
- Perform any other duties assigned by the IC or OSC.

**(XII) Group-in-charge: Executive Engineer (Road Transport Department)**

The Group-in-charge road Operation i.e. EE (Road Transport Department) works under the TBD and is responsible for all road transportation activities. His responsibilities are:

- Ensure transportation of resources by Road to the affected sites.
- Requisition additional personnel support, if required.
- Attend planning meetings on the direction of OSC.
- Determine coordination procedures with various destinations as per IAP.
- Ensure proper parking locations.
- In case of accidents, inform the TBD, the local police and provide assistance in investigation, if required.
- Ensure that mechanics are available for repair of vehicles and also ensure adequate availability of Petrol, Oil and Lubricants (POL).
- Maintain the records of all important activities relating to the number of vehicles deployed, source of vehicles (i.e. Government or private), locations where vehicles are deployed along with resource details they are carrying, etc.
- Support and coordinate the Road Operations part of the Rail, and Air Operation as required.
- Collect record of various activities performed.
- Perform any other duties assigned by the TBD or OSC.

**(XIII) Group-in-charge: Station Master (Rail Operations)**

The Group-in-charge i.e. Station Master of Dhanbad (Rail) works under the TBD and is responsible for supervision of all Rail Transportation activities. In most disaster response situations, Rail Transportation is utilized for transporting relief materials and resources from very distant places. Loading and Unloading may be required from Rail to Road and Road to Rail. Whenever transportation by Rail is envisaged, a Rail Operations Group needs to be activated and they should have close liaison with the GM roadways as Road Operations Group-in-charge. Duties of station master will be:

- Work under the TBD and coordinate all Rail Operations.
- Organize crew for Loading and Unloading.
- Ensure safe storage and warehousing of the materials.
- Coordinate with Road Operations Group for movement of resources.
- Prepare and provide Rail Operations Summary including time of departure and arrival, destinations, resource details, etc as and when required by the senior officers.
- Request for additional personnel support, if required.
- Update Rail Operations Plan.
- Establish and maintain communications with various storage and warehousing areas, destination points and railway officers.
- Collect record of various activities performed.
- Perform any other duties assigned by OSC or TBD.

**(XIV) Air Operations: Nodal Officer, AAI**

- Coordinate with concerned authorities for air operations.
- Project the type of Air support required to the appropriate authorities based on the IAP and place the demand at least 24 hours in advance or as early as possible.
- Inform the IC and OSC about the Air movements and landing schedules in their respective areas.
- Ensure that relevant Maps of the incident locations of the district are available with all agencies involved in the Air Operations to give the correct coordinates etc. of the locations where Air support is required.
- Determine the suitability of Helipads in coordination with the Air Force authorities and the District authorities of district Dhanbad.
- Maintain communication with Air Traffic Control and the ground support staff regarding the Air movements and other related activities.
- Report on Air Operations activities to the R.O., Dhanbad and perform any other duties assigned by the R.O. and IC, Dhanbad

**(XV) Staging Area Manager (SAM): Circle Officer of the affected area**

- Establish the SA in the respective Circle with proper layout, maintain it in an orderly condition and ensure that there is no obstruction to the incoming and outgoing vehicles for helping agencies of district Dhanbad and resources etc.
- Ensure that communications are established with the ICP and other required locations e.g. different SAs, Incident Base, Camp, Relief Camp etc.
- Organize storage and dispatch of resources received and dispatch it as per IAP.
- Report all receipts and dispatches to OSC and maintain their records.
- Manage all activities of the SA and utilize all perishable supplies expeditiously.
- Maintain and provide resource status to PS and LS.
- Demobilize SA in accordance with the Demobilization Plan.
- Maintain record of various activities performed as per format and send to Sections concerned.
- Perform any other duties as assigned by OSC of district Dhanbad.

**(XVI) Planning Section Chief (PSC): AC (Dhanbad)**

- Coordinate with the activated Section Chiefs for planning and preparation of IAP in consultation with IC.
- Ensure collection, evaluation, and dissemination of information about the incidents including weather, forecast, environment toxicity, availability of resources etc. from concerned departments and other sources.
- The PSC must have a databank of available resources with their locations from where it can be mobilized.
- Prepare IAP by assessing the current situation, predicting probable course of the incident and preparing alternative strategies.
- The IAP contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period (24 hours is considered as one operational period). The plan may be oral or written. Written plan may have a number of attachments, including incident objectives, organization assignment list, incident communication plan, demobilization plan, traffic plan, safety plan, and incident map etc. The major steps for preparing IAP are as follows;

- Initial information and assessment of the damage and threat;
- Assessment of resources required;
- Formation of incident objectives and conducting strategy meetings;
- Operations briefing;
- Implementation and review of IAP; and
- Formulation of incident objectives for the next operational period, if required;
- Ensure that Incident Status Summary is filled and incorporated in the IAP.
- Ensure that Organizational Assignment List (Divisional) is circulated among the Unit leaders and other responders of his Section.
- Plan to activate and deactivate IRS organizational positions as appropriate, in consultation with the IC and OSC.
- Assign appropriate personnel, keeping their capabilities for the tasks in mind and maintain On Duty Officers List for the day.
- Prepare and implement of Incident Demobilization Plan.
- Ensure that record of various activities performed by members of Units are collected and maintained in the Unit Log and perform any other duties assigned by IC.

**(XVII) Resource Unit Leader (RUL): SDO (Dhanbad)**

- Maintain and display the status of all assigned resources (Primary and Support) at the incident site by maintaining a resource status-keeping system.
- Access information about availability of all required resources at other locations and prepare a plan for their mobilization & Ensure and establish Check-in function at various incident locations.
- Update the PSC and IC about the status of resources received and dispatched from time to time.
- Coordinate with the various activated Branches, Divisions and Groups of OS for checking status and utilization of allotted resources.
- Ensure quick and proper utilization of perishable resources.
- Maintain record of various activities performed as per format and send to Section concerned.
- Perform any other duties assigned by PSC.

**(XVIII) Situation Unit Leader (SUL): District Land Acquisition Officer**

- Collect process and organize all incident information as soon as possible for analysis.
- Prepare periodic future projections of the development of the incident (along with maps if required) and keep the PSC and IC informed.
- Prepare situation and resource status reports and disseminate as required.
- Provide authorized maps, photographic services to responders, if required.
- Attend IAP Meeting with required information, data, documents and Survey of India maps etc.
- Maintain record of various activities performed as per format and send to Section concerned.
- Perform such other duties assigned by SUL or PSC.

**(XIX) Field Observer (FO) under SUL: Karamchari of the affected Area**

The FO is responsible for collecting situation information from personal observations of the incident and provides this information to the SUL. The FO will;

- Report to SUL immediately on any situation observed which may cause danger and safety hazard to responders and affected communities. This should also include local weather conditions.
- Gather intelligence that may facilitate better planning and effective response.
- Maintain record of various activities performed as per format and send to the SUL.
- Perform such other duties as assigned by SUL or PSC.

**(XX) Documentation Unit Leader (DUL)-DDMO, DND**

- Ensure that all the required forms and stationery are procured and issued to all the activated Sections, Branches, Divisions, Groups and Units.
- Compile all information and reports related to the incident.
- Review and scrutinize the records and various IRS forms for accuracy and Completeness.
- Inform appropriate Units of errors or omissions in their documentation, if any, and ensure that errors and omissions are rectified.
- Store files properly for post-incident analysis.
- Maintain record of various activities performed as per format and send to Sections concerned.
- Perform any other duties as assigned by the PSC.

**(XXI) Demobilization Unit Leader (DUL)-Circle Officer's of affected area**

The management of a large incident, demobilization can be quite a complex activity and requires proper and separate planning. When the disaster response is nearing completion, the resources mobilized for response need to be returned. This should be done in a planned and phased manner. Demobilization requires organizing transportation of both equipment and personnel to a large number of different places both near and far away. The Demobilization Unit will prepare the demobilization plan in consultation with RO, IC and PSC. The plan should include the details of the responders to be demobilized, the date, mode of transport, location from where they will be demobilized, the destination where they have to finally reach etc. There will be a similar plan for out of service equipment and sickpersonnel also. DUL will have following responsibilities:

- Prepare Incident Demobilization Plan (IDP) as per format.
- Identify surplus resources and prepare a tentative IDP in consultation with the PSC and give priority to demobilization of surplus resources.
- Develop incident check-out functions for Sections, Branches, Divisions and units in consultation with all Sections and send to the PS.
- Plan for logistics and transportation support for Incident Demobilization in Consultation with LS.
- Disseminate IDP at an appropriate time to various stakeholders involved.
- Ensure that all Sections, Units, Teams and Resources understand their specific Incident Demobilization responsibilities and avail Demobilization facilities.
- Brief the PSC on the progress of Demobilization.

**(XXII) Logistic Section Chief-NDC (Dhanbad)**

LSC provide all logistic support for effective response management for the district Dhanbad. The Units under different Branches of the LS are responsible not only for the supply of various 'kinds' and 'types' of resources, but also for the setting up of different facilities like the Incident Base, Camp, ICP and Relief Camp etc. This would entail the involvement of several lines Departments of Government and other agencies. It would require a proper and smooth coordination at the highest level of the administration. The LS comprises Service, support and finance Branches. The section is headed by a chief known as the LSC. The activation of various Branches of the LS is context specific and would depend on the enormity and requirements of the incident. The LSC Dhanbad will:

- Coordinate with the activated Section Chiefs.
- Provide logistic support to all incident response effort including the establishment of Staging Area, Incident Base, Camp, Relief Camp, Helipad, etc.

- Participate in the development and implementation of the IAP.
- Keep R.O. and IC informed on related financial issues and request for sanction of Fund.
- Ensure that Organizational Assignment List (Divisional / Group) as per format is circulated among the Branch Directors and other responders of his Section.
- Ensure the safety of the personnel of his Section and Brief Branch Directors and Unit Leaders.
- Anticipate over all logistic requirements for relief Operations and prepare accordingly.
- Constantly review the Communication Plan, Medical Plan and Traffic Plan to meet the changing requirements of the situation.
- Assess the requirement of additional resources and take steps for their procurement in consultation with the RO and IC.
- Provide logistic support for the IDP as approved by the RO and IC.
- Ensure that the hiring of the requisitioned resources is properly documented and paid by the Finance Branch.
- Assign appropriate personnel, keeping their capabilities for the tasks to be carried out and maintain On Duty Officers List for the day.
- Ensure that cost analysis of the total response activities is prepared.
- Ensure that record of various activities performed (as per format) by members of Branches and Units are collected and maintained in the Unit Log as per format.
- Perform any other duties as assigned by RO or IC.

**(XXIII) Service & Support Branch Director: Executive Magistrate (DNB)**

- Work under the supervision of LSC and manage all required service support for the incident management.
- Discuss with the activated Unit Leaders for the materials and resources required and procure the same through LS.
- Ensure proper dispatch of personnel, teams, resources etc as per the IAP.
- Maintain the record of various activities performed as per format and send to sections concerned; and perform any other duties assigned by the IC and LSC.

**(XXIV) Communication Unit Leader (CUL): GM, BSNL**

The communication leader work under the direction of the SBD. The Communication Unit Leader will supervise the communication unit activities and maintain the records of communications equipment deployment in field as and when required and also ensure that those are in working condition and that the network is functional. S/he is responsible to:

- Provide Communications facility as and when required.
- Ensure that all communications equipment available is in working condition and that the network is functional.
- Maintain the records of all communications equipment deployed in the field and recover them after the incident is over.
- Ensure setting up of a message centre to receive and transmit radio, telephone and other messages from various activated sections, branches, units and higher authorities and maintain their records.
- Prepare an alternative communication plan for execution in case of possible failure of the normal communications network. The alternative communications network may have wireless, satellite phones, cell phones, HAM radios etc.
- Prepare a plan for integration of the communications set up of the central teams (NDRF, Armed Forces) with the local communications set up for the management of large scale disasters when they come to assist in the response effort.



**(XXV) Medical Unit Leader (MUL): Civil Surgeon (CMO), DND**

Medical Unit Leader will work under the direction of the SBD and prepare the Medical plan and procurement of required resources as per IAP, provide medical aid and ambulance for transportation of victims and maintain the records of the same as per format and obtain a road map of the area from the PS for the ambulance services, transportation of medical personnel and victims. S/he will:

- Prepare the Medical Plan and procurement of required resources.
- Provide medical aid and ambulance for transportation of victims and maintain the records of the same.
- Obtain a road map of the area from the PS for the ambulance services, transportation of medical personnel and victims.
- Respond to requests of the OS for medical aid, transportation and medical supplies etc. under intimation to the SBD and LSC.
- Maintain the list of medical personnel who could be mobilized in times of need.
- Prepare and circulate list of referral service centers to all the medical team leaders.

**(XXVI) Food Unit Leader (FUL)-DSO (Dhanbad)**

The Food Unit Leader will work under the direction of the SBD and, is also supposed to supply resources to various activated Sections, Branches, Units and Groups of IRT as per the direction of the SBD. The primary responsibility of FUL is

- Supply food to:
  - a) Personnel of IRT(s) at ICP, Camps, incident Base, Staging Area, etc., and
  - b) Victims at the temporary shelters, relief camps etc;
- FUL will ask for assistants if the task become very large.
- Determine food and drinking water requirements and their transportation, and brief the SBD and LSC.
- Maintain inventory of receipt and dispatch of resources.
- Maintain record of various activities performed as per format and send to SBD.

**(XXVII) Resource Provisioning Unit Leader: SDO (Dhanbad)**

Resource Provisioning Unit Leader (RPUL) will work under the supervision of SBD and organize the movement of personnel, equipment and supplies receive and store all safety supplies required for the incident response. S/he will:

- Organize movement of personnel, equipment and supplies.
- Receive and store safely all supplies required for the incident response.
- Maintain the inventory of supplies and equipment.
- Organize repair and servicing of non-expendable supplies and equipment.
- Monitor the 'kind', 'type' and quantity of supplies available and dispatched and maintain the records of receipt and dispatch of supplies including equipment and personnel.
- Receive and respond to requests for personnel, supplies and equipment from the activated sections, branches, divisions, units and groups under intimation to S.B.D.
- Maintain various records on activities performed as per format and send to S.B.D.

**(XXVIII) Facilities Unit Leader (FUL) :ADM (Supply)**

- Prepare the layout and activation of incident facilities like Incident Camp(s), Relief Camp(s), ICP, etc., and provide basic amenities to the responders.
- Locate the different facilities as per the IAP.
- Maintain record of various activities performed as per format and send to SBD.

**(XXIX) Ground Support Unit Leader (GSUL): Circle officer of the affected area**

- Provide transportation services for field operations to TBD.
- In case Air Operations are activated, organize and provide required ground support through TBD.
- Provide maintenance and repair services for all the vehicles and related equipment used for incident management as per proper procedures and keep the concerned line departments informed through the SBD and LSC.
- Develop and implement the Incident Traffic Plan.
- Inform Resource Unit about the availability and serviceability of all vehicles and equipment.
- Arrange for and activate fueling requirements for all transport including Aircrafts in consultation with the SBD.
- Maintain inventory of assigned, available and off road or out of service resources.

**(XXX) Finance Branch Director (FBD): NDC, Dhanbad**

The FBD is responsible for managing all financial aspects of response management. The FB has been kept under the LS for quick and effective procurement. FBD will:

- Attend planning meetings.
- Prepare a list of resources to be mobilized, procured or hired in accordance with the IAP. Obtain orders of the competent authority as per financial rules and take steps for their procurement without delay.
- Ensure that time records of hired equipment, personnel and their services are accurately maintained as per Government norms for payment.
- Examine and scrutinize cost involved in the entire response activity including the demobilization, analysis the cost effectiveness and keep the LSC informed.
- Ensure that all obligation documents initiated at the incident are properly prepared, completed, verified and signed by the appropriate Section Chief and BD.
- Brief the LSC or IC on all incident related financial issues needing attention or follow-up.

**(XXXI) Time Unit Leader (TUL): Circle Inspectors of the Area**

- Maintain time recording of hired equipment and personnel and ensure that it is maintained on a daily basis and according to government norms.
- Examine logs of all hired equipment and personnel with regard to their optimal utilization.
- Ensure that all records are correct and complete prior to demobilization of hired resources.
- Perform any other duties as assigned by the FBD.

**(XXXII) Compensation / Claims Unit Leader: Circle Officer's of the Area**

If the incident is such that there may be a requirement of making payments concerning compensations and claims, the IC in consultation with the RO will activate a Compensation / Claims Unit and appoint a leader to collect and compile figures of loss of life and property etc. as provided by the relevant Government norms and directions. They will:

- Collect all cost data and provide cost estimates.
- Prepare and maintain a list of requisitioned premises, services, resources and vehicles etc. with correct date and time of such requisition.
- Follow appropriate procedures for preparation of claims and compensation.
- Perform any other duties as assigned by the FBD.

**(XXXIV) Roles and Responsibilities of Procurement Unit Leader: NDC, Dhanbad**

- Attend to all financial matters pertaining to vendors and contracts.
- Review procurement needs in consultation with the FBD and prepare a list of vendors from whom procurement can be done following proper procedures.
- Ensure all procurements ordered are delivered on time.
- Coordinate with the FBD for use of imprest funds, as required.
- Complete final processing of all bills arising out of the response management and send documents for payment with the approval of the FBD, LSC and IC.

**(XXXV) Cost Unit Leader: NDC, Dhanbad**

- Develop incident cost summaries in consultation with the FBD on the basis of Cost Analysis Report.
- Make cost-saving recommendations to the FBD.
- Complete all records relating to financial matters prior to demobilization.

**7.5.5 Desk Arrangements**

District EOC will expand to include desk arrangements with responsibilities for specific tasks. The desk arrangement may continue to operate from EOC till the time long term plan for rehabilitation are finalized. The desk arrangements provide for divisions of tasks, information gathering and record keeping and accountability of the desk officer to the Deputy Commissioner. The Team leaders of emergency support functions shall be the desk officer and work under the coordination of Operation Chief. The desk officers shall be responsible to prepare, update and process reports according to the formats. Below emergency support functions of each desk officer/team leader has been discussed in detail.

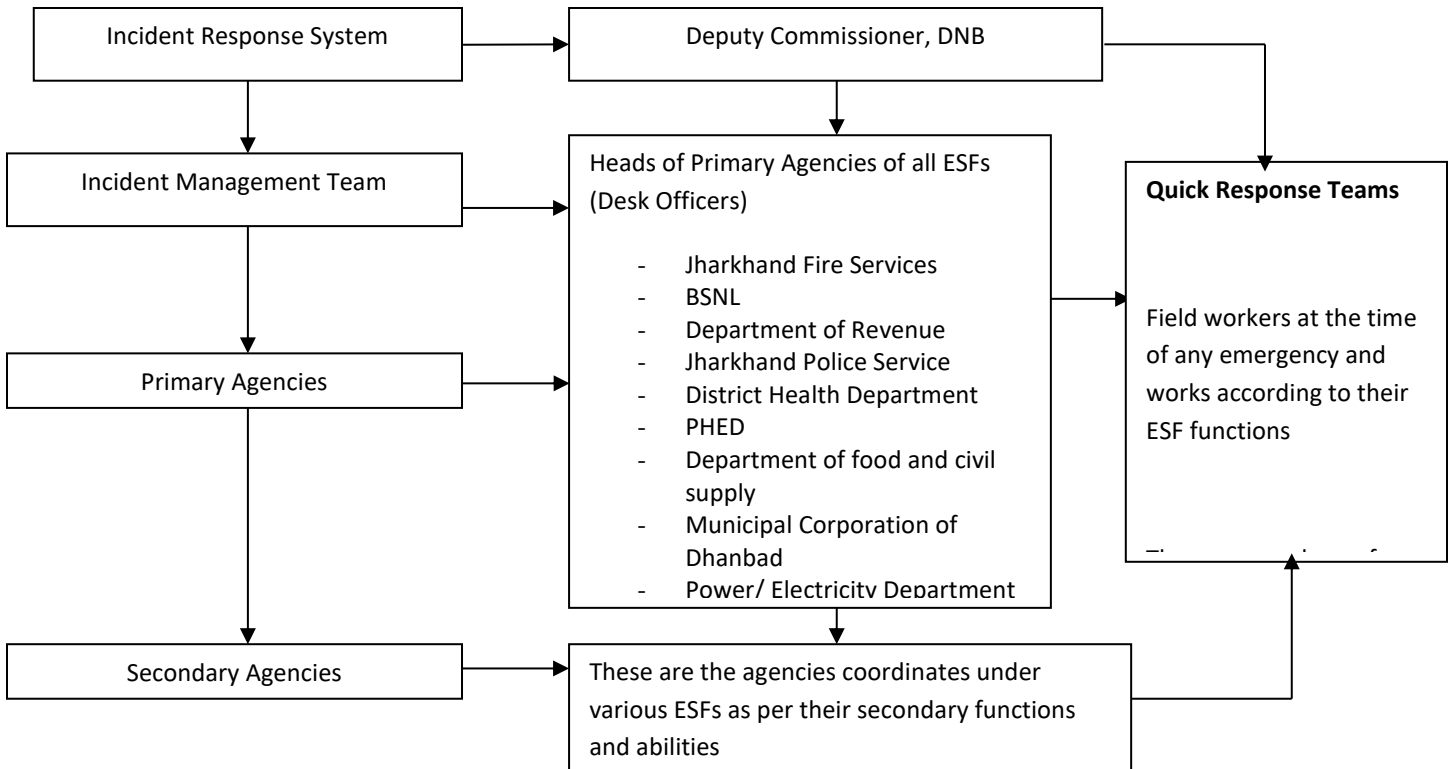
**7.5.6 Emergency Support Functionaries**

Emergency Support Functionaries (ESFs) are the essentials of Emergency Management comprising of various coordinating agencies, which manage and coordinate specific kinds of assistance common to all disasters types. The plan establishes an organised set-up to conduct ESF operations for any of the Natural and Manmade Disasters. It outlines an implementing framework of sharing resources and co-coordinating, preparedness, Mitigation, response and recovery as per the requirement. The Plan has structured the activities of concerned agencies i.e. primary/nodal and support agencies into an organised manner according to their capabilities, skills, resources and authorities across the state and district government. It also attempts to unify efforts of state departments so that they are involved in emergency management comprehensively to reduce the effects of any emergency or disaster within the state. Refer table 6.2 for the list of ESFs and primary and secondary agencies involved.

**(i) Organisation Setup of the ESF at District Level**

The Department of Revenue as directed by the Ministry of Home Affairs, is the prime co-ordinating agency for disaster risk management efforts. However there will be other agencies involved in-charge of different ESFs. Each ESF is headed by a lead organization and assisted by supporting organizations for coordinating the delivery of resources and services to the disaster-affected area.

**Fig 7.6 : Emergency Support Functions in Response Mechanism**

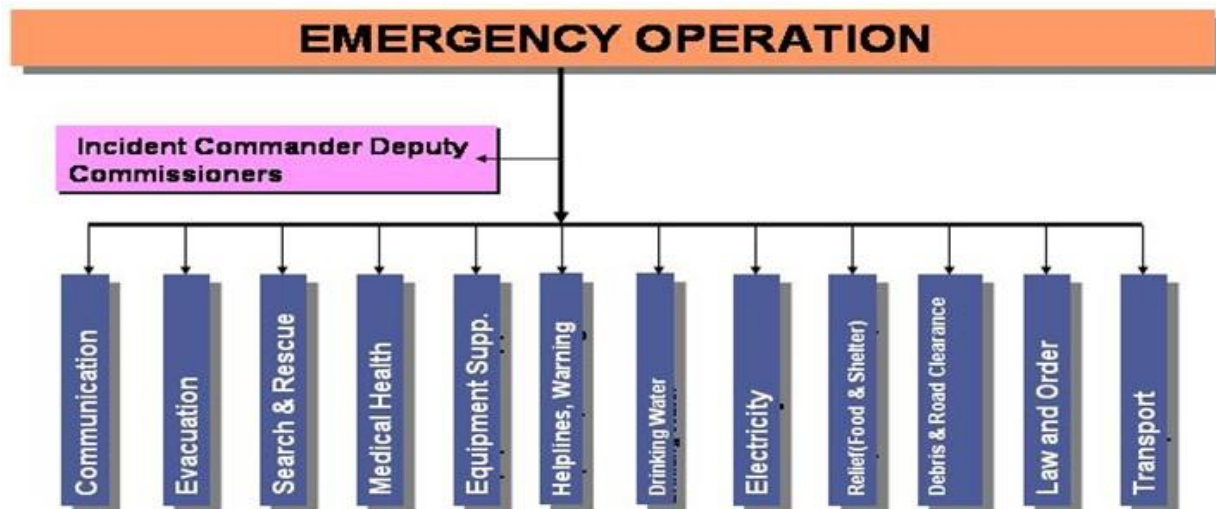


These ESFs form an integral part of the EOC and each ESF should coordinate its activities from the allocated EOC. Extension teams and quick response teams (QRTs) would be required to follow their response procedures at the affected site. Nodal officers of all the ESFs would constitute Incident Management Team. Nodal officer would also nominate names for the QRT members who will accomplish disaster management related work at the field level. Similarly supporting agencies would also nominate their nodal officers and QRT members who will assist to the primary officers during response phase. Additional names should also be proposed to backstop the requisite positions.

Nodal and Supporting agencies comprising of QRTs shall be trained to carry out their functions at the response site. The success of ESF will be of critical importance and would reflect in the lives saved in the golden hour. All ESFs have to assist the Incident Commander i.e. Deputy Commissioner at State level as per their assigned duties described in the SOP's and to be followed during emergency within the District/State.

A detailed organizational setup of all ESFs and team leaders has been given below:

In any case of any disaster Police, Fire, Medical and revenue department have been identified as first responder.



**Fig. 7.7.** Emergency Support Functions

A set of clearly defined responsibilities for all the ESFs have been mentioned below:

**ESFs Teams of District Dhanbad:**

ESF	Function	Scope	ESF Team Leader	Primary Agency	Secondary Agency
ESF #1	Communication	Establishing, using, maintaining, augmenting, and providing backup for all of the types of communications devices needed during emergency response operations.	GM, BSNL	BSNL	NIC, Police, Revenue Wireless, Private Telecom
ESF #2	Evacuation	Evacuation of people from incident area specially from weak structures and hazardous site	DSP of the incident area	Police, Fire Brigade, Education Department	Police, NRDF, CISF, RPF, GRP, CRPF, Home Guard Department, other Para-military agencies, NCC, Voluntary Organisations, Community Volunteers, NYKS

## ***District Disaster Management Plan (Dhanbad)***

ESF #3	Search and Rescue	Removal of trapped and injured persons from buildings collapses and other structural collapses, administering first aid, and assisting in transporting the seriously injured to medical facilities. This activity involves the use of professional and volunteer search teams including the use of dog teams.	DFO	Fire Department	Police, Home Guard, NCC, NDRF, Mines Search and Rescue BCCL, DRM Office East Central Railways, TISCO, BCCL, Home Guard Department, other Para-military agencies
ESF #4	Emergency Medical Health Services	Mass fatality management, Public health, Medical, Mental health services	Civil Surgeon	Health Department (CMO)	PMCH, Central Hospital BCCL, TMH TISCO, Divisional Rail Hospital, East Central Railways, JMADA, Redcross, Rotary Club, Lions Club, IMA, Medicine Stockiest, Volunteer Organisations, Private Hospitals and Nursing Homes, Ambulance Services, Blood banks
ESF #5	Helplines, Warning Dissemination & coordination Media coverage	The flow of accurate and timely emergency information is critical to the protection of lives and property in the wake of a catastrophic event. preparation and dissemination of notifications, updates, warnings, and instructional messages, making the help line operational	District Public Relation Officer	Public Relation department	Media, NGOs, Health department, Police department
ESF #6	Drinking Water	Restoration and repair of water supply system to minimize the impact on critical service to the public	PHED	JMADA, PHED, Municipal Corporation	BCCL, TISCO, IISCO
ESF #7	Electricity	Restoration and repair of electrical power system to minimize the impact on critical service to the public	GM, State Electricity Board	State Electricity Board	BCCL, Indian Railways, DVC
ESF #8	Relief (Food and Shelter)	Optimising Food and Civil Supplies to the needful	ADM (Supply)	Supply Department	Agriculture Marketing Board, Chamber of Commerce, Market Associations, Local Civil Suppliers
ESF #9	Debris and Road Clearance	The identification, removal, and disposal of rubble, wreckage, and other material which block or hamper the performance of emergency	Commissioner, Dhanbad Municipal Corporation & EE, Zila Parishad	Dhanbad Municipal Corporation	JMADA, BCCL, TISCO, Indian Railways, IISCO, ECL, NHAI, PWD, REO

## ***District Disaster Management Plan (Dhanbad)***

ESF #10	Law and Order	Law and Order enforcement for Public Safety	SDM	Law and Order section, Police department	Home Guard Department, other Para-military agencies, Community Volunteers, Voluntary Organisations
ESF #11	Transport	Provides transportation out of a disaster area for people in need, and provides transportation essential to support emergency response in the event of a disaster, coordinating for resurrection of transport infrastructure.	District Transport Officer (DTO)	Transport Department	DRM Office, East Railways, NHAI, PWD, REO, Dhanbad Municipal Corporation, all leading public sector and private organizations, Community Volunteers, Voluntary Organisations
ESF #12	Damage & Need Assesment	Conduct of ground surveys to determine the scope of the damage, casualties, and the status of key facilities.	Additional Collector	Revenue Section, Circle Office, Education Department	Police Department, Dhanbad Municipal Corporation , JMADA, BCCL, Electricity Board, Public Health Engineering Dept., Health dept, Block Offices, PWD, Building department, DVC, NHAI, DRM Office East Central Railways
ESF #13	Access Control and Re-Entry	Control of access to the area severely affected until it is safe. Only those people directly involved in emergency response operations should be allowed to enter. Also determining the appropriate time to allow evacuees and the general public to re-enter the area that was severely impacted.	DSP Traffic	Police department, Sub Divisional Office	Road Departments (NHAI, PWD, REO)
ESF #14	Fire Fighting	Coordination of firefighting operations	Fire Safety Officer	Fire Safety Departments Dhanbad, Jharia and Sindri	BCCL, TISCO, Police department
ESF #15	Inspection , Condemnation, Demolition	Inspection of buildings and other structures to determine whether it is safe to inhabit or use them after an earthquake has occurred	Executive Engineer, Building Department	Building Department & Municipal Corporation	JMADA, DVC
ESF #16	Public Works and Engineering	Infrastructure protection and emergency repair Infrastructure restoration	Executive Engineer, PWD	PWD, Municipal Corporation	District Board (Zilla Parishad), BCCL, TISCO, IISCO
ESF #17	Resources Mobilisation; Contracting Services; Volunteer and Donation Support;	Mobilising support (human, equipment and other) from various organizations, Contracting Services, mobilizing Volunteer support, facilitating donations	NDC	DRDA, District Welfare Department, Programme Department	All leading Government, Public Sector and Private organizations, Community Volunteers, Voluntary Organisations

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ESF #18	Relief Camps	Accommodating homeless and affected people and providing mass care	District Welfare Officer	Welfare department , Nazarat Department, Education Department	Supply department, All leading public sector and private organizations, Community Volunteers, Voluntary Organisations
ESF #19	Oil and Hazardous Materials Response	Oil and hazardous materials (chemical, biological, radiological, etc.) response Environmental short- term cleanup	Asst. Commissioner, Labour	Labour Department	IOC, BPCL, HPCL, BCCL, TISCO, Fire safety departments Jharia and Sindri, Police department
ESF # 20	Animal Care	Controlling spread of diseases in animal and providing animal care	District Animal Husbandry Officer	District Animal Husbandry Department	Vet nary Doctors, NGOs, Community Volunteers



### **7.5.7 Action plan for Emergency Support Functionaries**

#### **1. Communication**

##### **Situation Assumption:**

Due to extreme fire explosions or a high intensity earthquake telephone wires might get damaged so communication from the site is not possible. There is a need to inform to various departments and to establish a temporary communication system

**Primary Agencies** : Bharat Sanchar Nigam Limited (BSNL)

**Supporting Agencies:** NIC, Private telecommunication and Mobile phone operators

##### **Immediate Actions :**

1. Team Leader (TL) will activate ESF immediately and intimate to his supporting officers
2. He will establish a contact with district EOC for First Information Report
3. He will decide upon the extent of damage to telecom services and network and will provide possible arrangements to establish reliable networks
4. In such kind of large explosion, the communication systems of the affected installation may get severely damaged and be rendered useless. In such case communication coordinator would be responsible to provide emergency communication system to the incident site. It shall comprise through wireless (available within the Administration), mobile phones and land lines available with the industries.
5. Coordinator will establish an all call system on telephonic network for notification of emergency in the areas likely to be affected
6. Prepare a standard message format (in Hindi and English) for use in radio/television broadcast or outdoor notification through megaphone to facilitate and reduce time necessary to alert the public of a problem and inform them of the protective actions to be taken.
7. Establish a warning system for different levels of emergency
8. TL should send Quick Response Team(QRT) at the incident site with required equipments and resources
9. TL will inform to IC about the restoration of telecom services and will communicate new phone numbers
10. HAM radio operators would be informed about the current requirement and coordination mechanism
11. TL monitors the situation and arranges staff required to operate established systems

**Action to be undertaken by Quick Response Teams (QRTs)**

1. QRT members will reach to the incident site as soon as they get instructions
2. QRT will take stock of the situation from the IC and also from the members of the other QRTs
3. QRT will assess the ground situation and send reports to state ESF agencies. The report would contain assessment of overall damage listing, overhead route damage(mts/kms), cable damaged( in yards/mts) and specific equipment damage
4. Establish a temporary communication facility for the use of public
5. Identify requirement of manpower, resources and equipments
6. Begin restoration by removing and salvaging wires and poles
7. Reporting to the head office

Coordinating ESFs: *Help lines, Relief, Medical response, Law and order, Search and rescue*, etc

**2. Evacuation**

**Situation Assumption:** People who are residing in vulnerable location may get affected due to the subsidence loss/chemical explosions/fire/earthquake. These areas may be nearby installation, industries, railways and other institutions. Under such circumstances TL should take up decision either to evacuate the places or not.

**Primary Agency** : **Police department**

**Supporting Agencies** : **fire Department, Home Guard, NCC , NDRF, Army, Army, Health Dept**

**Task Involved** : The Team Leader (TL) with the Help of QRTs shall perform following duties:

**a. Identification of people to be evacuated**

The decision of the area under dangerous location will largely depend upon the wind speed, direction and rate of explosion.

**b. Evacuation of general public**

- On the directions of Incident Commander(IC), the ESF Team Leader will perform evacuation. He will instruct the team to initiate evacuation of the areas expected to be exposed and threatened by the explosions
- The QRT shall move along with adequate material and resources to carry out evacuation. People will be directed to move towards safer areas identified by technical experts
- The team leader will designate in-charge of relief centers and keep in touch with them for regular head count and care of evacuees

- Police, Fire, & Home Guard (CD & HG) and other government employees may have to go door to door to ensure that residents have been alerted about the emergency

**c. Evacuation routes and assembly points**

1. In planning process routes shall be defined well in advance. These routes should be clearly spelt out in warning signals as also the location of the shelters to where people with automobiles should proceed and people without automobile should gather
2. Designated evacuation routes should be major roads preferably but according to the wind speed and directions
3. As evacuation would be declared police and fire should be prepared to control roads and traffic on evacuation route
4. Apart from above mentioned duties TL should also dispatch following notifications:-
5. The Team Leader will ensure that notification has been communicated to the nearby institutions such as schools, hospitals, residential colonies and similar facilities having large group of people
6. The team leader will also ensure that near by water users (industries, farm irrigations, drinking supplies) and water treatment plants are informed to get water at the incident sites
7. On getting instructions from the Incident Commander(IC), the team leader of the ESF will ensure notification to the general population for evacuation immediately and rush to safer sites
8. It is important to note that next kin are promptly notified of fatalities or severe injuries carefully in a supportive fashion. This activity can be discussed with Police, Red Cross society, voluntary organizations and NGOs

**Coordinating ESFs : Law and Order, Search and Rescue, Food and Shelter**

**3. Search and Rescue, Fire Fighting**

**Situation Assumption:** There may be a massive destruction, aggressive fire explosions, there may be a need of repairing leakages to reduce fire explosions, situation can aggravate due to mishandling or carelessness

**Primary Agency : Jharkhand Fire Service**

**Supporting Agencies: Home Guard, NCC, NRDF**

Trained fire fighting/search and rescue team of incident site and nearby installations (MRC, BPCL), Home Guard, Police department

**Immediate Tasks** :

1. TL will activate the ESF and give instructions to the QRTs to reach at incident site to person rescue operations
2. TL will coordinate with LCP and EOC to judge the situation
3. TL will coordinate in deputing rescue team to enter in hazardous areas
4. TL will coordinate with technical experts, safety coordinators and material coordinator for quick response in case of any requirement in conducting rescue operations

**Immediate Tasks of QRTs:**

Fire fighting teams will undertake these services in case of extreme fire explosions and chemical disaster

**On-scene Assessment**

1. First fire vehicle to reach at incident site will contact the site controller and collect the necessary information regarding chemical leak, action taken, current status and type of equipment required
2. Driver will park their vehicle in a manner to prevent exposure to air-borne chemical contaminants and fire explosions
3. Each crewmember will wear the necessary PPEs (Personnel Protective Equipments) before entering in the “hot zone”. They will work in pairs and coordination
4. The situation will be communicated to the FCR to provide the update of additional resource and manpower requirement

**Plugging/Stopping of Leaks**

Few crewmembers having good knowledge of basic tools and knowledge to limit the losses from punctured or leaking tanks will work for plugging holes. Plugs of varying sizes and shapes (conical, cylindrical, square or wedge shaped wood pieces, rubber or metal sheets) can be jammed in the wholes to reduce the leaking.

**Suppression of Hazardous Gas or Vapour Releases**

Based on the guidance of technical coordinators, the response team shall take rapid measures to reduce the rate of amount of hazardous vapors or gases entering in the atmosphere using one or combination of the following measures

- Physical restriction of liquid pool surface areas, transfer to an alternate or standby container if available.
- Use of fire-fighting or specialized hazardous material foams, dilute or coverage of liquid pools with water or other compatible liquids.
- Use of water sprays or fogs, neutralization of spilled liquids, cooling of spilled liquids or venting tanks

### **Search and Rescue Operations**

1. According to the instructions of rescue coordinators QRTs should enter into the hazardous areas and rescue injured and trapped people
2. For common safety practice, QRTs should work in pairs
3. QRT should initiate search and rescue operations of trapped people under the guidance of technical experts
4. QRT of rescue operations should carry a self-contained breathing apparatus (SCBA) to carry out their mission without falling victim. They should also carry a spare SCBA unit which will help them to escape people trapped in the hazardous areas and also sometimes rescue workers require extra air supplies to accomplish prolonged rescue.

### **4. Law and Order**

**Situation Assumption:** There may be a chaos in the affected area. People may rush without proper following proper instructions which may increase the expected loss. Traffic may become out of control and lead to jams.

**Primary Agency** :SDM &Police Department (Police and Traffic Police)

**Supporting Agencies** :NCC and Home Guard

#### **Immediate Actions of Police:**

1. Deploying quick response teams (QRTs) to maintain law and order at the incident site
2. QRTs deployed at the site will be equipped and will coordinate with following activities
3. Quick Assessment of law and order situation in affected areas
4. Cordon off the site to restrict movement of curious onlookers, vehicles and pedestrians
5. Control and monitor traffic movements
6. Support and coordinate with local administration
7. Prepare updates on the law and order situation in every 2 hours and brief the authorities

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8. Ensure law and order at assembly points and evacuation points
9. Control situation of rioting and looting and cordon off affected areas
10. Provide traffic diversions so as to ease movement of response vehicles to incident site
11. Gather and disseminate information about the traffic flow on alternate routes for decongestion
12. Ensuring law and order in rehabilitation centers
13. Communicate with PCR on regular basis regarding field activities including deployment of manpower and resources
14. To advise home-guards to remain alert for responding to call from Police
15. To contact nearby hospitals for making emergency arrangements for receiving injured persons

### **Immediate actions of Traffic Police:**

1. To coordinate and communicate with concerned functionaries
2. To detail traffic staff to reach the place of occurrence.
3. To give directions whenever necessary to ensure free passage for fire brigade ambulance, police vehicles and vehicles of other respondents
4. DSP (traffic) to coordinate with the DTC and other private transporters for additional vehicles

**Coordinating ESF's: Communication, Search and Rescue, Transport, Help lines and Warning dissemination and Relief Supply etc.**

### **5. Medical Response and Trauma Counseling**

#### **Situation Assumption:**

Expect large number of casualties There may be a requirement of more trained professionals and specialists in various fields There may be a requirement to maintain a close contact with the other major hospitals in case of more severe conditions

**Primary Agency : Civil Surgeon (CMO)**

**Secondary Agencies:** PMCH Hospital, Central Hospital, Indian Red Cross Society, St. John Ambulance, Installations (MRC, BPCL), HG, IMA representatives, NCC, NSS, NYKS and NGOs

#### **Immediate Actions :**

1. Ensure the adequate number of medical professional to reach at the site including specialist in chemical exposure handling
2. DDHS in consultation with the respective medical superintendents of major hospitals should also responsible to prepare a mass causality plan
3. Ensure high sanitation standards at resettlement site to reduce epidemic outbreak
4. Providing adequate treatments to the victims of explosions

5. Trained profession should be mobilized by psychological support
6. Ensure setting up of temporary information center at hospitals with the help of communication ESF

**Immediate Actions of QRTs: *Establishment of Triage Station***

- 1 Mass casualty situation will require establishment of field hospitals to take care for the injured and to identify stabilize and transport more serious cases to the hospitals
- 2 Codes should be used to recognize serious and stable cases such as red –critical, yellow-stable and green-wounded
- 3 Treatment should be provided according to the casualty of the victims
- 4 Medical coordinators should propose rehabilitation centers as per the type of casualties
- 5 Field hospitals shall maintain a record of all the patients so as to enable accounting of personnel and their destinations after triage

***Medical Support for Response Personnel***

Properly equipped medical personnel and ambulances should be made available to check and treat injured or contaminated response personnel

***Medical support at temporary shelters***

A team will take care of the people who become ill during evacuation or later.

- a. Team should be aware of the signs and symptoms of exposure to toxic materials so that they can easily identify victims and provide them treatment and care
- b. Contaminated individuals should be segregated from the unexposed people until they are adequately decontaminated
- c. Special facility should be given for care of the handicapped and elderly

**Coordinating ESFs: Search and Rescue, Evacuation, Communication**

**6. Water Supply**

**Situation Assumptions:** There may be a need of supplying water for fighting operation there may be a need for drinking purpose rehabilitation site might be requiring temporary/mobile toilets, there may be need to ensure clean environment

**Primary Agency : PHED**

**Supporting Agencies: DMC, JMADA, PHED, Railways**

**Immediate Tasks :**

- a. The team leader will ensure that Quick Response Teams are on the site along with the required resources

- b. He shall be ensuring uninterrupted supply of water for fire-fighting to all the brigades in operation.
- c. He shall coordinate with the transport coordinator for replenishing the depleted stock of fire water at the incident site through water tanks
- d. Carry out the task of repairing all damages to water supply system
- e. Arranging alternate storage of potable water at temporary shelters
- f. Ensure restoration of potable water as per standards and procedures laid down under ‘Standards for Potable Water ‘
- g. Plan for emergency accommodation of water supply in or near temporary shelters
- h. Establish temporary sanitation facilities at the shelters
- i. Ensure cleanliness of sanitation facilities, relief shelters and local commandant post

**Coordinating ESFs: Shelter, Relief, Evacuation, Medical, Search and Rescue**

**7. Relief (Food and Shelter) Supply**

**A. Food Supply**

Situation Assumption: There may be a need to distribute food packets and drinking water to the victims

**Action to be taken by:** Food and Civil Supplies Department

**Supporting Agencies:** Indian Red Cross Society, NGOs, NYKS, NCC, NSS and Education department

**Immediate Tasks :**

1. The team leader(TL) will activate ESF on receiving the information about the incident and will also inform to the supporting agencies
2. Food coordinator would gather information about the locations of shelters and number of persons housed in each of these shelters.
3. The TL will guide QRTs to reach at rehabilitation centers to provide food packages
4. The TL will keep on coordinating about the distribution of food items to the evacuees and will give appraisal to the IC
5. In case of shortage of food items the TL will arrange more food packages and will ensure continuous supply

**Tasks for QRTs :**

1. Management and distribution of relief items to affected victims
2. Report the progress on action to the TL
3. Inform the TL about more requirements of staff members, additional materials and food packages.
4. Initiate procurement of food items available at near by markets
5. Prepare take-home food packets for the families



6. Ensuring equal distribution of relief material including children, aged groups, women and poor people

**Coordinating ESFs:** Evacuation, Shelter, Water and Sanitation and Medical response

### **B. Shelter Arrangements**

Situation Assumption: There may be a situation of transferring victims to the safer temporary shelter, there may also be a need to establish triage station for medical treatments

Primary Agency : Revenue Department

**Supporting Agencies:** NGO, Education Dept, NSS, NCC

#### **a. Immediate Actions :**

- b. The team leader (TL) would be the in-charge of rehabilitation centers who will ensure number of people evacuated , care of evacuees and availability of essential supplies
- c. Those who will reach to the relief centers would also like to know about their missing members. TL will response to their queries and also pass on the message to the evacuation and rescue related coordinators
- d. The Quick Response Team(QRT) will help them in arranging temporary shelters, food and sanitary facilities
- e. Medical facilities will also be provided to the victims and injured people

**Coordinating ESFs:** Search and Rescue, Evacuation, Medical Response, Law and Order, Relief Supply and Water and Sanitation

### **8. Equipment Support, Debris and Road Clearance, Sanitation**

Situation Assumptions: There may be a requirement of arranging equipments to perform fire fighting and search and rescue and roads may get blocked due to debris

Primary Agency : DMC

Supporting Agencies : PWD, NHAI, Installations (BPCL & MRC)

Task Involved :

- a. TL will inform Quick Response Teams(QRTs) and Supporting agencies about the incident
- b. Coordinate with supporting agencies to mobilize equipment form warehouse
- c. Assessing road blockage and building damage through QRTs

**In addition to the above, coordinator would also coordinate with following activities**

#### **a. Availability of respiratory protective devices**

In case of large scale explosion, sometimes there may be a shortage of protective devices. Therefore, coordinator would judge the requirement of personal protective equipments and clothing for members of emergency teams.

**b. Availability of Special Protective Clothing:** In the crises situation sometimes there may be requirement of more complete protection of the body by clothing that is resistant to the damaging effects of the spilled substance. Such situation may require clothing such as boots, gloves and disposable suits, air-tight fully encapsulating 'astronaut' suits made of chemical resistant materials.

**c. Ensuring availability of support services for response teams:** Field response teams would be working day and night at incident site. These personnel will require rest areas, food and sanitation facilities etc. Therefore material coordinator along with the NGOs and coordinators of food and shelter will arrange rest areas, food, shelter and other facilities.

**d. Maintenance of Apparatus and Equipments :** There would be few equipments requiring refueling and minor maintenance for uninterrupted operation. Therefore on-scene services should be arranged so that operation can be continued without any problem. **Tasks for Quick Response Teams :**

- d. Conduct damage assessment including location, number of structure damaged and severity of damage
- e. Enlisting type of equipments required for conducting debris clearance
- f. Report the situation and progress report to EOC and TL
- g. Undertake construction of temporary roads to serve as access to the site by other response agencies

**Coordinating ESFs: Search and Rescue, Medical, Evacuation, Help lines and warning dissemination, Food and Shelter**

## **9. Help Lines**

**Situation Assumptions:** A large number of reporters are arriving at the scene to get the correct information. There is a need to spread cautions to the local people about their movement towards safer areas. There may be rumors about the information.

**Primary Agency :** Revenue Department

**Supporting Agencies:** NIC, MTNL, Publicity and Information department, Press trust of India, Important Media channels and newspapers, AIR, Doordarshan and Press Information Bureau

**Tasks Involved :**

- a. Coordinator will transfer an adequate information to the large number of reporters arriving on scene and attempting to interview response teams and officers so that unwanted rumors can be reduced
- b. Designate one specific individual and an alternate press officer to join the team of press officers
- c. Coordinator should try to communicate the timely and right information so that confusions and rumors can be reduced
- d. Compile the list of telephone numbers of local radio, televisions and other related personnel who can help in air announcements

- e. Provide the desired support to the press officers with secretariat support, photocopy machines, and means of communications with overall command of the response operations
- f. Establish a firm policy among all local officials and response personnel as to who should speak or should not speak to media personnel
- g. Ensure that key emergency response personnel understand the need to relay up-to-date “status report” to press on a regular basis

**Coordinating ESFs: Search and Rescue, Evacuation, Relief and Shelter, Transport, law and Order and Medical Response etc.**

## **10. Electricity**

**Situation Assumptions:** Expect electric short circuits in the affected area which may aggravate the fire explosions. Electric fitting of the affected areas may get damaged and may need to be repaired, there may be a requirement of temporary lightening arrangements in the relief shelters and local commandant post.

**Primary Agency:**Jharkhand State electricity Board

**Supporting Agencies:** DVC, MPL

**Task Involved :**

- (a) Team leader will activate the Emergency Support Function(ESF) by informing his headquarter team and field team
- (b) Informing nodal and supporting agencies about the incident

### **a. Notification and shutdown of electricity utilities**

Major explosions may be caused by breaking of power supply line and electrocution hazard to those who might contact with any downed lines. To avoid such cases, it is desired to shutdown electric power system rapidly in the area and near by areas. As per the instruction given by IC, coordinator should instruct to concerned officers of JSEB to shut down the power supply immediately.

### **b. Provisioning Backup Power during Emergency**

Once power system is closed down, but power would still be required for response teams, LCP, EOC, water supply stations, temporary houses and temporary hospitals. Therefore electricity coordinator will be responsible for providing back-up or alternate source of uninterrupted power supply for smooth operations

***In addition to the above, QRTs should also undertake following responsibilities:***

- (a) Take stock of situation immediately on reaching the incident site
- (b) Coordinate with other team leaders and provide essential help expected from the electricity department
- (c) Conduct repairing work of dismantled connections
- (d) Provide temporary electricity supply to EOC, LCP and relief centers
- (e) Report to the team leader about the situation appraisal

**Coordinating ESFs:** Road and Debris Clearance, Incident Command Post, Relief and Shelter, Medical response etc

### **11. Transport**

**Situation Assumptions:** There may be a need of diverting transport immediately or there may be a need to transport affected population to the safer places

**Primary Agency : Department of Transport**

**Supporting Agencies : Railway**

**Immediate Tasks :**

1. Direct the local transport coordinator to direct the fleet(drivers)and coordinate the following transport activities during emergency
2. Closely liaison with the communication and evacuation coordinators
3. On the basis of instructions delivers by IC, he will effect the warning/ Instructions/ notification /operation
4. Arrange for the fleet of vehicles at a pre-designated location so that they can transport the affected population of safer areas(relief centre)
5. Transporting people from vulnerable areas to safer areas
6. Also transporting required equipments, materials and personnel etc.

**Coordinating ESFs: Medical Response, Law and Order, Debris and Clearance, Evacuation, Search and Rescue.**

## **7.6 Action plan for selected NGOs/ Village Panchayats and NYKS**

Emerging trends in managing natural disasters have highlighted the role of non-governmental organizations (NGOs) as one of the most effective alternative means of achieving an efficient communications link between the disaster management agencies and the effected community. In typical disaster situation, they can be of help in preparedness, relief and rescue, rehabilitation and reconstruction and also in monitoring and feedback.

The role of NGOs is a potential key element in disaster management. The NGOs operating at grassroots level can provide a suitable alternative as they have an edge over governmental agencies for invoking community involvement. This is chiefly because; the NGO sector has strong linkages with the community base and can exhibit great flexibility in procedural matters vis-à-vis the government. Based on the identified types of NGOs and their capabilities, organised action of NGOs can be very useful in following activities in different stages of disaster management.

Organized activities of NGOs/RWAs/NYKS/ at different stages of Disaster Management

<b>Stage</b>	<b>Activity</b>
Pre-Disaster	Awareness and information campaigns, Training of local volunteers, Advocacy and planning
During Disaster	Immediate rescue and first-aid, including psychological aid, supply of food, water, medicines and other immediate need materials ensuring sanitation and hygiene damage assessment
Post-Disaster	Technical and material aid in reconstruction assistance in seeking financial aid monitoring

## **7.7. Mining Disaster Management Plan:**

### **7.7.1 Disaster Management/Emergency Organisation Plan in the Event of a Disaster**

In case of occurrence of any disaster in underground mine, the following will become operative immediately.

#### **(A) Information of Disaster**

- 1. Duty of Any Person:** - As soon as any person realizes any serious occurrence/accident anywhere in underground mine, e.g. the sound of an explosion, the appearance of smoke or flame, heavy inrush of water etc, he shall immediately inform the Mining Sardar or any other underground Mine official and if possible the attendance clerk at the surface.

**2. Duty of Underground Official**

- (i) The underground Mine official shall immediately take steps to check the authenticity of the information & then inform the Mine official of other part of the mine. For example, if any disaster happens in the depillaring section of Lowersemana seam, steps should immediately be taken to inform official of depillaring section of the Uppersemana Seam.
- (ii) He shall inform the attendance clerk at the surface.
- (iii) The entire underground Mine official shall withdraw all persons under their control from the mine, except those whose presence in the mine is considered to be necessary for dealing with the disaster. The persons shall be withdrawn in an orderly manner and without creating any panic. Persons shall normally be withdrawn via intake roadways and intake Incline whether those routes are ordinarily used as travelling roadways or not.

**3. DUTY OF THE ATTENDANCE CLERK**

The attendance clerk on getting information of the disaster shall immediately-

- (a) Inform the following persons:

<b>Designation</b>
G.M.( Area)
G.M Nearest Rescue Station
Director Mines Safety( DGMS)
Manager
Safety Officer
Coll.Engineer
W.I.(Mining)
Dy.Manager(P)
Asst.Manager(F)
Dy.CMO

- (b) Ascertain that information has reached every part of the mine.
- (c) Inform the Members of Mine Emergency Organisation & telephone Operator,

**4. Duty of Telephone Exchange Operator**

It shall be the duty of telephone operator of exchange to inform the following:

- (a) Supdt., Mines Rescues station,
- (b) G.M., RescueStation,
- (c) Manager
- (d) Fire brigade if necessary
- (e) Project Engineer (E&M),
- (f) Other senior officers of the mine

## 5. For Sending Information

For sending information from U/G to surface and also to different parts of U/G, the following means should be utilized:

- The magnet phone provided in each working panel,
- By giving ten raps on signalling arrangement of the Haulage system,
- By sending messengers.
- Sounding Siren (5kms. Range) continuously for 5 minutes.

## 6. Dealing with Disaster

- (a) On getting the information of the disaster, The Project Officer (SG), the manager, the safety officer, project engineer (e&m) and other officials on surface will rush to the office of manager, u/g mine, which functions as operation control room.
- (b) Manager (U/G) will be overall in-charge of the operation control room.
- (c) The Control room incharge shall himself or through the telephone operator give clear and concise message to the member of consultative committee.

General Manager(A)

- S.O (S&R)(A)
- S.O (P&P)
- S.O (E&M)
- M.M,R/Store

The consultative committee will start functioning immediately on getting information.

- (d) **Action committee**:-On receiving information a committee consisting of the following members will start functioning under direction of Control Room in-charge: Safety Officer, Under Manager, Ventilation Officer, Coll.Engineer, Sr. Surveyor

(e) The message will be sent to the office of all the above and then if necessary at their residence or other place of availability.

(f) For giving information the clear and concise readymade action message will be used by the telephone operator. The copies of these will be kept for record.

(g) All the incoming and outgoing telephone messages will be recorded by the telephone operator in the logbook, kept for the purpose.

(h) All the members of the consultative committee will, after reporting to the control room, sign a log book to obviate any confusion about their availability.

(i) All the operations of withdrawal, rescue and recovery will be controlled by the control room incharge with the advice of the consultative committee.

**(B) Operation**

**1. Check for missing persons** –make a thorough check for the missing persons in U/G by comparing FORM ‘C’ register and the casualty list obtained from the medical officer.

**2. Duty Roaster:** In order to provide adequate supervision and control at all time at surface and U/G, prepare a duty roaster covering 24 hours so as to ensure continuity of official in charge. The person should be posted in the control room for continuous monitoring and control.

**3. Additional Rescue Team-** These shall be called from neighbouring collieries after consultation with the rescue superintendent and a roaster duty of teams should be made to cope up prolonged operations. Aseparate room shall be provided with telephone, Fax and P&T facilities. This room will be called ‘RESCUE ROOM’.

**4. Authorization:** The authorization system will be put into operation at once for the persons required to be sent U/G for dealing with the situation.

(a) To obtain a cap lamp, and (b) To proceed underground

All authorization cards will be printed for this purpose and will be issued from the control room on the authority of the senior officials, helping the manager. A clerk will be deputed to ensure distribution of these cards.

**5. Operation book for record of events:**A record of all the important events will be kept in orderly manner as they occur. This will serve the purpose of enabling senior officials coming on duty to get acquaintance of the events, for providing material and the action taken to deal with the situation.

This record will be kept by the Manager’s secretary and supervised by the official incharge .The proceedings and decisions of the consultative committee shall also be recorded in writing.

**(C) Material and Equipment**

Check availability of materials and Equipments immediately available at the following places:-

1. At the mine
2. At the rescue station.
3. At the colliery stores.

**(D) Items Available for Assistance in Recovery Works:**

Maintain a register of names, address and occupation of workmen available to assist in recovery work. The following items shall be made immediately available in the control room:

- (a) Copies of emergency organization plan.
- (b) Supply of Duty-cards indicating principal duties of key personnel for reissue.
- (c) Telephone log book.
- (d) Log book for consultative committee.



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- (e) Operations log book.
- (f) Authorization card.
- (g) Message form with duplicate pages.
- (h) Copies of rescue plan.
- (i) Copies of fire fighting plan.

### **(E) Information to Press**

The personnel manager will establish information centre and will notify place and Telephone number.

- (1) Receive the press representatives
- (2) Deal with inquiries, and
- (3) Issue duly authorized statements at his office. He will issue a clear cut statement to avoid ambiguity in information.

### **(F) Duty&responsibility of key personal:**

- (a) Duty: The following personal will immediately report to the operation control room on getting Information of the disaster: (1) Head Clerk/Manager's clerk (2) Telephone Operator (3) colliery Engineer (4) Lamp room in charge (5) Attendance clerk (6) Store keeper (7) Fan operator (8) Surveyor (9) Under Manager (10) Ventilation Officer (11) Safety Officer (12) Electrician (13) First Aid personal (14) Colliery Rescue trained persons (15) Welfare Officer (16) Security Officer.
- (b) Responsibility: - The above key personal will sign the log book kept at operation control room and also receive their respective duty cards, if not with them, and start functioning accordingly.

### **(G) Underground Control**

To ensure adequate supervision and control at all times, officials and their relievers shall be arranged to work as below:

- (1) **Official in Central Control Of U/G:** One under manager in each shift.
- (2) **Official Incharge of First Aid Room:** One first-aid trained person in each shift
- (3) **Official Incharge of Fire-Station:** Ventilation Officer to be over all in charge & one fire-fighting trained person in each shift
- (4) **Official Incharge of Rescue Room:** Rescue station Superintendent to be over all in charge and one rescue trained person in each for facilitating storage, transport and use of rescue equipments and materials.
- (5) **Official in Charge of Material Transport:** Colliery engineer to be over all in charge and one person in each shift for facilitating smooth transport of required materials.
- (6) **Surveyor or Other Responsible Person:** To provide up to date plan showing the escape routes etc. to the persons engaged in dealing with the emergency.
- (6) **Electrician:** In each shift for ensuring proper working of telephones & to fulfil other electrical requirements.
- (7) **Additional first Aid-Personals:** A sufficient no. of first aid personals will be kept readily available.
- (8) **Canteen Incharge:** One person in each shift who shall be responsible for distribution and supply of food, water, soft drinks and hot drinks . He has to keep proper control over distribution.

## **H. Organisation for System of Relief**

A system of relief for the persons who have specific duties in the emergency organization scheme will be set out as per the following guidelines:

1	Rescue Superintendent	Superintendent from other stations
2	Colliery Manager	The Asst. manager
3	Under Manager	Under Manager of other seam of Mine
4	Ventilation Officer	Dust Incharge/senior Overman
5	Safety Officer	A competent Overman
6	Colliery Engineer	A senior foreman
7	Medical Officer	A senior medical assistant
8	Welfare Officer	Welfare Officer from neighboring mine

## **I. Allocation of Building And Rooms for Other Purpose**

To avoid confusion at the time of disaster, the facility of building and rooms are hereby allocated for the different purposes as mentioned below:

- (a) Operation Control Room-Manager's Office ( U/G)
- (b) Rescue Apparatus Room-Mine Incharge's Office
- (c) Rescue Workers assemble-Under Manager's Office
- (d) Scientific Department-Surveyor's Office
- (e) Welfare Office of P.O.(SG)
- (f) Stretcher casualties nearest Hospital
- (g) Walking casualties nearest Hospital
- (h) Mortuary nearest Hospital
- (i) Trade Unions Staff Room
- (j) Police shift Incharge's Office
- (k) Press Personal Manager's Office

## **J. Facility for Analysing Cases ETC.**

Area laboratory will be adequately strengthened with equipment and manpower for providing necessary facilities for testing/analysing mine gasses. Telephone number of area laboratory will be notified.

## **K. MOCK REHEARSAL**

In order to ensure that everyone concerned clearly knows his prescribed duty and to test the communication arrangement, mock rehearsal will be done once in every six month.

## **L. Updating Of Information**

It shall be the responsibility of safety officer to keep the information constantly updated. All information regarding change of Residential address, office address, change of Telephone No., transfer of persons in the project and in the Area, transfer of key persons, shall be kept updated by the Safety Officer. Further, Manager shall authorize one of the Asst.Managers to work as safety Officer in case the regular Safety Officer is absent due to leave/sick or any other reason.

The acting Safety Officer should be made conversant with the Disaster Management Plan and should be provided a copy of the same.

## **(c) Recommendations**

- A Safety circle should be constituted in each mine and periodic sittings should be conducted and various safety awareness dos and don'ts should be discussed
- The safest employee of the month award should be given separately.
- A separate suggestion/ complain box to be created by the Director of mines safety and it should only be assessable by him so that workers can communicate and convey him their unsafe condition. The communication should be kept classified.
- Periodic surprise visits should be conducted by the Director and Deputy Director of mines safety.

## **7.8. Jharia Plan**

- The Jharia coalfield in Jharkhand is an exclusive storehouse of prime coke coal in the country, consisting of **23 large underground** and nine large open cast mines. The mining activities in these coalfields started in 1894 and had really intensified in 1925. The history of coal-mine fire in Jharia coalfield can be traced back to 1916 when the first fire was detected. At present, more than **70 mine fires are reported from this region.**
- Once a coal seam catches fire, and efforts to stop it an early stage fail, it may continue to burn for tens to hundreds of years, depending primarily on the availability of coal and oxygen. In India, the fire in the Jharia coalfield has mainly been due to unscientific mining and extraction of coal in the past
- The pollution caused by these fires affects air, water, and land. Smoke, from these fires contains poisonous gases such as oxides and dioxides of carbon, nitrogen and sulphur, which along with particulate matter are the causes of several lung and skin diseases. High levels of suspended particulate matter increase respiratory diseases such as chronic bronchitis and asthma, while the gases contribute to global warming besides causing health hazards to the exposed population.
- Methane emission from coal mining depends on the mining methods, depth of coal mining, coal quality and entrapped gas content in the coal seams. These fires also pollute water by contaminating it and increasing its acidity, which is due to a certain percentage of sulphur that is present in coal. These fires lead to degradation of land and do not allow any vegetation to grow in the area.
- The measures for controlling coal mine fires, in the case of Jharia coalfields, include bull dozing, leveling and covering with soil to prevent the entry of oxygen and to stabilize the land for

vegetation. Fire fighting in this area requires relocation of a large population, which poses to be a bigger problem than the actual fire fighting operations.

- Total **595 venerable sites** have been identified and till now **439 sites** have been inspected and found out that around **55,000 families** have to be evacuated.

Total Area of Jharia-**9,077.15 Hectare**

Total Population-**4, 75,341**

#### **7.8.1 Jharia Rehabilitation & Development Authority (JRDA)**

A special Jharia Rehabilitation & Development Authority (JRDA) already exists and till now **1,157** families have been rehabilitated.

##### Objectives and Goals of JRDA

- To draw a plan/schemes and rehabilitation packages for shifting and rehabilitation for the people/families identified. Technical experts may prepare the schemes/project.
- To draw up plans for welfare for the persons identified and to be shifted from areas mentioned at (A) to a stable and risk free area as per provision of Action plan.
- To identify the people of the BCCL/Non BCCL houses/other buildings situated over unstable old underground working/fire and subsidence affected areas in BCCL/ECL leasehold areas falling in state of Jharkhand
- To review the progress in the execution of these activities as well as the effectiveness of the benefits directed towards the persons shifted and rehabilitated from unsafe areas. Other functions given by State/Union Government.

#### **7.9. Railway Disaster Plan:**

**Classification of a Railway Accident as a Disaster:** Disaster in the railway context is defined as a major train accident leading to serious casualties and long duration of interruption to traffic. This compendium of instructions has been prepared for dealing with such Disasters, and not normal train accidents. In case of a serious accident the Administration would take a conscious decision whether the situation is to be classified as a Disaster or not.

**Authorized Officers to Declare an Accident as a Disaster:** Chief Operation Manager (COM) is the authorized officer to declare an accident as a Disaster. Such declaration will be issued to all concerned with the approval of General Manager. If the accident is declared as a Disaster, all instructions as contained here in this Disaster Management Plan would automatically come into force, and officers and staff of all departments would take action as laid down in this book.

**Categorization of Alerts:** According to severity of disaster concerned ministry will issue an alert. A Standard Operating Procedure has been prepared for alerts of events of different types and identifies the situations when alerts are to be sent by the IOC. Specific hazards have different categories of alerts. Accordingly, a uniform system has been devised by categorizing each type of alert in stages- Yellow, Orange and Red.

**Action Plan for Communication of Alert Messages:** Whenever a crisis is about to be faced, Government of India has laid down system for warning its respective department through an ‘Alert’. It should be understood that mere issue of an ‘Alert’ (Yellow or Orange) is not an indication of the occurrence of a Disaster. This only signifies the existence of a crisis for which provisions of the Crisis Management Plan would come into operation. The Action plan for Alert Messages lays down as under:

- (i) All concerned Ministries/Departments/Organisations/Agencies will report events to IOC, MHA.
- (ii) While generating and transmitting alerts to IOC, MHA, the concerned agency, will indicate the category of the event as well as its corresponding stage (Red/Orange/Yellow).
- (iii) For Railways categorisation of Alerts is under.

<b>Category</b>	<b>Description</b>	<b>Stage</b>
Minor	50 or more casualties (inclusive of death and injuries)	Yellow
Medium	51-99 deaths	Orange
Major	100 or more deaths, or where additional assistance is sought	Red

**Standard Operating procedure (SOP) on Railways:**

**(i) National Disasters:-**

The Civil Engineering Department at the field level and on the Divisions gets information through advance warning sent by the respective Government Departments on the possibility of Floods, Cyclones, Earthquakes and Landslides etc. Depending on the gravity of the disaster/crisis/calamity expected the information would be passed on to the Divisional officers through the Emergency Control which will act as the ICS. Where train operations have to be suspended or regulated the operating departments would be suitably advised. After making the train regulation plan the divisional control would advise the commercial and security departments for management of the welfare of passengers. Alerts to the passengers would be issued through the PR Department of the Railway in the Print and Electronic Media. The DRMs on the divisions shall ensure coordination amongst the departments for ensuring running of train services

(including relief special trains) as also relief arrangements for the passengers and for the Welfare of Railways own staff. Assistance of other Divisions and from the Zonal Railways would be taken through the Headquarter of the Zonal Railways (i.e. by involving the General Manager). Coordination with the IOC of MHA and NDMA/NDRF would be through the Emergency Control of each zonal Headquarter.

**(ii) Man-made Disasters:** Different forms of terrorism fall under the ambit of these disasters. A major role has to be played by the Security Department of the Railways who will coordinate with the State Governments and when required the Para-military and other forces. The Security Control of the division will act as the ICS. The Headquarter Security Control will coordinate with the IOC of MHA. A similar system would be followed as above in organizing regulation of train services by the operating department at the divisional, zonal level and also in the Railway Board.

**(iii) Handling CBRN Disaster:** Training of a skeleton number of Medical Doctors in all Divisional Railways Hospitals is to be planned for handling and to provide medical relief for all CBRN (Chemical, Biological, Radiological, Nuclear) disaster and mitigation of BN (Biological, Warfare), BT (Bio-Terrorism).

**(iv) Chemical Disaster:** Railways expertise in dealing with mis-happenings like spillage, catching fire etc of inflammables, Acids & other corrosives are very limited. It is therefore imperative that the respective divisions will develop and nurture co-ordination with those agencies and organizations on their system that have expertise in dealing with the hazardous materials being handled and transported.

### **Disaster Response – Overview:**

**1. Golden Hour: If a critical trauma patient is not given definite medical care within one hour from the time of accident, chances of his ultimate recovery reduce drastically, even with the best of Medical attention thereafter. This one hour period is generally known as The Golden Hour.**

During Golden Hour period every effort should be made to :

- Render definite medical care to the extent possible preferably by qualified medical practitioners.
- Stop bleeding and restore Blood Pressure.
- Persons under shock should be relieved of shock immediately.
- Transport casualties to the nearest hospital so as to reach within this Golden Hour period.

For being effective, any Disaster Management system should aim at recovering as many critical patients as possible and rushing them to hospital within this period.

**2. Disaster Syndrome:** A victim's initial response following a Disaster is in three stages, viz. Shock stage, Suggestible stage and Recovery stage. These initial responses are called Disaster Syndrome.

- Shock stage: In which victims are stunned, dazed and apathetic.
- Suggestible stage: In which victims tend to be passive but open to suggestions and willing to take directions from rescue workers and others.
- Recovery stage: In which individuals may be tense and apprehensive and may show generalized anxiety.

### **3. Three Different phases of Disaster Response:**

Disaster Response in case of a railway accident, constitutes of 3 phases. These 3 phases are determined both by the time factor, as also by the extent of specialized assistance available. Firstly, it begins with the spontaneous reaction of men available on the train at the time of the accident. Thereafter the second phase continues with contributions made in rescue and relief work by men and material available locally in nearby areas of the accident site. The third and longest phase consists of meticulously planned action by trained DM teams who arrive at the accident site to carry out rescue and relief operations. The first phase which is of shortest duration last for about half an hour.

It is an amateurish, poorly equipped effort; but is nevertheless the most important phase. In most cases, this is the only help available for a major part of the 'Golden Hour'. The second phase which is of 2-3 hrs. Duration is comparatively less amateurish and much better equipped. Their contribution is vital since the 'Golden Hour' period comes to an end during the working of this group. How many critically injured passengers can finally be saved depends solely on the efficiency of this group.

The last and final phase of Disaster Response by railway's DM team continues for a few days. It comes to an end not only with the restoration of traffic but with the departure of most relatives and next of kin from the accident site and disposal of all bodies. Few of the grievously injured who continue to be hospitalized for comparatively longer spells are then the sole responsibility of railway's medical department. With the above scenario in mind, it is necessary to take firm and quick decisions to save lives and property. To achieve these objectives Railways have a well-defined action plan that is successfully executed by the coordinated efforts of different disciplines, all of whom function as a team. The three groups which are active during the above mentioned 3 phases of Disaster Response, may be classified as follows:

**(i) Instant Action Team (IAT)**

**(ii) First Responders (FR)**

**(iii) Disaster Management Team (DMT)**

**1. Instant Action Team comprises:**

- The Guard, Crew, TS, TTEs, AC coach attendant, Asst. Guard, RPF and other railway staff on duty on the accident involved train.
- GRP staff traveling on the train on duty.
- Railway staff traveling by the accident involved train either on duty or on leave as passengers.
- Doctors traveling by the train.
- Passengers traveling on the train who volunteer for rescue and relief work.
- Railway staff working at site or available nears the site of the accident.
- Non-Railway personnel available at or near the accident site.

**2. Pre – accident checklist of preparation for Members of Instant Action Team:**

- Generally, about 15” time elapses before information regarding occurrence of an accident reaches the Divisional Control Office. In case information can be conveyed immediately this time can be saved. This 15” time is of vital importance since it constitutes 25% of the ‘Golden Hour’.
- In case they have a Mobile, ensure that telephone numbers of all relevant officials such as those of divisional control offices etc. have been permanently fed into the Mobile for immediate use in an emergency.
- These important telephone numbers should cover all those sections where they are required to work their train either within their own division or even those of adjoining divisions.
- Divisions will get printed and circulate a DM Telephone Directory containing all such telephone numbers that are likely to be required in an emergency.
- Whenever they are traveling at night they should keep a torch handy and secure it by some means. The torch will be of no use in an emergency if it cannot be taken out from inside the suitcase at that point of time; or if the torch cannot be located since it has fallen off due to severe jerk.

**3. Duties of Guard, Driver and other Commercial Staff:**Detail duty list of Guard and Driver are laid down in the Accident Manual of Zonal Railways. Some of the more important ones are enumerated below

**(a) Guard :**

- Note the time of the accident and the location.
- Switch on the Amber Light, if provided, in Flashing Tail Lamp, in the rear of brake van.
- Inform Driver through walkie – talkie set.
- Inform Station Master on walkie – talkie set, if possible.
- Protect adjacent line/lines if required and the line on which the accident has taken place as per G&SR 6.03.



## *District Disaster Management Plan (Dhanbad)*

- Secure the train and prevent escaping of vehicles.
- Make a quick survey of magnitude of accident and roughly assess casualty, damage and assistance required.
- Send information through quickest means to Control Office and SMs on either side of the block section. For this purpose,
  - (a) Walkie – talkie communication provided with stations should immediately be used.
  - (b) Otherwise field telephone should be used.
  - (c) If a train comes on the other line which is not blocked the same should be stopped and information sent through the driver.
  - (d) Assistant driver may be sent to the next station to convey information of the accident.
  - (e) All of the above fail, one of the railway staff on duty on the train should be sent on foot to the nearest station.
- Utilize Emergency Train Lighting box to facilitate medical aid.
- Save lives and render First Aid.
- Call for Doctors and seek their assistance.
- Seek assistance of railway staff and other volunteers from train to rescue injured or entrapped passengers.
- Direct railway staff and other volunteers from train for attending to injured.
- Ensure that field telephone is constantly manned by a railway staff.
- Arrange protection of passengers' belongings and railway property with the help of railway staff, volunteers on train, RPF and GRP.
- Stop running trains on adjacent line and utilize resources on that train.
- In electrified section if OHE is affected, take steps to switch off OHE supply.
- Arrange for transportation of injured to hospital.
- Record evidence or statements, if any, given by passengers.
- Preserve all clues and evidences regarding probable cause of the incident and ensure that these do not get disturbed.
- Log your activities. Do not leave the spot unless you are relieved by a competent authority.

**(b) Driver :**

- Note the time of the accident and location.
- Switch ON the 'Flasher light' of the locomotive and give 4 short whistles.
- Inform Guard on walkie – talkie set.
- Light the fusee, if required.
- Inform Station Master on walkie – talkie set, if possible.
- Protect the adjacent line, if required, and the train in front as per G&SR 6.03.
- Take necessary action to keep the loco safe.
- Take necessary action to prevent Loco/Vehicles/ Wagons from rolling down.
- Make a quick survey of magnitude of accident and roughly assess casualty, damage and assistance required.
- Send information through quickest means to Control Office and SMs on either side of the block section. For this purpose,
  - (a) Walkie – talkie communication provided with stations should immediately be used.
  - (b) Otherwise field telephone should be used.
  - (c) If a train comes on the other line which is not blocked the same should be stopped and information sent through the driver.
  - (d) Assistant driver may be sent to the next station to convey information of the accident.
  - (e) If all of the above fail, one of the railway staff on duty on the train should be sent on foot to the nearest station.
- Render all possible assistance to the guard.
- Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.
- Log your activities. Do not leave the spot unless you are relieved by a competent authority.
- If necessary detach Loco and take it to inform SM.

**(c) Train Superintendent/Traveling Ticket Examiner:**

- Preserve reservation charts of each coach containing names of passengers who actually traveled and in which berth no.
- Avail services of Doctors traveling by the train and render Medical Aid.
- Render First Aid to injured.

- Collect particulars of injured passengers and prepare a list showing exact position of injured in coaches, from Train Engine to Brake Van. This should be handed over to railway doctors when ARMV arrives.
- Prepare a separate list of dead passengers with address and ticket particulars, if available.
- Take assistance of local people and other volunteers at site.
- Transport injured passengers by road vehicles, if available, to the nearest hospital.
- Inform stranded passengers about alternative transport arrangement.
- Arrange for refreshments and drinking water free of cost to the affected passengers.
- Record Evidences or statement given by passengers/others at site.

**(d) AC Mechanic/Attendant:**

- If required, Switch off the power supply to avoid short-circuiting.
- They will ensure that all precautions are taken to prevent any problem arising of short circuit consequent to accident.
- To switch OFF the AC machine and work on Exhaust to minimize the comfort of AC passengers and run down of the battery.
- They will ensure that all precautions/steps are taken to avoid short circuits and the problem arising out of the short circuit.
- In case of fire advice passenger to move to the adjacent Coach, stop train by ACP and extinguish fire using correct fire extinguisher.
- They will open emergencies windows and vestibules and break-open AC windows wherever required for providing escape routes to passengers when the doors are jammed.
- They will use the bed sheets and others linens item in their custody for covering dead bodies.
- Assist the TS/TTS in their duties at the accident site.

**(e) RPF and GRP staff:**

- Try and rescue as many passengers as possible from the accident involved coaches.
- Render First Aid to injure.
- Arrange to shift injured persons to the nearest hospital.
- Protect passenger's luggage and railway property.
- Preserve all clues and evidences regarding probable cause of the accident and ensure that these do not get disturbed.

**(f) Pantry Car's Staff:**

- They will work as per guidance of team leader and will help in saving as many lives as possible by rescuing injured that are entrapped.
- They will provide food and water to the injured and other passengers to the extent possible.
- They will provide hot water and other things available with them for other use of injured and other passengers.

**4. Railway Staff travelling on the accident affected train:**

- Whenever a train is involved in a serious accident with casualties/injuries to passengers, all railway staff traveling on the train either on duty or on leave are deemed to be ON DUTY with immediate effect.
- Under no circumstance should any of them leave the accident site unless and until divisional officers arrive, take over charge of rescue and relief operations, and permit them to leave.
- Railway staff on train/at site shall volunteer themselves to render assistance and report to TS/TTE/Guard of the Train.
- The senior most officer traveling on the train will assume charge as Officer in-Charge Site (OC Site).
- Normally the senior most officer will be traveling in either the 1AC or in 2AC coach; and most probably in the HOR quota section of the coach. In any case the TS/TTE would know who the railway officers are, traveling in 1AC or 2AC.
- Similarly, other railway staff will be traveling in 3AC coach; and most probably in the HOR quota section of the coach.
- Similarly, some Group 'D' railway staff may be traveling in Sleeper coach; and probably in the HOR quota section of the coach.
- In the absence of any officer, the TS or senior most TTE/Guard will discharge duties listed out for OC Site.

**5. Duties of OC Site – Immediately after the accident:**

- Note down the time of accident.
- Ensure protection of traffic by Guard and Driver.
- Ensure reporting of accident to nearest Station/Control.
- Roughly assess the extent of damage and likely number of casualties.
- Collect railway staff and volunteers from amongst the passengers and form different groups. Each of these groups should be assigned work as detailed at item 6 below.
- Maintain a log of events.
- Till Divisional Officers arrive and take over charge of the situation, continue to discharge duties of OC Site.
- After Divisional Officers arrive, fully brief the DRM & hand over charge to him.
- The on-board OC Site should ensure issue of a detailed message with following information before leaving the site of the accident.
  - Time/Date of accident.
  - Location Km./between stations.
  - Train number and description.
  - Nature of accident.
  - Approximate number of killed/injured.
  - Extent of damage.
  - Assistance required.
  - Condition of the adjacent line, if any.
  - Whether OHE is involved.
- From here onwards, the DRM of the accident involved division takes over charge as OC Site.

**6. Formation of Groups comprising members of Instant Action Team :**

- OC Site shall immediately collect all Railway staff on train/at site and form separate groups.
- Passengers traveling by the same train who volunteer for rescue and relief work should also be drafted into these groups.
- Passengers from non-accident involved coaches should be directed towards their own coach.
- Passengers from coaches which are affected can be distributed amongst other non-accident involved coaches.

- In the absence of OC site, TS/TTE shall take steps to form such groups.
- In the absence of TS/TTE the Guard/Assistant Guard shall take steps to form such groups.
- 5 or 6 groups should be formed depending on number of coaches involved.
- Ideally, one group should be formed for handling each coach.
- In case sufficient numbers of officers are present, then one officer should be made in-charge of each group.
- Otherwise, Sr. Supervisors traveling by the accident involved train should be nominated as in-charge of each group to co-ordinate its working.
- In case sufficient numbers of Sr. Supervisors are also not present, one TTE should be nominated as in-charge of each group to co-ordinate its working.
- Each group should rescue injured, entrapped passengers.

**7. Duties of on board railway staff immediately after the accident :**

- Don't panic. Once the accident has already occurred and the train has come to a standstill nothing worse can happen.
- In case you have a Mobile and it is working, inform the divisional control office immediately about the accident.
- Observe the position in which your coach has stopped; whether it is standing upright or turned upside down or lying on its side.
- Try and see whether your coach has stopped on a bridge or whether there is level ground on both sides.
- In case the coach is on a bridge or very high embankment or in case it is raining heavily, then it is better to wait for some time and not be in a hurry to leave the coach. You may be jumping from the frying pan into the fire.
- Search your coach with your torch and try to determine the general position.
- See that passengers don't panic either. Passengers sometimes make things worse for themselves by panicking at this critical moment. Try to calm them and build up their confidence.
- Ascertain whether passengers are injured or not; and whether any of them are trapped or pinned down inside the debris.
- Call out aloud and find out whether there are any doctors present.
- Doctors who are traveling in the coach should be asked to announce their presence so that they can attend to and help injured passengers.

- Call out aloud and find out whether there are any railway staffs present.
- Railway staff, who are traveling in the coach, should be asked to announce their presence so that they can attend to and help other passengers.
- For each coach, form a core team comprising of railway staff available, doctors and 3 or 4 uninjured passengers from the same coach. This core team should take the lead in helping remaining passengers both injured and uninjured.

**8. Duties of members of Instant Action Team – Till arrival of Divisional Officers :**

- If a person is bleeding and losing blood, or if he is unconscious, then in that case you have to act quickly. 'Golden Hour' should be kept in mind. You may have at the most only one hour's time on hand.
- In such cases, immediately administer First Aid to the injured passenger and try and stop further loss of blood.
- Persons trained in first aid may do 'Cardio Pulmonary Resuscitation'. This may save several lives.
- If the door is open and is accessible, then uninjured passengers should be helped to come out from the door.
- In AC coaches the windows panes should be broken open in order to let in fresh air for the occupants, and thereafter to evacuate them.
- Non – AC coaches have one emergency exit window on each side. The position of this emergency window is 5th from the left when facing the line of windows from inside the coach. They are opposite berth nos. 23 and 57. In case the door is locked and jammed, try and open these windows so that some of the uninjured passengers can come out through the emergency exit.
- Special care should be taken while evacuating the old, infant and children in order to ensure that they are not separated from their family members.
- Extrication of critically injured should be done under medical supervision as far as possible.
- In case medical supervision is not available, then critically injured passengers should be made to lie down on a bed sheet and thereafter taken out by 4 persons holding the four corners. This will ensure that no further damage takes place. (Bed sheets will be available in AC coaches).
- Passengers who are bleeding from open cuts should be tied up with strips of cloth so as to reduce if not stop the bleeding altogether.

- It is better not to take out the luggage from inside the coaches at the first instance, for two reasons. Firstly, passengers both injured and uninjured should get preference in this evacuation process. Secondly, it may be safer for the luggage to be left inside where there are less chances of their being stolen or pilfered.
- After passengers have been evacuated from your coach, cross check with the reservation chart and against the name of each passenger note down as to whether he/she is injured or not.
- After all passengers have been evacuated, water and eatables can be taken out gradually.
- Building up confidence of injured passengers by suitable advice is of great importance.
- After helping evacuate all passengers from your coach go over to the unreserved coaches and provide similar help to those passengers also.
- Railway officials from divisional Hd.Qrts. Generally arrive at the site of the accident within 2 to 3 hours, depending on the distance of the accident site from the divisional hd.Qrts. Wait for them to come and make further arrangements.
- Grievously injured passengers who are bleeding or those who are unconscious require immediate hospitalization. In case some local people have arrived by that time, their help should be taken in shifting the grievously injured to the nearest hospital.
- In case your train has been involved in an accident but neither has your coach derailed nor are any passengers of your coach injured, then you should go to the unreserved coaches and carry out the duties as listed above

**9. Duties of the Instant Action Team – In case of a fire :**

- In case of fire, pull the Alarm Chain and stop the train immediately.
- Try and put out the fire before it becomes a big blaze by using either water or blankets, Fire Extinguisher etc.
- More people expire due to suffocation from smoke rather than due to actual burning.
- Advise passengers to take a cloth, wet it in their drinking water and cover their nostrils.
- Instruct passengers to go to the other end of the coach which is away from the fire and if possible cross over to the next coach through the vestibule.
- Insist that passengers should save themselves first and not to bother about their luggage which can be retrieved later on.
- Make sure that no passenger lies down on the floor.
- After train has stopped, passengers should come down from the coach immediately.
- Building up confidence of injured passengers by suitable advice is of great importance.



**10. Duties of OC Site - till arrival of divisional officers:**

Having formed different groups consisting of available railway staff on the train and volunteers from amongst passengers, the rescue and relief work should be started in earnest. This entire exercise would take about 30" time. Once the rescue and relief work by the Instant Action Team has got underway, the OC site should then devote his attention to contacting First Responders.

**(a) Locating nearby villages :**

- There would be some villages nearby, either visible or out of sight.
- In most cases, villagers turn up on their own having heard the sound of the disaster.
- Otherwise, try and see if any light or any other signs from the village are visible.
- In case none of the above is possible, then speak to either the control office or the nearest station and find out the location of nearby villages as also their general direction.
- Location of nearby villages as also their general direction will be available in the Divisional DM Plans.
- Having ascertained the general location of nearby villages, send messengers (preferably railway staff) to inform villagers and seek their assistance.

**(b) Locating the nearest manned level crossing gate :**

- The train driver is the best and fastest source of information regarding location of the nearest manned level crossing gate in either direction.
- Send a messenger (preferably a railway staff) to the gate for contacting the gateman.
- In most cases, the gateman will be able to give location of nearby villages.
- The messenger should then try and stop a passing vehicle and go to the nearby village, inform villagers and seek their assistance.

**(c) Organizing assistance from local people available in nearby villages:**

- Villagers should be asked to make an announcement from their loud speaker (generally available in the local temple, mosque, gurudwara, church etc.) informing others regarding the accident.

- Everybody should be asked to rush to the accident site with following :
  - tractor trolleys (both for transportation and for general lighting),
  - as many cutting equipment's, hammers, chistles etc. as are available,
  - ropes,
  - ladders,
- If doctors or para-medical staff are available in the village they should also be sent to the accident site.
- The messenger should stay back and try and organize opening of a big building (preferably a school) for sheltering of injured passengers and/or preservation of dead bodies.

### **First Responders:**

#### **Duties of First Responders– Railway Staff :**

##### **1. Gang Staff :**

- On double/multiple line section stop any other train approaching the accident area by showing hand danger signal.
- Ensure that track alignments or lines are not disturbed.
- Report to OC Site and assist in rescue and relief work.
- Assist in extricating injured passengers from coaches.
- Assist in transporting them to nearest hospitals.

##### **2. Gate men :**

- Keep gate closed if the train has not cleared the gate.
- On double/multiple line section stop any other train approaching the accident area by showing hand danger signal.
- Arrange to inform SM immediately.
- Don't meddle with Interlocking.
- Avail services of road vehicles waiting or passing through LC Gate.
- Send message to nearby village, informing them regarding the accident.
- Collect men and material available nearby and direct them to site.

**3. Station Master at adjoining station:**

(a) **Conveying of information:**

- Arrange protection of traffic by keeping all signals at ON position.
- Report the accident to Station Master at the other end. He should be asked to call all off duty staff at his station and send them to the accident site.
- Report the accident to Section Controller.
- Control to be advised regarding –
  - Time and nature of accident.
  - Brief description of accident.
  - Adjacent lines clear or not.
  - Damage to rolling stock.
  - Damage to track in terms of telegraph posts.
  - OHE masts damaged or not, and extent of damage.
  - Approximate number of dead and injured (grievous, simple) to be obtained from the TS/TTEs.
- Following functionaries should be advised regarding the accident:
  - All off duty railway staff posted at that station.
  - SS of Junction stations at either end.
  - TI, CMI.
  - P Way Supervisors – SSE/JE etc.
  - TRD Supervisors – SSE/JE etc.
  - C&W Supervisors – SSE/JE etc.
  - S&T Supervisors – SSE/JE etc.
  - SI/RPF, SHO/GRP.
  - Nearest Fire Station.
- Inform civil authorities, village/town/city representatives and volunteers for possible relief assistance
- Supervisory Station Manager of the nearest Jn. station shall proceed to accident site.

(b) **Medical assistance:**

- Call for assistance from local Doctors, SJAB, Civil and Army Hospitals.
- Arrange adequate number of First Aid boxes and stretchers.
- Mobilize local medical team and send it to site to render First Aid to the injured.
- Quickly transport ARME Scale – II equipment to the site of the accident.

**(c) Passenger assistance:**

- Arrange drinking water, beverages and refreshments, either from Refreshment Room or local sources.
- Supply beverages and refreshments free of cost to stranded passengers.
- Open an emergency counter and display necessary information.
- Obtain reservation charts and display it.
- Collect information on dead/injured and convey it whenever asked for.
- Make frequent announcements about diversion, cancellation, regulation of train services.
- Arrange for refund of fares as per extant rules.

**(d) Transport assistance:**

- Arrange for transport from local resources, if available, for transporting injured passengers to nearest hospitals by fastest possible means.
- For this purpose, apart from tractor trolleys, even trucks passing on the highway can be utilized.
- Stranded passengers to be transported from the accident spot by arranging transshipment either by train or by hiring road vehicles.

**(e) Security assistance:**

- Advise RPF/GRP/State Police to provide security to passengers, their belongings and railway property.
- They should also be asked to assist in rescue and relief work.

**(f) Communication Assistance:**

- Direct passengers to PCO booths available nearby.
- Make available STD phone to relatives of dead/injured.

**(g) Sending manpower for site :**

- Proceed to site of the accident by quickest means with trolleys, coolies, lamps, vendors and any other equipment that is considered necessary.
- Till relieved by a Traffic Inspector or Divisional Officers be in charge of site and carryout rescue/relief operations.

**(h) Preservation of clues and evidences:**

- TI/SM first reaching the site shall take action to preserve clues and evidences.
- Secure records related to accident in the Station/Cabin.
- Seal slides, levers, knobs and Relay room, if accident takes place within the Station limit.

**4. Duties of TI/PWI/SI/CWI/LI :**

**(a) Rushing to accident site with men and material :**

- Before leaving for the site of accident organize maximum number of men to go to the accident site along with their equipment.
- Reach the site of accident by quickest available means.

**(b) Rescue and relief :**

- Ensure that the obstructed line is protected.
- Direct all staff working under them to assist in rescue and relief work.
- All of them should work as per directions of OC Site.
- Assess casualties and arrange to render First Aid.
- Shift injured to nearest hospital.

**(c) Joint measurements and preservation of clues and evidences:**

- Collect and record all evidences relating to the accident such as :
  - Condition of track, with special reference to alignment, gauge, crosslevels, super elevation, points of mount and drop and any sign of sabotage etc.
  - Condition of Rolling stock with reference to Brake Power and braking gear.
  - All marks on sleepers, rails, locomotives and vehicles etc. especially for preservation of clues.
  - Position of derailed vehicles.
  - Prima facie cause of accident.
- Seize and seal the Train Signal Register, Log book, Private Number Book, Line Admission Book, Speed Recorder Chart and other relevant records.
- Note down the position of panel switches, indication, block instrument, condition of relay room, status of data logger, etc.
- Condition of switches, ground connections, point locking, occupancy of track circuit, details of damage to outdoor signal/point gears should be noted down.

- Seize and seal the Speed Recording Graph and all other registers and repair log book of the locomotive.
- Record details of Brake Power and other aspects of Rolling stock as per Performa.
- Joint measurements of rolling stock should be taken. Note down observations, measurements of Loco etc. at site. If it is not possible arrange for taking the reading at shed.
- These can also be recorded on a video or digital camera subject to availability.
- Details of all readings taken and position of all equipment noted should be jointly signed by supervisors of all 5 departments at accident site.
- Obtain statement of staff involved in the accident.
- CWI shall prepare a sketch showing position of Rolling stock.
- PWI shall prepare a final sketch indicating the position of track, with respect to alignment, point of mount, point of drop, OHE mast, point number etc.
- Survey the situation, assess assistance required and issue message to Divisional Control Office.
- Take charge of the situation pertaining to your own department and remain till Divisional officers arrive at the site.

### **7.10. Incident Command Post**

In case of emergency IC should propose an incident command post as a complimentary unit to EOC, which will operate close to the disaster site and shall be linked directly with the District Emergency Operations Centre. Concerned CO's shall be the nodal officer from district administration responsible of coordinating with emergency response teams at field level. The Incident Commander shall also appoint an administrative officer to monitor and co-ordinate the activities of Incident Command Post. All information shall be conveyed to the Collector from the CO's and administrative officer appointed at SOC. The QRT unit of the respective vital departments would be responsible to execute activities at disaster site, however the tasks would be controlled and coordinated from EOC through nodal desk officers/ESF team leaders.

### **7.11 Reception Centre**

Recent experience of disasters has shown that, if they believe their friends and relatives may have been affected, it is likely that many people will travel to the scene or to meeting points such as travel terminals. If necessary a reception centre for friends and relatives should be established by the police in consultation with the local authority and commercial, industrial or other organizations concerned and staffed by the police, local authority and suitably prepared voluntary organizations. The fullest possible information should be given to enquirers seeking news of those affected in a disaster. Experience has shown that this is best done in a controlled way with general enquiries being referred to a specific source. This helps to ensure consistent and non-contradictory information being given out. Friends and relatives who may be feel intense anxiety, shock or grief, need to be treated with sympathy and understanding. Access to the reception centre should be controlled to prevent those inside from being disturbed by uninvited media representatives or onlookers.

### **7.12 Intimation regarding foreigners**

If foreign nationals have been involved in the disaster, the police will in accordance with the Vienna convention on Consular relations, inform the Consular authorities of the death or injured to any of their nationals by quickest possible means.

### **7.13 Overall Role of Deputy Commissioner (Dhanbad District)**

The Deputy Commissioner (Dhanbad) will be the focal point at the district level for directing, supervising and monitoring rescue and relief measures for disasters and for preparation of district level plans. He will exercise coordinating and supervisory powers over functionaries of all the departments at the district level. During actual operations for disaster mitigation or relief, the powers of all DMs are considerably enhanced, generally, by standing instructions or orders on the subject, or by specific Governments order, if so required. Sometimes, the administrative culture of the concerned state permits, although informally, the DC to exercise higher powers in emergency situations and the decisions are later ratified by the competent authority.

The DC (Dhanbad) will maintain the close liaison with the central government authorities in the districts, namely army, air force and ministry of water resources etc, who supplement the effort of the district administration in the rescue and the relief operations. The DC (Dhanbad) will also coordinate all voluntary efforts by mobilizing the non-government organizations capable of working in such situations.

In the event of a serious disaster, the DC will have sole right to appoint senior officers of any State Government Department, posted in the district as '*Field Relief Managers*' for monitoring and coordinating the relief operations in the affected area.

#### **7.13.1 Duties at the time of disaster**

- Maintenance of law and order; prevention of trespassing, looting, keeping roads clear from sightseeing persons so that free movement of rescue vehicles is assured, etc.
- Evacuation of people
- Recovery of dead bodies and their disposal
- Medical care for the injured
- Supply of food and water and restoration of water supply lines.
- Temporary shelters like tents, metal sheds
- Restoring lines of communications and information
- Restoring transport routes
- Quick assessment of damage and demarcation of damaged areas according to grade of damage
- Cordoning off of severely damaged structures that are liable to collapse during aftershocks
- Temporary shoring of certain precariously standing building to avoid collapse and damage to other adjoining buildings.



**7.14 Relief Measures**

Once the rescue phase is over, the district administration shall provide immediate relief assistance either in cash or in kind to the victims of the disaster. The District Disaster Management Authority, Dhanbad & its Emergency Support Functionaries shall enter in to pre-contract well in advance and procure materials required for life saving. The office of Deputy Commissioner is responsible for providing relief to the victims of natural & manmade disasters like fire, lighting, drought, earthquakes, riots, terrorist attacks, accidents etc. *DDMA, Dhanbad, vide letter no. 418 dated 13.07.15 from Department of Disaster Management, Govt. of Jharkhand, the scales for grant of relief in various eventualities have been provided to the victims of incidents/Disaster as per norms of State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF) as per revised period 2015-20, MHA Letter No. 32-7/2014-NDM-I Dated 8th April, 2015. The details are as given below:*

**REVISED LIST OF ITEMS AND NORMS OF ASSISTANCE FROM STATE DISASTER RESPONSE FUND (SDRF) AND NATIONAL DISASTER RESPONSE FUND (NDRF)**

(Period 2015-20, MHA Letter No. 32-7/2014-NDM-I Dated 8th April, 2015)

Sl No	ITEM	NORMS OF ASSISTANCE
1	2	3
1	<b>GRATUITOUS RELIEF</b>	
	a) Ex-Gratia payment to families of deceased persons	<b>Rs. 4.00 lakh</b> per deceased person including those involved in relief operations or associated in preparedness activities, subject to certification regarding cause of death from appropriate authority.
	b) Ex-Gratia payment for loses of a limb or eyes(s).	<b>Rs. 59,100/-</b> per person, when the disability is between 40% and 60%.
		<b>Rs. 2.00 lakh/-</b> per person, when the disability is more than 60%. Subject to certification by a doctor from a hospital or dispensary of Government, regarding extent and cause of disability.
	c) Grievous injury requiring hospitalization	<b>Rs 12,700/-</b> per person requiring hospitalization for more than a week. <b>Rs. 4,300/-</b> per person requiring hospitalization for less than a week.
	d) Clothing and utensils/house-hold goods for families whose houses have been washed away/fully damaged/severely inundated for more than a	<b>Rs. 1,800/-</b> per family, for loss of clothing. <b>Rs. 2,000/-</b> per family, for loss of utensils/household goods.

	week due to a natural calamity.	
	e) Gratuitous relief for families whose livelihood is seriously affected	<p><b>Rs. 60/-</b> per adult and <b>Rs. 45/-</b> per child, not housed in relief camps. State Govt. will certify that identified beneficiaries are not housed in relief camps. Further State Government will provide the basis and process for arriving at such beneficiaries district-wise.</p> <p>Period for providing gratuitous relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period of assistance will up to 30 days, which may be extended up to 60 days in the first instance, if required, and subsequently up to 90 days in case of drought/pest attack. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to that expenditure on this account should not exceed 25% of SDRF allocation for the year.</p>
2.	<b>SEARCH &amp; RESCUE OPERATIONS</b>	
	(a) Cost of search and rescue measures/evacuation of people affected/likely to be affected.	<p>As per actual cost incurred, assessed by SEC and recommended by central Team(in case of NDRF).</p> <p>- By the time the central Team visits the affected area, these activities are already over. Therefore, the State Level Committee and the Central Team can recommended actual/ near-actual costs.</p>
	(b) Hiring of boats for carrying immediate relief and saving lives.	<p>As per actual costs incurred, assessed by SEC and recommended by the Central Team (in case of NDRF).</p> <p>The quantum of assistance will be limited to the actual expenditure incurred on hiring boats and essential equipment requiring for rescuing stranded people and thereby saving human lives during a notified natural calamity.</p>
3	<b>RELIEF MEASURES</b>	
	a) Provision for temporary accommodation, food, clothing, medical care etc. for people affected/evacuated and sheltered in relief camps.	<p>As per assessment of need by SEC and recommended of the Central Team (in case of NDRF), for a period of up to 30 days. The SEC would need to specify the number of camps, their duration and the number of persons in camps. In case of continuation of a calamity like drought or widespread devastation caused by earthquake or flood etc., this period may be extended to 60 days, and up to 90 days in case of severe drought. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to that expenditure on this account should not exceed 25% of SDRF allocation for the year.</p> <p>Medical care may be provided from National Rural Health Mission (NRHM).</p>
	b) Air dropping of essential supplies	<p>As per actual, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF).</p> <p>- The quantum of assistance will be limited to actual amount raised in the bills by the Ministry of Defence for airdropping of essential supplies and rescue operations only.</p>
	c) Provision of emergency	As per actual cost, based on the assessment of need by NEC and recommended by the Central Team ( in case of NDRF), up to 30 days and may be extended up to 90

	supply of drinking water in rural areas and urban areas.	days in case of drought. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to that expenditure on this account should not exceed 25% of SDRF allocation for the year.
<b>4</b>	<b>CLEARANCE OF AFFECTED AREAS</b>	
	a) Clearance of debris in public areas.	As per actual cost within 30 days from the date of start of the work based on assessment of need by SEC for the assistance to be provided under SDRF and as per assessment of the Central Team for assistance to be provided under NDRF.
	b) Drainage of flood water in affected areas	As per actual cost within 30 days from the date of start of the work based on assessment of need by SEC for the assistance to be provided under SDRF and as per assessment of the Central Team(in case of NDRF).
	c) Disposal of death bodies/ Carcasses	As per actuals, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF).
<b>5</b>	<b>AGRICULTURE</b>	
<b>(i)</b>	<b>Assistance to farmers having landholding upto 2 ha</b>	
<b>A</b>	<b>Assistance for land and other loss</b>	
	a) De-silting of agriculture land ( where thickness of sand/ silt deposit is more than 3", to be certified by the competent authority of the State Government )	<b>Rs. 12,200/-</b> per hectare for each item.  (Subject to the condition that no other assistance/subsidy has been availed of by/is eligible to the beneficiary under any other Government Scheme.)
	b) Removal of debris on agriculture land in hilly areas.	
	c) De-silting/ Restoration/ Repair of fish farms	
	d) Loss of substantial portion of land caused by landslide, avalanche, change of course of rivers.	<b>Rs. 37,500/-</b> per hectare to only those small and marginal farmers whose ownership of the land is legitimate as per the revenue records.
<b>B</b>	<b>Input subsidy (where crop loss is 50% and above)</b>	
	a) For agriculture crops, horticulture crops and annual plantation crops	<b>Rs 6,800/-</b> per hectare in rainfall areas and restricted to sown areas. <b>Rs. 13,500/-</b> per hectare in assured irrigated areas, subject to minimum assistance not less Rs.1000/- and restricted to sown areas.
	b) Perennial Crops	<b>Rs. 18,000/-</b> hectare for all types of perennial crops subject to minimum assistance not less than <b>Rs. 2000/-</b> and restricted to sown areas.
	c) Sericulture	<b>Rs. 4,800/-</b> per hectare for Eri, Mulberry, Tussar <b>Rs. 6,000/-</b> per hectare for Muga.

(ii)	<b>Input Subsidy to farmers having more than 2Ha of landholding</b>	<p><b>Rs. 6,800/-</b> per hectare in rainfall areas and restricted to sown areas.  <b>Rs. 13,500/-</b> per hectare for areas under assured irrigation and restricted to sown areas.  <b>Rs. 18,000/-</b> per hectare for all types of perennial crops and restricted to sown areas.  - Assistance may be provided where crop loss is 33% and above, subject to a ceiling of 2 hectare per farmer.</p>
<b>6. ANIMAL HUSBANDRY - ASSISTANCE TO SMALL AND MARGINAL FARMERS</b>		
	<p>i) Replacement of milch animals, draught animals or animals used for haulage.</p>	<p><b>Milch animals -</b></p> <p><b>Rs. 30,000/-</b> Buffalo/cow/camel/yak/Mithun etc.  <b>Rs. 3,000/-</b> Sheep/goat/pig.</p> <p><b>Draught animal -</b></p> <p><b>Rs. 25,000/-</b> Camel/horse/bullock etc.  <b>Rs. 16,000/-</b> Calf/Donkey/Pony/Mule</p> <p>- The assistance may be restricted for the actual loss of economically productive animals and will be subject to a ceiling of 3 large milch animal or 30 small milch animals or 3 large draught animal or 6 small draught animals per household irrespective of whether a household has lost a large number of animals. (The loss is to be certified by the Competent Authority designed by the State Government).</p> <p><b>Poultry:-</b>  Poultry @ <b>Rs. 50/-</b> per bird subject to a ceiling of assistance of <b>Rs. 5000/-</b> per beneficiary household. The death of the poultry birds should be on account of natural calamity.</p> <p>Note:- Relief under these norms is not eligible if the assistance is available from any other Government Scheme. e.g. loss of birds due to Avian Influenza or any other diseases for which the Department of Animal Husbandry has a separate scheme for compensating the poultry owners.</p>
	<p>(ii) Provision of fodder/ feed concentrate including water supply and medicines in cattle camps.</p>	<p>Large animals - <b>Rs. 70/-</b> per day.  Small animals - <b>Rs. 35/-</b> per day.</p> <p>Period for providing relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period for assistance will be upto 30 days, which may be extended upto 60 days in the first instance and in case of severe drought up to 90 days. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit, subject to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the</p>

		year.  Based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF) consistent with estimates of cattle as per Livestock Census and subject to the certificate by the competent authority about the requirement of medicine and vaccine being calamity related.
	iii) Transport of fodder to cattle outside cattle camps	As per the actual cost of transport, based on assessment of need by SEC and recommendation of the Central team (in case of NDRF) consistent with estimated of cattle as per Livestock Census.
<b>7.</b>	<b>FISHERY</b>	
	i) Assistance to Fisherman for repair/ replacement of boats, nets - damaged or lost --Boat --Dugout-Canoe --Catamaran --Net (This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/assistance, for the instant calamity, under any other Government Scheme.)	<b>Rs. 4,100/-</b> for repair of partially damaged boats only <b>Rs. 2,100/-</b> for repair of partially damaged net. <b>Rs. 9,600/-</b> for repair of fully damaged boats. <b>Rs. 2,600/-</b> for repair of fully damaged net.
	ii) Input subsidy for fish seed farm	<b>Rs. 8,200/-</b> per hectare.  (This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/assistance, for the instant calamity, under any other Government Scheme, except the one time subsidy provided under the Scheme of Department of Animal husbandry, Dairying and Fisheries, Ministry of Agriculture.)
<b>8.</b>	<b>HANDICRAFTS/HANDLOOM - ASSISTANCE TO ARTISANS</b>	
	i) For replacement of damaged tools/ equipment	<b>Rs. 4,100/-</b> per artisan for equipments. - Subject to certification by the competent authority designated by the Government about damage and its replacement.
	ii) For loss of raw-materials/ goods in process/ finished goods.	<b>Rs. 4,100/-</b> per artisan for raw material. - Subject to certification by the competent authority designated by the State Government about loss and its replacement.
<b>9.</b>	<b>HOUSING</b>	
	<b>a) Fully damaged/ destroyed houses</b>	
	i) Pucca house	<b>Rs. 95,100/-</b> per house, in plain areas
	ii) Kutcha house	
	<b>b) Severely damaged houses</b>	
	i) Pucca house	<b>Rs. 1,01,900/-</b> per house, in hilly areas including Integrated Action Plan (IAP) districts.
	ii) Kutcha house	
	<b>c) Partially Damaged Houses</b>	
	i) Pucca (other than huts) where the damage is at least 15%	<b>Rs.5,200/-</b> per house

	ii) Kutcha (other than huts) where the damage is at least 15%	<b>Rs.3,200/-</b> per house.
	d) <b>Damaged/destroyed huts:</b>	<b>Rs. 4,100/-</b> per hut (Hut means temporary, make shift unit, inferior to Kutcha house, made of thatch, mud, plastic sheets etc. traditionally recognized as huts by the State/District authorities.) Note:- The damaged house should be an authorized construction duly certified by the Competent Authority of the State Government.
	e) <b>Cattle shed attached with house</b>	<b>Rs. 2,100/-</b> per shed.
<b>10.</b>	<b>INFRASTRUCTURE</b>	
	<p><b>Repair/restoration (of immediate nature) of damaged infrastructure.</b></p> <p>(1) Roads &amp; bridges,(2) Drinking water Supply works, (3) Irrigation, (4) Power (only limited to immediate restoration of electricity supply in the affected areas), (5) Schools, (6) Primary Health Centre, (7) Community assets owned by Panchayat.</p> <p>Sectors such as Telecommunication and Power (except immediate restoration of power supply), which generate their own revenue, and also undertake immediate repair/restoration works from their own funds/resources are excluded.</p>	<p><b>Activities of immediate nature:</b></p> <p>Illustrative of activities which may be considered as works of an immediate nature are given in the Appendix.</p> <p><b>Assessment of requirements:</b></p> <p>Based on assessment of need, as per States' costs/rates/ schedules for repair by SEC and recommendation of the Central Team (in case of NDRF).</p> <p>- As regards repair of roads, due to consideration shall be given to Norms for Maintenance of Roads in India, 2001, as amended from time to time, for repair of roads affected by heavy rains/floods, cyclone, landslide, sand dunes, etc. to restore traffic. For reference these norms are</p> <p>* Normal and Urban areas: up to 15% of the total of Ordinary repair(OR) and Periodical repair (PR).</p> <p>* Hills: up to 20% of total of OR and PR.</p> <p>- In case of repair of roads, assistance will be given based on the notified Ordinary Repair (OR) and Periodical Renewal (PR) of the State. In case OR &amp; PR rate is not available, then assistance will be provided @ Rs.1 lakh/km for State Highway and Major District Road and @ Rs.0.60 lakh/km for rural roads. The condition of "State shall first use its provision under the budget for regular maintenance and repair" will no longer be required, in view of the difficulties in monitoring such stipulation, though it is a desirable goal for all the States.</p> <p>- In case of repairs of Bridges and Irrigation works, assistance will be given as per the schedule of rates notified by the concerned States. Assistance for micro irrigation scheme will be provided @</p>

		<p>Rs.1.5 lakh per damaged scheme. Assistance for restoration of damaged medium and large irrigation projects will also be given for the embankment portions, on par with the case of similar rural roads, subject to the stipulation that no duplication would be done with any ongoing schemes.</p> <p>- Regarding repairs of damaged drinking water schemes, the eligible damaged drinking water structures will be eligible for assistance @ Rs.1.5 lakh/damaged structure.</p> <p>- Regarding repair of damaged primary and secondary schools, primary health centres, Anganwadi and community assets owned by the Panchayats, assistance will be given @ Rs.2 lakh/damaged structure.</p> <p>- Regarding repair of damaged power sector, assistance will be given to damaged conductors, poles and transformers upto the level of 11 kV. The rate of assistance will be @ Rs.4000/poles, Rs.0.50 lakh per km of damaged conductor and Rs.1.00 lakh per damaged distribution transformer.</p>
<b>11.</b>	<b>PROCUREMENT</b>	
	Procurement of essential search, rescue and evacuation equipments including communication equipments, etc. for response to disaster.	<p>- Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC).</p> <p>- The total expenditure on this item should not exceed 10% of the annual allocation of the SDRF.</p>
<b>12.</b>	<b>CAPACITY BUILDING</b>	<p>- Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC).</p> <p>- The total expenditure on this item should not exceed 5% of the annual allocation of the SDRF.</p>
<b>13.</b>	State specific disasters within the local context in the State, which are not included in the notified list of disasters eligible for assistance from SDRF/NDRF, can be met from SDRF within the limit of 10% of the annual funds allocation of the SDRF.	<p>- Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC).</p> <p>- The norm for various items will be the same as applicable to other notified natural disasters, as listed above. or</p> <p>- In these cases, the scale of relief assistance against each item for 'local disaster' should not exceed the norms of SDRF.</p> <p>- The flexibility is to be applicable only after the State has formally listed the disasters for inclusion and notified transparent norms and guidelines with a clear procedure for identification of the beneficiaries for disaster relief for such local disasters', with the approval of SEC.</p>

<b>APPENDIX</b>		
<b>Illustrative list of activities identified as of an immediate nature</b>		
1.	Drinking Water Supply:	
	Repair of damaged platforms of hand pumps/ring wells/spring-tapped chambers/public stand posts, cisterns. Restoration of damaged stand posts including replacement of damaged pipe lengths with new pipe lengths, cleaning of clear water reservoir (to make it leak proof). Repair of damaged pumping machines, leaking overhead reservoirs and water pumps including damaged intake - structure, approach gantries/jetties.	
2.	Roads:	
	Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments. Repair of breached culverts. Providing diversions to the damaged/washed out portions of bridges to restore immediate connectivity. Temporary repair of approaches to bridges/embankments of bridges, repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub base, over damaged stretch of roads to restore traffic.	
3.	Irrigation:	
	Immediate repair of damaged canal structures and earthen/masonry works of tanks and small reservoirs with the use of cement, sand bags and stones. Repair of weak areas as piping or rat holes in dam walls/embankments. Removal of vegetative material/building material/debris from canal and drainage system. Repair of embankments of minor, medium and major irrigation projects.	
4.	Health	
	Repair of damaged approach roads, buildings and electrical lines of PHCs/community Health Centres.	
5.	Community assets of Panchayat	
	Repair of village internal roads. Removal of debris from drainage/sewerage lines. Repair of internal water supply lines. Repair of street lights. Temporary repair of primary schools, panchayat ghars, community halls, anganwadi, etc.	
6.	Power	
	Poles/Conductors and transformers upto 11 kv.	
7.	The assistance will be considered as per the merit towards the following activities:	
i)	Damaged primary school building	Up to Rs. 1.50 lakh/unit
	Higher secondary/middle/ college and other educational institutions building	Not covered
ii)	Primary Health Centre	Upto Rs. 1.50 lakh/unit
iii)	Electric poles and wires etc.	Normative cost (upto Rs.4000 per pole and Rs.0.50 lakh per km)



iv)	Panchayat Ghar/Anganwadi/ Mahila Mondal/ Yuva Kendra/ Community Hall	Upto 2.00 lakh/unit
v)	State Highways/Major District road	Rs.1.00 lakh/km
vi)	Rural road/bridge	Rs.0.60 lakh/km
vii)	Drinking water scheme	Upto 1.50 lakh/unit
viii)	Irrigation Sector: Minor Irrigation schemes/Canal	upto Rs.1.50 lakh/scheme
	Major irrigation scheme Flood control and anti Erosion Protection work	Not Covered
ix)	Hydro Power Project/HT Distribution systems/ Transformers and subs stations	Not Covered
x)	High Tension Lines (above 11 kv)	Not Covered
xi)	State Govt Buildings viz. departmental/office building, departmental/residential quarters, religious structures, patwarkhana, Court premises, play ground, forest bungalow property and animal/bird sanctuary etc.	Not Covered.
xii)	Long terms/Permanent Restoration Work incentive	Not Covered
xiii)	Any new work of long term nature	Not Covered
xiv)	Distribution of commodities	Not Covered (However, there is a provision for assistance as GR to families in dire need of assistance after a disasters)
xv)	Procurement of equipments/machineries under NDRF	Not Covered
xvi)	National Highways	Not Covered (Since GOI born entire expenditure towards restoration work activities)
xvii)	Fodder seed to augment fodder production	Not Covered

The Department of Disaster Management, Government of Jharkhand, have been allotted budget under their respective heads of Accounts - Major Head 2245 Relief on account of Disaster Management to meet the expenditure on payments of gratuitous relief, Tentage, food etc. in cases of any incident, natural calamities like fire, bomb blasts, flood, earthquake, etc as well as Human induced Disaster.

Further, powers to sanction of relief to the victims have already been delegated to all the Deputy Commissioner, being Head of Department in all cases, vide sankalp 604 dated 18.05.2015 except infrastructure & Natural Disaster like Drought in accordance with the scale approved in the SDRF to ensure timely disbursement of relief. To make the process more effective and transparent, relief should be expedite within

30 days after Disaster and should be credited to the Disaster victims via DBT. In case of Natural Calamities like Drought, agricultural assistance or relief shall be provided as per decisions of State Executive Committee, Jharkhand State Disaster Management Authority,

**7.15 State Level Disaster: Lighting - vide sankalp 1055 dated 11.09.2015 & depletion of water level more than 4ft and vide sankalp 969 dated 25.10.1018 Heavy Rain, Snake Bite, Mining Disaster Boat Accidents, River/Dhobha/Water Fall incidents, Radiation, stampede, Gas leakage- have been declared** state specific disasters within the local context in the State Jharkhand, which are not included in the notified list of disasters eligible for assistance from SDRF/NDRF. Nine deaths have been already reported due to lighting in the District Dhanbad in this financial year so far.

**7.16 Relief Fund Allocation:** Details of funds with their respective budget head received by DDMA. Dhanbad, in the FY 2018-19 so far as under:

S.No.	Allotment Letter No./Dated	Budget Head	Hazard/Disaster	Amount (INR)
1	04/30-05-2019	39S224580102010759	Distruction due to Matural Disaster in the Area	3300000
2	05/30-05-2019	39S 224580102110679	Effectted Families due to Ligtning	2500000
3	06/30-05-2019	39S 224502101030679	Compensation of the deseased families	800000
4	08/30-05-2019	39S 224502113030543	Reairs of Houses due to Fire	800000
5	07/30-05-2019	39S 224502113020543	Repairs of House damaged due to Natural Disaster	2500000
6	10/30-05-2019	39S 224502101050649	Compensation to the affected Victums	50000
7	09/30-05-2019	39S 224502101040649	Free distribution of Cloth & Pot	50000

## **7.17 Minimum Standards of Relief**

DDMA, Dhanbad shall rendered relief to the Disaster Victims as per Minimum Standards of relief suggested by NDMA:

<b>S.No.</b>	<b>In respect of Relief Camps</b>	<b>Steps to ensure Minimum Standards</b>
<b>1.</b>	Shelters	<ul style="list-style-type: none"><li>• Identification of the Relief Centers in each Block of the District. Each relief centers shall be temporary in nature and must have 3.5 Sq.m of covered area per person.</li><li>• Each centers have basic facilities like Toilets, water Supply, Electricity Supply as well as power back up with fuel etc</li><li>• District Nazarat office shall be in MOU with Supplier to provide all the items may require in case of Disaster</li><li>• Safety of inmates and special arrangements to differently able persons, old and mentally serious patients should be giving top most priority.</li></ul>
<b>2</b>	Food	<ul style="list-style-type: none"><li>• Each relief center must have adequate quantity of food especially for Aged &amp; Children</li><li>• Arrangements of Milk and Other Dairy Products shall be provided to the Children &amp; lactating mothers.</li><li>• Hygiene at community &amp; at camp kitchens.</li><li>• Date of manufacturing and date of expiry on the packaged food items shall be kept in view before distribution.</li><li>• Supplied food with calorie of 2400 kcal per day for adult and 1,700 Kcal per day for infants</li></ul>

***District Disaster Management Plan (Dhanbad)***

<b>3</b>	Water	<ul style="list-style-type: none"><li>• Sufficient quantity of water shall be provided in the relief camps for personal cleanliness and had wash.</li><li>• Minimum supply of 3liters of water per person per day is made available in the relief camps.</li><li>• In case of safe drinking water is not possible at least double chlorination of water needs to be ensured.</li><li>• Maximum distance from the relief camp to the nearest water point shall be not be more than 500 mts.</li></ul>
<b>4</b>	Sanitation	<ul style="list-style-type: none"><li>• 1 toilet for 30 persons may be arranged or built.</li><li>• Separate toilet and bath area for women and children.</li><li>• 15 liters of water per person needs to be arranged for toilets/ bathing.</li><li>• Hand wash facilities in the toilets should be ensured.</li><li>• Dignity kits for women shall be provided with sanitary napkins and disposable paper bags with proper labeling.</li><li>• Steps may be taken for control of spread of diseases.</li><li>• Toilets shall not be more than 50 m away from the relief camps.</li><li>• Pit Latrines and Soak ways shall be at least 30m from any ground water source and the bottom of any latrine has to be at least 1.5m above the water level.</li><li>• Drainage or spillage from the defection system shall not run towards any surface water source or shallow ground water source.</li></ul>

<b>5</b>	Medical Cover	<ul style="list-style-type: none"><li>• Steps shall be taken to avoid spread of any communicable diseases.</li><li>• Helpline should be set up and contact number and details shall be adequate publicized.</li><li>• For Pregnant women, arrangement of basic arrangements for safe delivery</li><li>• All the hospitals, doctors and paramedical staff are available in short notice. Doctors and paramedical staff should be available on 24x7 basis in the relief centers. In case of referral cases to the hospitals suitable transportation shall be arranged.</li><li>• Medical emergency/contingency plan should be activated in case of mass casualty.</li></ul>
<b>6</b>	Relief for Widows & Orphans	<ul style="list-style-type: none"><li>• Separate register duly counter signed by officials having complete details women who are widowed and for children who are orphaned due to disaster shall be maintained and kept in permanent record.</li><li>• Special care shall be given to widow and orphaned who are separated from the family.</li></ul>

**7.18 Role Emergency Operation Centre (EOC) for Relief:**

EOC is a nodal point for the overall coordination and control of relief work in case of any disaster situation. In case of any disaster district level EOC has to be activated. The primary function of EOC is to facilitate smooth inflow and outflow of relief and other disaster related activities. These EOCs act as bridges between State and Centre government.

## **Chapter 8: Reconstruction, Rehabilitation and Recovery Measures**

### **8.1. Introduction**

Rehabilitation relates to the work undertaken in the following weeks and months, for the restoration of basic services to enable the population to return to normalcy. Actions taken during the period following the emergency phase is often defined as the recovery phase, which encompasses both rehabilitation and reconstruction.

Rehabilitation refers to the actions taken in the aftermath of a disaster to enable basic services to resume functioning, assist victims' self-help efforts to repair physical damage and community facilities, revive economic activities and provide support for the psychological and social well being of the survivors. It focuses on enabling the affected population to resume more-or-less normal (pre-disaster) patterns of life. It may be considered as transitional phase between immediate relief and more major, long-term development.

**Reconstruction** refers to the full restoration of all services, and local infrastructure, replacement of damaged physical structures, the revitalization of economy and the restoration of social and cultural life. Reconstruction must be fully integrated into long-term development plans, taking into account future disaster risks and possibilities to reduce such risks by incorporating appropriate measures. Damaged structures and services may not necessarily be restored in their previous form or location. It may include the replacement of any temporary arrangements established as part of emergency response or rehabilitation.

The following sectors can be vulnerable to disaster impact, and which, therefore, will require rehabilitation and reconstruction inputs.

- Buildings
- Infrastructure
- Economic assets (including formal and formal commercial sectors, industrial and agricultural activities etc.)
- Administrative and political
- Psychological
- Cultural
- Social
- Environmental

“The disaster scenario offers a range of opportunities for affected communities to respond to the crisis, how community responds to a disaster and post disaster aid sets the tone for the transition from disaster to development”. After earthquake in Latur, people of that area started to monitor construction works, retrofitting of houses and behaved like “community construction watch dogs” (IDR, Oxford, 2000).

As discussed earlier rehabilitation and reconstruction comes under recovery phase immediately after relief and rescue operation of the disaster. This post disaster phase continues until the life of the affected people comes to normal. This phase mainly covers damage assessment, disposal of debris, disbursement of

assistance for houses, formulation of assistance packages, monitoring and review, cases of non-starters, rejected cases, non-occupancy of houses, relocation, town planning and development plans, awareness and capacity building, housing insurance, grievance redressal and social rehabilitation etc.

### **8.2 Post Disaster Reconstruction and Rehabilitation**

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

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

### **8.3 Administrative Relief**

The district is the primary level with requisite resources to respond to any natural calamity, through the issue of essential commodities, group assistance to the affected people, damage assessment and administrating appropriate rehabilitation and restoration measures. The district level relief committee consisting of official and non-official members including the local legislators and the members of parliament review the relief measures. Dhanbad district is sub-divided into 9 Circle's i.e. Dhanbad, Jharia, Tundi, Purvi Tundi, Topchachi, Govindpur, Baliapur, Nirsa, and Baghmara. The head of a circle is called the Circle Officer while the head of a Block is known as a BDO. When a disaster is apprehended, the entire machinery of the district, including the officers of technical and other departments, swings into action and maintains almost continuous contact with each village in the disaster threatened area.

#### **8.4 Reconstruction of Houses Damaged / Destroyed**

Houses should be reconstructed in the disaster hit areas according to the following Instructions:

- Owner Driven Reconstruction
- Public Private Partnership Program (PPPP)
- Under the PPPP the houses are reconstructed by the NGOs for the beneficiaries to be registered in the joint names of the husband and wife.
- All the houses should be insured.
- Owner Driven Reconstruction
- Financial, technical and material assistance provided by the government.
- The designs for seismic reconstruction of houses provided by the government.
- The material assistance provided through material banks at subsidized rates.
- Design of 20 model houses provided to the public to choose from with an option to have one's own design.

#### **8.5 Military Assistance**

If the district administration feels that the situation is beyond its control then immediate military assistance could be sought for carrying out the relief operations.

#### **8.6 Medical Care**

Specialized Medical Care may be required to help the affected population. Preventive medicine may have to be taken to prevent outbreak of diseases.

#### **8.7 Epidemics**

In the relief camps set up for the affected population, there is a likelihood of epidemics from a number of sources. The strategy should be to subdue such sources and immunize the population against them. The public health centers, health departments can practice vaccination drives, public awareness to drink boiled water, use chlorine tablets to purify the water sources.

#### **8.8 Corpse Disposal**

Disposal of dead bodies is to be carried out as a part of the operation to prevent outbreak of epidemics. Minimum official requirements should be maintained as it is a very sensitive issue. The following points may be considered by the concerned authorities at the time of corpse disposal:-



1. Mass photographs of corpses,
2. Consent of the relatives or hand over to them
3. Make a panchnama of concerned localities.

### **8.9 Salvage**

A major effort is needed to salvage destroyed structure and property. Essential services like communications, roads, bridges, electricity would have to be repaired and restored for normalization of activities.

### **8.10 Outside Assistance**

During disaster situations, considerable relief flows in from outside, thus there is an immediate need to coordinate the relief flows so that the maximum coverage is achieved and there is no duplication of work in the same area.

### **8.11 Special Relief**

Along with compensation packages, essential items may have to be distributed to the affected population to provide for temporary sustenance.

### **8.12 Information**

Information flow and review is essential part of the relief exercises. Constant monitoring is required to assess the extent of damage, which forms the basis of further relief to the affected areas.

### **8.13 Social Rehabilitation**

#### **Disabled persons**

- Artificial limbs fitted to affected persons.
- Modern wheelchairs, supportive devices provided.

#### **Children**

- Orphaned children are fostered.
- Day centers set up
- Orphanages established.
- Child help lines established.

#### **Paraplegics**

- Pension scheme introduced for paraplegics.
- Physiotherapy under continuous supervision of doctors.

#### **Old Persons**

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

#### **Women**

- Pension sanctioned

### **8.14 Recovery**

The long-term response plans are related with Recovery and Reconstruction activities on one side and institutionalizing disaster management in district administration on the other side. There are Standard Operation Procedures (SOPs) for the Emergency Support Functions. In long term measures the following actions shall be undertaken duly:

- Constitution of Emergency Support Functions, Disaster Management Teams, Quick Response Teams, Field Response Teams
- Refresher trainings for all such teams in a regular interval of time and exercise of Mock Drills
- Continuous awareness/sensitization programmes for the stakeholders and the general Public.
- Getting pre-contract with venders and merchant establishments to procure relief materials in times of disaster

Most of the Line Departments in the District, Autonomous Bodies and Organizations are part of the Emergency Support Functions. The action plans for ESFs for disaster management are discussed in other chapter of the plan. The DDMA (Dhanbad)/ESFs shall ensure that these actions plans are updated bi annually and practiced through mock drills and other activities in the district.

Recovery and rehabilitation is the final step. The incident Command System shall be deactivated as the rehabilitation phase is over. Thereafter the normal administration shall take up the remaining reconstruction works in the disaster-affected areas. These activities shall be performed by the Working Group for relief and rehabilitation under the direction of the DDMA (Dhanbad)/ESFs.

## **Chapter 9: Financial Resources for implementation of DDMP**

### **9.1 The Indian Context**

In most countries where relief activity is primarily the responsibility of State/Provincial Governments, assistance from the Federal/Central Government to the lower levels of government is mostly in the form of case-specific grants/ reimbursement. These are more in the nature of the NCCF scheme of our country and, in that sense, the CRF scheme that provides for a structured fiscal transfer from the Central to State Governments for the purpose of financing relief expenditure is unique. Through the CRF scheme, successive Finance Commissions have built in the requirement of relief expenditure financing in the overall scheme of fiscal transfers. Fortunately, the concept is developing such a way that the Planning Commission has conceptually agreed to have an exclusive mechanism to fund and to monitor the financial arrangements of disaster management.

### **9.2 Recommendation by 13<sup>th</sup> finance commission**

The Thirteenth Finance Commission (2010-2015) has responded very positively to the long pending request for greater allocation of fund for disaster management. The finance commissioner suggested various recommendations to solve the issue in state and district level. Every state has a State Calamity Relief Fund (CRF) for immediate action after math of a disaster.

### **9.3 District Calamity Relief Fund**

Besides, the DDMA (Dhanbad)/ ESFs Dhanbadis planning to constitute a District Calamity Relief Fund (DCRF). This amount shall be raised purely from the General Public through donations. There can be a committee under the leadership of the Deputy Commissioner, Dhanbad, to operate the fund. Once the fund is created, every year the DDMA (Dhanbad)/ ESFs Dhanbad shall prepare reports on the utilization of fund, disasters faced in the previous financial year as well as potential programme planning for utilization of this fund.

### **9.4 State Allocations**

As an alternative option, the DDMA (Dhanbad)/ ESFs Dhanbad shall forward a request to the Government of Jharkhand to grant 50 per cent of the targeted DCRF as one time grant and a matching amount shall be collected from the general public through donations.

Section 46 to section 49 of Disaster Management Act, 2005 seeks to provide for the constitution of the following funds:

1. Section 46, Constitution of National Disaster Response Fund

2. Section 47, Constitution of National Disaster Mitigation Fund
3. Section 48, Seeks to provide for the establishment of State & District Disaster Response Fund and Disaster Mitigation Funds.
4. Section 49, Seeks to enjoin upon every ministry or department of Government of India to make provision of funds in its annual budget for the purposes of carrying out the activities or programmes set out in its Disaster Management Plan.

### **9.5 District Allocations**

The district authority gets haven't received any financial assistance from Govt. of Jharkhand for carrying out various activities such as sensitization programmes, trainings, street plays, mock drills etc.

### **9.6 Risk Pooling and Insurance**

As regards risk pooling and insurance, we are inclined to agree with the views expressed by the earlier Finance Commissions on this subject, that the pooling of disaster risk at the individual level poses huge administrative challenges in a country like India where the majority impacted by disasters are primarily the poor who have, consequently, very little capacity to pay the risk premia involved. Apart from the fact that payment of risk premia towards insurance against natural disasters could be a highly unpopular step, the administrative cost of collection of such premia from a large number of potential beneficiaries spread over a wide geographical area would, indeed, be daunting. Disaster relief has long come to be viewed as a public good, to be delivered gratis by the state, and in the very likely event that no (or an insignificantly small) insurance premia can be levied, the very concept of risk pooling would become infructuous. In our view, for high-frequency-low intensity disaster events, it would indeed be cheaper for the State Governments to directly provide disaster relief, as is being done presently, instead of going through an insurance intermediary. For low frequency-high impact disasters, financing through insurance mechanisms is certainly a feasible option. However, given the low level of insurance penetration in India, insurance products covering disaster events may only materialize sometime in the future.

**Table 9.2 State-wise Allocation of Grants in Aid (in Lakhs)**

<b>S.No.</b>	<b>States</b>	<b>Centre Allocation</b>	<b>State Government Contribution</b>
1.	Andhra Pradesh	837.00	209.25
2.	Arunachal Pradesh	372.00	37.20
3.	Assam	437.00	43.70

4.	Bihar	703.00	175.75
5.	Chhattisgarh	979.00	244.75
6.	Goa	38.00	9.50
7.	Gujarat	1250.00	312.5
8.	Haryana	361.00	90.25
9.	Himachal Pradesh	403.00	100.75
10.	Jammu & Kashmir	266.00	66.50
11.	Jharkhand	342.00	85.50
12.	Karnataka	513.00	128.25
13.	Kerala	266.00	66.50
14.	Madhya Pradesh	2355.00	588.75
15.	Maharashtra	665.00	166.25
16.	Manipur	471.00	47.14
17.	Meghalaya	483.00	48.30
18.	Mizoram	327.00	32.70
19.	Nagaland	552.00	55.20
20.	Orissa	970.00	242.50
21.	Punjab	323.00	80.75
22.	Rajasthan	1708.00	427.00
23.	Sikkim	151.00	15.10
24.	Tamil Nadu	1045.00	261.25
25.	Tripura	76.00	7.60
26.	Uttar Pradesh	1330.00	332.50
27.	Uttarakhand	247.00	61.75
28.	West Bengal	342.00	85.50

**Source: State level Programmes for strengthening disaster management in India Initiatives by Ministry of Home Affairs, GoI**

## **Chapter 10 : Procedure And Methodology For Monitoring, Evaluation, Updation And Maintenance Of DDMP**

### **10.1 PREPARATION AND UPDATION OF DDMP**

District Disaster Management Plan for the Dhanbad is a public document. It is neither a confidential document nor restricted to any particular section or department of administration. The underlying principal of disaster management is that it has to be part of all departments and none can fold fingers against it.

The District Disaster Management Plan is the sum and substance of the *Horizontal and the Vertical* disaster management plans in the district. Horizontal plans included plans prepared by line departments such as Jharkhand Police, Jharkhand Fire Service, DMC, Department of Food and Civil Supplies, Public Works Departments etc where as the Vertical plan includes Sub Divisional Plans, Community Plans, School/Hospital plans and all other logical units' plan at the lower level and State disaster management plans and National disaster management plans at the higher level.

- ❖ Preparation of plan is the ultimate responsibility of the District Disaster Management Committee (DDMA (Dhanbad)/ESFs) or the person / sub committee appointed by the DDMA (Dhanbad)/ESFs in the district. The first draft plan is to be discussed in the DDMA (Dhanbad)/ESFs and later the Chairman of the DDMA (Dhanbad)/ESFs shall ratify it.
- ❖ The same procedure is to be followed in updating of the plan document. The District plan is to be updated biannually by the District Disaster Management Committee or the sub committee appointed by the DDMA (Dhanbad)/ESFs. In order to update the document, all Vertical and Horizontal plans shall be collected and incorporated to the District Plan.
- ❖ After each biannual updation of the DDMP, version number shall be given serially. A copy of the updated document shall be circulated to each stakeholder of disaster management in District Dhanbad.

### **10.2 REGULAR UPDATION OF DDMP**

Besides the above said procedure of updation of the DDMP, a regular data collection system shall be set up at district EOC. This is just to be ready to face any situation, though the Plan Document has not been updated since last few couple of months. The EOC in-charge, under the supervision of the DDMA (Dhanbad)/ESFs Chairman shall enter the collected data to an online system or shall be documented properly.

### **10.3 POST DISASTER EVALUATION MECHANISM**

Disasters are always unexpected. Each disaster causes huge loss of human lives, live stocks and property as well. It is said that, every disaster repeats after a particular interval. Also lessons learnt from a particular disaster will help to plan for another potential hazard.

The DDMA (Dhanbad)/ESFs Chairman shall make special arrangements to collect data on a particular disaster irrespective of size and vulnerability. This post disaster evaluation mechanism shall be set up with qualified professionals and researchers and the collected data shall be thoroughly crosschecked and documented in the EOC for further reference.

#### **10.4 MEDIA MANAGEMENT**

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

1. Along with information dissemination to the vertical and horizontal agencies, press people also shall be called and given preliminary data based on assessment. This shall reduce the guesswork of the media people.
2. Only the state owned electronic, print media should be taken to the site. More people mean more confusion and hazard in disaster management.
3. In every one hour or so the Incident commander shall give press release in order to control false information to the outside world.
4. No media shall be allowed to air or print pictures of dead bodies with worst condition. There is a tendency to do so by the media to make sensitivity.

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

#### **10.5 Uploading of updated plans at DDMA/SDMA websites:**

District Disaster Management Plan of the district shall be a public document & should be uploaded at the DDMA/SDMA websites under the supervision of the District Information Officer.

#### **10.6 Disaster Mock Drills**

The ultimate objective of the Training programme on preparedness and mitigation is to conduct mock drill, which is an artificial scenario of a disaster. The objectives encompassed in the mock drill are to validate the Standard Operating Procedures (SOP) and ascertain the capabilities created by District Disaster Management Committee (DDMA (Dhanbad)/ESFs) in managing and responding to natural disasters.

A sample note, which describes a likely scenario of earthquake in district Dhanbad has been given below. It also lays down the sequence of actions to be taken by different agencies in response to the scenario.

### **10.7 Model Scenario for Mock Drill in Dhanbad**

The objectives encompassed in the mock drill are to validate the Standard Operating Procedures (SOP) and ascertain the capabilities created by district Disaster Management Committee (DDMA (Dhanbad)/ESFs -Dhanbad) in managing and responding to natural disasters.

#### **10.7.1 Concept**

1. This document describes a likely scenario of earthquake in Dhanbad. It also lays down the sequence of actions to be taken by different agencies in response.
2. The emergency response to the scenario is to be evaluated at four phases of activity levels, as given below:
  - Notification Phase: During this phase the incident will be identified and relevant agencies will be notified and their responses ascertained.
  - Response Phase: In this phase the capabilities available with the government at various levels will be put into effect for controlling the situation.
  - Recovery Phase: the setbacks suffered as a result of the earthquake will be restored.
  - Restoration Phase: the site clearance and resumption of normal activity will be ensured.

#### **10.7.2 Specific assumptions**

- Certain aspects of damage assessment system are purported to be in place.
- Restricted avenues of reaching the incident site.
- Certain fire tenders/rescue vehicles are declared off-road due to mechanical faults and routine commitments.

#### **10.7.3 Instructions**

1. The following control rooms to be activated:
  - a. District Disaster Management Authority, Dhanbad
  - b. Jharkhand State Disaster Management Authority
  - c. Jharkhand Police
  - d. Jharkhand Fire Service
  - e. Municipal Corporation of Dhanbad
  - f. Department of PHED
  - g. Indian Railway
  - h. Jharkhand State Electricity Board
  - i. Public Works Department



- j. Ministry of Home Affairs
- k. Indian Army
- l. Other critical departments/agencies
2. Wherever the control room does not exist, a nominated officer will be the duty officer. He will receive messages and disseminate information as per the Standard Operating Procedures.
3. Traffic rules will not be violated while responding
4. Wherever a road is declared out of use, detours will be taken to reach the site of incident.
5. A report pertaining to this exercise should be submitted within next two working days to the Additional Chief secretary (Home, Prison & Disaster Management)

### **10.8 Monitoring & gap evaluation:**

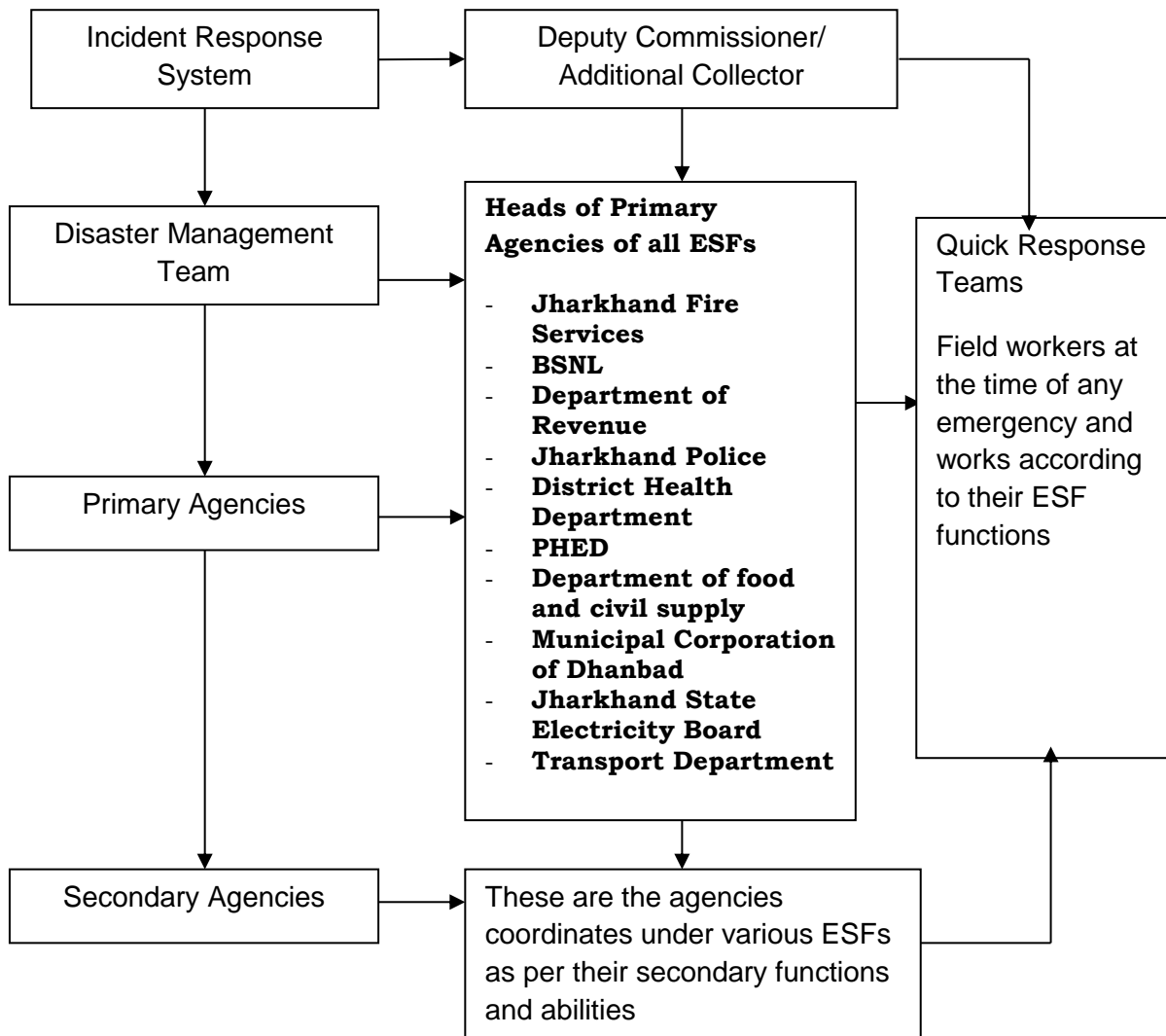
The District Authority shall check whether all the personnel involved in execution of DDMP are trained & updated on the latest skills necessary in line with the updated plans. As per Section 30 (2) (xii) of DM Act 2005, the District Authority shall organize & coordinate specialized training programmes for different levels of officers, employees & voluntary rescue workers in the district.

### **10.9 Plans of Major Accidental Hazard Units**

India has traditionally been vulnerable to natural disasters on account of its unique geo climatic conditions and it has, of late, like all other countries in the world, become equally vulnerable to various man-made disasters. Nuclear, Chemical and radiological emergencies as one such facet of man-made disasters are of relevance and concern to us. Any radiation incident resulting in or having a potential to result in exposure and/or contamination of the workers or the public in excess of the respective permissible limits can lead to a nuclear/radiological/Chemical emergency.

Presence of major installations in the district like Oil terminals & upcoming water treatment plant in District calls for special attention. Thus, all these installations were directed to prepare & submit their on-site & off-site plans to this office. Their plans have been enclosed as Annexure.

## Chapter 11: Coordination Mechanism for implementation of DDMP



### 11.1 INTRODUCTION

There are a number of participants in a typical disaster relief operation. Participants may include; national government, local government, national and international humanitarian organizations, expert and volunteer rescue teams, third-party logistics providers, suppliers of goods used for disaster relief, and the affected people.

## **11.2 Department Wise Role Of Primary And Secondary Agencies**

### **11.2.1 Municipal Cooperation of Dhanbad**

DMC will be involved in the following activities:

- Search and Rescue operations
- Providing Temporary Shelters
- Public Information
- Relief Distribution
- Construction materials
- Restoration of infrastructure

### **11.2.2 PWD**

PWD will be involved in the following activities:

- Providing Temporary Shelters
- Construction materials
- Restoration of infrastructure

### **11.2.3 Fire Services**

Fire will be involved in the following activities:

- Search and Rescue operations
- Evacuation
- Disposal of Dead (as per customs)
- Public Information

### **11.2.4 Home Guard**

Home Guards will be involved in the following activities:

- Cordoning of area
- Search and Rescue operations
- Evacuation
- First Aid operations
- Providing Temporary Shelters
- Relief Distribution
- Reception/ Information Centres

### **11.2.5 Deptt. of Health**

Deptt. of Health will be involved in the following activities:

- Medical aid (Treatment of injuries and surgical operations)
- Health and sanitation
- Disposal of Dead ( as per customs)

### **11.2.6 BSNL**

BSNL will be involved in the following activities:

- Communication
- Reception/ Information Centres
- Restoration of infrastructure

### **11.2.7 PHED**

PHED will be involved in the following activities:

- Drinking Water arrangements
- Restoration of infrastructure

### **11.2.8 Transport Corporation**

Transport Corporation will be involved in the following activities:

- Provision of vehicles
- Transportation of materials, manpower etc

### **11.2.9. JSEB**

JSEB will be involved in the following activities:

- Restoration of infrastructure
- Provision of power

### **11.2.10 Indian Red Cross Society**

Indian Red Cross Society will be involved in the following activities:

- Emergency ambulance services round the clock through trained paramedics who will be mainly performing following functions:
  - Assessing the patients
  - Resuscitation
  - Stabilizing that includes clearing airway, control of bleeding and circulation, splintage etc
  - Rushing the patient to the suitable hospital
  - Paramedic services in case of disasters
  - Training of the public, students and others in emergency first aid
  - Providing Temporary Shelters
- Medical aid (Treatment of injuries and surgical operations)

- Health and sanitation
- Relief Distribution

#### **11.2.11 St. John Ambulance**

St. John Ambulance will be involved in the following activities:

- Providing first aid training
- Ambulance services
- Relief Distribution

#### **11.2.12 I & PR Deptt.**

I & PR will be involved in the following activities:

- Public Information
- Communication
- Reception/ Information Centres

#### **11.2.13 Army and NCC**

Army will be involved in the following activities:

- Search and Rescue operations
- Evacuation
- Traffic Management and Security of properties
- Temporary Shelters
- Disposal of Dead
- Relief Distribution
- Relief Supplies

#### **11.2.14 Air Force**

Air Force will be involved in the following activities:

- Search and Rescue operations
- Aerial Reconnaissance
- Evacuation
- Disposal of Dead
- Relief Distribution
- Relief Supplies
- Restoration of infrastructure

#### **11.2.15 NGOs and NYKS**

Emerging trends in managing natural disasters have highlighted the role of non-governmental organizations (NGOs) as one of the most effective alternative means of achieving an efficient communications link between the disaster management agencies and the effected community. In typical disaster situation, they can be of help in preparedness, relief and rescue, rehabilitation and reconstruction and also in monitoring and feedback. The role of NGOs is a potential key element in disaster management. The NGOs operating at grassroots level can provide a suitable alternative as they have an edge over governmental agencies for invoking community involvement. This is chiefly because; the NGO sector has strong linkages with the community base and can exhibit great flexibility in procedural matters vis-à-vis the government.

## **Chapter 12: Standard Operating Procedures (SOPs)**

### **12.1 Introduction**

Disasters lead to loss of human lives on a large scale. If a formalized and timely response does not take place, the death toll can increase immensely. Therefore each district in coordination with the State formulates a District Response Plan consisting of 20 Emergency Support Functions(ESFs) related to Communication, Search and Rescue, evacuation, law and order, medical response and Trauma Counseling, water supply, electricity, warning and transport etc. All of these emergency functions consist of emergency plans that would be activated at the time of emergency.

The ESFs document outlines the purpose, scope, organization setup and Standard Operating Procedures (SOPs) for each function of operation that is to be followed by the respective ESF agencies when the Incident commander activates the response plan. Standard Operation Procedures (SOPs) provides a basic concept of the operations and responsibilities of Disaster Management Team, Nodal and Secondary agencies.

### **12.2 ESF Response Actions, Organisational Setup and Inter-relationships**

The Response plan establishes an organised setup to conduct ESF operations for any of the Natural and Manmade Disasters. It outlines an implementing framework of sharing resources as per the requirement within National and State level department will be engaged to support during an emergency situation. The Response Plan has structured the response of all line department i.e. primary and supporting departments to be organized and function together with grouping capabilities, skills, resources, and authorities across the State and district Government with the ESF plan. The plan unifies the efforts of State Departments and supporting agencies to be involved in emergency management for a comprehensive effort to reduce the effects of any emergency or disaster within the state.

The ESF activates under the guidance of Responsible Officer (Deputy Commissioner, Dhanbad) who is also a head of Incident Response System (IRS). Under the IRS a team of 20 ESFs nodal officers works together also called as Disaster Management Team (DMT). DMT would also be constituted at District level with district level nodal officers. The members of Disaster Management team would also heads primary agency and simultaneously coordinate with the secondary agencies. Each of the primary and secondary agencies would also comprise of quick response team trained to carry out their functions at the response site. The success of ESF will be of critical importance and would reflect in the lives saved in the golden hour. Below a list of ESFs has been given which will activate at district level during emergency situation.

**12.3 ESFs Activated at the Time of a Disaster**

<b>ESF</b>	<b>Function</b>	<b>ESF Team Leader</b>	<b>Primary Agency</b>	<b>Secondary Agency</b>
ESF #1	Communication	GM, BSNL	BSNL	NIC, Police, Revenue Wireless, Private Telecom
ESF #2	Evacuation	DSP of the incident area	Police, Fire Brigade, Education Department	Police, NRDF, CISF, RPF, GRP, CRPF, Home Guard Department, other Para-military agencies, NCC, Voluntary Organisations, Community Volunteers, NYKS
ESF #3	Search and Rescue	DFO	Fire Department	Police, Home Guard, NCC, NDRF, Mines Search and Rescue BCCL, DRM Office East Central Railways, TISCO, BCCL, Home Guard Department, other Para-military agencies
ESF #4	Emergency Medical Health Services	Civil Surgeon	Health Department (CMO)	PMCH, Central Hospital BCCL, TMH TISCO, Divisional Rail Hospital, East Central Railways, JMADA, Redcross, Rotary Club, Lions Club, IMA, Medicine Stockiest, Volunteer Organisations, Private Hospitals and Nursing Homes, Ambulance Services, Blood banks
ESF #5	Helplines, Warning Dissemination & coordination Media coverage	District Public Relation Officer	Public Relation department	Media, NGOs, Health department, Police department
ESF #6	Drinking Water	PHED	JMADA, PHED, Municipal Corporation	BCCL, TISCO, IISCO
ESF #7	Electricity	GM, State Electricity Board	State Electricity Board	BCCL, Indian Railways, DVC
ESF #8	Relief (Food and Shelter)	ADM (Supply)	Supply Department	Agriculture Marketing Board, Chamber of Commerce, Market Associations, Local Civil Suppliers
ESF #9	Debris and Road Clearance	Commissioner, Dhanbad Municipal Corporation	Dhanbad Municipal Corporation	JMADA, BCCL, TISCO, Indian Railways, IISCO, ECL, NHAI, PWD, REO
ESF #10	Law and Order	SDM	Law and Order section, Police department	Home Guard Department, other Para-military agencies, Community Volunteers, Voluntary Organisations
ESF #11	Transport	District Transport Officer (DTO)	Transport Department	DRM Office, East Railways, NHAI, PWD, REO, Dhanbad Municipal Corporation, all leading public sector and private organizations, Community Volunteers, Voluntary Organisations



ESF #12	Damage & Need Assessment	Additional Collector	Revenue Section, Circle Office, Education Department	Police Department, Dhanbad Municipal Corporation, JMADA, BCCL, Electricity Board, Public Health Engineering Dept., Health dept, Block Offices, PWD, Building department, DVC, NHAI, DRM Office East Central Railways
ESF #13	Access Control and Re-Entry	DSP Traffic	Police department, Sub Divisional Office	Road Departments (NHAI, PWD, REO)
ESF #14	Fire Fighting	Fire Safety Officer	Fire Safety Departments Dhanbad, Jharia and Sindri	BCCL, TISCO, Police department
ESF #15	Inspection, Condemnation, Demolition	Executive Engineer, Building Department	Building Department, Municipal Corporation	JMADA, DVC
ESF #16	Public Works and Engineering	Executive Engineer, PWD	PWD, Municipal Corporation	District Board (Zilla Parishad), BCCL, TISCO, IISCO
ESF #17	Resources Mobilisation; Contracting Services; Volunteer and Donation Support;	DDC	DRDA, District Welfare Department, Programme Department	All leading Government, Public Sector and Private organizations, Community Volunteers, Voluntary Organisations
ESF #18	Relief Camps	District Welfare Officer	Welfare department, Nazarat Department, Education Department	Supply department, All leading public sector and private organizations, Community Volunteers, Voluntary Organisations
ESF #19	Oil and Hazardous Materials Response	Fire Safety Officer, Dhanbad	Fire Safety Department	IOC, BPCL, HPCL, BCCL, TISCO, Fire safety departments Jharia and Sindri, Police department
ESF # 20	Animal Care	District Animal Husbandry Officer	District Animal Husbandry Department	Vet nary Doctors, NGOs, Community Volunteers

All ESFs have to assist the Responsible Officer i.e. Deputy Commissioner at District level as per their assigned duties described in the SOP's. A detailed organisational setup of all ESFs and team leaders has been given below.

## **12.4 ESF - 1 Communication**

### **12.4.1 Background:**

The communication ESF is primarily responsible for restoration of communication facilities. The ESF on Communication should ensure the smooth flow of information that can cater to the outreach in a time-sensitive manner at District level in response efforts.

### **12.4.2 Situation Assumptions**

- There would be a congestion in the network because of increased calls to control rooms due to panic created in the community.
- The initial reports on damage may not give a clear picture of the extent of damage to communication network.
- The affected site may cut off from the state control rooms and the officials on site and find difficulty in communicating to the District EOC.

### **12.4.3 Nodal agency at District level:** Mahanagar Telephone Nigam Ltd. (MTNL)

**Suggested supporting agencies:** NIC, Revenue wireless, Ham Operators, Private tele-communication service operators and mobile phone services operators etc

### **12.4.4 SOPs for Nodal Agency:**

- Team leader (TL) of Communication ESF will activate the ESF on receiving the intimation of occurrence of the disaster from the State EOC.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL would establish contact with the district EOC for First Information Report
- TL requests for reports from local ESF contact persons (this would be the local office of ESF Nodal Agency) to understand the current situation and action taken
- Based on information given by the supporting agencies, TL decides on the need to launch an assessment mission to estimate the extent of damage to telecom services and network as well as to come up with possible arrangements to establishing reliable and appropriate network.
- TL communicates situation to supporting agencies and also requests to provide details on the status of equipment and infrastructure in the affected area(s).
- TL informs the Incident Commander on the status of telecom services.
- TL works out a plan of action for private telecom companies and convenes a meeting of all ESF members to discuss and finalise the modalities.

- TL issues orders to establish systems and reports to EOC, Dhanbad, on the action taken. New phone numbers and details of contact persons would also be communicated. If required mobile exchanges would be deployed.
- TL gets the temporary telephone facilities established for the public. Prior information on this would be announced through media
- HAM radio operators would be informed about the current requirements and coordination mechanisms shared.
- TL monitors the situation and arranges emergency staff required to operate established systems.
- TL sends the Sub-division Quick Response (SQR) team at the affected site with the required equipments and other resources.

#### **12.4.5 SOPs for Quick Response Team on Communication**

- The QRT (Quick Response Team) members will reach to the nodal office as soon as they will get instructions from the TL.
- Once the QRTs receive any intimation from the nodal officer to reach at the site they would rush to the site.
- At the emergency site QRT members will take stock of the situation from the IC and would also know about their counter parts.
- QRTs would assess the ground situation and would send sectoral report to the District ESF agency. A sectoral report would contain following contents:
  - An assessment of overall damage, listing specifically:
    - Overhead route damage (in miles/kilometres).
    - Cable damage (in yards/meters).
    - Specific equipment damaged.
    - Establish a temporary communication facility for use by the public
- Identify requirements of manpower, vehicles and other materials and equipments Give priority and concentrate on repairs and normalization of communication system at disaster affected areas.
  - Begin restoration by removing and salvaging wires and poles from the roadways with the help of casual labourers.
  - Carry out temporary building repairs to establish a secured storage area for the s equipments and salvaged materials.
  - Report all activities to head office
  - 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.

## **12.5 ESF-2 Evacuation**

**12.5.1 Background:** The ESF on evacuation is primarily responsible for establishing evacuation plans, identification of fastest evacuation routes and alternate routes and coordinating evacuation logistics during field operations.

### ***12.5.2 Situation Assumptions***

- Most of the buildings would be damaged and would not remain serviceable.
- Many structures would be damaged and there would be an urgent need to evacuate.

**12.5.3 Nodal agency at District level:** District Fire Officer, Dhanbad

**12.5.4 Suggested supporting agencies:** Police, Fire Service, Directorate of Health Service and Civil Defence, NCC, Army etc

### **12.5.5 SOPs for Nodal Agency:**

- Team leader (TL) of Evacuation ESF would activate the ESF on receiving the warning of the disaster from EOC, Dhanbad.
- TL would inform Nodal Officers (NOs) of supporting agencies about the event and ESF activation.
- TL will direct the QRTs to be deployed at the affected site.
- TL will gather information on availability of predefined evacuation routes.
- Where the predefined evacuation routes are not available, the nodal officer would coordinate through EOC, Dhanbad, with other ESFs nodal officers and the support agencies about clearing of routes and identifying alternate routes.

### **12.5.6 SOPs for Quick Response Team on Evacuation:**

- The QRT members will reach the nodal office as soon as they get instructions to do so from the TL.
- Once the quick response teams receive an order from the nodal officer for reaching the site they would rush to the site.
- On reaching at the site the QRT members will take stock of the situation from the Incident Management Team at the site and their counter parts.
- The quick response teams with the help of local task forces will start evacuating people to safe shelters or open areas.
- The QRT members should concentrate more on evacuation in areas that have been worst affected by the disasters.
- Reporting about all the activities to head office

## **12.6 ESF-3 Search and Rescue**

**12.6.1 Background:** Search and Rescue operations are one of the primary activities taken up in a post disaster situation. The promptness in these operations can make a remarkable difference in the amount of loss of life and property.

### **12.6.2 Situation Assumptions**

- Local community task forces will initiate search and rescue at residential level
- Spontaneous volunteers will require coordination
- Access to affected areas will be limited.
- Some sites may be accessible only through air routes only

**12.6.3 Suggested Nodal Agency:**DSP of the area

**12.6.4 Support agency:** Department of Revenue, Police, Civil Defence, NDRF& Army

### **12.6.5 SOPs for Nodal Agency**

- R.O. will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the Quick Response Team.
- Quick Assessment of the S& R operations through Aerial surveys
- Assessments of the specific skill sets and the other equipments required.
- Using IDRN network to check and map the availability of resources in and round the disaster site.

### **12.6.6 SOP for Quick Response Team on Search & Rescue**

- Assessment of damage (locations, number. of structures damaged, severity of damage)
- The QRTs will be deployed at the affected site.
- Enlisting the types of equipment required for conducting the S&R
- QRTs will report the situation and the progress in response activities to the respective EOCs.

## **12.7 ESF - 4 Law and Order**

**12.7.1 Background:** The ESF on Law and Order maintains the law and protects the property and valuable commodities. It is mainly responsible to control crowd and avoid riots situations.

### **12.7.2 Situation Assumptions**

- There would be panic and people will gather at a place.
- The crowds may go out of control.
- Riots may also take place.

### **12.7.3 Nodal Agency:Police**

**12.7.4 Suggested Support Agencies:** Civil Defence, Home guards, Central Paramilitary Forces, Army etc

### **12.7.5 SOPs for Nodal Agency**

- R.O. will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the Quick Response Team.
- The QRTs will be deployed at the affected site.
- Cordoning of area to restrict movement of onlookers, vehicular and pedestrian traffic should be done.
- Any additional requirements at site to be taken care of.

### **12.7.6 SOPs for Quick Response Team on Law and order**

- Quick assessment of law and order situation in affected areas
- Support and coordinate with Local Administration
- Prepare updates on the law and order situation every 4-6 hours and brief the authorities
- Controlling situations like rioting and looting, and cordon off sensitive areas
- QRTs will guide property and valuables in affected areas.
- Control and monitor traffic movement.
- QRTs will provide diversion of traffic on alternate routes as and when it is necessary.
- The QRTs will also provide information about traffic flow along various corridors, especially heavy traffic or congested roads.
- QRTs will communicate to police control rooms, details on the field activities including deployment and reinforcement of staff and resources and communicate nature of additional requirements.

## **12.8 ESF -5 Medical Responses and Trauma Counseling**

**12.8.1 Background:** The ESF on Medical Response and Trauma Counseling will look after emergency treatment for the injured people immediate after the disaster take place.

### **12.8.2 Situation Assumptions**

- Emergency Medical services will be required by affected population
- Likely outbreaks of epidemic diseases after the disaster.
- Hospital services would be affected

**12.8.3 Suggested Nodal Agency:** Civil Surgeon

**12.8.4 Suggested Support Agencies:** PMCH, Central Hospital BCCL, TMH TISCO etc

### **12.8.5 SOPs for Nodal Agency**

- R.O. will call the TL of Primary Agency and get the ESF activated.
- Team leader (TL) of primary agency will call nodal officers of supporting agencies.
- In coordination with the transportation ESF, it will ensure a critical number of medical professionals to be reached at the site including specialists from other states.
- If temporary housing arrangements are being made for the affected population, the ESF must ensure high standards of sanitation in settlements in order to reduce epidemic outbreak.
- Ensuring the provision and continuous supply of medical facilities (medicines, equipments, ambulances, doctors and manpower etc) required at the disaster affected site and the hospital health centers catering to disaster victims.
- In case of orthopedic care required in disasters like earthquakes the immediate response would have to be complimented by a follow up treatment schedule for a majority of the patients in/ near their place of residence.
- Trained professionals should be mobilized by psychosocial support.
- Ensuring setting up of temporary information centers at hospitals with the help of ESF through help lines and warning dissemination system.
- TL will coordinate, direct, and integrate state level response to provide medical and sanitation health assistances.

- On the recommendations of the EOC, Dhanbad, the TL also responsible to :
  - Send required medicines, vaccines, drugs, plasters, syringes, etc.
  - Arrange for additional blood supply. Send additional medical personnel equipped with food, bedding and tents etc.
  - Send vehicles and any additional medical equipment.

#### **12.8.6 SOP for Quick Response Team (QRT) on Medical Response and Trauma Counseling**

- QRTs will provide situation and progress reports on the action taken by the team to the respective EOCs
- QRT's will assess type of injuries, number of people affected and possible medical assistance needs
- QRTs will ensure timely response to the needs of the affected victims such as:
  - Establishing health facility and treatment centers at disaster sites.
  - Providing medical services as reported by the Chief District Medical Officer with District Control Room.
  - Procedures should be clarified in between:
    - Peripheral hospitals
    - Private hospitals
    - Blood banks
    - General hospitals and
    - Health services established at transit camps, relief camps and affected villages.
- QRTs should maintain check posts and surveillance at each railway junction, ST (full form) depots and all entry and exit points from the affected area, especially during the threat or existence of an epidemic.



## **12.9 ESF- 6 Water Supply**

### **12.9.1 Background**

The ESF on drinking water and water supply will ensure provision of basic quantity of clean drinking water and water for other purposes in a manner that does not allow the spread of diseases through the contamination of water.

### **12.9.2 Situation Assumptions:**

- Existing water storage bodies will be damaged and unusable.
- There would be an urgent need of water to assist victims in rescue operation.
- Break down of sanitation system.
- Contamination of water due to outflow from sewers or due to breakage of water pipelines.

### **12.9.3 District Nodal agency: PHED**

### **12.9.4 Support Agency: DMC, PHED etc**

### **12.9.5 SOPs for Nodal Agency**

- Team leader (TL) of ESF on Water Supply will activate the ESF on receiving the intimation of the disaster from EOC, Dhanbad.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL will ensure special care for women with infants and pregnant women.
- Provide for sending additional support along with food, bedding, tents
- Send vehicles and any additional tools and equipments needed.

### **12.9.6 SOP for Quick Response Team (QRT) on Water Supply**

- QRTs will ensure that supply of drinking water is made available at the affected site and relief camps
- QRT's will ensure the temporary sewerage lines and drainage lines are kept separate.
- QRTs will report the situation and the progress on action taken by the team to the EOC, Dhanbad.
- QRTs will intimate their TL of the additional resources needed.
- Carry out emergency repairs of all damages to water supply systems.
- Assist health authorities to identify appropriate sources of potable water.
- Identify unacceptable water sources and take necessary precautions to ensure that no water is accessed from such sources, either by sealing such arrangements or by posting the department guards.
- Arrange for alternate water supply and storage in all transit camps, feeding centres, relief camps, cattle camps, and also the affected areas, till normal water supply is restored.
- Ensure that potable water supply is restored as per the standards and procedures laid down in "Standards for Potable Water".
- Plan for emergency accommodations for staff from outside the area.
- QRTs will ensure timely response to the needs of the affected victims.
- QRTs will set up temporary sanitation facilities at the relief camps.

### **12.10 ESF – 7 Reliefs (Food and Shelter)**

**12.10.1 Back Ground:** In the event of a disaster there would be a need of disbursing relief materials due to massive destruction of life and property taken place. The ESF on Relief should ensure coordination of activities involving with the emergency provisions of temporary shelters, emergency mass feeding and bulk distribution of relief supplies to the disaster victims as also the disaster managers and relief workers.

#### **12.10.2 Situation Assumptions**

- Probability of shortage of a critical resources
- Immediate assistance to the community at the time of resource shortage particularly when affected area is larger.

**12.10.3 District Nodal Agency:**ADM (Supply)

**12.10.4 Support Agency:** Office of DC, Dhanbad, DMC etc

#### **12.10.5 SOPs for Nodal agency**

- TL will activate the ESF on receiving the information of the disaster from EOC, Dhanbad.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL will coordinate with all state and district level suppliers as identified with under IDRN.
- TL with coordinate with other ESFs related to transportation, debris and road clearance to ensure quality supply chain management of relief materials.
- Ensuring composite relief with availability of complimentary relief material.

#### **12.10.6 SOP for Quick Response Team (QRT) on Relief**

- QRTs will report to site of the relief camps
- QRTs will be responsible to manage and distribute relief items to the affected victims
- QRT's will be responsible for reporting the progress on action taken by the team to the EOC.
- QRTs will provide information to their TL about the need of additional resources.
- Clearing of the areas to establish relief camps
- Setting up relief camps and tents using innovative methods that can save time
- Assist local authorities to set up important telecom and other service related facilities
- Initiate, direct and market procurement of food available from different inventories and reassuring food supplies to the affected population
- Preparing take-home food packets for the families
- Ensuring distribution of relief material to the all the people including vulnerable groups of the target area such as women with infants, pregnant women, children, aged people and handicapped.
- Ensuring support to Local Administration
- Locating adequate relief camps based on damage survey
- Develop alternative arrangements for population living in structures that might be affected even after the disaster

**12.11 ESF- 8 Equipment support, Debris and Road clearance**

**12.11.1 Background:** The importance of this ESF emanates from the fact that most large scale hazards such as earthquakes, cyclones, floods primarily affect the building structures.

**12.11.2 Situation Assumptions**

- Access to disaster-affected area would depend upon the re-establishment of ground and water routes.
- Early damage assessment may be incomplete, inaccurate and general. A rapid assessment may be required to determine response time.
- Engineers and masons may be required in large scale for the inspection of present buildings

**12.11.3 District Nodal agency:** Municipal Corporation of Dhanbad

**12.11.4 Support Agencies:** JMADA, BCCL, TISCO, Indian Railways, etc

**12.11.5 SOPs for Nodal Agency:**

- Team leader (TL) will activate the ESF on receiving the information of the disaster from EOC, Dhanbad.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL will coordinate with the supporting agency to mobilize equipments from the ware houses through IDRN database
- The respective supporting agencies will contact their respective personal to move the equipments to central warehouse
- The equipments like JCB, concrete cutters identified as per the need will be transported to the site.
- As per the information the nodal officer of Debris road clearance will make an assessment on of the damages of roads and built structures at the site and surrounding areas
- The nodal officers of Supporting Agencies will immediately start debris clearance operation to enable movement to the affected site.
- Review of the current situation is taken up by the nodal agency to update the support agencies and to delegate their respective personnel to take precautionary measure to plan de-routes for the transportation ESF's to be operational
- All supporting agencies will inspect the road and rail network and structures within the disaster site and surrounding.
- TL will also ensure proper corpse disposal and post mortem by coordinating with ESF on medical response.

## **12.12 ESF – 10 Electricity**

**12.12.1 Background:** The ESF on electricity will facilitate restoration of electricity distribution systems after a disaster. In the event of a disaster there would be major electricity failure and many power stations damaged.

### **12.12.2 Situation assumptions**

- Prolonged electricity failure.
- The affected victims may be panicked
- Halt of all activities specially jamming communication networking systems in the affected site.

**12.12.3 District Nodal agency:** GM, State Electricity Board, Dhanbad, Jharkhand

**12.12.4 Support Agencies:** BCCL, Indian Railways, DVC

### **12.12.5 SOPs for Nodal Agency:**

- R.O. will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the State Quick response Team.
- The QRTs will be deployed at the affected site.
- TL will dispatch emergency repair teams equipped with tools, tents and food.

### **12.12.6 SOP for Quick Response Team on Electricity**

- The QRT members will reach the nodal office as soon as they get instructions to do so from the TL.
- QRT members would reach to the site immediately after receiving instructions from the nodal officer
- On the site QRT members will take stock of the situation from the IC at the site and their counter parts.
- The QRTs will coordinate, collect, process, report and display essential elements of information and facilitate support for planning efforts in response operations.
- Begin repairing and reconstruction work
- Assisting hospitals in establishing an emergency supply by assembling generators and other emergency equipments, if necessary.
- The members of QRTs will establish temporary electricity supplies for other key public and private water systems
- The members of QRTs will establish temporary electricity supplies for transit camps, feeding centres, relief camps, District Control Room and on access roads to the same.
- The members of QRTs will establish temporary electricity supplies for relief material godowns.
- Compile an itemized assessment of damage, from reports made by various electrical receiving centers and sub-centers.
- Report about all the activities to the head office.

### **12.13 ESF -11 Transport**

**12.13.1 Background:** The ESF on Transport should ensure smooth transportation links at state and district level. Within the disaster context, quick and safe movement of material and humans are a priority. It should coordinate the use of transportation resources to support the needs of emergency support forces requiring transport capacity to perform their emergency response, recovery and assistance missions.

#### **12.13.2 Situation assumptions**

- The state civil transportation infrastructure will sustain damage, limiting access to the disaster area.
- Access will improve as routes are cleared and repaired.
- The movement of relief supplies will create congestion in the transportation services.

**12.13.3 District Nodal agency:** District Transport Officer

**12.13.4 Support Agencies:** DRM Office, East Railways, NHAI, PWD, REOetc

#### **12.13.5 SOPs for Nodal Agency:**

- TL of Transportation ESF will activate the ESF on receiving the intimation of the disaster from EOC, Dhanbad.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL establishes contact with the district EOC for FIR
- TL requests for reports from local Transportation ESF contact person
- TL communicates situation to support agencies and requests for detailed information on the status of transportation infrastructure in the affected area(s).

#### **12.13.6 SOP for Quick Response Team on Transport**

- The QRT members will reach to the nodal office as soon as they will get instructions to do so from the TL.
- As quick response teams will receive instructions from the nodal officer they would reach to the site immediately.
- QRTs would report the situation and the progress on action taken by the team to the respective EOCs
- QRT will send a requirement schedule for the different modes of transportation eg. trucks, boats, helicopters to be put on stand-by.
- QRTs will ensure timely re-establishment of the critical transportation links.
- The members of QRTs will establish temporary electricity supplies for relief material go-downs.
- Compile an itemized assessment of damage, from reports made by various electrical receiving centres and sub-centres.
- Reporting about all activities to the head office.

**12.14. Standard Operating Procedure for Departments:**

**1. Revenue Department:** The Revenue Department has been the main department entrusted with the responsibility to coordinate and manage the disasters caused by the Hazards. The department is assisted by the concerned departments/agencies to fulfill the responsibilities assigned. Pre disaster period is the normal times before the disaster months and also the time period just before the first hazard alerts are given by the meteorological department or the CWC/ Irrigation department (Floods).

**NORMAL TIMES:**

1. Holding a meeting of DDMA and with district officials concerned twice in a year before the months of April and September for reviewing the precautionary measures to be taken as per the DM Plans.
2. Updating the District Disaster Management plan once every six months. This will be done by the specified officer by the Collector.
3. Ensure the communication systems are fully functional for easy and quick dissemination of information. Identify any additional requirement of equipment and operating personnel
4. Updating the list of Voluntary Organizations and NGOs their contact addresses in the district, and provide them to MROs and Panchayats.
5. Ensure Mock drills are carried out periodically. Plan and organize training programs, mock drills etc. for improving community awareness and preparedness for facing the disasters till the other agencies step in.
6. Prepare an exhaustive list of equipments used during emergencies such as tractors, bulldozers, transport vehicles, communication equipments, pump sets, power generators etc., their availability with Govt. and private agencies and ensure that they are in operational condition.
7. Identify vulnerable points/areas in the flood banks.
8. Prepare a list of all utility items for meeting any emergency, check their availability in sufficient quantities, make inventory and provide them for reference and use at all levels.
9. Devise and implement continuous plan of action to cut, remove and destroy all thorny bushes and trees in vulnerable areas. They become death traps for people.
10. Keep adequate number of floats like tyres, inflated rubber tubes, wooden planks, and bamboos tied as small platform for people to use for floating during floods.
11. Ensure positioning of adequate quantities of vaccines in the respective storage depots. And medical facilities should be increased and Hospitals/PHCs equipped in such a way that they are able to meet emergency situations and requirement of the affected people.
12. Ensure that the Veterinary Dept. should plan and strengthen the systems for ensuring prompt veterinary services to the animals and poultry birds. And ensure positioning of adequate quantities of life saving drugs and constitution of medical / Para medical teams.
13. Identification of suitable higher places for construction of Helipads. And Plan for construct shelters in any newly identified vulnerable areas. Ensure that the existing shelters are maintained in fit condition.
14. Storage facilities for food and essential items should be augmented and inventories are maintained.

15. Review the existing flood control structures such as river dams and bunds of rivers, canals and tanks. Based on previous experience, build new bunds and raise/strengthen the existing bunds.
16. Review the power distribution system the transmission and distribution towers should be designed to withstand the extreme condition of winds in cyclone.
17. Ensure that the line departments mainstream DM activities in their departmental Plans and also review the progress made during each year.

**PRE- DISASTER:**

1. The control Rooms should function round the clock till the necessity ceases. Its contact numbers should be notified in the district editions of the News Papers and also communicated to all Officers in the district. All reference data, copies of all the contingency plans of district and departments with maps and updated DM Plan should be made available.
2. Appoint Nodal Officers to oversee the implementation of Disaster Situation to cover all the vulnerable mandals and Villages. They should be positioned in the threatened area to coordinate the evacuation and response action of the stakeholders.
3. Inspect the Cyclone Shelters and take up repairs as necessary. And identify all vulnerable points/areas in the flood banks. Ensure that inspection of lock points of rivers and mouths and outlet points of drains.
4. Ensure inspection of flood and cyclone stores and make available the required material.
5. Organize mass media campaign for Awareness generation among public on natural hazards, which will help build the knowledge, attitude and skills of the people in vulnerability reduction and suitable disaster risk management measures.
6. Communicate immediately the first flood warning to the likely affected area up to Village level and alert all concerned to prepare for facing the disaster. The Control Room at Dist. will keep in constant touch with flood warning centers, obtain updates and communicate at frequent intervals.

**DURING DISASTER PHASE:**

1. The Officer in-charge of the Control Room should maintain a record of incoming and outgoing messages. All the incoming messages should be sent to Collector and Joint Collector and in their absence the DRO.
2. All the warnings should be communicated immediately to all the district officers, Divisional officers, Tahasildars by-e-mail, wireless, Telephone etc. Record of the messages sent should be maintained.
3. The Collector shall convene a meeting with all the District Officer at the earliest and issue instructions to all the Nodal Officers or Special Officers to proceed to the areas allotted immediately and report to the Collector that they have reached their Mandal headquarters, allotted to them and should not leave the area till the clearance is received from the Collector.
4. Evacuate marooned and stranded people to safer places such as flood shelters, high raise buildings, schools etc.
5. Monitor and rescue people continuously by organizing search through Army, Navy, Air force, Voluntary and youth organizations by deploying navy boats and helicopters. Make arrangements for moving such affected people to the nearest relief camps.

6. Keep details of availability of equipment such as power generators, tractors, bulldozers, transport vehicles, communication equipments, pump sets etc; their availability with Govt. and Private agencies, for evacuation and ensure that they are in operational condition. (District, Division, Mandal)
7. Keep adequate number of vehicles ready at the nearest possible point/area to evacuate people in time before the hazard strikes. (District, Division, Mandal)
8. Keep adequate number of floats like tyres, inflated rubber tubes, wooden planks, bamboost tied as small platform for people to use for floating during flood situation.(Community, village and Mandal)
9. Provide first aid and medical assistance for injured and sick people. Special care should be taken for the aged and disabled people, children and pregnant women.
10. Deployment of staff in their respective areas with medicines. Nominate medical officers to coordinate with mandals officers.
11. Finalize shelter places in the villages as per the inventory and indentified locations in the map, and arrange temporary shelters using tents, Tarpaulins, Plastic sheets etc. Provision of electricity to the identified shelters.
12. Deploy Police personal and Volunteers for law and order and provide medical help, if needed transport cases to nearby PHCs/Medical Aid-posts. Liaise with Railways, APSRTC and RTA to provide rescue and relief to stranded passengers.
13. Relief camps for provision of food and drinking water for the evacuated people. Provide temporary sanitation measures for men and women. Ensure adequate security through police at relief camps and at the evacuated villages.
14. Identify safe elevate places for animals and advise cattle owners to move them as soon as the order for evacuation is given. And provide fodder & water to the animals where feasible, Carcasses of dead animals should be done quickly to prevent outbreak of infection.

**POST DISASTER:**

1. Huge relief material stocks would be arriving from outside of the affected area and this requires advance planning, provision of staff for receiving, sorting, distribution and dispatch to the areas needing the material.
2. Restoration of Road and tele-communication, Electricity, Drinking Water Supply and House construction to the effected people on priority basis.(District, Mandal, Village)
3. Proper record should be made for the dead and missing persons and notify to the concerned authorities for providing compensation on short and long term basis.
4. Ensure Mass inoculation and vaccination programmes in the affected areas to prevent outbreak of epidemics by coordinating with Medical & Health Department. Additional medical facilities, hospital and PHCs may be planned and built for meeting increasing requirements.
5. Continue Search and disposal of the dead bodies and the carcasses. Ensure sanitation of highest order is maintained at relief camps and affected villages.
6. It is essential that spread of epidemics is prevented among people and animals. Respective Departments should take adequate measures by improving sanitation, drinking water and by vaccination. NGOs and other voluntary organizations should be encouraged to run community kitchens at relief camps and marooned.



## ***District Disaster Management Plan (Dhanbad)***

7. The Dist. authorities and Line departments should provide comprehensive loss reports to the visiting State and central Govt. teams for arranging compensation. Record all the relief measures taken
8. Supply of all essential commodities, such as rice, wheat, pulses, salt, kerosene, diesel etc. should be ensured to all the habitats in the disaster affected areas.
9. Sub- Collector/ Tahasildar to arrange for documentation/ record of relief items received from various agencies, distributed and remaining and remaining balances. Reports to be sent to the district administration
10. Enumeration of Losses and Damages in a systematic manner, documenting and reporting the same.

### **Divisional level:**

1. Holding on divisional level Committee meeting under the Chairmanship of the Revenue Divisional officer/ Sub- Collector in the months of April and September, every year, inviting peoples Representatives in the Division.
2. Updating the list of mandals and Villages vulnerable to disaster.
3. Organize teams for evacuation, enumeration of damages and distribution of relief in the division. Gazetted Officers or an officer not below the rank of a Deputy Tahasildar should be Head of the teams. Ensure they are fully conversant with their responsibilities.
4. Organization of training to the members of the above teams on the activities entrusted to them in the months of April and August of every year.
5. Updating the telephone numbers of Mandal Level Officers, Railway Station Masters, Depot Managers of RTC, and Police stations including their Cell Nos. located in the Division.
6. Identification of the availability of Generators in the Division and the place as which the generators are to be placed.
7. Updating of the list of cyclone shelters, buildings of educational institutions Temples, Churches, Masques, and other public buildings.
8. Plan for emergency accommodation at Mandal Headquarters for Officers and staff coming from outside the jurisdiction of the Division.
9. Coordinate with Divisional level Officers in the implementation of department wise disaster plans.
10. Ensure keeping adequate stock of essential commodities with the Fair Price Shop dealers.

### **Mandal Level:**

1. Identification of villages vulnerable to disasters in the Mandal on a map.
2. List of names of villages likely to be marooned
3. Preparation of list of PBL families, village wise.
4. Holding madal level meetings with the Mandal level Officers/ RIs, VROs, and elected representatives of Panchayat Raj Institutions in the months of April, and September.
5. Updating of the list of building of Education Institutions, Temples, Churches, Mosques and Public buildings other community Buildings.

6. Updating the list of Governemnt Hospitas, Private Hospitals, and Primary Health Centers and Sub- Centers with addresses and telephone numbers.
7. Identification of godowns (both Government and Private) with location and capacity.
8. Updating of the list of telephone numbers, addresses of local as well as the District and state level Functionaries concerning with Disaster management .
9. Preparation of Village level Contingency plans for all villages in the Mandal.
10. Preparation of inventory of rescue and relief materials available and listing them in register with the addresses of owners to make them available when any calamity strikes.
11. Inspect the functioning of the Rain gague stations and early warning systems.
12. Prepare an exhaustive list of equipments used during emergencies such as tractors, bulldozers, transport vehicles, communication equipments, pump sets, power generators etc., their availability with Govt and private agencies and ensure that they are in operational condition.
13. Updating the list of available Government and civilian vehicles. Review deployment of vehicles as per plan.
14. Updating the Village Organizations, SHGs and Youth Clubs.
15. Identify adequate number of floats like tyres, inflated rubber tubes, wooden planks, and small bamboo platforms for people to be used for floating during floods.

**Village level:**

1. Convening of the meetings of the Village Committees under the Chairmanship of the concerned Sarpanch during the first week months of April and September to discuss about the preventive steps.
2. Formation of Village Level Teams for assisting evacuation, patrolling etc.,
3. Identification of area from which people are like to be evacuated to safer places in case of cyclone or floods.
4. Identification of low lying areas in the village.
5. Identification of areas which people are likely to be evacuated to safer places in case of cyclone or floods.
6. Preparation of list of phone numbers of Officials concerned at District, Divisional, Mandal and Village level.
7. List of fishermen families and particular of boats with addresses of owners, if it is a fishermen village.
8. Identification of Relief Centers and the areas tagged and on to the Relief Centers. Preparation of the list of BPL families in the village.
9. List of fishermen families and particulars of boats with addresses of owners, if it is a fishermen village.
10. Identification of storage facilities.
11. Availabilities of cooking vessels.
12. List of private vehicles such as Tractors, Jeeps,etc., in the village.

13. List of nearby private hospitals with phone numbers of Doctors etc.,
14. List of tanks affecting Railway, if any, in the village.
15. Identify higher places for the standing for the cattle in the case of flooding.
16. List of cyclone shelters, other public & Private buildings, temples, churches etc.,

**2. Police Department:** The Police Department is one of the key Government departments. Both in the normal times when no disasters occur and in times of disasters, this department is an asset to community and it has to respond very well in various critical events.

**Normal Times:**

1. SP of Dist. will make arrangements for providing adequate number of mobile VHF sets up to District/Mandal/village Police stations for meeting the exigencies.
2. Ensure that Police stations are equipped with sufficient number of cars/jeeps fitted with wireless sets and trained personnel to handle them.
3. List out trained persons responsible at Dist., Mandal and Village level Police stations for disaster management activities with details of address and phone numbers. Provide this list to Dist Collector and concerned line departments.
4. Prepare a Dist. wise list of retired/reserve constables/drivers/ other use-full personnel. Their services could be used during future emergencies. The lists will be kept in all Police stations in vulnerable areas.
5. Plan and execute Dist. wide training programs for Police personnel with improved techniques for better management of disasters in future.

**Pre Disaster Phase:**

1. The Police authorities shall provide VHF/Mobile wireless sets with operators in Control Room at Dist. Collectorate and at other temporary Control Rooms already setup. Ensure adequate numbers of VHF sets are provided at Mandal and vulnerable villages for effective communication.
2. Establish communication with Control Room. Wireless station to be kept round the clock if necessary wireless stations to be set near the villages. And keep the officers standby.
3. Collect information of vulnerable points and diversion routs for all Roads in the district from the engineering departments responsible for the maintenance and plan for traffic control.
4. Procurements of necessary equipment, storage of petroleum and other lubricants.
5. Pass effectively all communications of warnings and precautions received from Control rooms and media to the public through announcements and by loud speakers.
6. Shall obtain sufficient maps from the Collectorate regarding vulnerable village's areas/habitations. These maps shall be distributed to the sub-divisional officers/circle inspectors on as required basis.
7. Training to teams on Disasters, roles and responsibilities and allotment of duties to these affected areas.

**During Disaster Phase:**

1. Ensure passage of warnings and precautions to the people in affected areas of Mandals and Village Police Communication network. Alert teams and arrange to deploy them at risk points.
2. Keeping close contact with District Collenterate, and collect all vital information and inform district authorities. And Coordinate the search & rescue operations.
3. Superintendent of Police will coordinate with District Collector, DROs and other agencies for providing assistance to rescue and evacuate people in the affected areas of Mandals and Villages.
4. Provide guidance and assistance for forming task forces by MROs for evacuation, rescue and emergency relief operations.
5. Help revenue and medical department in transporting Injured and sick persons to Medical centers.
6. Ensure enforcement of law and order in the affected/evacuated villages and at shelters to avoid thefts and unlawful acts.
7. Assisting the community in organizing emergency transport for injured.

**Post Disaster Phase:**

1. Continue to pass warnings and precautions to the people in affected areas. Introduce latest transport and communication facilities.
2. Assist local officers in identifying the dead persons and for making proper records. Continue to Coordinate with DCs for rescue, relief and rehabilitation. Police Dept. should provide maximum services by getting additional persons from Police stations of unaffected Districts. They should further coordinate and assist NCC, Scouts, Guides, Army, Navy and Air force personnel in all rescue, relief and rehabilitation activities.
3. Update list of trained Police personnel at Districts. /Mandals and provide them to concerned authorities. And up-date lists of retired constables and drivers in each Dist. /Mandals for use during future disasters.
4. Provide assistance to people who are in a position to move from relief camps to their places where ever normalcy returns. Ensure strict maintenance of law and order in the affected/evacuated villages and at shelters.
5. Officers made available to inquire into and record of deaths, and make arrangements for post mortem of dead person with legal procedure for speedy disposal. Assistance to district authorities for taking necessary action against hoarders, black marketers and those found manipulating relief material and Provide security / bandobust to VIPS.

### **3. Medical & Health Department**

#### **Normal Phase:**

- 1) District Superintendents of District Hospital shall prepare a Hospital Disaster management Plan to deal with mass causality management and emergencies.
- 2) Take precautionary measures for hospital safety during disasters since hospitals are life line buildings son as to serve unitereptduly. All structural and non- structural measures shall be taken up to make hospital safe.
- 3) Conduct mock drills in normal times to have an idea about hospital preparedness.
- 4) To identify the requirements of equipment and medical stocks that is needed during various kinds of emergencies.
- 5) To build network with referral hospitals, blood banks, ambulance services, etc.
- 6) To prepare a contingency plan as a part of Hospital DM Plan to handle specialized emergencies during Chemical, Industrial, Nuclear Disasters, etc.

#### **Pre Disaster Phase:**

1. Prepare a list of precautions to be taken by the public before, during and after the disaster to ensure that they maintain normal health under adverse conditions during the disasters and arrange for propagation in the Dist.
2. DMHO to prepare and circulate in vulnerable areas, a list of precautions to be taken by the public before, during and after the disaster to ensure that they maintain normal health under adverse conditions.
3. Plan methods for quick transportation of seriously injured and sick person from disaster areas to specialties hospitals for effective treatment.
4. DMHO will have arrangements for providing funds to Dist./Mandal/Village medical centers during emergencies. DMHO will nominate a nodal officer from his Dept.to be with MRO-MPDO, assist and coordinate all the medical relief activities during the disaster.
5. After receiving the first flood warning, alert Dist. Medial Health Officer (DMHO) to plan and keep in readiness mobile hospitals, emergency field medical teams, Para medical teams, surgery facilities, first aid kits etc. with sufficient equipments and medicines at Dist. Hospitals and PHCs. They should be in a position to move to the affected areas at short notice.
6. Keep teams of doctors ready with stocks of medicines required for relief to move to vulnerable areas in short time. Stock adequate quantities of medicines, lifesaving drugs, disinfectants, vaccines, inoculations and chlorination equipment.
7. Ensure availability of adequate doctors, trained personnel, medical stores and equipment for movement at short notice to vulnerable areas. Make provision of sufficient number of ambulances and transport vehicles. Plan additional space for extra beds in hospitals/PHCs.
8. Plan for establishment of field medical centers, mobile clinics, emergency operation centers and trauma counselling centers at vulnerable areas on short notice.

9. Plan for stocking sufficient quantities of blood of different groups at nearby Blood banks. Update the list of Govt. /private doctors and supporting staff whose services can be utilized during emergencies. Instruct them to be in readiness to move at short notice.

10. DMHO to prepare and circulate in vulnerable areas, a list of precautions to be taken by the public before, during and after the disaster to ensure that they maintain normal health under adverse conditions.

**DURING DISASTER PHASE PHASE:**

1. DMHO will be in regular touch with District Collector and Control room to know the severity of situation and extend medical services accordingly in the affected areas. A medical control room at district and division levels shall be established with help lines.

2. Where ever necessary seriously injured and sick persons are shifted to Dist./State/Referral hospitals for specialist services. Provide first aid and medical assistance for injured and sick people. Special care should be taken for the aged and disabled people, children and pregnant women.

3. DMHO will move maximum number of medical and Para medical teams, ambulances and mobile hospitals with adequate equipments, medicines etc. to the affected area and provide medical assistance round the clock to the people. Each team should be allotted specific place in the disaster area and specified relief centers.

4. DMHO should take all measures to ensure that replenishments are made continuously. DMHO will requisition the services of medical teams from unaffected Districts. for use in disaster affected areas. DMHO will liaise with State for providing additional specialists teams and equipments from State headquarters and other States.

5. Ensure that sufficient numbers of temporary medical camps are set up in the affected areas. DMHO will take maximum precautions to prevent breakage of epidemics/water borne diseases in the disaster areas.

6. Utilize the services of private doctors, allopathy, ayurveda and Homeopathy in the disaster-affected areas. Organize mobile health units and temporary hospitals for providing medical relief and for preventing break of epidemics. Teams of specialist doctors will tour affected areas with adequate medicines and equipments for providing on the spot specialist services.

**Post Disaster Phase:**

1. Ensure that DMHO and other medical authorities at Dist. and Mandal levels are in constant touch with Control rooms, know the latest situation and expand medical facilities accordingly. Ensure continuation of educating people on precautions to be taken for maintaining hygiene and health in adverse conditions.

2. DMHO to continue provision of medical facilities at the affected areas and relief camps till the people return to their places. Ensure adequate measures to continue for preventing break of epidemics by using disinfectants and chlorination.

3. DMHO will obtain information on the medical relief provided at disaster areas, quantities of medicines used, the quality of services provide by medical and Para medical staff, the adequacy of medical facilities available at vulnerable areas and forward to State for future action.

4. Maintain a record of persons treated with full details and particulars for reference at later date. Update and send plans for additional requirement of facilities, infrastructure to be created at vulnerable areas. Prepare a document on the event and send to State authorities for reference in future.

5. Ensure that DMHO and other medical authorities at Dist. and Mandal levels are in constant touch with Control rooms, know the latest situation and expand medical facilities accordingly.
6. Ensure continuation of educating people on precautions to be taken for maintaining hygiene and health in adverse conditions. DMHO to continue provision of medical facilities at the affected areas and relief camps till the people return to their places.
7. Ensure adequate measures to continue for preventing break of epidemics by using disinfectants and chlorination. DMHO will obtain information on the medical relief provided at disaster areas, quantities of medicines used, the quality of services provide by medical and Para medical staff, the adequacy of medical facilities available at vulnerable areas and forward to State for future action.
8. Maintain a record of persons treated with full details and particulars for reference at later date. Update and send plans for additional requirement of facilities, infrastructure to be created at vulnerable areas. Prepare a document on the event and send to State authorities for reference in future.
9. Vector borne like malaria, filarial, dengue, chikungunia, Japanese encephalitis, sprinkling of bleaching power and lime on the drains and roads to prevent gastro enteritis with the help of Sanitation team.
10. During the natural calamities the immune states of the children will reduce naturally. Hence there is need of Post disasters immunization like Polio, Measles and Vitamin- A.

**4. Animal Husbandary Department: Normal Phase:**

1. Demographic profile of families engaged in fishing, fish farming, poultry, dairy, sheep, goat and pig rearing, their location, unit size etc will be mapped and provided to Mandal and Village levels. The fishing activity includes, fishing on sea, rivers, canals, lakes, tanks, brackish waters etc.
2. Cattle rearing community at vulnerable places will be advised not to go for heavy animals, since shifting them during disaster period would be difficult. Plan and implement schemes for educating fishermen and animal rearing communities of the vulnerable villages, on the measures to be taken before/during/after cyclones to avoid loss of lives and properties and animals.
3. Sufficient publicity will be planned at villages through visual education, training and mock drills. Identify safe shelter places for animals with adequate fodder and water facilities in all vulnerable villages for use during disasters.
4. The department has to prepare a departmental DM plan including resource inventories, list of shelter places, medical needs, awareness generation plan, etc. The mitigation measures for life loss shall be detailed worked out.

**Pre Disaster Phases:**

1. District authorities will activate control rooms, flood-warning centers. Ensure that flood warnings and precautions are properly received by the vulnerable communities and prepare them to face the disaster.
2. Demographic profile of families engaged in fishing, fish farming, poultry, dairy, sheep, goat and pig rearing, their location, unit size etc will be mapped and provided to Mandal and Village levels. The fishing activity includes, fishing on sea, rivers, canals, lakes, tanks, brackish waters etc.

3. Cattle rearing community at vulnerable places will be advised not to go for heavy animals, since shifting them during disaster period would be difficult. Move cattle, sheep, goats, pigs etc to safer cattle yards from vulnerable areas and provide fodder and water
4. Ensure that boats and other equipments of fishermen are moved to safer places and secured in association with fisheries department. Staff meant for emergency duties will be sent to their respective places of work and will be ready to undertake rescue and relief measures.
5. Provide medical help to distressed animals.
6. Chalk out a strategy to deal with drought situation so as to ensure continuous supply of fodder and water to the animals.

**During Disaster Phase:**

1. The control rooms and flood-warning centers at Districts will provide/send warning and other information to all affected areas. The dept will ensure that flood warnings and precautions are properly received by the vulnerable communities and face the disaster.
2. Mandals and Villages will arrange for shifting fishermen staying very near the sea and at low lying areas to safer places and relief camps. Ensure that boats and other equipments of fishermen are moved to safer places and secured.
3. Ensure that poultry farms take measures to safeguard their poultry birds and equipments. Move cattle, sheep, goats, pigs etc to safer cattle yards from vulnerable areas and provide fodder and water
4. Arrange for providing medical help to distressed animals. Ensure sufficient quantities of medicines and vaccines are stored at places nearer to the vulnerable villages. Arrange for visits of veterinary doctors to affected villages.

**Post Disaster Phase:**

1. Ensure that control rooms and flood-warning centers at Mandals will continue sending messages to the affected villages.
2. Plan and implement schemes for educating fishermen and animal rearing communities of the vulnerable villages, on the measures to be taken before/during/after floods to avoid loss of lives and properties and animals. Sufficient publicity will be planned at villages through visual education, training and mock drills.
3. For increasing the awareness among fishermen community, provide training/conduct mock drills.
4. Coordinate for veterinary help to distressed animals. Ensure supply of medicines and vaccines at places nearer to the vulnerable villages. Coordinate for mass vaccination wherever necessary. Plan for strengthening storage facilities for medicines and vaccines.
5. Private Doctors to establish veterinary service centers in vulnerable areas. Plan for more mobile health units for cattle.
6. Provide sufficient food/fodder/water for animals kept at safe yards. Coordinate for veterinary help to distressed animals. Ensure supply of medicines and vaccines at places nearer to the vulnerable villages.



**5. Agriculture Department:** Agriculture Department always sustains losses/damage when floods and cyclone occur in the State. The quantum of losses is proportional to the intensity, time and duration of the hazard. It is difficult to prevent such losses but remedial measures can be taken to save the crops and if this is not possible to go in for alternative measures suitable for the area and type of soil.

**Normal Phase:**

1. Plan and equip the Dist. to have latest technologies to assess the standing crop position, with reference to probable disaster, mechanism to advise farmers for safe guarding and in case of losses, procedures to estimate the damages and to inform State authorities.
2. Ensure that regular feedback is provided by Mandals indicating seriousness of disaster, level of distress, position of standing crop and likely losses.
3. Districts will prepare a long term action plan for meeting relief requirements of farmers in vulnerable areas.
4. Estimate drought proneness and plan for such contingencies
5. Create awareness among farmers on various kinds of threats and possible mitigation measures
6. Prepare departmental action plans with all plausible mitigation measures to minimize crop losses with long term perspective

**Pre Disaster Phase:**

1. Collect standard data base village wise, crop wise, survey number wise, former wise data from village revenue officer (VRO)
2. Formation of village, mandal, division, and district level disaster team with other departments consisting Agriculture, veterinary, Sericulture, Fisheries, Horticulture, Revenue, Panchayat Raj, Irrigation, and Drainage etc.
3. Contingency crop plans prepared by ANGRAU may be made available up-to mandal level in the month of May. Prepare vulnerability maps of villages likely to be prone in the mandal based on previous year's data (viz. irrigation sources wise areas prone to flood).
4. Existing seed storage godowns (Seed store/oil seed godowns etc) are to be repaired for storing of seeds during calamities. Formation of seed banks with the help of RMGs. RMGs are encouraged to construct pucca godowns to store harvested produce under Govt. schemes( Grameena Bandar Yojana Scheme)
5. Update credit facilities and crop insurance details from financial institutions
6. Ensure that sufficient quantities of agricultural inputs such as seeds, fertilizers, pesticides, equipments and fodder are available at three levels. If necessary, they will be supplied at short notice at vulnerable areas.
7. Move and position the staff meant for disaster management duties at their pre-decided places. They should move in villages and advise farmers on precautions to be taken for protecting the standing crop.
8. The nodal officer should ensure that suitable instructions are issued to their field officers including their duties and function before, during and after disasters.

**During Disaster Phase:**

1. Coordinate with Mandals and Villages to get feedback on seriousness of disaster, level of distress, relief provided, steps taken for saving maximum standing crop, extent of flooded agricultural lands and estimated loss of crop.
2. Dist. will direct Mandals/Villages to be in close coordination with other line departments to ensure adequate relief is provided to the farming community.

**Post Disaster Phase:**

1. Village level team should visit the vulnerable cropped area and give suitable technical advices received from MAO's.
2. Ensure that adequate and timely relief/credit is made available to farmers for purchase of agricultural inputs through Govt. /private and easy loans through banks.
3. Seeds, fertilizers and pesticides should be provided at subsidized rates. Ensure all relief measures, credit facilities and inputs are made available continuously to farmers till their next crop is harvested.
4. Develop data base village wise crop wise, irrigation, source wise, insurance details, credit facilities tec., with an objective of forecast of damages due to disasters.
5. Fodder should be supplied in sufficient quantities at low prices.
6. The enumeration team while enumerating the crop loss, should also record the names of the tenant farmers, along with the owners name. They should also record extent cultivated by tenant farmer.

**Responsibilities of Officials:**

<b>S.NO.</b>	<b>Designation</b>	<b>Roles &amp; Responsibilities</b>
1.	Joint Director of Agriculture	<ul style="list-style-type: none"><li>● Formation of Teams</li><li>● Formation of Control room</li><li>● Trainings to ADAS &amp; MAOs</li><li>● Preparation of advanced precautionary measures, Pamphlets</li><li>● Advance indent of seeds &amp; other inputs etc.</li></ul>
2.	Deputy Director of Agriculture	<ul style="list-style-type: none"><li>● In charge of Disaster Management and control room with the assistant technical assistants &amp; subordinate staff.</li></ul>
3.	Assistant Director of Agriculture	<ul style="list-style-type: none"><li>● Data base collection</li><li>● Trainings to MAOs, and AEOs</li><li>● Inputs requirement</li><li>● Disseminating warning to MAOs&amp; AEO</li><li>● Supervision &amp; Inspection of crop and land, damage prone areas in advance &amp; consolidation of crop &amp; land damage information.</li><li>● Conducting meetings with formers once in season and divisional level.</li></ul>
4.	Mandal Agriculture Officer	<ul style="list-style-type: none"><li>● Information to AEO &amp; Adharsa Rythu about warnings.</li><li>● Training AEOs Adharsa Rythu and VROs etc.</li><li>● Inspection of prone areas &amp; preparation of vulnerability maps.</li><li>● Preliminary data collection of crop &amp; land damage.</li><li>● Detailed crop / land damage farmer wise through village committee.</li></ul>

## **6. Panchayat Raj Institute (PRIS) Department**

### **Normal Phase:**

1. Convening the special meeting of Gram Panchayat meeting inviting VOs, CBOs, Youth Groups, Village elders, NGOs, and other organizations institutions and officials working in the Gram Panchayat to discuss on the management of disasters and constitution of Gram Panchayat Disaster Management Committee.
2. Energize the Control Rooms to monitor warning signals and to pass on necessary information through wireless, HAM Radio sets, etc.
3. Identification of Vulnerable areas discusses for various activities and prepare database.
4. Selection of Cyclone shelters/ relief centers for shifting people / livestock to safer places. Ensure periodic inspection and repair of shelters and other buildings identified for running relief camps.
5. The plans prepared for disaster management for implementation at Mandal and Village levels will include all works related to drinking water, minor irrigation canals, minor tanks and bunds, safe shelters, sanitation, food other essential items. These plans will be sent to district and mandals much in advance for implementation.
6. Direct Districts, Mandals and Villages to implement plans for provision of safe drinking water. Lay down procedures and mechanism for implementing long term sanitation requirements and their maintenance.
7. Plan and provide sufficient number of hand pumps, bilge pumps and other suitable equipment to drain water quickly. Drinking water hand pump sets should be planned and constructed about the normally expected flood level.
8. A list of water tankers available with public/private departments /agencies will be prepared with requisite details. Their services will be used during floods for supply of safe drinking water.
9. Depending on the topography, high and low levels of lands in Mandals and Villages, the natural drainage routes for rainwater will be identified. They will be suitably mapped. Steps will be taken to ensure that these routes are maintained and never blocked.
10. Private buildings will be identified suitable for use as shelters by the departments at Districts. and Mandals. Prepare list of such buildings and provide them to necessary authorities.

### **Pre Disaster Phase:**

1. District level committee shall have public representatives and they will participate and take steps for facing the disaster. The control room will be activated.
2. Mapping of resources of NGOs/CBOs/ Charitable Organization to arrange training programmes and to make special arrangements for evacuation of old, handicapped, children, expectant and lactating mothers.
3. Identification of alternative road/ path/ route to reach the cyclone centers/ relief centers safely. And constitute volunteers teams in consultations with the members present in the Gram Panchayat meeting habitation wise.

4. Conduct training programme and Mock drills on the disaster management for the following:

Members of Gram panchayat

Members and officials of other institutions.

NGOs and other voluntary organization.

5. Ensure flood shelters and other buildings identified for running relief camps are kept ready for operation. And maintain keep the shelters and other identified public buildings in good condition ready for use.

6. Direct the 3 levels to take advance action for provision of safe drinking water during crisis. Make arrangements for maintaining continuous supply and availability of food, kerosene and other essential items.

7. Direct line authorities to position sufficient number of hand pumps, bilge pumps and other suitable equipment to drain water quickly.

8. Alert the Dept.to position water tankers available with public/private departments/agencies for providing safe drinking water in the likely affected areas.

9. Direct authorities to ensure that the natural drainage routes are kept free in all vulnerable villages to allow flooders to drain quickly. Rural Water supplies should be maintained efficiently to avoid disruption. Chlorine/bleaching powder should be stocked in sufficient quantities.

10. Identify low-lying areas and arrange for bailing out water in case of inundation. Clear all the drains to ensure free flow of storm water.

11. The village Disaster management committee should be in touch should be in touch with the revenue authorities convened for supply and storage of essential items like K.Oil, food grains saws, axes, old tyres, ropes, lantern lights, gas lights, etc and keep them ready on hearing cyclone warning.

12. The village Disaster Management Committee shall procure tarpaulins other materials from agricultural market committee, corporations and locally, to meet the future requirements.

13. Identify dried branches of trees of roads sides and cut them to avoid accidents, the dried up wood stored and may be used at cooking centres.

14. The Gram Panchayats shall take steps to keep the required sand bags and wooden poles at the vulnerable points like M.I of tanks, ponds etc.

15. The Gram Pahchayat shall clean the drainage system and arrange additional drainage system to drain the excess water.

**During Disaster Phase:**

1. The control room will be further strengthened.

2. Control Room will monitor warning singles / precautions and pass the information to the people through wireless, HAM Radio sets.

3. Direct the 3 levels to take suitable action for provision of safe drinking water in affected villages and at relief camps through tankers and other means.

4. Coordinate with line authorities to drain water quickly. First priority for water pump hoses, sub stations hospitals etc. Second priority will be residential areas. Ensure that flood water drains out through natural drainage routes by removing obstructions if any.
5. Direct officials to make up stocks of essential food items, medicines etc. required for distribution to affected villages and relief camps. Similarly for items required for repair works and for de- watering.
6. Keep ready the required rice and other provisions at centers, along with Civil Supplies Department, and required fire wood, gas, gas stoves.
7. Keep ready for first aid teams with required medicines by contact the PHC, M.O. and Mandal Tahsildar/ MPDO and position them at the cyclone centers/ relief centers.
8. Arrange vehicles for transport of people from the low lying areas to cyclone shelters. Assist Revenue department in evacuating the people from low lying areas to safe places. Inform the people through mikes, tom-tom through the volunteer teams and help people prepare for to evacuation from the areas.
9. Inform the people to drive away the cattle sheep and goat to the safe and elevated places.
10. Make arrangement for the cooking and supply of food at the cooking centers identified. And keep all the sanitation material at cyclone centers/ relief centers.

**Post Disaster Phase:**

1. Removal of dead bodies, animal carcasses with the help of Revenue, Police and Medical Departments. Arrange for their disposal/ cremation, to prevent any epidemic.
2. Planning and implementation of Rehabilitation of affected people, Rehabilitation of affected people; Repair and Reconstruction of damaged houses, physical infrastructure, etc., and return to normal economic activities including farming etc, should start immediately
3. Assist Revenue department in the assessment for dead persons, livestock and damages to houses and properties of individuals, agriculture, community assets.
4. Supervise the preparedness levels of Gram Pachayat by inspecting the vulnerable houses, roads, buildings, water sources contingency plan etc.
5. The long term mitigation plan should integrated normal development plan in such manner that protective and preventive measures against the disasters are included in the implementation of all development projects under each and every sector.
6. Identification of material availability locally for construction of temporary sheds.
7. Ensure communication facilities such as Telephone, cell phones, wireless sets and their functioning. And procure sanitation material like lime, phenyl, bleaching power, with equipment.
8. The repair and reconstruction activities should be integrated with the long term mitigation planning so that the quality of reconstruction and repair is in consonance with the specifications provided for disaster resistant structure.
9. List out donor's philanthropists, trusts, and request them to assist in relief and rehabilitation measures.
10. Mapping of Hazards and vulnerability should be initiated, if it is not done and detailed maps should be prepared for each block and district and should be placed in both district and blocks.

## ***District Disaster Management Plan (Dhanbad)***

11. Control room will continue its activities. Restore normal communication, power and drinking water facilities on priorities.

12. Coordinate with line authorities to drain water quickly. First priority for water pump houses, sub stations, hospitals etc. Second priority will be residential areas.

13. Special funding should be made available for the construction of physical infrastructure to include disaster resistant technologies particularly in the construction of Houses, Roads, Electric Transmission Lines, Drinking Water facilities, Bridges and Culverts, Tele – Communication Irrigation Canals, Tanks and Reservoirs, etc., for the sections which are most vulnerable. And supervise all construction and developmental activities.

14. District Officials to make stocks of essential food items, medicines etc and continue supply to affected people and relief camps. And make arrangement supply of food, kerosene and other essentials items.

### **Roles and Responsibilities of PR Officials:**

<b>Sr. No</b>	<b>Designation</b>	<b>Roles and Responsibility</b>
1.	Gram Panchayat Secretary	<ul style="list-style-type: none"> <li>• Convene meetings to ensure timely warning</li> <li>• Update information on civic amenities/ population, etc.</li> <li>• Select safe locations for people and livestock.</li> <li>• Arrangements to evacuate the disable people.</li> <li>• Sanitation facilities at relief camps</li> <li>• Storing food grain, drinking water, sanitation material.</li> <li>• Keep emergency fund in Panchayat funds at Panchayat level.</li> <li>• To establish village level teams for various tasks.</li> </ul>
2.	Mandala Parishad Development Officer, Mandal Praja Parishad	<ul style="list-style-type: none"> <li>• Supervise Preparedness of GP.</li> <li>• Consolidate village level Assessing preparedness of information on items listed under GP</li> <li>• Assessing Preparedness of primary health centers.</li> <li>• Engineering staff at the Mandal level should repair drainage, road etc.</li> <li>• Function as link between district and village level counter disaster activities.</li> <li>• Provide Emergency Fund at mandal level</li> </ul>
3.	A.E./ D.E.E./ E.E/ S.E	<ul style="list-style-type: none"> <li>• Inspection and emergency repairs of roads/ bridges, public utilize and buildings.</li> <li>• To ensure alternative routes/means of communication for movement of relief material and personnel to marooned areas or likely to be marooned.</li> <li>• Clearing of roads and establish connectivity, restore, roads, to traffic at the earliest.</li> <li>• In case of floods, the district level team headed by SE will be coordinating with the district administration regarding intensity</li> </ul>
4.	Chief Executive Officer, Zilla Parishad	<ul style="list-style-type: none"> <li>• Convene a meeting of all Engineering staff, MPDOs, DLPOs, DPOs, and ZP members before the start of likely cyclone period.</li> <li>• To take up necessary repair and maintenance and related works for preparedness</li> <li>• Check inventories of items required at short notice for rescue and relief operations</li> <li>• Providing Emergency Fund at Zilla Parishad.</li> </ul>

## **7. Roads and Buildings Department**

### **Normal Phase:**

1. Private buildings will be identified suitable for use as shelters by the departments at Districts. and Mandals. Prepare list of such buildings and provide them to necessary authorities.
2. Direct Dist. and Mandal authorities to inspect and identify roads, bridges, culverts and buildings which are vulnerable for floods and repair/strengthen them.
3. The identified weak bridges and culverts weak once should be demolished and the new ones are to be constructed. Buildings which are in collapsible stage should be demolished. New roads/repair of roads should be carried out. The roads/buildings should be made hazard proof.
4. Ensure that building codes are strictly followed by public in disaster prone areas. They should be made mandatory.
5. In case of heavy rains, the roads are prone to breaches. Vulnerable points have to be listed out in advance and indicated in maps. They shall be reviewed every year before the monsoon and repair accordingly.
6. Ensure that the new construction does not block natural drainage lines. Enough culverts etc. may be provided.
7. A good network of motorable roads should be constructed in all vulnerable coastal areas. This not only facilitates quick evacuation at the time of need, but also the supply of relief to the needy, in the aftermath of flood.
8. Retrofitting of buildings, building foundations and structures should be made as a component of disaster management policy, applicable in vulnerable areas. Suitable guidelines may be issued for retrofitting.
9. Dist. authorities will inspect and identify roads, bridges, culverts and buildings which are vulnerable for floods and repair/strengthen them.
10. The identified weak bridges and culverts should be demolished when the new ones are constructed. Buildings which are in collapsible stage should be demolished. New roads/repair of roads should be carried out. The roads/buildings should be made hazard proof.
11. Ensure that building codes are strictly followed by public in disaster prone areas. They should be made mandatory.
12. In case of heavy rains, the roads are prone to breaches. Vulnerable points have to be listed out in advance and indicated in maps. They shall be reviewed every year before the monsoon and repair accordingly.

### **Pre Disaster Phase:**

1. S.E shall conduct the disaster preparedness meeting twice in a year and advice the field functionaries to gear up for the situation such meetings shall be organized well advance before the onset of monsoon.
2. The AEE shall keep the available machinery such as Power saws under the control of one competent Work Inspector/ Gang mazdoor who frequent trails so that the available machinery will be in working condition, at all times.
3. The Dy. EE shall verify the working condition of the machinery once in three months.
4. Shelters and private buildings identified for use as relief camps should be checked and strengthened where ever necessary. Special attention should be given for securing weak doors, windows and compound walls.
5. Direct Districts. And Mandals to make a final check of roads, bridges, culverts and buildings and carry out urgent repairs where ever necessary.
6. Shelters and private buildings identified for use as relief camps should be checked and strengthened where ever necessary. Special attention should be given for securing weak doors, windows and compound walls.

7. Dist. authorities to make a final check of roads, bridges, culverts and buildings and carry out urgent repairs where ever necessary.
8. Shelters and private buildings identified for use as relief camps should be checked and strengthened where ever necessary. Special attention should be given for securing weak doors, windows and compound walls.
9. Move machinery and equipment meant for repair of roads and buildings. And for removing obstructions nearest to the vulnerable areas for use during emergency.

**During Disaster Phase:**

1. Observation of the cyclone movement and situation
2. Alerting of field teams.
3. Enquiring the availability of machinery and requesting them to keep them ready for deployment where ever necessary.
4. Deputing of field staff from non-effected areas to assist staff in likely effected areas.
5. Staff on leave should return to their Head Quarters.
6. No leave shall be sanctioned at the time of disaster.
7. Preparation for post disaster activities.

**Post Disaster Phase:**

1. Ensure restoration of traffic movement where ever possible by quickly repairing of breaches. Inspection of roads to be carried out and traffic obstruction to be removed. Assessment of damages to be done and proper reporting to authorities should be done.
2. Coordinate with State and plan for providing adequate number of drains by the side of roads, particularly considering the past experience.
3. Sanction and entrustment of temporary restoration works. And updation of maps
4. Steps will be taken for raising the stretches of roads passing through low areas and increase drainage facilities with prior approval of the State.
5. R&B/PRE will create a reliable road network that connects vulnerable areas and selected nodal centers, from where transport, relief and rehabilitation operations can be undertaken during future disasters.



## ***District Disaster Management Plan (Dhanbad)***

### **Roles and Responsibilities:**

<b>Sr. No</b>	<b>Designation</b>	<b>Roles and Responsibility</b>
1.	Assistant Engineer / Asst. Exe. Engineer	<ul style="list-style-type: none"><li>• Identification of vulnerable points</li><li>• Preparation and submission of estimates for taking up and strengthening of vulnerable points.</li><li>• List out the machinery like power saws, JCBs etc., with their conditions and submit to the Dy. Executive Engineer.</li><li>• List out the contractors with their address and contacts numbers.</li><li>• Inspection of weak and narrow Bridges, Culverts and cause ways with details of repairs to be taken up.</li><li>• Identification of over flowing locations impending disaster.</li><li>• Identify and removal of weak and dried trees along the road side.</li><li>• Alternate routes to be identified and listed out.</li><li>• Execution of works approved and preparation and submission of bills for payments.</li><li>• Submission of Utilization certificate.</li></ul>
2.	Deputy Executive Engineer	<ul style="list-style-type: none"><li>• Verification and submission of items 1 to 8 and 10 to Executive Engineer.</li><li>• Check measurements of all the works executed by the AE/ AEE and submission of bills for payments</li></ul>
3.	Executive Engineer	<ul style="list-style-type: none"><li>• Sanction of estimates submitted Deputy Executive Engineer.</li><li>• Entrustment of works to the contractors on nomination basis or short tender basis.</li><li>• Verification and super check measurement of all works executed by AE/AEE and DEE</li><li>• Payment of bills to the contractors.</li></ul>
4.	Superintending Engineer	<ul style="list-style-type: none"><li>• Sanction of estimates submitted Executive Engineer (Works above 10 lakhs below 50 lakhs).</li><li>• Entrustment of works to the contractors on nomination basis or short tender basis.</li><li>• Verification and super check measurement of all works executed by AE / AEE and DEE.</li><li>• Getting all correspondence regarding activities to be taken including all repairs or construction pre, during and post disaster with district administration</li></ul>

## **8. Irrigation and Command Area Development**

### **Normal Phase:**

1. Materials such as empty cement bags, sand, metal, stone bellies etc. will be stocked in adequate quantities in all flood stores for immediate use before and during floods.
2. Ensure no human encroachment near the drains and settlements in the low-lying areas.
3. Ensure repair /restoration of canals, Irrigation tanks and desalination of damaged agricultural fields.

### **Pre Disaster Phase:**

1. Catchments maps are to be ready for all irrigation sources. And all the vulnerable locations in the sources are to be identified along with the Water Users Associations / Distributory Committees / Project Committees.
2. Check and repair the main Irrigation canal system and control structures.
3. After receipt of first flood warning discharge through dams all lower riparian rights villages downstream of the dam are required to be given the information along with District Collector/ RDO/ MRO of the concerned district.
4. During the closure period the irrigation staff has to procure required stores i.e. empty gunny bags, sand, bullies of 1m length with 100mm dia, gaslights, bamboo thatties, gamelas, country twine, needles, crow bars, hammer with handles, torch light etc.
5. One flood store will be maintained under the control of each Dist. Collector. The flood store will keep empty sand bags, dewatering pumps, diesel generators, tarpaulins, tents etc.
6. The Asst. Engineer should make arrangement to intensify patrolling of river banks round the clock and as soon as the reservoir comes to full tank level and the spillway gates are to be operated to avoid further storage in the reservoir with intimation to Revenue Authorities.
7. Before cyclone / flood the AEE / DEE will inspect each and every vulnerable points and the areas prone for inundation for taking precautionary temporary measures and the summary of all actions intimated to the higher officers.
8. Materials such as empty cement bags, sand, metal, stone bellies etc. will be stocked in adequate quantities in all flood stores for immediate use in the event of disaster.
9. Strengthen the weak bunds of all irrigation sources and arranges for patrolling weaker points to avert breaches.
10. Ensure that all the irrigation drains are cleared of blockades and obstructions.
11. Move all emergency duty officers/staff and equipments to vulnerable area.
12. They should be ready to take up emergency works.

### **During Disaster Phase:**

1. Materials such as empty cement bags, sand, metals, stone bellies etc. will be stocked in adequate quantities in all flood stores for immediate use for plugging the breaches.
2. After receiving 1st warning the status of flood is to be intimated to the District Collector, RDO, and NGOs, MRO to address public by in all adjacent villages & it is to be intimated to AIR and for live telecast channels.

3. Strengthen the weak bunds of all irrigation sources wherever necessary to prevent breaches. Assistance from local people will be used.
4. After receiving cyclone/ flood warning from catchment area to source utilization location the departmental field officers have to inspect all the sources jurisdiction wise including luskers.
5. After flood / cyclone warning, control room are to formed at SE/EE/ offices respectively and required vehicles are to be kept at store sheds to carry the materials to the spot required. Ensure that all the irrigation drains are cleared from obstructions.
6. Continue to clear the mouths of all drains for free flow of flood water.

**Post Disaster Phase:**

1. After floods recede necessary arrangements have to be made to the farming community to safe guard agriculture by making temporary restoration arrangements to the affected irrigation sources, which include forming ring bunds, close breaches, removing of all shoals and rectifying damages to structures.
2. The officers involve for restoration of post disaster damaged irrigation sources are AEE/ AE, DEE, EE, and SE. and identify the breaches and take up restoration work.
3. Restore the damaged infrastructure. Attempts will be made for farming community to start agriculture within minimum possible time to bring the socio economic life back to normal in the affected areas.
4. Review and request for construction of dams, check dams and new irrigation/drainage canals for long term improvement and for sustained economic growth.
5. Suggest measures for strengthening the river banks and canal bunds to avoid breaches.

**9. Rural Water Supply:Pre Disaster Phase:**

1. AEE/ AE will identify the non – functioning schemes or Hand Pumps, repairs to platforms and Tap fountains including its surroundings in coordination with the GP level teams and action is to Abe taken to get them repaired.
2. The Gram panchayat shall be suitably instructed the DPO/ CEO to utilize the funds for restoration of Water Supply sources on top priority
3. The AEE/AE will identify the vulnerable water sources which are to be chlorinated before and after the Disaster with the help of Gram Panchayat teams.
4. The Hand pumps existing in the low lying area shall be raised to the expected maximum flood water level by raising the casing pipes and plat forms to avoid possible contamination.
5. Keeping ready stock of Liquid Chlorine / Bleaching power with the Gram Panchayat and to observe proper chlorination being done regularly
6. Ensure that identify the Safe sources in the Gram Pancayat area and adjacent areas where safe water can be brought in case of submergence of the area.
7. The unsafe sources if any shall be suitable marked and shown to concern team members.
8. The safe source including private sources are to be identified with proper testing for portability using the field testing kits available.

**During Disaster Phase:**

1. Keep ready stock of all relevant with the department
2. The team has to observe the required stock of H<sub>2</sub>S vials availability with GPs to check bacteriological contamination. Chronoscopes are to be kept available with the all vulnerable areas in order to verify the residual chlorine in the drinking water.
3. Ensure that the list of tankers are to be ready by the AEE/AE/ MPDO along with capacity of tankers , their address, contact members and distance from a vulnerable areas.
4. Availability of generators and their owners along with contact address and distance to the vulnerable area are too ascertained by the assigned team members.
5. During the disaster awareness is to be created by the team members among people to construct and use ISLs in order to avoid open defecation during Cyclone/ Floods. The vulnerable villages are to be brought up to Nirmal Gram Purskar status.
6. Ensure that in the time of relief should be provide good water.

**Post Disaster Phase:**

1. The list of damages occurred during cyclone/ floods are to be identified by the AEE/ AE in consolidation with the Team along with required budget for temporary / permanent restoration.
2. Ensure that permanent restoration may also be taken with local funds if the amounts required are small.
3. Monitoring of water quality should be restored or initiated immediately. Post disasters daily determination of the chlorine residual in public water supplies is sufficient.
4. Ensure that Chlorine and chlorine – liberating compounds are the most common disinfectants. Chlorine compounds for water disinfection are usually available in ihitt forms.
5. Chlorinate lime or bleaching power, which has 25% by weight of available chlorine when fresh, its strength should always be checked before use.
6. If the damage for water is urgent, or the repaired main cannot be isolated, the concentration of the disinfecting solution may be increased to 100 mg/ litre and the contact period reduced to 1 hour.

**Roles and Responsibilities:**

<b>Sr. No</b>	<b>Designation</b>	<b>Roles and Responsibility</b>
1.	Superintending Engineer	<ul style="list-style-type: none"><li>• Consolidate the information on vulnerable areas and location of hand pumps and schemes safe / unsafe low lying areas and maps.</li><li>• Indent for required pump sets, hand pump spares, minimum stock for material required for PWS/ CPWS schemes with proper sanctions at district level</li><li>• Arrange for training of RWS &amp; S Staff and awareness through DEE/ AEE to Sarpanchs / Secretaries on maintenance of Schemes / Hand pumps, Chlorination etc.,</li></ul>

		<ul style="list-style-type: none"> <li>• Active the Monitoring cell at District level, Division level, Sub - Division level, Mandal level and GP level.</li> <li>• Deployment of DEEs/AEEs /AEs of not affected areas to the affected areas.</li> <li>• Monitoring the Cyclone / Flood related activities.</li> <li>• Consolidate the requirement for funds and take sanction from district collector for emergency relief works.</li> <li>• Consolidate requirement of funds for permanent measures and submission to the head of the department for sanction.</li> <li>• Liaison with other line department for proper coordination of relief operations.</li> <li>• Submission of audited utilization certificates to the commissioner, Disaster Management through District Collector and HOD</li> </ul>
2.	Executive Engineer	<ul style="list-style-type: none"> <li>• Consolidate the information on vulnerable areas and location of hand pumps and schemes safe/ unsafe low lying areas and maps.</li> <li>• Submission of requirement of pump sets , hand pump spares, minimum stock of all materials required for PWS / CPWS schemes to the SE</li> <li>• Arrange for training of RWS staff and awareness through DEE/ AEE to Sarpanches/ Secretaries on maintenance of Schemes / Head pumps, chlorination etc.,</li> <li>• Activate the monitoring cell at Division level, Mandal level, and GP level.</li> <li>• Deployment of DEE/AEE / AEs from unaffected areas to the affected areas.</li> <li>• Monitoring the Cyclone/ Flood related activities.</li> <li>• Consolidate the requirement of funds for permanent measures and submission to the superintending Engineer for sanction.</li> <li>• Liaison with other line department for proper coordination of relief operations.</li> <li>• Submission of audited utilization certificates to the Commissioner, Disaster Management through SE.</li> </ul>
3.	Deputy Executive Engineer	<ul style="list-style-type: none"> <li>• Consolidate the information on vulnerable areas and location of hand pumps and schemes safe / unsafe low lying areas and maps</li> <li>• Submission of requirement of pump sets, hand pump spares, minimum stock of materials required of PWS/ CPWS schemes to the EE.</li> <li>• Arrange for training of RWS staff and awareness through AEE to Sarpances / Secretaries on maintenance of Schemes / Hand Pumps, Chlorination etc.</li> <li>• Activate the monitoring cell at Sub – Division level, Mandal level, and GP level.</li> <li>• Monitoring the Cyclone/ Flood related activities</li> <li>• Consolidate the requirement of funds and submit to EE for emergency relief works.</li> <li>• Consolidate requirement of funds for permanent measures and submission to the Executive Engineer for sanction</li> <li>• Liaison with other line department for proper coordination or relief operations.</li> </ul>

4.	Assistant Executive Engineer / Assistant Engineer	<ul style="list-style-type: none"> <li>• Consolidate the information on vulnerable areas and location of hand pumps and schemes safe / unsafe low lying areas and maps</li> <li>• Submission of requirement of pump sets, hand pump spares, minimum stock of materials required of PWS/ CPWS schemes to the DEE.</li> <li>• Conducting training awareness to Sarpanchs / Secretaries on maintenance of schemes/ Head pumps, Chlorination etc.</li> <li>• Activate the monitoring cell at Mandal level, and GP level.</li> <li>• Monitoring the Cyclone/ Flood related activities.</li> <li>• Consolidate the requirement of funds and submit to DEE for emergency relief works.</li> <li>• Consolidate requirement of funds for permanent measures and submission to the Dy.Executive Engineer for sanction.</li> <li>• Liaison with other line department for proper coordination of relief operation.</li> </ul>

### **9. Electricity Department: Normal time activity**

Establish at each sub-station a disaster management tool kit comprising cable cutters, pulley blocks, jungle knives, axes, crowbars, ropes, hacksaws and spinners. Tents for work crews 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 at sites.

#### **Activities on Receipt of Warning or Activation of DDMP**

Within the affected district/mandal, all available personnel will be made available to the District Collector. If more personnel are required, the cut 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 Collector. Establish radio communications with district control room and departmental offices within the district. All district level officials of the department would be asked to report to the collector. Appoint one officer as "NODAL OFFICER - Power Supply" at 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 district 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

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. On the recommendations of the collector/district control room/" Officer-in- charge.

**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, district control room and on access roads to the same.
- Compile an itemized assessment of damage, from reports made by various city supply electrical receiving centres and sub-centres.
- Report all activities to the head office.
- Establish temporary Plan for emergency accommodations for staff from outside the area.

**10. Telecom Department: SOPs for Department of Telecom (DOT), Bharat Sanchar Nigam Ltd. (BSNL). Activities on Receipt of Warning or Activation of DDMP**

Establish radio communications with state control room, district control room and departmental offices within the district. All personnel required for Disaster Management should work under the overall supervision and guidance of District Collector. Appoint one officer as "NODAL OFFICER- Communication" at the district level. Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipments and the post-disaster procedures to be followed. Fill department vehicles with fuel and park them in a protected area.

- 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. All storage batteries should be charged fully during alert for long 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:

- Cable cutlers
- Cutting pliers
- Spanners
- Ropes
- Ratchet tension
- Crosscut saws
- Pulley blocks with rope
- 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.

**Relief and Rehabilitation: Field priorities**

Give priority and concentrate on repairs and normalization of communication in disaster areas. Identify the public services with in the affected community for which communication links are most vital, and establish a temporary service, if feasible. Establish a 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.

**12.15. SOPs for Voluntary Organization/Community Task Forces**

<b>Task Force Group</b>	<b>Primary</b>	<b>Secondary</b>
Search and Rescue	To trace and locate people who are physically trapped and distressed, people in the buildings and houses etc.  To move out these people to the safe locations identified in advance and to organize further care	Administering primary health care to rescued victims  Assisting the sanitation group in carcass disposal and the cremation of dead bodies  Coordination with the evacuation team to shift rescued persons to safe shelters in case of recurring heavy rains



***District Disaster Management Plan (Dhanbad)***

First Aid and Health	To provide primary health care to the ill or injured until more advanced care is provided and the patient is transported to a hospital	Assisting the sanitation team to inoculate against water borne and other diseases  Assisting the communication team to disseminate precautionary information on post-disaster health hazards and remedies
Water	Restoring and maintaining the water supply and minimum quality and quantity parameters	Assisting the sanitation team in ensure that there is enough water stored in buckets at latrines and for bathing  Assisting the sanitation team in deciding the location for the construction of latrines away from ground water sources  Assisting the shelter group to ensure that there is sufficient water stored in the water tank in the safe shelter
Sanitation	To ensure that the minimum basic facilities such as temporary toilets and common bathing units are constructed near the relief camp, that these facilities and the surroundings are kept clean, garbage disposed, dead bodies cremated and that normal drainage systems function smoothly	Assisting the shelter team to ensure that water spouts and water harvesting tanks at the safe shelter are clean and functional  Assisting the relief group to ensure that containers for storing water are clean, narrow necked and covered
Relief Coordination	To establishing contact with the District Control Room and organising the distribution of assistance in terms of food, water, medicines and so on, in a fair and equitable manner	Co-ordinating with the shelter group in the distribution of material for the construction of temporary shelters  Assisting the shelter group to ensure that the safe shelter is well stocked in terms of dry food, water and so on in order to cater for the needs of evacuees after a cyclone or flood warning has been issued
Warning and communication	To ensure that: (a) the warning of the impending disaster reaches every single household, thereby allowing people to take timely action to protect their lives and property (b) accurate information is provided	Assisting the relief group in disseminating information about the quantity and type of ration to be distributed for each distribution cycle

	regularly as events unfold (c) information flows quickly and reliably upwards to District level and downwards from District level to Community/Neighbourhood/Village level.	Assisting the sanitation group in raising awareness about water borne diseases and vaccination programs
Evacuation and Temporary Shelter Management	To construct/identify maintain and make repairs to the flood shelter, to evacuate people on receipt of a warning and to make all the necessary arrangements to accommodate evacuees during a flood.	Assisting the communities in accessing compensation  Assisting the relief group in stocking up dry food, medicines, water and temporary shelter materials  Assisting the sanitation group in the construction of latrines, soak pits and drainage channels

### **12.16 Operational Check-Up of Warning Systems:**

It is imperative that preparedness and warning systems are designed to reach the entire population, including seasonal populations and remote locations. These communication systems should be two-way and interactive to allow for verification that warnings have been received, and to be able to monitor the impact of an event. Warning alerts and messages should be geographically specific so that warnings are targeted to those at risk only.

It is also advisable to ensure that multiple communication mediums are used for warning dissemination (e.g. mass media and informal communication). Warnings generated should be distributed to those at risk by credible sources (e.g. government, spiritual leaders, respected community organisations). Volunteer networks can also be trained and empowered to receive and widely disseminate hazard warnings to remote households and communities. Relying solely on technology, such as mobile telephone communications, which are vulnerable during hazard events, should be avoided.

Dissemination systems should be tailored to the needs of individual communities (e.g. radio or television for those with access; and sirens, warning flags or messenger runners for remote communities). Warning alerts and messages should also be tailored to the specific needs of those at particularly high risk (e.g. for diverse cultural, social, gender, linguistic and educational backgrounds). Messages should incorporate the understanding of the values, concerns and interests of those who will need to take action (e.g. instructions for safeguarding livestock and pets).

It is also important to try to minimize the number of false alarms to maintain trust in the warning system.

**12.17 Early Warning Dissemination**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<ul style="list-style-type: none"> <li>➤ Setting up control room and manning of control-room round-the-clock.</li> <li>➤ Assignment of duties to the District level officials and Deputy Collectors/ BDOs.</li> <li>➤ Arrangement of vehicle and sound system for information dissemination.</li> <li>➤ NGO coordination and assignment of duty.</li> <li>➤ Proper record-keeping and transmission of information to all the levels.</li> <li>➤ Early warning to fisherman.</li> <li>➤ Holding of DDMC meeting.</li> <li>➤ Ensure functioning of warning systems &amp; communication systems.</li> <li>➤ Create awareness with the target groups.</li> <li>➤ Ensure Mock drill.</li> </ul>	<ul style="list-style-type: none"> <li>* District Collector.</li> <li>* All District level officials.                             <ul style="list-style-type: none"> <li>➤ All SDOs/Deputy collectors.</li> <li>➤ All SDPOs/ PIs.</li> <li>➤ All BDOs</li> </ul> </li> <li>* Director Fisheries.</li> <li>* Captain of Ports.</li> <li>* Station Director AIR/DD.</li> <li>* Director Panchayats</li> <li>*Leading NGOs.</li> </ul>

**12.18 VVIP/VIP Visits**

Visits by VIP's can lift the morale of those affected by the disaster as well as those who are involved in the response. It has been seen that the Ministers, members of Parliament and State legislatures, local councilors, leaders of various political parties, etc. visit the scene of a disaster and the injured to mark public concern and see the disaster response. It may be possible that the scale of a disaster may in addition prompt visits of the Prime Minister, Governor, Chief Minister, etc. Sometimes their visit to the disaster site is likely to adversely affect the rescue operations, particularly if casualties are still trapped. It should be ensured that their visits do not interrupt rescue and life saving work and the police, as co-ordinator of the disaster response, should explain the ground situation to them and try to avoid their visit, if possible. However, in case the visit becomes impossible to avoid, it should fix up the timings of visits. The additional need for their security would also cause a problem. The police and the local services are, however, experienced at handling VIP visits and many of the usual considerations will apply to their visit to a disaster site.

It would be desirable to restrict media coverage of such visits, in which case the police should liaise with the government press officer to keep their number to minimum. It may also be necessary for the police to brief the VVIP/VIP beforehand about the details of casualties, damage and the nature of the disaster. It should, therefore, prepare a brief note for such briefings.

**ANNEXURES****Annexure –13.1****District at a glance:**

<b>Description</b>	<b>Year</b>	<b>Unit</b>	<b>Particulars</b>
1	2	3	4
Administrative set-up			
District Headquarters	2013	1	
Sub-division	2013	1	
Police Station	2013	-	
Inhabited Village	2011	1075	
Mouza	2011	1159	
Municipal Corporation	2013	1	
Municipality/Nagar Panchayat	2013	1	
Block	2013	8	
Panchayat Samity	2013	256	
Gram Panchayat	2013	256	
Gram Sansad	2013	-	
Area and Population		Sq. K.m.	
Area	2011	2040 per Sq. K.M.	
Population	2011	2684484	
Density of Population	2011	1316	
Percentage of Population :	2011	-	
Male	2011	52.37	
Female	2011	47.62	
Rural	2011	41.87	
Urban	2011	58.12	

***District Disaster Management Plan (Dhanbad)***

<b>Climate :</b>			
Annual rainfall		1384.2 m.m.	
Temperature : Maximum	2013	-	
Minimum	2013	-	
Workers:			
Total Workers	2011	31.46	
Non-workers	2011	68.64	
Agriculture and Irrigation :			
Cropped area	2012-13	-	
Percentage of irrigated area to Cultivated area	2012-13	-	
Yield rate of Rice	2012-13	-	
Medical facilities :			
Hospitals, Health Centers etc.	2013	145	
Sub-Centers	2012-2013	28	
Family Welfare Centers	2012-2013	76	
Total beds	2013	3081	
Beds per lakh of Population (Census 2011)	2011	-	
Educational Institutions :			
Primary School	2012-13	-	
Middle School	2012-13	-	
High School	2012-13	-	
Higher Secondary School	2012-13	-	
General College	2012-13	-	
University (Gen & Tech.)			

***District Disaster Management Plan (Dhanbad)***

<b>Literacy Rate:</b>			
Male	2011	83.81	
Female	2011	64.29	
Total	2011	74.52	
<b>Industry:</b>			
Registered Working Factories	2013	Number	
Micro & Small Scale Enterprises Employment in :	2012-13	-	
State Government Offices	As on 31.03.2013		
Registered Working Factories (Daily Average)	2013	-	
Micro & Smal Scale Enterprises	2012-13	-	
<b>Employment Situation:</b>			
Applicants on Live-register	2013	48956	
Electricity :	2012-13	-	
Mouzas Electricity	2012-13	-	
Consumption of Electricity	2012-13	-	
Co-Operative Societies :	2012-13	-	
Societies	2012-13	-	
Members	2012-13	-	
Working Capital	2012-13	-	
Banking :	2012-13	-	
Commercial Bank	-	-	

***District Disaster Management Plan (Dhanbad)***

<b>Transport &amp; Communication :</b>			
Post Offices	2012-13	192	
Post & Telegraph Offices (Combined)	2012-13	-	
Surfaced Road	2012-13	-	
Unsurfaced Road	2012-13	Km	
Registered Motor Vehicles	2012-13	477570	
Finance	2012-13	1205.01 Rs.	
Net Collection ffrom Small Savings	2012-13		
Total Revenue Receipt	2012-13	-	

- Excluding PWD Road

Name of the district	Latitude		Longitude		Name of district headquarters	Latitude	Longitude
	North	South	East	West			
1	2	3	4	5	6	7	8
Dhanbad	23 <sup>0</sup> 37'3''		86 <sup>0</sup> 6'30''		Dhanbad	23 <sup>0</sup> 800''	86 <sup>0</sup> 4500''
	24 <sup>0</sup> 4'		86 <sup>0</sup> 50'				

**Area, Population and Density of the District**

Sub-Division/C.D. Block/M.C./M	Area (Sq. Km.) (2011)	Population (Number)	Density of Population (Per Sq. Km.)	P.C. of Population district population
1	2	3	4	5
Tundi	268.02	102022		
Purbi Tundi	127.37	50240		
Topchanchi	194.90	163342		
Baghmara – Cum- Katras	267.55	334309		
Govindpur	329.71	245697		
Dhanbad-Cum-Kendwadih-cum- Jogta	64.20	58884		
Baliapur	173.31	140908		
Nirsa-Cum-Chirkunda	431.96	381105		
	6.26	45508		
Municipal Corporation	33.05	1162472		
District Total 2011				



**Distribution of Rural and Urban Population by sex in the district**

(Number)

Sub-Division/ C.D. Block/MC/ M	Rural Population			Urban Population			Total Population		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10
Tundi	63400	60726	124126	-	-	-	63400	60726	124126
Topchanchi	55180	51201	106381	18280	15717	33997	73460	66918	140378
Baghmara	150268	131239	281507	69086	57864	126950	219354	189103	408457
Govindpur	100306	93066	193372	4580	3924	8504	104886	96990	201876
Dhanbad	47472	40118	87590	258844	218034	476878	306316	258152	564468
Jharia	1269	1120	2389	257474	215478	472952	258743	216598	475341
Baliapur	54832	50781	105613	-	-	-	54832	50781	105613
Nirsa-Cum-Chirkunda	125341	115425	240766	72614	63463	136077	197955	178888	376843
<b>District Total</b>	598068	543676	1141744	680878	574480	1255358	1278946	1118156	2397102

**Source: Census of India 2001**

**Distribution of Population over different categories of workers and non-workers in the district**

(Population in Number)

Sub-Division/C. D. Block/MC/M	Total Workers (TW)	Class of Total Workers	Class of Total Workers			Man Workers		Marginal Workers		Non-workers		Total Population
	Number P.C.	Cultivators	Agricultural Labourers	Household Ind. Workers	Other Workers	Number	PC	Number	PC	Number	PC	
1	2	3	4	5	6	7	8	9	10	11	12	13
Tundi	43341	10969	18492	1839	12041	16697		26644		58681		102022
Purbi Tundi	25364	8465	10559	766	5574	7513		17851		24876		50240
Topchanchi	54855	9381	10653	2060	32761	27676		27179		108487		163342
Baghmara	94817	7276	6594	1953	78994	59777		35040		239492		334309
Govindpur	99119	24038	18123	4182	52776	48350		50769		146578		245697
Dhanbad	16312	996	1064	376	13876	12178		4134		42572		58884
Baliapur	47231	10090	6294	2052	28795	23928		23303		93677		140908
Nirsa	130853	23423	26413	3440	77577	75628		55225		250252		381105
Chirkunda	13295	104	122	489	12580	11520		1775		32213		45508
Municipal Corp.	319317	2376	5174	8732	303035	263447		55870		843155		1162472
Dhanbad	844504	98117	103488	25889	618009	546714		297790		1839983		2684487

**Annexure – 13.5**

**Distribution of Population over different categories of workers and non-workers by sex in the district**

Category	Number			P.C. of Co. (4) to respective total population
	Male	Female	Total	
1	2	3	4	5
A. Total Workers :				
(a) Main Workers :				
Rural	164346	30855	195201	7.27
Urban	312502	39011	351513	13.09
Total	476848	69866	546714	20.36
(b) Marginal Workers:				
Rural	120983	95031	216014	8.04
Urban	61020	20756	81776	3.04
Total	182003	115787	297790	11.09
B. Non-workers:				
Rural	296627	416251	712878	26.55
Urban	450478	676627	1127105	41.98
Total	747105	1092878	1839983	68.54
Total Population: (A+B)				
Rural	581956	542137	1124093	4.19
Urban	824000	736394	1560394	5.80
Total	1405956	1278531	2684487	9.99
Category	Number			P.C. of Col. (4) to respective total population
	Male	Female	Total	
6	7	8	9	10
1. Cultivators:				
Rural	48298	41007	89335	10.64
Urban	4397	2786	7183	0.85
Total	53325	43793	97118	11.50
2. Agricultural Labourers:				
Rural	48560	45199	93759	11.10
Urban	7119	2610	9729	1.15
Total	55679	47809	103488	12.25
3. Household Industry Workers:				
Rural	7364	6192	13556	1.60
Urban	9003	3330	12333	1.46
Total	16367	9522	25889	3.06
4. Other Workers:				
Rural	180477	33488	213956	25.33
Urban	353003	51041	404044	47.84
Total	533480	84529	618009	73.18
Total Workers: (1+2+3+4)= (a+b)				
Rural	285329	125882	411215	48.69
Urban	373522	59767	433289	51.30
Total	658851	185653	844504	99.99

**Climate Condition of District Dhanbad**

**Maximum and Minimum Temperature by month in the district of Dhanbad**

(Degree Celsius)

Month	2015		2016		2017		2018	
	Max	Min	Max	Min	Max	Min	Max	Min
January	NA		27.50	6.80	34.10	8.40	NA	
February	NA		33.60	10.40	27.00	6.60	30.00	23.30
March	NA		39.20	13.00	39.20	14.20	34.90	24.00
April	NA		40.30	18.60	42.30	19.40	37.80	32.00
May	41.57	23.58	43.50	20.90	45.50	21.20	43.50	34.20
June	42.50	23.88	40.80	21.40	45.80	23.10	36.90	33.20
July	36.29	24.56	36.30	23.00	35.60	24.00	35.40	26.10
August	37.07	24.27	36.70	23.20	35.80	23.70	35.90	28.30
September	33.70	22.00	36.20	23.20	35.30	21.80	34.00	30.90
October	34.60	16.70	34.50	15.40	33.90	23.40	31.20	15.70
November	32.30	12.68	30.30	13.20	NA		31.30	11.10
Dhanbad	27.20	7.90	28.50	6.80	NA		27.30	9.60

**Mean Maximum and Mean Minimum Temperature by month in the district of Dhanbad**

(Degree Celsius)

Month	2011		2012		2013		2014	
	Mean Max	Mean Min	Mean Max	Mean Min	Mean Max	Mean Min	Mean Max	Mean Min
January	NA		21.35	13.80	19.25	12.70	NA	
February	NA		24.80	14.70	26.84	16.04	28.80	23.30
March	NA		29.89	22.02	29.92	22.22	33.90	24.00
April	NA		36.00	23.31	34.80	24.40	37.80	32.00
May	36.47	27.00	33.34	23.93	37.80	27.29	41.57	34.20
June	36.93	25.37	32.04	24.71	39.30	28.90	36.90	33.20
July	30.00	25.59	30.35	24.79	30.57	26.00	34.00	26.10
August	27.33	24.76	27.20	25.00	30.39	25.70	35.90	29.10
September	28.44	24.40	29.40	24.75	30.68	24.36	33.70	31.00
October	28.84	21.90	28.17	22.07	32.23	26.69	29.80	21.90
November	26.06	12.68	22.71	18.12	NA		23.81	18.09
Dhanbad	21.38	14.25	20.59	13.60	NA		19.86	15.59

**Commercial and Gramin Banks in the Blocks**

Sl. No.	Name of Block	Number of Bank Offices		Population served per Bank office (Commercial & Gramin) (No.in 1000)
		Commercial Bank	Gramin Bank	
1	2	3	4	5
1	Topchanchi	10	0	17
2	Baghmara	23	4	10
3	Baliapur	13	1	7
4	Dhanbad	6	3	6
5	Tundi	6	0	21
6	Govindpur	21	1	8
7	Nirsa	22	2	14

Source: Bank of India, Dhanbad

**List of official of District Dhanbad:**

S.NO.	Name of Officer	Designation	Telephone Numbers	
			MOBILE NO.	OFFICE NO.
1.	<b>Sh. Anjaneyulu Dodde, IAS</b>	Deputy Commissioner	9471191601	2312401 (O) 2312601 (R) 2312602 (F)
2.	Sh. Shashi Ranjan, IAS	DDC	9471191602	2310331 (O) 2311131(R)
3.	Sh. S.N. Ram	Additional Collector	9471191603	2312403 (O) 2222761 (R)
4.	Sh. Rakesh Kumar Dubey	ADM (L & O)	9431127817	2311212 (O) 2311456 (R)
5.	Sh. Sandeep Kumar Dorai	ADM (Supply)	9431376958	
6.	Sh. Raj Maheshwaram	SDO	9431126246	2312409 (O) 2202044(R) 2202206(R)
7	Ms. Isha Khandelwal	DPRO	9471191633	2312414 (O) 2310039 (R)
8	Sh. Satish Chandra	DLAO	9934505678	
10	Sh. Charanjeet Singh	Dist. Panchayat raj Officer	9431725506 9693506604	2312396 (O)
11	Ms. Hema Prasad	District Social Wealfare Officer	9905940373 9471191609	2312413 (O)

**List of Police Stations and Nodal Officers in District Dhanbad**

<b>S.No.</b>	<b>Name</b>	<b>Designation</b>	<b>Telephone No.</b>	<b>Fax No.</b>
1	Sh. Kishore Kaushal, IPS	SSP	2220802 (O) 2312605 (R) 9431120900(M)	2312606 (F)
2	Sh. Aman Kumar, IPS	SP, Gramin	9431724222 (M)	
3.	Sh. Piyesh Pandey, IPS	SP, City	9431743111 (M)	

**Police Stations of District Dhanbad**

<b>S.NO.</b>	<b>Name of the SHO/Police Station</b>	<b>Office No.</b>	<b>Mobile No.</b>
	Alakhadiha OP	2361259	
	Baghmara PS	2428376	9431706404
	Baliapur PS	2431244	9431706414
	Bankmore PS	2302417	9431706392

***District Disaster Management Plan (Dhanbad)***

Barora PS	2392185	9431706410
Barwadda PS	2207679	9431706401
Bhagabandh OP	2339066 2339063	9939576629
Bhonra OP	2320662 2320076 2320077	
Bhuli OP	0654-2340262	9431372663
Chirkunda PS	06540-272224	9431706403
Dhansar PS	2307538	9431706393
Dhanuadih OP	2361166	9470967570
Dharmabandh OP	2251100	9470584577
Galfarbari OP	06540-272748	9431147153
Goushala OP	2350545	8102402922
Govindpur PS	06540-262255	
Hariharpur PS	2472715	9431706406
Jogta PS	2372540	9431706396
Jorapokhar PS	2381401	9431706415
Katras PS	2372440	9431706407
Kenduadih PS	2330343	9431706394
Kumardhubi OP	06540-272750	
Lodna OP	3200005	9931657545
Loyabod PS	2330778	9431706397
Madhuban PS	2392085	9431706412
Mahuda PS	0324-277100	9431706411
Maithan OP	274888	9431275415



***District Disaster Management Plan (Dhanbad)***

	Munidih OP	2339096	8298094676
	Nirsa PS	275042	
	Pancheat OP	286345	9934385912
	Patherdih PS	2381707	9431706417
	Putki PS	2330434	9431706395
	Rajganj OP	2272320	9431706408
	Ramkanali OP	2384284	9931346689
	Saraidhela PS	220306 220363 220103	9431706398
	Sindri PS	2350512	9431706413
	Sonardih OP	2374399	7250501453
	Sudamdih PS	2380380	9431706416
	Tetulmari PS	2374379	9431706409
	Tisra PS	2290100	9431285582
	Topchanchi PS	2482202	9431706405
	Tundi PS	06540-282175	9431706400

**List of Circle Officers in District Dhanbad**

<b>S.No.</b>	<b>Name</b>	<b>Designation</b>	<b>Telephone No.</b>
1	Sh. Prakash Kumar Layak	CO, Dhanbad	2310872 (O) 7762812130 (M)
2	Sh. Rajesh Kumar	CO, Jharia	2360910 (O) 9431337518 (M)
3	Sh. Bandana Bharati	CO, Govindpur	8809747780 (M)
4	Sh. M.N. Mansuri	CO, Nirsa	2275966 (O) 8051039675 (M)
5	Sh. Jaywardhan Kumar	CO, Tumdi	2282011 (O) 9199675634 (M)
6	Sh. Suresh Kumar Singha	CO, Purvi Tumdi	7070466470 (M)
7	Md. Aslam	CO, Baliapur	2431382 (O) 9123107497 (M)
8	Sh. Vikas Kumar Trivedi	CO, Topchachi	2482410 (O) 7992400530 (M)
9	Sh. Pramod Ram	CO, Baghmara	2428326 (O) 8825270659 (M)

**List of BDO's in District Dhanbad**

<b>S.No.</b>	<b>Name</b>	<b>Designation</b>	<b>Telephone No.</b>
1	Sh. Uday Rajak	BDO, Dhanbad	2310872 (O) 7004801400 (M)
2	Sh. Sushil Kumar Rai	BDO, Govimdpur	2262257 (O) 9199990256 (M)
3	Sh. Mukesh Bauri	BDO, Nirsa	06540-275334 (O) 9798547108 (M)
4	Sh. Payal Raj	BDO, Tundi	9771845168 (M)
5	Sh. Suresh Kumar Singha	BDO, Purvi Tumdi	9905816517 (M)
6	Sh. Ratan Kumar	BDO, Baliapur	2431233 (O) (M)
7	Sh. Vijay Kumar	BDO, Topchachi	2482205 (O) 9006443691 (M)
8	Ms. Rinku Kumari	BDO, Baghmara	2428299 (O) 9471191628(M)
9	Sh. Anant Kumar	BDO, Egarkund	9934732530 (M)
10	Sh. Kalidas Munda	BDO, Kalisole	9934370173 (M)

***District Disaster Management Plan (Dhanbad)***

**Annexure –13.12**

**List of Fire Stations and Nodal Officers in District Dhanbad**

<b>S.NO.</b>	<b>Name</b>	<b>Designation</b>	<b>Telephone No.</b>
1	Sh. Kishore Kumar	District Fire Officer	9470517199 (M)

**Fire Stations of District Dhanbad**

<b>Sl No.</b>	<b>Name of the Fire Station</b>	<b>Location</b>	<b>Name of Officer Incharge</b>	<b>Mobile &amp; Land Line No.</b>	<b>Number of Staff available at Fire Station</b>	<b>No of Fire Tender Availabale at Fire Station</b>	<b>Remarks</b>
1	Dhanbad sadar fire station	Dhanbad golf ground	Makeshwar Prasad	Mob- 9973519014	Total staff- 21	BIG- 4nos Small- 1	Till may 31,2014 61 incidents reported and property damage is 60 lakhs approx.
				Landline- 0326- 2310545	This includes Havaldar-5		
					Agni pradhan chalak- 15		
2	Jharia	Baniahir, human gadhi	Satnarayan sinha	9709046742	Total Staff- 9	BIG- 3	1 BD, 12 incidents in 2014 till june 2014- total loss 8 lakhs
3	Sindri	Roda bandh, sindri	Budhnath Dhan	9122010650	Total staff- 7	Big-1	1 Big Tender- Bd, 1 Jeep- Bd, Total 5 Incidents- 1.30 Lakhs Loss.

**Details of Forest Area & Nodal Officers of Forest Department in District Dhanbad**

S.No.	Name	Designation	Telephone No.
1	Sh. Vimal Lakra	District Forest Officer	2313385 (O) 9431126246 (M)

**Details of Forest**

Ser No	Municipal Ward/ Block	Forest area (in lac hectare)	Type of threat		Ranger's Name and contact No	Remarks
			Jungle Fire	Elephant menace		
1	Tundi Range	0.0904120	Encroachment, Felling, Biotic Pressure, Fire, Man Elephant Conflict		Rajendra Ram- 9471192107	Tundi East and Tundi Block
2	Topchanchi Range	0.0864958	-do-		G. N. Yadav- 9471192106	Topchanchi, Baghmara and part of Tundi and Govindpur Block
3	Dhanbad Range	0.0292177	-do-		Umesh Kumar- 9471192105	Dhanbad, Jharia, Nirsa, Baliapur and part of Govindpur Block

**Details of Forest offices, Outposts and Rest House**

Ser No	City / Block	Name of Forest offices, Outposts and Rest House	Location	Name and mobile No of contact person	Number of persons available	Vehicles availability details
1	Tundi	Range Office, Tundi	Near Tundi Block	Rajendra Ram- 9471192107	RFO- 1 Forester- 1 Guard- 1	Bollero Camper
2	Topchanchi	Range Office, Topchanchi	Rajganj	G. N. Yadav- 9471192106	RFO- 1 Forester- 1 Guard- 1	Bollero Camper
3	Dhanbad	Range Office, Dhanbad	Dhanbad near Polytechnic	Umesh Kumar- 9471192105	RFO- 1 Forester- 1 Guard- 1	Tata- 207

Note: There is no rest house in Dhanbad Forest Division. There are two checks post- One at Nirsa which is not working due to shortage of staff and second one is at Amaghata.

**Medical Nodal Officer of District Dhanbad**

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Tel. No.</b>	<b>Fax. No</b>
1.	Dr. P. Baskey	CS-Cum-CMO	2312148 (O) 9431711098 (M)	
2.	Dr. H.K. Singh	Supdt., PMCH	2312552 (O) 2230352 (O) 9431375302 (M)	
3.	Dr. Shailendra	Principal, PMCH	2264165 (O) 9471191666 (M)	
4.		Super Gen. Hospital	2203292 (O) 9431351170 (O)	
5.		CMO, BCCL	9470595501 (O)	
6.	Sh. Kaushlender Kumar	Secretary, Red Cross	9334261037(O)	
7	Dr. D.C. Banerjee	Incharge, Blood Bank	9431124860 (O)	
8	Dr. J. C. Das	District Malaria Officer	9931552838 (O)	
9	Dr. Sudha Singh	Falaria Officer	9546664224	

***District Disaster Management Plan (Dhanbad)***

Primary Health Centres / Block Hospital/CHC							
1	APHC/PHC. Govindpur	9234459875	Dr. Anand				
		9835123328	Dr. Sanjay Kumar				
2	APHC/PHC. Rajganj	9204424168	Dr. Kuldeep Tirkey				
3	PHC/CHC, Dhanbad	9431390974	Dr. Alok Vishkarma				
4	APHC/PHC. Nagar Kiyari	9279693922	Dr. Mangesh Kumar				
5	PHC/PHC. Nirsa	9801384890	Dr. Annapurna Kumar				
		9905737231	Dr. Pushpa				
		9832174142	Dr. Elia Ray				
		9507163083	Dr. Mukesh Kumar Singh				
6	PHC/CHC, Baghmara	9204632835	Dr. Alok Syanandan				
		9835362726	Dr. Manish Kumar				
		9835362728	Dr. Mini Balan				
		9470810775	Dr. Sanjay Kumar				
7	APHC/PHC. Katra	8235993223	Dr. Sarita Prasad				
8	Name of APHC /PHC Balkush	9430134615	Dr. Jyoti Kumari				
9	Name of APHC /PHC Tundi	9334148293	Dr. Kumar Gautam				
		9835142084	Dr. Kumari Neelam				

**District Disaster Management Plan (Dhanbad)**

10	Name of APHC /PHC Tilaya	9431730166	Dr. Sheela Kumari				
		9471566833	Dr. Arvind Kumar				
11	Name of APHC/CHC Birajpur	9801357797	Dr. Lakhi Parva Brali				
12	Name of APHC/PHC Jharia	9386369176	Dr. Nandan Kumar				
		9431314338	Dr. Sunil Kumar				
		9431376912	Dr. Pratima Dutta				
13	Name of APHC /PHC Sindri	9304220347	Dr. Santosh Kumar				
14	APHC Kenduadih	9835334554	Dr. S.S. Lal				
			Dr. Kumari Poonam				
15	APHC/PHC. Jaipur	9431566158	Dr. Shyam sunder Singh				
16	APHC/PHC Gomoh	9431511876	Dr. S.M. Zaffurulla				
17	APHC/PHC Topchanchi	9771938122	Dr. Archana				
		8877513003	Dr. Rakesh Bharti				



**PHED Nodal Officer of District Dhanbad**

S. No.	Name	Designation	Tel. No.	Fax. No
1.	Sh. Harender Mishra	E.E., PHED-I	9006618260 (M)	
2.	Sh. Sanjay Kumar	E.E., PHED-II	6206342859 (M)	

**Minor Irrigation Nodal Officer of District Dhanbad**

S. No.	Name	Designation	Tel. No.	Fax. No
1.	Sh. Mrinal	E.E.	9431174800 (M)	

**Rural Development (Special Division) Nodal Officer of District Dhanbad**

S. No.	Name	Designation	Tel. No.	Fax. No
1.	Sh. Jitender Paswan	E.E.	9199985627 (M)	

**Road Division(Path Nirman) Nodal Officer of District Dhanbad**

S. No.	Name	Designation	Tel. No.	Fax. No
1.	Sh. Dilip Kumar Sahu	E.E.	9470920944(M)	
2.	Sh. Vinay Kumar Kulu	NHAI	(M)	

**Building Division Nodal Officer of District Dhanbad**

S. No.	Name	Designation	Tel. No.	Fax. No
1.	Sh. Pankaj Kumar	E.E.	9955492812 (M)	
2.	Sh. Jitender Kumar	A.E.	8092558292 (M)	

**Institutions & Industries Nodal Officer of District Dhanbad****DGMS**

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Tel. No.</b>	<b>Fax. No</b>
1.	Sh. Rahul Guha	Director	2221000 (O) 9471192166 (M)	
2	Sh. J.P. Jha	Central Zone	2221030 (O) 9535592941(M)	

**DVC Maithan**

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Tel. No.</b>	<b>Fax. No</b>
1.	Sh. J.P. Singh	Project Head	9431126698(M)	
2	Sh. A.K. Saran	Chief Engineer, Civil	9431126702 (M)	

***Institutions & Industries Nodal Officer of District Dhanbad***

***TISCO***

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Tel. No.</b>	<b>Fax. No</b>
1.		GM	9234610102 (M)	
2	Sh. Amitabh Mukerjee	Administrative Officer	7542021506 (M)	

***Maithan Power Limited (MPL)***

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Tel. No.</b>	<b>Fax. No</b>
1.	Sh. Bhaskar Sarkar	CEO	9231083934 (M)	

***Jharia Rehabilitation Development Authority (JRDA)***

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Tel. No.</b>	<b>Fax. No</b>
1.	Sh. Ajfar Hasnan	Incharge	8084725010 (M)	
2,	Sh. Sunil Delela	Chief Engineer	9470595302 (M)	

**List of Officials of Municipal Corporation, Dhanbad**

<b>S.No</b>	<b>Name</b>	<b>Designation</b>	<b>Contact No.</b>
1.	Sh. Chandra Mohan Kashyap, IAS	Commissioner	2300143/2301925 (O) 9546790199 (M)
3.	Sh. Manoj Kumar	Dy. CEO	9939969111 (M)
4.	Sh. Deepak Kumar Pandit	Chief Engineer	
5.	Sh. Mahesh Kuamr Bhagat	EE	
6.	Sh. Manoj Kumar	AE	
7.	Sh. Rajesh Aainda	Executive Engineer	7295878454 (M)
8.	Sh. Kamdev Das	Executive Engineer	9431257594 (M)
9.	Sh, Anil Kumar	Executive Officer (Chirkunta Nagar Panchayat)	06540-270120 (O) 9470368529 (M)

**List of Officials from JMADA, Dhanbad**

**JMADA**

<b>S.No</b>	<b>Name</b>	<b>Designation</b>	<b>Contact No.</b>
1.	Sh. Chandra Mohan Kashyap, IAS	MD	9546790199 (M)
2.	Sh. Shiv Kant Singh	Collecting Officer	9380093590 (M)
3.	Sh. Virender Kumar	Personel Officer	9006512901(M)

**BSNL**

<b>S.No</b>	<b>Name</b>	<b>Designation</b>	<b>Contact No.</b>
1.	Sh. C.L. Alda	GM	2200600 (O) 9470571988 (M)
2.	Sh. A.K. Das	SDO	9431711035 (M)

***District Disaster Management Plan (Dhanbad)*****Annexure-13.19****Jalsahiya Contact Details , Dhanbad**

<b>Sl.No</b>	<b>Panchayat</b>	<b>Jal Sahiya</b>	<b>Village/Address</b>	<b>Mobile No.</b>
1	Aralgaria	Rajni Devi	Aralgaria	917209810890
2	Bar Dubhi	Rina Devi	Bardubhi	917277612948
3	Damodarpur	Kanakkata Kisku	Damodarpur	919631700624
4	Damodarpur	Sunita Devi	Narayanpur	918235261130
5	Dhokhara	Pinki Mandal	Dhokhara	919835559826
6	Dubraj Dih	Kiran Devi	Baludih	919546387233
7	Dubraj Dih	Meena Devi	Majhiladih	919801218813
8	Dubraj Dih	Boby Devi	Lakerkayari	918969156367
9	Dubraj Dih	Sunita Devi	Karitand	917654016987
10	Dubraj Dih	Panatu Devi	Tatangabad	919234946918
11	Dubraj Dih	Laxmi Singh	Dubrajdih	917870049484
12	Gopi Nath Dih	Pano Devi	Dhandabar	919031995737
13	Gopi Nath Dih	Mansi Banerjee	Gopinathdih	919852377251
14	Gopi Nath Dih	Uma Devi	Chakfuta	918809727956
15	Gopi Nath Dih	Anita Devi	Dhobni	919955471505
16	Nawadiha	Paruli Devi	Nawadiha	919835952477
17	Nawadiha	Ganga Devi	Bagula	919661472405
18	Pandar Kanali	Nusrat Tabasum	Pandarkanali	919472700076
19	Pandar Kanali 1	Asha Devi	Parsiya	918651859055
20	Pandar Kanali 1	Tabasum Azmer	Garbhudih	919835934498
21	Pandar Kanali 1	Sita Devi	Chirudih	919835183218
22	Pandar Kanali 1	Seema Devi	Pandar Kanali 1	918084863463
23	Pandar Kanali 1	Nilam Devi	Sarahadaha	918809788027
24	Petia	Laxmi Devi	Ganashadih	919162100508
25	Petia	Anju Devi	Jarma	919334976367
26	Petia	Sarita Singh	Jatudih	919835740126
27	Petia	Kalyani Devi	Sabaldih	919998396757
28	Petia	Rekha Devi	Petia	918540919322
29	Samshikhara	Lalita Chouhan	Samshikhara	918862955618
30	Samshikhara	Lalita Devi	Munidih Basti	918987598459
31	Siyalgudari	Pammi Devi	Siyalgudari	919835444432

**Nodal Officer from Education Department, Dhanbad**

Office	Officer	Address	Tel (o)	Fax	Mobile	E-mail
District Education Officer	Ms. Alka Jaiswal	Combine building, Dhanbad	0326-2313578	0326-2313578		
District Superintendent of Education	Sri. Vinit Kumar	Officers Colony, Dhanabd. Qr-no-D/08	0326-2313583		9430386193	<a href="mailto:dse.dhanbad@gmail.com">dse.dhanbad@gmail.com</a>
D.P.O., Sarva Sikhsha Abhyan	Sri. Vinit Kumar	Officers colony, Dhanabd. Qr-no-D/08	0326-2313583	0326-2311195	9431106209	<a href="mailto:jepcdhanbad@rediffmail.com">jepcdhanbad@rediffmail.com</a>
Principal, Jawahar Navodaya Vidyalaya	Sri. S.K Sinha	Benagoria	06540-293366	06540-293366	8292542652	
Central school Gomoh	Sri. P Chandra	Gomoh, Dhanbad	0326-2472318			

**List of Nodal Officer for Mining of District Dhanbad**

S. No.	Name	Designation	Tel. No.	Fax. No
1.	Sh. Nishkant Abhishek	District Mining Officer	9304840206 (M)	

**BCCL**

Ser No	Municipal Township area /Block	Name of Mining Company	Location	Product	Number of staff	Number Of vehicles	Number Of Rescue Stations
1.	Dhanbad	BCCL	Koyla Nagar, Dhanbad	Coal	48	115	1

**Mining Sites Data**

Sr No	Municipal Township Area /Block	Name of Mining Company	Mining Sites name	Type of Mining (Open cast or Underground)	Number of Persons In mines	Number of vehicles	Rescue facilities	Nearest Hospital
1	Bhaghmara	BCCL	Damoda	Mixed	1047	4		Bhaghmara
2	-do-		Phularitand	UG	607	3		-do-
3	-do-	-do-	Muraidih	OC	799	5		-do-
4	-do-	-do-	Satabdih	OC	593	5		-do-
5	-do-	-do-	Madhuban	UG	2	3		-do-
6	-do-	-do-	Block-II	OC	972	5		-do-
7	-do-	-do-	Jamunia	OC	354	5		-do-
8	-do-	-do-	New Akashkinari	UG	1223	3		Tilatand
9	-do-	-do-	Block-IV	Mixed	860	5		-do-
10	-do-	-do-	Govindpur	UG	633	3		-do-
11	-do-	-do-	Jogidih	UG	481	3		-do-
12	-do-	-do-	Kharkharee	UG	525	3		-do-
13	-do-	-do-	Maheshpur	UG	400	3		-do-
14	-do-	-do-	S/Govindpur	UG	56	3		-do-
15	-do-	-do-	Tetuliya	UG	60	3		-do-



***District Disaster Management Plan (Dhanbad)***

16	-do-	-do-	AKWMC	Mixed	2272	5		-do-
17	-do-	-do-	AARC	UG	1218	3		-do-
18	-do-	-do-	K/Chaitudih	UG	252	3		-do-
19	-do-	-do-	Salanpur	UG	798	3		-do-
20	-do-	-do-	East Kattras	UG	17	3		-do-
21	-do-	-do-	Gasalitand	OC	129	5		-do-
22	-do-	-do-	Basdeopur	UG	154	3		Loyabad
23	-do-	-do-	Kankanee	Mixed	164	5		-do-
24	-do-	-do-	Loyabad	UG	212	3		-do-
25	-do-	-do-	Mudidih	Mixed	842	5		-do-
26	-do-	-do-	Nichitpur	OC	644	5		-do-
27	-do-	-do-	S/Bansjora	UG	948	3		-do-
28	-do-	-do-	Tetulmari	Mixed	1423	5		-do-
29	Dhanbad	-do-	Basseriya	UG	440	3		Bassuria
30	Jharia	-do-	Dhansar	Mixed	1394	5		Dhansar
31	Dhanbad	-do-	E/Basseriya	Mixed	207	5		E/Bassuria
32	-do-	-do-	Gondudih/ Khaskusunda	OC	331	3		-do-
33	-do-	-do-	Khaskusunda	UG	258	3		-do-
34	-do-	-do-	Godhur	UG	933	3		Godhur
35	Jharia	-do-	Industry	UG	59	0		Industry
36	Dhanbad	-do-	Alkusa	UG	154	0		Godhur
37	Jharia	-do-	Ena	OC	115	3		Ena
38	Dhanbad	-do-	Kusunda	OC	574	5		Godhur
39	-do-	-do-	Bhagaband	UG	670	3		Kustore
40	-do-	-do-	Gopalichuch ak	UG	525	3		-do-
41	-do-	-do-	KB5/6 Pits	UG	198	3		-do-
42	-do-	-do-	Kenduadih	UG	60	3		-do-
43	-do-	-do-	KB 10/12 Pit	UG	631	3		-do-
44	-do-	-do-	P.B.Project	UG	832	3		-do-
45	-do-	-do-	5/7 Pit	UG	748	3		-do-
46	-do-	-do-	Putkee	UG	185	0		-do-
47	Jharia	-do-	Kustore	UG	76	0		-do-
48	-do-	-do-	Simlabahal	UG	945	3		-do-
49	-do-	-do-	Hurrliidih	UG	426	3		-do-
50	-do-	-do-	Burragarh	UG	425	3		-do-
51	-do-	-do-	Bastacolla	UG	1075	3		Tisra
52	Baliapur	-do-	Bera	Mixed	454	5		-do-
53	-do-	-do-	Dobari	Mixed	1005	5		-do-
54	-do-	-do-	Ghanoodih	OC	592	5		-do-
55	-do-	-do-	GOCP	OC	421	5		-do-

***District Disaster Management Plan (Dhanbad)***

56	-do-	-do-	Kuya	UG	436	3		-do-
57	Jharia	-do-	ROCP	OC	569	5		-do-
58	-do-	-do-	East Bhuggatdih		31	0		-do-
59	-do-	-do-	Bararee	UG	723	3		Jealgora
60								
61	-do-	-do-	Bagdigi	UG	142	3		Jealgora
62	-do-	-do-	Jeenagora	OC	481	5		-do-
63	-do-	-do-	Jairampur	UG	669	3		-do-
64	-do-	-do-	jealgora	UG	90	0		-do-
65	-do-	-do-	Lodna	UG	762	3		-do-
66	Baliapur	-do-	N.Tisra UG	UG	250	3		-do-
67	-do-	-do-	N.Tisra OCP	OCP	791	5		-do-
68	-do-	-do-	S .Tisra ocp	OCP	842	5		-do-
69	-do-	-do-	Kujama	OCP	36	0		-do-
70	Chandankiyari	-do-	Amalabad Project	UG	136	0		Sudamdih
71	Jharia	-do-	Bhowra (n)	UG	826	3		Bhowra
72	-do-	-do-	Bhowra(s)	UG	890	3		-do-
73	-do-	-do-	3 Pit ocp/ Patherdih	OCP	349	5		-do-
74	-do-	-do-	Patherdih	UG	339	3		-do-
75	CJharia	-do-	Sudamdih(I)	UG	735	3		Sudamdih
76	-do-	-do-	Sudamdih(S)	UG	657	3		-do-
77	Bhagmara	-do-	Bhatdee	UG	59			Moonidih
78	-do-	-do-	Lohapatty	UG	423	3		-do-
79	-do-	-do-	Mld.20/21 pits	UG	667	3		-do-
80	-do-	-do-	Moonidih Project	UG	1296	3		-do-
	Nirsa	-do-	Basantimata/ Dahibari	Mixed	1564	3		Basantimata
81	Niyamatpur	-do-	Begunia	UG	150	3		Begunia
82	-do-	-do-	Damagoria/ NLOCP	OCP	1070	5		Damagoria
83	Nirsa	-do-	Laikdih	UG	36	0		
84	Niyamatpur	-do-	Vict.west	UG	34	0		Vict.west

## ***District Disaster Management Plan (Dhanbad)***

### **List of Officials in Mines Rescue Cell, Dhanbad:**

Sl. No.	Municipal Township Area/ Dhanbad	Name of Mining Rescue station and location	GM, Mining Rescue Stations name & contact no.	Details of persons
1.	JHARIA	Dhansar, Dhanbad	Sri. M. N. Jha 9470595756	S.K Dey( superintendent- mob- 9470595759) Dr A.KRoy C.M.O (MOB- 9470597910)

### **Mining Sites Data (Eastern Coal Fields)**

S.No	Municipal Township area/Block	Name of Mining Company	Location	Product	Number of staff	Number of vehicles	Number of Rescue Stations
1	Nirsa	Eastern Coalfields Limited	Mugma	Coal	5935	72	1(Rescue Room)

### **List of ECL Mines:**

S.N.	Municipal Township area/Block	Name of Mining Company	Mining Sites name	Type of mining (Opencast or underground)	Number of persons in mines	Number of vehicles	Rescue facilities	Nearest Hospital
1	Nirsa	ECL	Chapapur	Underground	750	4	Rescue Room At Gopalpura, Mugma	Dispensary
2	Nirsa	ECL	Badjna	Underground	613	3		Do -
3	Nirsa	ECL	Hariajam	Underground	688	2		Do -
4	Nirsa	ECL	Lakhimata	Underground	665	2		Do -
5	Nirsa	ECL	Shampur – B	Underground	536	2		Do -
6	Nirsa	ECL	Khoodia	Underground	352	2		Do -
7	Nirsa	ECL	Mandman	Underground	363	2		Do -
8	Nirsa	ECL	Kumardhubi	Underground	563	3		Do -
9	Nirsa	ECL	G.N.Pur(UG)	Underground	20	1		Do -
10	Nirsa	ECL	G.N.Pur(OC)	Opencast	238	3		
11	Nirsa	ECL	Barmuri OC	Opencast	252	4		
12	Nirsa	ECL	Rajpaura OC	Opencast	270	3		Do -
13	Nirsa	ECL	Kapasara OC	Opencast	42	1		
14	Nirsa	ECL	C.Pool	Siding	194	1		
15	Nirsa	ECL	Nirsa	Opencast	18	1		
16	Nirsa	ECL	Area Office	-	371	38		Regional Hospital

***District Disaster Management Plan (Dhanbad)***

**List of Officials in Mines Rescue Cell/Room, ECL:**

S.No	Municipal Township area/Block	Name of Mining Rescue Station and location /Rescue Room	GM, Mining Rescue Stations name and contact no.	Details of Persons	Details of rescue equipments
1	Nirsa	Rescue Room, Gopalpura, Mugma	Lachhman Mahato, Sr.Manager (Mining) Mob.No-9931568085	Incharge – 1, Brigade Member- 5, Gen. Mazdoor – 1, Field Volunteer - 60	S.C.B.A – 15 Reviving Apparatus – 3 Tube Apparatus – 1 Gas Detector – 2 Flame Safety Lamp – 2 Fire Extinguisher :- CO2 Type – 1 Home Type – 2 DCP Type – 5 Air Sampling Bag with Aspirator - 2

**Mining Companies Data. (SAIL)**

Sl. No.	Municipal Township Area/ Block	Name of Mining Company	Location	Product	No. of staff (RTPs)	No. of vehicles	No. of Rescue stations
1.	Dhanbad/ Jharia	SAIL	Chasnalla & Jitpur	Coal	21	Nil	Exempted under MRR, 1985.

**Mining Sites Data**

Sl. No.	Municipal Township Area/ Block	Name of Mining Company	Mining sites name	Type of mining	No. of persons in mines	No. of vehicles	Rescue facilities	Nearest hospital
1.	Dhanbad/ Jharia	SAIL	Chasnalla	Opencast & Underground	457	Nil	Guided by MRR, 1985	Chasnalla Hospital / Dispensary.
2.	''	''	Jitpur	Underground	120	Nil	Guided by MRR, 1985	Jitpur Hospital/ Dispensary.

**Details of Railway Nodal Officers District Dhanbad**

Name	Designation	MTNL/BSNL Office	MTNL/BSNL Residence	Mobile	Rly.Fax	MTNL Fax
Sh. A.K. Mishra	DRM/Dhanbad	0326-2220338	0326-2220700	9771426000	025-42870	0326-2220519
Sh. A.K. Jha	ADRM/Dhanbad	0326-2220500	0326-2311015	9771426001	-	-

**Zonal Railway Disaster Management Cell:**

Division	Location	PSTN	Mobile
ECR/HQ. Hajipur	Hajipur	06224-274750	9771463919
Danapur Div.	Danapur	06115-232458	9771461342
Dhanbad Div.	Dhanbad	0326-2220526	9771426990
Mugalsarai Div.	Mugalsarai	05412-255291	8400100244
Samastipur Div.	Samastipur	06274-226002	9771428920
Sonpur Div.	Sonpur	06158-222260	9771429946

**Accident Relief Train No.:**

Division	Art	Mobile
Dhanbad Div.	DHN	9771426829 9771426174 9471191501 9471191506
-	GOMO	9771426830 9471191511
-	BRKA	9771426831 9471191512
-	BRWD	9771426899 9771426898 9471191508
-	CPU	9794848725 9453035235
Mugalsarai Div.	MGS	9794846297 9794846298
-	Gaya	9794846301 9794846302

**Accident Relief Medical Van No.:**

Names of Zones, Division Railways and stations	Mobile
Dhanbad Div.	
DHN	9771426834 9771426176
Mgs	9794846299 9794846300
Gaya	9794846303 9794846304

**Details of Animal Husbandry & Nodal Officers of Animal Husbandry Department in District Dhanbad**

S.No.	Name	Designation	Telephone No.
1	Dr Abhay Prasad Singh	District Animal Husbandry Officer Officer	2200108 (O) 9334001125 (M)

**Veterinary Hospitals (Government / Private) Infrastructure Details**

S. No.	Name of Veterinary Hospitals /Centres	Location	Contact No	Name of Doctor –In-charge	Animal admission Capacity (in Number)	No of Vehicles	Specialisation/ Facilities
<b>District Veterinary Hospital / Private Hospital</b>		Hirapur ,Dhanbad	98351-42189	Dr. Brahmdeo pd. Yadav	NA	NA	Treatment,vaccination,castration and surgery
<b>Veterinary Hospital at Block Level</b>							
1		Tundi	9431920227	Dr. sohail khan		NA	-----DO-----
2		Topchanchi	9431913814	Dr. pushpa kumari		NA	-----DO-----
3		Govindpur	9431547692	Dr. Iran Ansari		NA	-----DO-----
4		Nirsa	8409540662	Dr.Jaiprakash narayan		NA	-----DO-----
5		Baliapur	9431317143	Dr. sanjay kr. singh		NA	-----DO-----
6		Baghmara	9973711175	Dr. saifullah sidhiqui		NA	-----DO-----
7		Jharia	9934111200	Dr. sunil kr. Singh		NA	-----DO-----
8		Pokhria	9431566263	Dr. sujata mukherje		NA	-----DO-----
<b>Veterinary Hospital at Panchayat or Village level</b>							
1		Rajganj	9934194594	Dr. Rajgopal Gupta		NA	-----DO-----
2		Nawagarh	9431378427	Mukesh kr. Sinha		NA	-----DO-----

***District Disaster Management Plan (Dhanbad)***

3		Jorapokhar	9431539257	Jai prakash mahato		NA	-----DO-----
4		Katras	9835120395	Asim kumar		NA	-----DO-----
5		Kenduadih	9835908257	Manoj kr. Prasad		NA	-----DO-----
6		Jairampur	9431168982	Ritesh kr. Gupta		NA	-----DO-----
7		Chirkunda	9006540997	Raj kr. Nayak		NA	-----DO-----
8		Katiasol	7250803638	Pramaod kumar		NA	-----DO-----
9		Gomoh	9431796290	Prabhakar sinha		NA	-----DO-----
10		Mahuda	9431147297	Pradeep kumar		NA	-----DO-----
11		Sindri	8252806682	Dr. Dhananjay sinha		NA	
<b>Mobile Veterinary Medical Units</b>							
1		Dist H.Q DHANBAD	9334029765	Dr. Arun kumar		TATA PICKUP	-----DO-----
<b>Private Veterinary Hospitals</b>							
1		NA	NA	NA		NA	NA

***Summary: Veterinary Hospitals***

Details	Number of Government Veterinary Hospital	Number of Private Veterinary Hospital	Total
Number of Veterinary Hospital	20	NA	20
Bed Capacity	NA	NA	NA
Number of Veterinary Doctors	19	NA	19
Numbers of Veterinary Paramedics	03	NA	03

**District Disaster Management Plan (Dhanbad)****Animal Population Data**

<b>Sl. No.</b>	<b>Name of Block</b>	<b>No. of Buffalo</b>	<b>No. of Cattle</b>	<b>No. of Sheep/Goat</b>	<b>Poultry</b>
1	Tundi	4,687	52,095	S- 11631	99,438
2	Baghmara	13,429	38,850	S-1905 G- 38295	1,48,174
3	Dhnabad Sadar	14,884	17458	S- 124 G- 5215	11,421
4	Topchanchi	3,772	34,389	S- 963 G-17822	85,753
5	Baliapur	4,226	38,036	S- 8077 G- 26,166	96,485
6	Jharia	9,872	11071	S- 133 G- 12577	66,635
7	Govindpur	5191	60,548	S-9942 G- 33532	1,52,572
8	Nirsa	7234	70793	S- 12768 G- 44814	1,49,253



**Industries in Dhanbad**

<b>Sl. No</b>	<b>Name Of Industry</b>	<b>Product</b>	<b>Waste Or Byproduct If Any</b>	<b>Type Of Threat</b>	<b>Location</b>	<b>Total No Of Employees</b>	<b>Contact Person Name And Mobile No.</b>
1	Hindustan malleable and Forging Ltd	Malleable iron components	No	Internal threat of accident and fire no external threat.	Jalan nagar, Bhuli	1000	Rajesh ( safety officer) Mob- 8409729185
2	OSD coke consortium pvt. Ltd	Power generation ( 20MW)			Godhar ,post- kusunda	250	Deepak khandelwal (manager) Mob- 8873002410
3	Monidi Washeries (BCCL)	Washed coal			Monidi near Putki thana	750	P.K Roy safety mob-9470597886
4	Maithan power ltd	Power generation			Barbadia, nirsa, Dhanbad	2726	CEO Mob-9223512396
5	Ankur bio chem pvt ltd.				Tetulia, lakhia bridge	240	0341-2303281
6	Maithan ceramics	Cements and refractories bricks			Dhundi,maithan road, Chirkunda	139	06540-273344
7	Sindri cement works( ACC)	Cement			ACC colony, Dhanbad	425	Bhupendra singh bias ( Mob- 9934311374
8	IOCL depo	Petroleum products	No	Highly inflammable materials is being stored and transported by the Depots. Utmost care has to be taken to prevent any fire incidents as all the 3 depots are placed in close proximity	Railway cinema road, joda phatak, Dhanbad block	35	Alok kumar (Depo manager) Mob- 9431303133 Nafiz (onsite finance head) Mob-8603367726

***District Disaster Management Plan (Dhanbad)***

9	BPCL depo	Petroleum products	No	Highly inflammable materials is being stored and transported by the Depots. Utmost care has to be taken to prevent any fire incidents as all the 3 depots are placed in close proximity	Railway cinema road, joda phatak, Dhanbad block	20	J. Toppo(Depo Manager) 8797110007
10	HPCL depo	Petroleum products	No		Railway cinema road, joda phatak, Dhanbad block	20	Utpal dutta ( Depo manager) Mob- 9771991068
11	Tata steel ltd Bhelatand washeries	Washed coal			Belatand	200	
12	Tata steel ltd, central coal washeries,jamadoba	Washed coal			Jamadoba	350	Partha das ( manager) MOB-9204065498
13	Bharat cooking coal ltd(BCCL), patherdih	Washed coal			Patherdih	300	
14	IDL explosive ltd	Emulsion matrix			Dhansar, BLS support plant	45	M.P Singh (factory manager) MOB- 7209897319

**List of NGO's in the District Dhanbad:**

<b>Sl. No.</b>	<b>Name of the NGO and Contact No.</b>	<b>Address</b>	<b>Contact Person and Number</b>
1	Sri Vishnu Sewa Ashram	Singhdaha, Topchanchi,Dhanbad -828402	Kishor Kumar Pandey 9955162307
2	YOJNA	33-34, ISH, Housing Colony, Dhanbad -826001	9430136233
3	MANTHAN	Barajamua, Barwadda, Po- Kalyanpur, Dhanbad	9905329749
4	Rashtriya Chetna Sangh	Main Colony, Sudamdih, Near Uco Bank, Dhanbad, 828126	Dharamjeet 9386596466
5	JEEVAN	Bastakola, Dhansar, Dhanbad 828106	A.K Singh, 9934352294 9931188165
6	Swami Samarth Society	Tapowan Colony, K.G. Ashram, Saraidhela, Dhanbad	9334233230
7	MANAV (Social & Educational Society)	UG-37, Harikunj, Sraidhela, Dhanbad	K.P Singh 9835112251
8	Kharagdiha Nala VI Jalchajan Sangh	20-21, Murlidih, Mahuda ,Dhanbad	9905487143
9	Aman Gulishtan Sanstha	Karmatand, Keska, Tundi, Dhanbad 828109	8969132036
10	Natraj Samajik Vikas Kendra	Road, Govindpur, Dhanbad	9835172861
11	Jharkhand Gramin Vikas Trust	Mahuda More, PO-Ramnagar Garh, Dhanbad ,828308	9234461629
12	Baba Mukundnath Jankalyan Samiti	Kusumatand, Golmara, Pargha, Baliapur, Dhanbad, 828201	9973714019
13	APEKSHA	Simlatand, Murradih, Barwadda, Dhanbad 826004	9934577203
14	Pitambara Jan Kalyan Trust	Dharkiro, Rowam, Katrasgarh,Dhanbad, 828113	Himanshu Sekhar 8809650611
15	Arpan Foundation	Pandedih, Sindurpur, Baliapur, Dhanbad 828201	9334008287
16	Nav Alok Sanstha	Chutiyaro, Kharni, Dhanbad	9835110259
17	GURT'S	Telmochecho, Ramnagar Garh, Baghmara, Mahuda, Dhanbad-828305	Ranjit Mahto 8521434754

***District Disaster Management Plan (Dhanbad)***

18	SADHAN	Blossoms, Hem Tower, Luby Circular Road, Hirapur, Dhanbad-826001	9431124921
19	Late B.K. Sutrodhar Foundation	Ist Floor, Gol Building, Manaitand, Dhanbad	9507149313
20	Jan Jagrity Sansthan	VIP Colony, Bhelatand, Dhainya, Dhanbad-826004	8987419854
21	AROGYA	Shivani Sadan, Ram Pujan Nagar, Katras Bazar, Dhanbad -828114	9431320547
22	Jan Kalyan Vikas Kendra	Telmochecho, Ramnagar Garh, Baghmara, Mahuda, Dhanbad-828305	9204330722
23	Jeevan Jyoti Mahila / Purush Swarozgar Sangh	Godhar, Gamsadih, Dhanbad	9386915503
24	Shramik Vikas Parishad	Cycom Infotech, 1st Floor, Janta Market, Bartand, Dhanbad	9334094627
25	Jagrity Mahila Vikas Sahayog Samiti	Bekaebandh, Dhanbad -826001	Nirmal Kumar Pandey 8987419854

**NDRF Contact Details**

<b>Name</b>	<b>Designation</b>	<b>Address</b>	<b>Telephone No.</b>	<b>Fax No.</b>	<b>Mobile No.</b>	<b>E-Mail</b>
Shri Vijay Sinha	Commandant	9th Bn NDRF, Bihata Patna, Bihar Pin - 801103	06115-253942	06115-253939	07762884444	patna-ndrf@nic.in
Sh. M.K.Yadav	Commandant	3rd BN NDRF, PO-Mundali, Cuttack-Odisha Pin-754006	0671-2879710	0671-2879711	09439103170 09437964571	ori03-ndrf@nic.in
Sh. A.K.Singh	Commandant	11 <sup>th</sup> Bn NDRF, HQrs., Sanskritik Sankul, Maqbool Alam Road, Varanasi, UP-221002	0542-2501201	0542-2501101	09455511003	up-11ndrf@gov.in

**Suggested Formats for Reporting:**

**FORMAT FOR AN INITIAL REPORT**

**PART 1 – SITUATION**

- 1.1. Type of disaster
- 1.2. Date and time
- 1.3. Affected area
- 1.4. Number of dead (approx)

**PART 2 – SEARCH & RESCUE**

S.No.	Location (district, town or RWA)	Total number of people missing (approx)	Response Status (local S&Rresources deployed)	Unmet needs for which additional S&R resources are requested (give details e.g. teams, special expertise, heavy equipment)	Priority
2.1					
2.2					
2.3					
etc					
<b>Total</b>					

**PART 3 – MEDICAL & HEALTH**

S.No.	Location (district, town or RWA)	Injured		Response Status (condition of medical facilities, hospital wards, asualty rooms, operating theaters, laboratories, water supply, ancillary equipment)	Unmet Needs (List personnel, supplies and equip. required from external sources)	Priority
		Serious	Walkingwounded			
3.1						
3.2						
3.3						
etc						
<b>Total</b>						

## ***District Disaster Management Plan (Dhanbad)***

### **PART 4 - SHELTER AND CLOTHING**

S.No.	Location (district, town or village)	Total number of People requiring shelter or clothing	<b>Response Status</b> (number of people being provided with shelter or clothing under local arrangements)	<b>Unmet needs</b> (number of people for whom external assistance is requested (specify <i>type</i> of assistance required e.g. tents, plastic sheeting, blankets, mosquito nets, clothing)	Priority
4.1					
4.2					
4.3					
etc					
<b>Total</b>					

### **PART 5 - FOOD**

S.No.	Location (district, town or village)	Total number of people requiring food	<b>Response Status</b> (number of people being provided with food under local arrangements)	<b>Unmet needs</b> (number of people for whom external supplies of food are requested. Say if cooking equipment and cooking fuel are required)	Priority
5.1					
5.2					
5.3					
etc					
<b>Total</b>					

### **PART 6 - WATER**

S.No.	Location (district, town or village)	Total number of people without potable water	<b>Response Status</b> (number of people being supplied with potable water under local arrangements; condition of supply system and repair status; availability of surface water)	<b>Unmet needs</b> (number of people for whom external supplies of water are requested. Say if treatment supplies, containers or trucks are needed)	Priority
6.1					
6.2					
6.3					
etc					
<b>Total</b>					

***District Disaster Management Plan (Dhanbad)***

**PART 7 – SANITATION**

S.No.	Location (district, town or village)	Total number of people without adequate sanitation	<b>Response Status</b> (number of people being provided with adequate sanitation under local arrangements)	<b>Unmet needs</b> (number of people for whom external arrangements for sanitation are requested. Say what arrangements are needed e.g. latrines, soap, detergents, chlorine powder, insecticides, sprayers)	Priority
7.1					
7.2					
7.3					
etc					
<b>Total</b>					

**PART 8 – LIFELINE SYSTEMS**

S.No.	Location (district, town or village, or place to place)	<b>Response Status</b> (condition of systems)				<b>Unmet Needs</b> (List personnel, supplies and equipment requested from external sources)	Priority
		Roads & Bridges	Railways	Power Supplies	Communication System		
7.1							
7.2							
7.3							
etc							
<b>Total</b>							

**Name:**

**Designation:**

**Date:**

**Signature:**



### Consolidated Report on the Status and Actions

Items of Information	Details and Remarks
<b>I. Status</b>	
! Nature of event	
!! Estimates of number of locations affected and names of these locations	
!!! Estimates of number of DTC routes affected and name of these routes	
!!! Overall assessment of impact:	
. Estimated persons stranded/affected:	
• Number of persons needing evacuation from following locations	
• Estimated loss of lives:	
Estimated number of injured:	
• Names of roads blocked/congested:	
• Estimated number of houses/structures/area damaged:	
<b>III. Damage to infrastructure</b>	
i. Road transport	
ii. Power supply	
iii. water supply	
iv. Telecommunication	
v. Drainage systems	
vi. Railway power supply	
ix. Hospitals	

**SUGGESTED FORMAT FOR A FLASH REPORT**

**PART 1 – SITUATION**

- 1.1. Type of disaster
- 1.2. Date and time
- 1.3. Affected area
- 1.4. Possibility of after effects

**PART 2 – INITIAL ESTIMATE OF EFFECTS(*Very Approximate Numbers*)**

- 2.1. Dead
- 2.2. Injured
- 2.3. Missing
- 2.4. In need of shelter and/or clothing
- 2.5. In need of food
- 2.6. In need of water
- 2.7. In need of sanitation
- 2.8. Damage to lifeline systems

**PART 3 – POSSIBLE NEEDS FOR EXTERNAL ASSISTANCE**

- 3.1 Search and Rescue Yes/No
- 3.2 Evacuation Yes/No
- 3.3 Protection Yes/No
- 3.4 Medical and Health Yes/No
- 3.5 Shelter and clothing Yes/No
- 3.6 Food Yes/No
- 3.7 Water Yes/No
- 3.8 Sanitation Yes/No
- 3.9 Repair of lifeline systems Yes/No

**PART 4 – NEXT REPORT**

The next report, with more details, will be sent at ..... (date/time).

**Requisitioning Defence Forces for Disaster Relief**

1. Divisional HQ of Affected Area  
With name of Divisional Commissioner  
Tele and Fax Nos. With STD Code
2. District HQ of Affected Areas with  
Name of DC/DM, Tele and Fax nos. With STD code
3. Details of Affected Area
  - (a) District (s)
  - (b) Town (s)
  - (c) Blocks
  - (d) Villages
  - (e) Extent of Areas under Disaster (Kms X Kms)
4. Resources already deployed
  - (a) No. of NDRF teams
  - (b) No. of country Bouats with Civil Administration/  
Hired (in flood cases)
  - (c) No. of Motor Boats with Civil Admn./hired (in flood cases)
  - (d) Wireless Sets with Frequency and / Rang
5. Assistance Expected from Defence Forces
  - (a) Approximate Number of Persons to be evacuated
  - (b) Approximate ton of Relief; Material to be distributed
  - (c) Approximate water distances to be traversed by Boats per trip (in flood cases)
  - (d) Relief Material and Labor to handle those likely  
To be in post by (date/time)
  - (e) Any other help envisaged
6. Coordination with Civil Administration
  - (a) Exact Location for reporting of the teams/contingent
  - (b) Name and telephone/mobile no. of Coordinator from District Administration
  - (c) Name and telephone/mobile no. of Liaison officer from District Administration  
for Liaison and Guidance
  - (d) Name of Local Guides to accompany boats with knowledge of ground, bunds and  
pipeline under water, HT Wires, snapped live Electrical cables etc.

(Signature)  
District Magistrate, Dhanbad

**Requisition Form for NDRF Disaster Relief**

From;

Date of Report:

To:

- (a) Nature of calamity:
- (b) Date & Time of occurrence:
- (c) Affected area (number and names of affected districts):
- (d) Population affected (Approx.):
- (e) Nearest Railhead:
- (f) Nearest Airport:
- (g) Relief measures undertaken in brief:
- (h) Immediate response & relief assistance required:
- (i) Forecast of possible future developments including new risks:
- (j) Any other relevant information:

**Incident Report to be submitted by the CO's**

**1) Incident Details :-**

- a) Date of Incident :
- b) Time of Incident :
- c) Location :
- d) Nature of Incident :
- e) Type of Incident (Major/Minor) :
- f) Brief Description of the Incident :

**2) Communication Details :-**

- a) Message received from :
- b) Time of receipt of Message :
- c) Mode of Message :

**3) Response Details :-**

- a) Whether any representation from the Department (Yes/No) :
- b) Name & Designation of the Officer/Official who visited the site :

**4) Response Details of the Line Departments :-**

S.No.	Name of the Agency	Time of Arrival at the Incident Site	Men Power deployed	Resources Deployed	Remarks

***District Disaster Management Plan (Dhanbad)***

**5) No. of the Injured/Casualty :-**

Injured			Casualty
Minor	Major	Total	

**6) Details of the Injured /Casualty :-**

a) Casualty :

S.No.	Name	Father's/ Husband's Name	Age	Gender	Address	Name of the hospital where referred

b) Injured :

S.No.	Name	Father's/Husband's Name	Age	Gender	Address	Name of the hospital where referred	MLR No.

**7) Constabulary Details :**

- a) Name of the Police Station :
- b) FIR No.
- c) Name of the I.O. :

**8) Subsequent Action by the CO :**

**9) Suggestions/Recommendations (if any) :**

**Date :**

**Seal & Signature of the CO**

**Incident Response System- Format-001**

**Incident Briefing –IRS From 001**

Attach a separate sheet under each heading in case space is not sufficient

<b>1. Incident Name</b>	
<b>2. Map Sketch ( Give details of the affected site)</b>	
Date Prepared	Time Prepared

*Source : Adapted from ICS From 201*

<b>3. Summary of Current Action</b>	
<p>a. Action already taken</p> <hr/> <hr/> <hr/> <hr/>	
<p>b. Action to be taken</p> <hr/> <hr/> <hr/> <hr/>	
<p>c. Difficulties if any in response including mobilization of resources and manpower</p> <hr/>	

**4. Current Organization ( Brief about activated section of IRT)**

Highlight the activated Sections/ Branches/ Units

**5. Resources Summary**

<b>Resources Ordered</b>	<b>Source</b>	<b>ETA</b>	<b>Site of Deployment</b>	<b>Assignments</b>

\_\_\_\_\_  
**Prepared by ( Name and Position):**

\_\_\_\_\_  
**Signature**



**Incident Response Format- Format-2**

**Incident status Summary (ISS)  
(Major Components)**

<b>1. Name of the Incident</b>  _____	<b>2. Name of the IRT:</b>  _____	<b>3 Operation Period</b>  _____	<b>4 Prepared:</b>						
			Date: _____						
			Time: _____						
<b>5. Name of the IC:</b> _____		<b>6. Phone No:</b> _____							
<b>7. Current Situation (Nos. of Casualty)</b>									
(a)	(b)	(c)	(d)	(e)					
<b>Locations</b>	<b>Injured</b>	<b>Treated</b>	<b>Discharged</b>	<b>Patients referred ( Specify Hospitals with locations)</b>					<b>Dead</b>
<b>8. Status of infrastructure ( Put tick mark)</b>						<b>9. Threats, if any which may be increases severity of incident may be indicated</b>  _____ _____ _____			
(a)		(b)	(c)	(d)					
<b>Infrastructure</b>		<b>Not Damaged</b>	<b>Partially Damaged</b>	<b>Completely Damaged</b>					
<b>Road</b>									
<b>Railways</b>									
<b>Airport</b>									
<b>Water Supply</b>									
<b>Electricity Supply</b>									
<b>Communication Network</b>									
<b>Communities/ Critical Infrastructure</b>									
<b>Residence</b>									
<b>Any Other ( Specify)</b>									

10. Resources Deployed for Response with description							
(a)	(b)				(c)		(d)
Locations	Resources				ESF involved		Activities
	Humans Resources	Equipments:			Gov.	Non Gov.	
		Kind	Type	Quantity			
11. Need for additional resources							
(a)					(b)		
Resource Details					Source of Mobilization		
Kind		Type		Quantity			
12. Remarks if any:							
13. Name and designation of officer Prepared by _____							

**Incident Response System- Format-03**

**Unit Log**

**(Major Components)**

Attach a separate sheet if space is not sufficient

<b>1. Name of the Incidents</b> _____	<b>2. Name of the Section:</b> _____	<b>3. Operational Period:</b> _____	<b>4. Prepared</b>	
			Date: _____	
			Time: _____	
<b>5. Name of the Units</b>	<b>6. Work Assigned with resources</b>	<b>7. Name of the Site</b>	<b>8. Status of work</b>	
			<b>(a)</b>	<b>(b)</b>
			Completed	Not Completed
<b>9. Specify accident/ incident/ weather conditions which may increases severity of incident</b>				
<b>(a)</b>	<b>(b)</b>	<b>(c)</b>		
<b>Time</b>	<b>Location</b>	<b>Action taken or suggested</b>		
<b>10. Name and designation of officer Prepared by</b>				

**Incident Response System- Format 04**

**Record of Performed Activities  
(Major Components)**

(Attach a separate sheet, if space is not sufficient)

<b>1.Name of the Incident:</b> _____	<b>2. Operation period:</b> _____	<b>3. Prepared</b> Date: _____ Time: _____
<b>4.Name of the Facilities where( ICP/Incident Base/ Camp/ Relief Camp/ Staging Area, Medical Camp/ Helibase/ Helipad/ Any Other) Division or Unit is deployed ( specify with exact location).</b> _____		
<b>6.Work Assigned</b>	<b>7. Status of work (Put tick mark)</b>	
	(a)	(B)
	Completed	Non Completed
<b>8. Any incident/ accident during the response and action taken</b>		
(a)	(b)	
<b>Incident/ Accident ( Specify, if any)</b>	<b>Action Taken</b>	
<b>9. Name and designation of officer Prepared by</b> (Specify Name Position and Section)  _____  (Prepared by all responder bellow the Section)	<b>10. Despatch:</b>  Date: _____  Time: _____  _____	
	<b>11. Signature of Receiving Officer</b>	

**Incident Response System- Format 05**

**Organization Assignment List**

**(Major Components)**

*(Attach a separate sheet if space is not sufficient)*

This assignment list will be prepared as per IAP and will be circulated among all the responders and supervisory staff at the beginning of each operational period by the respective section chiefs

<b>1.Name of the Incident:</b> _____	<b>2.Operational Period:</b> _____	<b>3.Prepare:</b>
		Date:
		Time:
<b>4.Name of the section to whom work assigned:</b> _____		
<b>5:Name of the Supervisory Officer concerned:</b> _____		
<b>6.Name of the Responder:</b> _____		
<b>7.List of task assigned</b>		
a) _____		
b) _____		
c) _____		
d) _____		
e) _____		
f) _____		
g) _____		
h) _____		
i) _____		
<b>8. Name and designation of officer Prepared by:</b>		<b>9. Approved by:</b>

**Incident Response System- Format 06**

**Incident Check-in and Deployment list  
(Major Components)  
(Attach a separate sheet if space is not sufficient)**

<b>1. Name of the Incident:</b> _____		<b>2. Name of the Section/ Branch/ Division/ Unit and facility</b> _____				<b>3. Operational Period:</b> _____		<b>4. Prepared</b>			
								<b>Date:</b>			
								<b>Time:</b>			
<b>5. Resource Check- in Information</b>		<b>6. Source of Mobilisations</b>		<b>7. Check-in</b>		<b>8. Status of Resources</b>					
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(c)	(d)	(e)	
<b>Personnel</b>	<b>Equipment</b>		<b>Govt.</b>	<b>Private</b>	<b>Date</b>	<b>Time</b>	<b>If still in Facility</b>	<b>Sick/ Out of service/ maintenance</b>	<b>Location of site if deployed (Specify)</b>	<b>Date</b>	<b>Time</b>
	<b>Kind</b>	<b>Type</b>									
<b>9. Name and designation of officer Prepared by:</b> _____											

**Incident Response System- Format 07**

**On Duty Officer List  
(Major Components)**

*(Attach a separate sheet if space is not sufficient)*

*This will be maintained by all the Section and sent to RO through IC*

1.Name of the incident		2.Name of Section/Branch/Division/Unit			3.Operational Period:		4.Prepared	
_____		_____			_____		Date:	
							Time:	
SI	5.Name of Officer	6.Designation in Normal Period	7.Phone No./E-mail ID	8.IRS Position for the Incident	9.Location of Deployment	10.Location of Camp with Contact Details	11.Any other Information	
12.Name and designation of officer Prepared by				13.Signature of the Section Chief			14.Dispatch	
							Date	
							Time	

**Incident Response System- Format 08**

**Medical Plan  
(Major Components)**

Attach a separate sheet if space is not sufficient

1.Name of incident :   		2. Operational period:   		3. Prepared  Date :  Time:				4.Total Nos. of medical aid camp to be established:						
4.1 SI No.	4.2 Location (s)	4.3 Resources Available in the medical camp												
		(a)	(b)	(c)	(d)		(e)		(f)					
		No. of Medical Officers	No. of Paramedics staff	Others (ANM & trained volunteers specify)	Life saving drugs/ Appliances		Facilities of referral services and Blood Banks		Any other (Specify)					
					Yes	No	Yes	No						
5.Status of Ambulances Services				6. Availability of Regular Medical Facilities (Specify in Nos.)										
(a)	(b)	(c)		6.1 Govt					6.2 Private					
Name of the Ambul ance Service Provid er	Address & Contact No.	Paramedics		(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)	(f)
		Yes	No	Location	Sub Centre	PHC	Hospital	Medical College	Location	Clinic	Nursing Home	Hospital	Medical College	RMP
7. Road map of the area circulated among the ambulance service				8. Referral Medical Facilities in the Neighborhood										
(a)	(b)	(a)					(b)			(c)				
Yes	No	Location					Address			Specialization				
9. Name and designation of officer Prepared by (Medical Unit)  				10.Approved by _____										



**Incident Response System- Format 09**

**(Major components)**

**(Attach a separate sheet if space is not sufficient)**

<b>1.Name of the Incident:</b> _____				<b>2.Operational Period:</b> _____				<b>3.Prepared</b>							
								<b>Date:</b>							
								<b>Time:</b>							
<b>4. List of locations where communications is available</b>															
(a) Name of Locations	(B) Organisation	(C) Requirement of Backup power supply		(D) Type of communication											
		Yes	No	Wireless			Telephone			HAM Radio	Web				
				HF	VHF	Morse	Land Line	Mobile	Satellite		E-mail	Skype			
<b>5.List of locations where communication has to be setup</b>															
(a) Name of Locations	(B) Organisation	(C) Requirement of Backup power supply		(D) Personnel requirement (specify Nos. if required)		(E) Type of communication									
		Yes	No	Yes	No	Wireless			Telephone			HAM Radio	Web		
						HF	VHF	Morse	Land Line	Mobile	Satellite		E-mail	Skype	
<b>6.Arrangements for repair and replacement of faulty sets:</b> _____ _____ _____						<b>7.In stock available sets ( Specify Nos., Kind and type:</b> _____ _____									
<b>8.Networking plan for integrating inter-organisational communication facilities with the local setup (Army/ NDRF, etc.) –weather repeater or relay setup is required or not</b>						<b>9. Transport requirements for supervision and maintenance</b>									
<b>10. Name and designation of officer Prepared by</b> _____															

**Incident Response System- Format 10**

**Demobilization Plan  
(Major Components)**

*(Attach a separate sheet if space is not sufficient)*

<b>1.Name of the Incident</b> _____	<b>2.Name of Section/Branch/ Division/ Unit to be demobilized (Specify):</b> _____		<b>3.Operational Period:</b>			<b>4.Prepared</b>	
						Date:	
						Time:	
<b>5.Name of responder (s)/ details of resources to be demobilized</b>	<b>6.Location from where demobilization will take place</b>	<b>7.Date &amp; Time</b>	<b>8.Mode of transport</b>	<b>9.Transit destination, if any</b>	<b>10. Final Destination &amp; name of agency to whom returned</b>	<b>11. Ultimate destination agency notified or not</b>	
						Yes	No
<b>12. Demobilization plan for out of service equipments and sick personnel</b>							
(a)	(b)	(c)	(d)	(e)	(f)	(g)	
<b>Name of sick personnel/out of service equipments</b>	<b>Location from where demobilization will take place</b>	<b>Date &amp; Time</b>	<b>Mode of transport</b>	<b>Transit destination, if any</b>	<b>Final Destination &amp; name of agency to whom returned</b>	<b>Ultimate destination agency notified or not</b>	
						Yes	No
<b>13.Name and designation of officer Prepared by</b> _____			<b>14.Approved by</b> _____			<b>15.Issued by</b> _____	