

## Chapter 1:

### Introduction

#### 1.1 Rationale/Justification for DDMP

On 24th August 1997, 'Gadag' emerged as a new district. In the fields of art, literature, culture, spiritual and industry, Gadag has its own heritage since long back. It is also a tourist place with greenery and being visited by many nature-lovers. In the north border flows Malaprabha and in Southern border Tungabhadra. Other than these Bennehall joins Malaprabha near Ron. Throughout the district, black soil is prominent but red soil with sand is also there in some parts. It has moderate temperature weather is pleasant and healthy. The maximum temperature is up to 42 degree centigrade in the month of April and May and minimum degree of 16 centigrade in some months.

Gadag is a city in Karnataka state in India. It is the administrative headquarters of Gadag District. Gadag and its sister city Betageri have a combined city administration. Gadag immediately brings to mind the name of Narayanappa, popularly known as Kumaravyasa, the author of Karnata Bharata Kathamanjari. It is the classic Mahabharata in Kannada. Narayanappa was born in the nearby village of Koliwada. He composed his work sitting before Lord Veera Narayana, his chosen deity. The temples of Veera Narayana and Trikuteshwara are places of religious and historic importance. The blind singer Pand.Ganayogi Panchakshari Gawayi belonged to Gadag. His music school (Veereshwara Punyashrama) is famous. The Tontadarya Matha of the Veerashaiva sect of Hinduism is engaged in many educational and literary activities in and around Gadag.

There is a legend about Gadag that if you throw a stone in town it would either land at a printing press or on a handloom. Gadag has a lot of printing presses including the Hombali Brothers and the Shabadi Math Printing Press. Betageri, which is an adjacent town to Gadag, is famous for handlooms. Gadag has been an important seat of Hindustani music in north Karnataka, and is home to the Hindustani singer Bharata Ratna awardee Pandit Bhimsen Joshi. The modern Kannada literature and a freedom fighter Shri. Huilgol Narayan Rao, Pandit Puttaraj Gawai One of Gem from Hindustani classical tradition and our well known cricketer Sunil Joshi. Roads are one of the basic means of transport which requires to be developed in the district. The district consists of five taluks, namely Gadag, mundaragi, Ron, Shirahatti, Naragund,

Risk assessment is carried out by using various Participatory Risk Appraisal tools such as Resource Mapping, Seasonality Chart, and Vulnerability Mapping etc. The following minimum information is gathered and presented.

There is history of occurrence of In September 2007 due to heavy rain within the 3 days; water flow was above its level In Malaprabha Rivers and nalas leading to the river. It leads to the submergence of some villages in Nargund and Ron taluka and also caused the heavy damages to the public and private property. Due to this flood district has suffered heavy loss.

Floods occur due to heavy rains in the some part of the district during July to September, resulting in damage of houses and infrastructure

There is no history in the District on occurrence of Earthquake and Land slide.

Considering the geographical location, access issues, population exposure, scale and diversity of resources, there exists an urgent need for implementing and expanding district-wide comprehensive disaster management strategies encompassing preparedness, prevention & mitigation, emergency response & rehabilitation. The district administration is the focal point for implementation of all government plans and activities and its major concern is to ensure public safety, the protection of the citizens and all their rights. It is considered as a place of hope and offers a sense of security in pre, during and the aftermath of a disaster situation. Therefore, planning at the district level is crucial for efficient management of all disasters. It calls for the district disaster management plan which acts as one of the most important steps in disaster management at district level.

## **1.2 Vision:**

There is need for a comprehensive Disaster Management Plan for the district authorities to manage disasters in the district, and to play a supportive and coordinating role, was realized in the wake of the frequent floods, droughts and various industrial and manmade disasters.

For a long time now, Gadag district has been experiencing losses and damages due to various natural and manmade disasters such as drought, flood, cyclones, epidemic, pest attack etc. The risks due to these hazards are increasing every year. Although, the district has been taking care of relief and response operations during disasters, greater attention is required for preparedness, mitigation and reconstruction. A comprehensive district plan was required to guide district administrations, line departments and all the agencies and industrial establishments and the community at large to ensure that the management plans for preparedness, mitigation, response and reconstruction are in place so that the impact due to any emergency or disaster situation is minimum and be able to facilitate faster recovery. The District Disaster Management Plan is intended to serve as an effective guide book to help the district administration better prepared for disasters to safeguard the lives, livelihoods and property. The vision of the plan is fail proof communication, authentic and accurate data base documented, rehearsed to be activated in the shortest possible time with minimum simple orders and procedures ensuring participation by administration, communities, industries, private/NGOs, Volunteers at all levels, making optimal utilization of human and material resources with no gaps or no overlaps to prevent/minimize loss to lives and property and faster restoration of normal life in the affected areas.

### 1.3 Need for Disaster Management

Data on disaster occurrence, its effect upon people and its cost to countries, are primary inputs to analyze the temporal and geographical trends in disaster impact. Disaster losses, provide the basis for identifying where, and to what extent, the potentially negative outcomes embedded in the concept of risk is realized. They help to understand where, and to whom, disaster risk becomes impact. They also provide the basis for risk assessment processes, a departing point for the application of disaster reduction measures.

Development cannot be sustainable unless disaster mitigation is built into development process. Investments in mitigation are more cost effective than expenditure on relief and rehabilitation. Prevention and mitigation contribute to lasting improvement in safety and are essential to integrated disaster management. Disaster response alone is not sufficient as it yields only temporary results at very high cost. So emphasis must be on Disaster prevention, mitigation and preparedness, which help in achieving objectivity of vulnerability reduction.

### 1.4 What is a Disaster?

“A **Disaster** is a sudden, calamitous event that causes serious disruption of the functioning of a community or a society involving widespread human material economic or environmental losses and impacts which exceeds the ability of the affected community or society to cope using its own resources.”

---- **UN International Strategy for Disaster Reduction, (UNISDR)**

A Disaster is a "Situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering".

- **Centre for Research of Epidemiology of Disaster (CRED), Belgium**

**1.4.1 Hazard:** is a natural physical event which has a potential to convert into a disaster, causing widespread injury or deaths and damage to public or private property or the environment.

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

### 1.4.3 Disaster Preparedness

Pre-disaster activities that are undertaken within the context of disaster risk management and are based on sound risk analysis. This includes the development/enhancement of an overall preparedness strategy, policy, institutional structure, warning and forecasting capabilities, and plans that define measures geared to helping at-risk communities safeguard their lives and assets by being alert to hazards and taking appropriate action in the face of an imminent threat or an actual disaster.

- **Office of Commissioner for Humanitarian Affairs (OCHA)**

**1.4.4 Disaster risk reduction (DRR),** attempts to look back at the root causes of risks and vulnerabilities in a society, state, town or even a single household. Factors can be broad or specific, depending on the scope of risk and vulnerability assessments.

**1.4.5 Natural hazard:** Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

The **Natural disasters** were split into 3 specific groups:

1. **Hydro-meteorological disasters:** Floods and wave surges, storms, droughts and related Disasters (extreme temperatures and forest/scrub fires), and landslides & avalanches;
2. **Geophysical disasters:** Earthquakes & tsunamis and volcanic eruptions;
3. **Biological disasters:** Epidemics and insect infestations.

#### 1.4.6 Manmade disasters

Disasters due to human activities could be unintentional, but lack of safety measures and abiding by certain safety rules and regulations, Most of these (barring coordinated terrorist activities) are due to certain accidents. Terrorism, Bomb blast, Wars, Riots, technology related, Accidents (Road, Ship, Air), Chemical and Nuclear, Industrial accidents etc.

#### 1.5 Worst Disasters in the world

1. **Bam earthquake, Iran**, Dec 2003, magnitude 6.6 and 26,271 dead, 30,000 injured
2. **South Asian tsunami**, Dec 2004, magnitude 9.3 and 230,000 dead in 14 nations, 125000 injured, 45,752 missing and 1.69 million homeless
3. **Sichuan earthquake, China**, May 2008, magnitude – 7 and 8 69,195 dead, 18,392 homeless and 374,643 injured and 115 billion dollars loss
4. **Haiti earthquake**, Jan 2010, magnitude 7 and 150,000 dead, 300,000 injured and 100 million dollars loss
5. **Pakistan floods**, Jul 2010 --- 2,000 dead, 20 million affected and loss of 43 billion dollars
6. **Japan tsunami**, Mar 2011, magnitude 9 and 15,188 dead, 5,337 injured, 8,742 missing and loss of 300 billion dollars

#### 1.6 The Indian scenario

India has been vulnerable to many disasters in the past both natural and man made. Nearly, 60% of the landmass is prone to earthquake, 8% for cyclones (east and west coast) and 68% for drought. Some of them are mentioned below along with number of people dead and the economic losses incurred.

##### A. Natural disasters in India

1. **Latur earthquake**, Sept. 1993, magnitude 6.4 and 20,000 dead and 30,000 injured
2. **Orissa super cyclone**, Oct 1999, 15,000 dead 275,000 homes destroyed and 8,119 injured and 4.9 billion dollars loss.
3. **Gujarat earthquake**, Jan 2001, magnitude 7.7 and 20,000 dead and 167,000 injured and 400,000 homes destroyed and 5.5 billion dollars loss

4. **South Asian Tsunami**, Dec 2004, magnitude 9.3 and 12,405 dead, 5,640 missing and 647,599 homeless.
5. **Cyclone Aila**, 25 May 2009, 325 dead and 8,000 missing, one million homeless and loss of 552.6 million dollars and 7,000 infected with diarrhea due to floods

#### **B. Manmade disasters in India**

1. **Bhopal gas tragedy**, Dec1984 and 3,787 dead and 558,125 affected with disabling injuries.
2. **Gujarat riots**, Mar 2002
3. **Serial bomb blast**, Mumbai, Mar1993
4. **Bomb blast in suburban trains**, Mumbai, Jul 2006
5. **Terrorist attack**, Mumbai, Nov 2008
6. **Air plane accident**, Mangalore, May 2010

Thus, we can notice that most of the disasters have occurred within the last two decades, and the frequency, intensity and magnitude of the disasters are ever increasing.

### **1.6 National Disaster Management (NDMA) Act, 2005**

The National emergency management authority was constituted in Aug 1999, which submitted a report in 2001, to have separate department for Disaster management in India Government enacted the National disaster management act on 23<sup>rd</sup> Dec 2005, which lead to the creation of National disaster management authority (NDMA).

#### **Nodal ministries responsible for various categories of disasters**

- |                                  |                                       |
|----------------------------------|---------------------------------------|
| 1. Earthquakes and Tsunami       | MHA/Ministry of Earth Sciences/IMD    |
| 2. Floods                        | MHA/Ministry of Water Resources/CWC   |
| 3. Cyclones                      | MHA/Ministry of Earth Sciences/IMD    |
| 4. Drought                       | Ministry of Agriculture               |
| 5. Biological Disasters          | Ministry of Health and Family Welfare |
| 6. Chemical Disasters            | Ministry of Environment & Forests     |
| 7. Nuclear Disasters             | Department of Atomic Energy           |
| 8. Air Accidents                 | Ministry of Civil Aviation            |
| 9. Railway Accidents             | Ministry of Railways                  |
| 10. Terrorism, bomb blast, Riots | Ministry of Home Affairs              |

## 1.2 Aims and Objectives of the DDMP

The aim of Gadag District Disaster Management Plan is execution of disaster management in continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary for prevention, mitigation, capacity-building, preparedness to any threatening / disaster situation.

Accordingly, the main objectives of the District Disaster Management Plan are:

1. To analyze the geomorphic, topographic, geologic, meteorological, hydrologic, economical, social and political perspectives using that are integrated with proactive Science and Technology inputs.
2. To identify the main hazards happening in the area.
3. To identify area vulnerable for varies natural as well as manmade hazards, to give an understanding of the causative and triggering factors.
4. To introduce innovation and good practice in institutional mechanism at district level to make it an integrated and coordinated plan at all levels and further develop action plans for different stakeholders (Communities, Govt. Line departments and other stakeholder groups) for disaster risk reduction, emergency response and recovery actions.
5. To suggest mitigation measures to be adopted by different stakeholders for the risks identified in the district and further to promote the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures to prevent and reduce hazard exposure and vulnerabilities to disaster.
6. Capacity development at all levels to effectively respond to multiple hazards and for community-based disaster management.
7. Facilitate the mainstreaming of disaster management concerns into the developmental planning and processes with an inclusive approach for People with Disability and vulnerable social elements and groups.
8. Ascertaining the status of financial allocation and resources available within district for preparing and executing Disaster Management.

## 1.3 Role of District Administration and Organizations

Revenue Department is the chief agency of the Government in regard to General Administration and that is why Revenue Administration is synonymous with field administration and General administration. It is recognized that the duties and responsibilities of the Revenue Department go far beyond what the name implies. Besides numerous specified items of duties under a large number of Acts and Rules, the officers and officials of Revenue Department are called upon to attend to any number of unspecified items of work, involving considerable time and energy. The significance and importance of this department lie in the fact that it touches the life of villager at many points and has a close contact with all sections of the public.

## 1.4 Authority for DDMP: Disaster Management Act 2005 (DM Act)

On 23rd December, 2005, the Government of India took a defining step by enacting the Disaster Management Act, 2005, which envisaged creation of Authorities at all three levels as below:

- National Disaster Management Authority (NDMA),
- State Disaster Management Authorities (SDMA),
- District Disaster Management Authorities (DDMA).

As per provisions in Chapter-IV of the DM Act, each State Government shall establish a DDMA for every district in the State with such name as may be specified in that notification. The DDMA will be headed by the District Collector, Deputy Commissioner, or District Magistrate as the case may be, with the elected representative of the local authority as the Co-Chairperson. The DDMA will act as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It will, inter alia, prepare the DM plan for the District and monitor the implementation of the all relevant national, state, and district policies and plans. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness, and response measures laid down by the NDMA and the SDMA are followed by all the district-level offices of the various departments of the State Government

## 1.5 Mandate under chapter IV of the Disaster management plan

Section 31 of the Disaster management (DM) Act 2005 mandates that there shall be a District Disaster Management Plan (DDMP) for the each district. The proposed DDMP complies with the National Policy on Disaster Management (NPDM) of 2009 and conforms to the provisions of the DM Act making it mandatory for the Government of India and various central ministries to have adequate DM plans. While the district plan will pertain to the disaster management for the whole of the district, the hazard specific nodal ministries and departments notified by the Government of India and State Government will prepare detailed DM plans specific to the disaster assigned. As per Section 32 of the DM Act, every office of the Government of India and of the State Government at the district level and the local authorities shall prepare comprehensive DM plans detailing how each of them will contribute to the national efforts in the domains of disaster prevention, preparedness, response, and recovery.

## 1.6 Stakeholders and their responsibilities

**At the District level:** DDMA, the district plan shall be prepared by the District disaster management Authority, after consultation with the local authorities.

**Other technical institutions:** community, local self-governments, NGOs etc. is also stakeholders of the District Disaster Management Pan.

The duties and responsibilities of the stakeholders has been prepared with the sole objective of making the concerned departments understand their duties and responsibilities regarding disaster management at all levels and accomplishing them. Bellow table briefly refers to the name of all line departments and their role and responsibilities in perspective to disaster risk reduction in the district.

SI. No.	Stakeholders	Responsibilities
1.	DDMA	<ul style="list-style-type: none"> <li>■ Overall management of the disastrous situation within the district</li> <li>■ Coordination of the district with the various stake holding departments within the district</li> <li>■ Coordination of the district with the state and the other neighboring districts</li> <li>■ Maintaining a view of the activities of the DDMA and DEOC</li> </ul>
2.	DEOC	<ul style="list-style-type: none"> <li>■ Receive and process disaster alerts and warnings from nodal agencies and Other sources and communicates the same to all designated Authorities.</li> <li>■ Monitor emergency operations.</li> <li>■ Facilitate coordination among primary and secondary ESFs/Departments/Agencies</li> <li>■ Requisitioning additional resources during the disaster phase.</li> <li>■ Issuing disaster/incident specific information and instructions specific to all concerned.</li> <li>■ Consolidation, analysis, and dissemination of damage, loss and needs assessment data.</li> <li>■ Forwarding of consolidated reports to all designated authorities.</li> </ul>
3.	NDMA	<ul style="list-style-type: none"> <li>■ To coordinate and monitor with the State for the implementation of the policies and plans related to DM.</li> <li>■ Coordinating DRR activities and implementation thereof.</li> <li>■ Facilitating resources on demands raise by administration</li> </ul>
4.	SDMA	<ul style="list-style-type: none"> <li>■ Coordinating DRR activities and implementation thereof.</li> <li>■ Facilitating resources on demands raised by administration.</li> <li>■ To approve DDMP</li> <li>■ Monitor and implementation of the plan.</li> <li>■ Provide guidance to DDMP for various facets of this plan.</li> <li>■ Providing necessary assistance to the district in an event of disaster.</li> <li>■ Recommend provision of funds for mitigation and preparedness Measures.</li> </ul>
5.	NDRF	<ul style="list-style-type: none"> <li>■ Carrying out search and rescue on requisition by District as well as State administration.</li> <li>■ Strengthening the response mechanism through trainings and Awareness.</li> <li>■ Coordinate with administration in response as well as capacity Building.</li> <li>■ Facilitate administration with the key resources in disaster.</li> </ul>
6.	Army/Air	<ul style="list-style-type: none"> <li>■ Coordinating DRR activities and administration in response.</li> </ul>



	Force	<ul style="list-style-type: none"> <li>■ Receive and process disaster alerts and warnings from nodal agencies.</li> </ul>
7.	Police	<ul style="list-style-type: none"> <li>■ Assess preparedness level</li> <li>■ Establish radio communications and assist in precautionary evacuation activities with DEOC</li> <li>■ Provide safety and security to citizens and their property during disaster</li> <li>■ Establish command and control in coordination with fire and medical teams</li> <li>■ Organize training on hazardous chemicals for police officers for facilitating handling of hazardous materials</li> </ul>
8.	Fire Department	<ul style="list-style-type: none"> <li>■ To strengthen community response through trainings and awareness camps.</li> <li>■ To train first responders at village / Panchayat level in firefighting.</li> <li>■ To mitigate the fire risk by auditing and inspection and fighting fire disaster. -</li> <li>■ To assist Search and rescue team in fire situations.</li> </ul>
9.	Civil Defense, Home Guards	<ul style="list-style-type: none"> <li>■ Establish, maintain and manage search and rescue response system;</li> <li>■ Coordinate search and rescue logistics during field operations;</li> <li>■ Provide status reports of S&amp;R updates throughout the affected areas.</li> </ul>
10.	Health Department	<ul style="list-style-type: none"> <li>■ Coordinate assistance and response related to disaster within the District</li> <li>■ Prepare and implement hospital preparedness plan.</li> <li>■ Training of health workers on emergency preparedness and response.</li> <li>■ Providing efficient and quick treatment of the affected people during the disaster</li> <li>■ Prepare, keep and check ready Mobile Hospitals, stocks of equipment and drugs</li> </ul>
11.	PWD	<ul style="list-style-type: none"> <li>■ Have a disaster response plan or disaster response procedures clearly defined</li> <li>■ Site analysis and risk sensitive land-use planning</li> <li>■ Restoration of roads to their normal condition</li> <li>■ Repair/reconstruction of public utilities and buildings</li> <li>■ Training and capacity building of the department and functionaries.</li> </ul>
12.	Irrigation	<ul style="list-style-type: none"> <li>■ Preparedness and implementation of preparedness plan of the department</li> <li>■ Monitor and protect irrigation infrastructure in pre and post disaster situation</li> <li>■ Restoration of water supply to the affected area</li> <li>■ Arrange adequate material and manpower to maintain cleanliness and hygiene</li> </ul>
13.	HESCOM	<ul style="list-style-type: none"> <li>■ Restore the power supply and ensure uninterrupted power to all vital installation, facilities and site.</li> <li>■ Identify requirements of external equipment required such as DG sets, generators etc;</li> </ul>

		<ul style="list-style-type: none"> <li>■ Damage Assessment</li> </ul>
14.	Transport	<ul style="list-style-type: none"> <li>■ Overall coordination of the requirement of transport in implement emergency related response and recovery</li> </ul>
15.	Food and Civil Supplies	<ul style="list-style-type: none"> <li>■ Identify requirement of food and clothing for affected population;</li> <li>■ Control the quality and quantity of food, clothing and basic medicines</li> <li>■ Ensure the timely distribution of food and clothing to the people;</li> <li>■ Ensure that all food that is distributed is fit for human consumption</li> </ul>
16.	Information officer	<ul style="list-style-type: none"> <li>■ To provide and collect reliable information on the status of the disaster and disaster victims for effective coordination.</li> <li>■ Respect the socio-cultural and emotional state of the disaster victims while collecting information for dissemination.</li> <li>■ Coordinate with both print and electronic media to provide news flashes for specific do's, don'ts &amp; needs.</li> </ul>
17.	Animal Husbandry	<ul style="list-style-type: none"> <li>■ Establish procedures for coordination among local government agencies, volunteer organizations</li> <li>■ Assistance during emergency with regards to medical care, temporary confinement, shelter, food and water</li> <li>■ Disposal of dead and unclaimed animals</li> </ul>
18.	Forest	<ul style="list-style-type: none"> <li>■ Imparting special skills required during emergency operations to the officials</li> <li>■ Check available stocks of equipments and materials likely to be most needed after disaster.</li> <li>■ Assess the extent of damage to forests, nurseries and storage facilities</li> <li>■ A pests and disease monitoring system should be developed</li> <li>■ Training of the workers in disaster management</li> </ul>
19.	Municipality	<ul style="list-style-type: none"> <li>■ Land Usage</li> <li>■ Solid/ liquid waste treatment and management</li> </ul>
20.	PRED	<ul style="list-style-type: none"> <li>■ Strengthening the community based response by awareness and implementation of DM policy and guidelines</li> <li>■ Preparing the Community as first responder and local authorities as per Village Disaster Management Plan.</li> </ul>
21.	Education	<ul style="list-style-type: none"> <li>■ Building capacity at school level through various competitions and awareness campaign.</li> <li>■ To train the volunteers through NCC/ NSS etc. in Firefighting, First aid, and other disciplinary &amp; volunteering.</li> </ul>
22	Fisheries Dept.	<ul style="list-style-type: none"> <li>■ The fisheries development officer shall check the functioning of life saving appliances and provide and render services of such equipment.</li> <li>■ List to be prepared active fishermen, families with Livelihood activities and complete address for identification in case of emergency.</li> <li>■ Identification of vulnerable habitations, creek points, likely marooned areas, rate of inundation and receding waters, identify the locations where fishing craft are anchored and prone to damages.</li> <li>■ Ensure that boats and other equipments of fishermen are moved to safer places and secured. And ensure positioning the relief boats and</li> </ul>

		<p>expert swimmers, life saving appliances at vulnerable points for preventive and rescue activities.</p> <p>■ Mobilize expert swimmers to the cyclone / flood hit areas. And alerting the teams for post disaster activities</p>
--	--	---

## 1.7 How to implement 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.

## 1.8 Approval Mechanism of DDMP: Authority for implementation (State Level / District level orders)

The DM Act 2005 enjoins central and state governments to make provisions for the implementation of the disaster management plans. In this respect, the sections of the DM Act 2005 applicable for national, state, and district DM plans are 11, 23, and 31. The Chapters V and VI of the DM Act spell out the responsibilities of the central, state, and local governments with respect to disaster management. The DM Act states that every Ministry or Department of the Government of India shall make provisions, in its annual budget, for funds for the purposes of carrying out the activities and programmes set out in its disaster management plan. The Act mandates that every Ministry and Department of the Government of India and every state must prepare a DDMP in accordance with the SDMP/NDMP. Annually, respective DM authorities must review and update their DM plans. Central ministries and state governments will integrate DRR into their development policy, planning and programming at all levels. They must adopt a holistic approach and build multi-stakeholder partnerships at all levels, as appropriate, for the implementation of the DM plans.

## 1.9 Plan Review and Updates

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.

## 1.10 List of emergency /control room phone numbers

SL No	Name	Phone Number
1	Deputy Commissioner office Gadag District	08372-239177
2	Ron	08381-267006

3	Shirahatti	08487-242100
4	Natagund	08377-241343
5	Gadag	08372-248532
6	Mundaragi	08371-262237

### 1.11 Training and Rehearsals:

For effective implementation of Disaster Management Plan and to achieve above stated objectives, different Kind of training programmes has been conducted. Disaster Management Programme has Community based disaster Preparedness approach is being adopted for community level Awareness about Hazards and to create Disaster management Teams at village level. All formed teams were imparted subject related trainings. This will further enhance better understanding of individual's role and responsibilities in emergency response besides improving the overall coordinated efforts.

#### The main objectives of training plan are:

- Familiarizing key personnel involved in the plan with their equipment, the overall plans and their roles.
- Ensuring efficacy of emergency response mechanisms / resources.
- Reviewing the total plan, including communications and logistics, so that updating, modifying and training activities can be improved.

Team Drills - These rehearsals are conducted at regular intervals at least once in a year by individual task force team in order to improve the resource planning, coordination and application of resources. The responsibility of conducting such drills at specified frequency lies with the respective Task Force Leader.

Full-Scale Mock Drills - The ability of the emergency management team to perform a set of critical tasks under simulated conditions for different hazards are validated by conducting a full scale mock drill once in a year. This includes but not limited to management initiatives, response activities, direction, and control, mobilization of resources, communications, mitigation and post incident activities of all concerned. This is a field mock drill on a large scale involving all the task forces. After completion of every team drills and/or Full Scale mock drills, a debriefing meeting shall be arranged in which proceedings of the mock drills are discussed highlighting weak areas- shortfalls for effecting improvement in the plan.

## GLOSSARY

**Hazard** is an event or occurrence that has the potential for causing injury to life or damage to property or the environment.

**Disaster** can be defined as an occurrence, due to natural causes or otherwise, which results in large-scale deaths or imminent possibility of deaths and extensive material damage. In magnitude and intensity it ranks higher than an accident and requires special measures of mitigation, which is beyond the capabilities of the existing fire, rescue and relief services.

**Risk** is defined as a measure of the expected losses due to a hazard event of a particular magnitude occurring in a given area over a specific time period. The level of risk depends upon:

- The nature of the hazard.
- The vulnerability of the elements, which it affects.
- And the economic value of those elements

**Risk Assessment** means the quantitative evaluation of the likelihood of undesired events and the likelihood of harm or damage being caused by them, together with the value judgments made concerning the significance of the results.

**Risk Analysis** means the identification of undesired events that lead to the materialization of a hazard, the analysis of the mechanisms by which these undesired events could occur and, usually, the estimation of the extent, magnitude, and likelihood of any harmful effects.

**Risk Management** means the program that embraces all administrative and operational programs that are designed to reduce the risk of emergencies.

**Vulnerability** of an area is determined by the capacity or its social, physical and economic structures to withstand and respond to hazard events.

**Preparedness.** Those activities which governments, organizations, communities and individuals develop to minimize loss of life and damage and to organize and facilitate timely and effective rescue, relief and rehabilitation in case of disaster.

**Preventive Action** may be described as measures designed to prevent natural phenomena from causing or resulting in disaster or other related emergency situations, it involves the formulation and implementation of long – range policies and programs to prevent or eliminate the occurrence of disasters.

**Mitigation,** The concept of mitigation spans the broad spectrum of disaster prevention and preparedness. Mitigation means reducing the actual or probable effects of extreme disaster on man and his environment.

**Response** is the first phase, which occurs after the onset of an emergency and is intended to provide emergency assistance for disaster effects and casualties. This includes search, rescue, shelter, medical care, and other efforts to reduce the probability or extent of secondary damage.

## **CHAPTER 2**

### **DISTRICT PROFILE**

#### **2.1 GEOGRAPHICAL FEATURES**

Gadag district carved out of the erstwhile Dharwad district derives its name from Krutuka, Kratupur, Kardugu, and later become Galadugu, Gadugu and ultimately Gadag. Gadag is one of thirty districts of Karnataka state. With creation of the new district in 1997 with Gadag as its headquarters the district was given the name of the headquarters town called Gadag - Betageri.

##### **2.1.1 LOCATION**

Gadag a unique district located in the western part of northern Karnataka lies between 14.5<sup>0</sup> and 15.52<sup>0</sup> north latitude and 75.17<sup>0</sup> and 76.02<sup>0</sup> east longitude. The district is bounded by six districts namely Dharwad on the west, Belgaum on the northwest, Bagalkot on the north, Koppal on the east, Bellary on the south east, and Gadag on the southwest. Malaprabha River in the north and Tungabhadra in the south form the natural boundaries.

##### **2.1.2 AREA AND POPULATION**

The district spans over a total geographical area of 4657 square kilometers. It extends about 104 km from north to south and 84 km from east to west and the district has elevation of about 657.4 meters above MSL.

Gadag ranks twenty-sixth places in term of population in the state. The population of the district according to 2011 Census is 10,64,570 comprising 5,37,147 males and 5,27,423 females. According to the 2001 census the total population of the district was 9,71,835 consisting 4,93,533 males and 4,78,302 females. During 1991-2001 people have been added to the total population constituting a decadal variation of 9.5 per cent. As per 2011 census the rural population of the district is 6,85,261 and urban population is 3,79,309.

Gadag is relatively less densely populated because of the overall density of population in the district is 229 per sq km as compared to the state average of 276 per sq km as per 2011 census.

For every 1000 males there are on an average 982 females in Gadag district as compared to the state average of 965 as per 2011 census.

The population has increased in all the five taluks at the considerably different rates. The rural population is dispersed amongst 322 inhabited villages belonging to these five taluks and the urban population on the other hand is shared by 9 towns.

In Gadag district, the literate persons constitute 75.12 percent of the total population in 2011 as against 66.10 percent in 2001. This figure is almost near the state average of 75.36 in 2011 and 66.10 in 2001. However, during the past many years there has been a steady substantial increase in the proportion of literates in the population of the district.

**TABLE: TALUKAWISE NUMBER OF VILLAGERS AND TOWNS, AREA, POPULATION, DENSITY IN GADAG DISTRICT**

SL NO	Name of Taluka	No, of inhabited villages	No. of Towns	Area in sq. km	Population (2001census)			Density per sq km
					Male	Female	Total	
1	2	3	4	5	6	7	8	9
1	GADAG	60	2	1097	184572	182686	367258	34.50
2	MUNDARGI	54	1	884	66856	65041	131897	12.39
3	NARAGUND	32	1	435	51276	49347	100623	9.45
4	RON	93	3	1292	132566	131557	264123	24.81
5	SHIRHATTI	83	2	949	101877	98792	200669	19.84
	<b>TOTAL</b>	<b>322</b>	<b>9</b>	<b>4657</b>	<b>537147</b>	<b>527423</b>	<b>1064570</b>	<b>100.00</b>

## 2.2. TOPOGRAPHIC MAP WITH MAIN FEATURES

The landscape of Gadag district consists of mainly of vast stretches of plains. The southwestern part of the district covering Shirahatti, Mundargi and Gadag taluks is covered by low hills and meandering streams. The eastern and the northern portion consists of vast expanses of plain country. This region is well drained by a number of streams of which specific mention may be made of Bennihalla, a tributary of Malaprabha.

The soils of the district are formed from the decomposed rocks of all types. The soils generally found in the district are deep black cotton soil, sand mixed red soil and red soil. The district is drained in its boundary by two main rivers - the Malaprabha in the north and Tungabhadra in the south. Bennihalla flows through the black soil plains of the northern part of the district. The

district has several important streams most of which are seasonal. A special mention may be made of Hirehalla, Alur halla and shiratti halla which drains the Gadag - Mundargi region, the Gadag-Ron track and the south-western margins of the Kappatagudda range respectively. The district has numerous tanks as well.

### 2.3 CLIMATE

Gadag district has an agreeable and healthy climate. Within the district the southern belt has a more pleasant weather. The year is usually divided into four seasons. Summer sets in during the second half of February and lasts till the end of May. This season is marked by harsh eastern winds, rising temperatures, whirlwinds, and occasional thunderstorms accompanied by sharp showers. South - west monsoon season starts during early June and lasts till the end of September. This is a period of cool and damp climate. The months of October and November constitute the post monsoon or the north - west monsoon season and this period witnesses a gradual rise in day temperatures and a substantial amount of rainfall as well. The winter season covers the period from December to mid February. The district enjoys a moderate weather and is not subject to extremes either during summer or winter. The average maximum temperature of 37.3<sup>0</sup> C is in the month of April. December has the minimum temperature of 16.5<sup>0</sup> C. The wind blows at the speed of 18.2 km/ph, 19.6 km/ph and 17.5 km/ph during the months of June, July and August respectively.

Gadag district receives average annual rainfall of 612.5 mm and within the district the quantum of rainfall and the average number of rainy days decreases as one move from west to east. During the south west monsoon season 56 percent of the annual rainfall precipitates. There are 15 rain gauge stations in the district.

### 2.4 LAND USE PATTERN

Gadag is predominantly an agriculture district and cultivable land is the backbone of its economy. Since the district covers an area of 4656 square kilometers and has a population of 10,64,570 (2011 census) the average extent of land available per capita is 0.48 hectares. According to the latest land utilization statistics, out of the total geographical area 75.71 percent is the net area sown.

**TABLE: LAND UTILISATION IN GADAG DISTRICT**

SI NO	Type of land	Area in Hectares	Percentage
1	Forests	32614	7.00
2	Barren and Uncultivable land	12024	2.59
3	Land put to non agriculture use	11368	2.44
4	Permanent pastures and other grazing land	2598	0.56
5	Miscellaneous trees, drops, grows not	270	0.05



	included in net area sown		
6	Cultivable waste	1010	0.21
7	Current follows	26262	5.64
8	Other fallow lands	3036	0.65
9	Net Area sown	376533	80.86
	<b>TOTAL</b>	<b>465715</b>	<b>100.00</b>

The distribution of land holdings by size group is shown in the following table. It is obvious that the distribution of land holdings is quite uneven. 79.29 per cent of the holdings in the district are of less than 4 hectares.

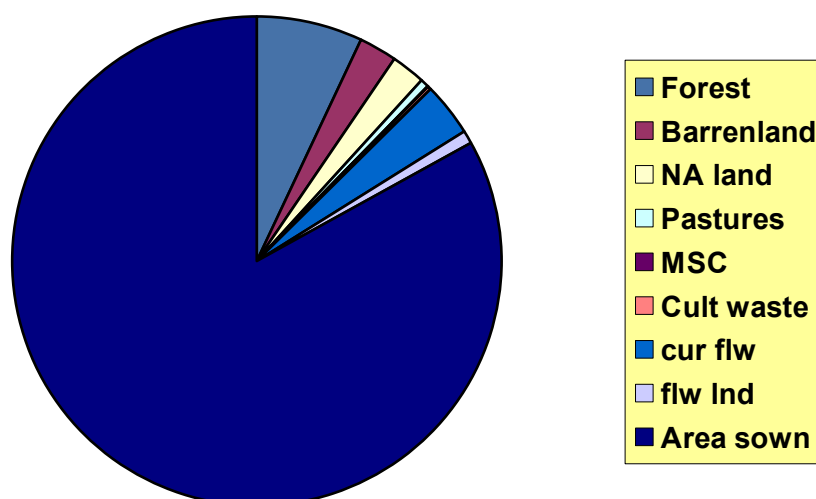


TABLE: DISTRIBUTION OF LAND HOLDINGS BY SIZE GROUPS IN HECTARES  
(As per Agriculture Census 2010-11)

Size of the holding (in Ht)	Number	Percentage	Area	Percentage
Less than 1 ha	35514	21.72	21316	5.46
1 to 2 ha	60153	36.80	87828	22.50
2-4 ha	43614	26.68	118666	30.40
4-10 ha	21237	12.99	122583	31.41
10 ha and above	2948	1.81	39936	10.23
<b>TOTAL</b>	<b>163466</b>	<b>100.00</b>	<b>390264</b>	<b>100.00</b>

## 2.5 FOREST

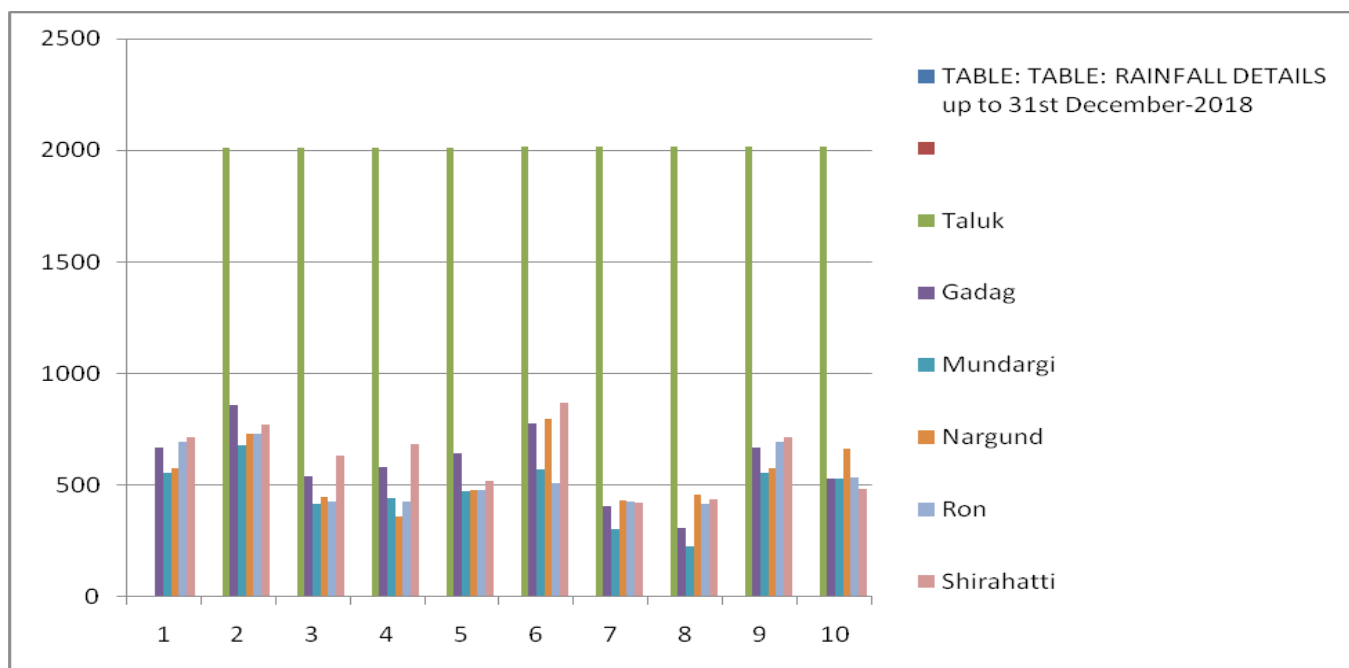
The district is deficient in forest wealth. Forest occupies about 7 percent of the total geographical area and a large part of it belongs to the shrub category. The district is also not rich in fauna.

## 2.6 RAINFALL

The districts substantially depend on the monsoon rains. This year and even in the previous years, the spatial distribution of rainfall has been quite abnormal throughout the season. The table below and the tables appended as annexure give the detailed analysis of the rainfall during the seasons and in the previous years.

**TABLE: TABLE: RAINFALL DETAILS up to 31<sup>st</sup> December-2019**

Taluk	Normal	Actual Rainfall (M.M.)									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Gadag	671.0	856.6	539.9	579.4	642.1	775.0	405.5	310.07	530.14	560.5	
Mundargi	554.0	680.9	416.7	441.0	473.0	572.9	303.3	228.4	531.3	305.9	
Nargund	575.0	730.7	449.3	360.8	480.6	798.4	429.7	457.2	663.8	450.5	
Ron	694.0	730.2	426.0	429.2	477.4	510.9	424.8	415.3	533.8	421.3	
Shirahatti	714.0	769.8	631.5	683.5	518.3	869.3	420.6	439.3	486.0	490.8	



Due to the failure of the southwest monsoon all the five taluks of the district are facing severe scarcity conditions. The erratic and unfavorable behavior of the monsoons has caused lowering of the ground water table to an alarming extent and widespread damage to kharif crop, which has in turn severely disrupted the rural economy. This implies that the district has been experiencing all types of drought namely - meteorological, agronomic and hydrological.

### 2.6.1 IRRIGATION

The absence of any major irrigation project in the district highlights the vulnerability of the agricultural economy and emphasizes the importance of dry land farming in its overall economy. The Right Bank canal of Malaprabha Project located in neighboring Savadatti taluka of Belgaum district irrigates the entire Nargund taluka (all 35 villages) and portion of Ron taluka (12 villages). The other sources are tanks, wells, bore wells and lift irrigation.

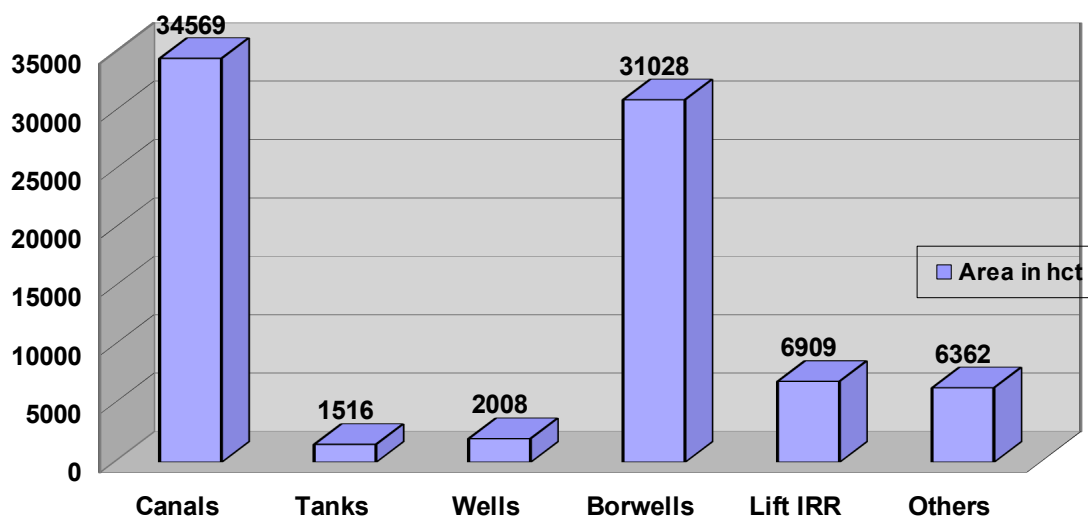
About 21.30 percent of the net area sown is having irrigation facilities. Canals account for 41.95 percent and wells account for 2.43 percent of the total irrigated areas. Source wise details are given in the following table.

**TABLE: SOURCEWISE NET AREA IRRIGATED IN GADAG DISTRICT**

**(As per 2017-18 Annual Season Crop Report)**

Sl No	Source	Net area irrigated in hectares	percentage
1	Canals	28700	28.88

2	Tanks	1319	1.32
3	Wells	2487	2.50
4	Bore wells	36977	37.29
5	Lift irrigation	0	0
6	Others	29879	30.00
	<b>TOTAL</b>	<b>99362</b>	<b>100 %</b>



## 2.7 CROPPING PATTERN

Agriculture contribution is about 71 percent of the income of the district. The main food crops are jowar, wheat, maize and pulses while the important commercial crops are groundnut, chilies, onion, and cotton. The net sown area of 3.86 lakh hectares constitutes about 75.87 percent of the geographical area which is far higher than the state average of 58 percent. The Right Bank Canal of Malaprabha Project which is covering Nargund and Ron taluks of the district at present is expected to be extended which would bring in an additional area about 0.40 lakh hectares under irrigation. After completion of Huligudda Lift Irrigation project another 0.24 lakh hectares will come under irrigation.

Of the gross cropped area, cereals occupy about 29 percent followed by pulses 18 percent, oilseeds 36 percent, and commercial crops 17 percent. Gadag contributed substantially to the states total production of cotton, groundnut onion and jowar. Though the productivity has shown a declining trend in the last few years, it is performing better than the state in terms of production and yield with reference to pulses, jowar, groundnut and cotton. The major horticultural crops grown in the district are pomegranate, beer, chickoo and flowers. Sericulture activity, though made a beginning, is yet to pick up in the district.

The small and marginal farmers account for about 42.43 percent of the total land holdings with 19.34 percent of the total land. Medium sized (2 to 4) land holdings constitute 31.06 percent of the total holdings and account for 31.06 percent of the land. The large sized holdings (above 4 hectares) account for 19.82 of the holdings and 49.60 percent of the land. The average size of operational holdings is 3.24 hectares which is bigger than that the state average of 2.41 hectares.

## 2.8 EDUCATIONAL INFORMATION

Gadag District has got good facility for education fields. In the district No of Government and Private educational institutions were present details are as below

Sl. No	SUBJECT	UNITS	GADAG	RON	NARA GUND	MUND ARG	SHIRA HATTI	TOTAL
1	Primary Schools	Nos.	827	224	84	129	198	1462
2	High Schools	Nos.	111	79	31	41	57	319
3	Pre-University, Colleges	Nos.	44	24	08	11	14	101
4	Colleges	Nos.	10	05	01	02	02	20
5	Technical Colleges(Engg)	Nos.	02	00	00	00	01	03
	Polytechnic	Nos.	04	01	00	00	01	06
6	Anganawadis	Nos.	333	300	130	172	231	1166

## 2.9 HEALTH INFORMATION

Gadag district has got good and efficient health institutions. The details of health institutions and private doctors present in the district as below

Sl. No	SUBJECT	UNITS	GADAG	MUND-ARGI	NARA - GUND	RON	SHIRA-HATTI	TOTAL
1	Community health centers	Nos.	0	01	01	02	02	06
2	Primary Health Centre	No.s	12	07	03	11	06	39
3	Ayurvedic Hospitals	Nos.	09	06	--	07	--	22
4	Dispensaries	Nos.	1	1	--	1	--	3
5	Private Hospitals	Nos.	311	37	41	114	67	570

## 2.10 RELIGIONS

Gadag district is mainly consisting of Hindu religion along with Muslim, Jain, and other religions.

## 2.11 TOWNS AND VARIOUS OTHER INSTITUTIONS

### ADMINISTRATION:

Gadag district forms part of Belgaum Division which is the one of the four administrative divisions in which the state is organized. The headquarters of this division are located in Belgaum city.

Deputy Commissioner is the head of the district administration -general, revenue, and development. As a District Magistrate he is responsible for maintenance of law and order in the district.

Gadag district is divided in to 5 talukas namely; **GADAG, MUNDARGI, NARGUND RON, SHIRAHATTI**, under the charge of Tahsildars which are grouped into one revenue sub-division under the charge of Assistant Commissioner with headquarters at Gadag. The entire revenue sub-division forms the district. These seven taluks are in turn divided into 11 revenue circles or hoblies. The district has 329 villages and 9 towns including Gadag-Betageri city municipal council. As provided in the Karnataka Gram Panchayat Act 1993 the district is divided into 122 gram panchayats with 1769 members. The talukawise distribution of villages, revenue circles, towns and gram panchayats are shown in Table given below;

**TABLE: TALUKAWISE NUMBER OF VILLAGES REVENUE CIRCLES, TOWNS, AND GRAM PANCHAYATS.**

SL NO	Name of Taluka	No. of villages			revenue circles	No. of Towns	Gram panchayat	chayat members
		Inhabited	Uninha- ted	Total				
1	2	3	4	5	6	7	8	9
1	GADAG	59	0	59	2	2	27	411
2	MUNDARGI	53	0	53	2	1	13	247
3	NARAGUND	35	0	35	2	1	35	157
4	RON	95	0	95	3	3	19	465
5	SHIRHATTI	87	0	87	2	2	28	341
	<b>TOTAL</b>	<b>329</b>	<b>0</b>	<b>329</b>	<b>11</b>	<b>9</b>	<b>122</b>	<b>1621</b>

## 2.12 RIVERS AND DAMS

Gadag District is surrounded by Tungabhadra River in the southern border i.e. in the border of Shirahatti and Mundaragi Taluka and By Malaprbha River in northern border i.e. in the border of Nargund and Ron taluka

Big Dams are not present in the Gadag District. But a small dam construction work is in progress across the Tungabhadra River near Hammige village in Mundaragi taluka under Huligudda Lift irrigation project.

### **2.12.1 POWER STATIONS AND ELECTRIC INSTALLATIONS**

Gadag District has got well installed power supply system. In Gadag district one number of 220 KV station, fourteen numbers of 110 KV stations and seven number of 33 KV stations are present. All the villages of Gadag district have been covered by power supply.

### **2.12.2 POWER PROJECTS**

In Gadag District there is no big power projects are situated. But in Mundaragi Taluka Near Hammagi, a small hydal power project in association with private organization across the Tungbhadra river is in progress.

### **2.13 INDUSTRIES AND MINES**

Gadag is a major industrial centre next to Dharwad- Hubli in northern Karnataka. Due to slow improvement in infrastructure, especially power and transport, industrial growth has been slow. The small scale industries in the district constituted about 2.1 percent of the total units in Karnataka. Of these, nearly 40 percent are located in rural areas has against the state proportion of about 38 percent. The district accounted for about 2.7 percent of small scale sector employment in the state. The per unit employment, investment in plant machinery, capacity utilization are also lower than the state average. Falling in line with the state, food and food processing industry provides the highest employment in the district followed by textiles, printing, metal products, machine tool, furniture and paper products. About 25 percent of the workers are self employed in the district as against the state average of 22 percent.

Gadag district does not have big industries. Only small and medium scale industries are present. These industries include 37 textile industries, 6 engineering industries and 121 other industries.

Out of 5 taluka, Gadag has got more no of these industries and next is Shirahatti and Ron taluka. In Nargund and Mundaragi taluka are behind in industrial potentiality is very low.

### **2.14 TRANSPORT AND COMMUNICATION NETWORK**

Gadag District has got good transport and communication network. Gadag Town i.e. district head quarter is connected with one national Highway and three state highways and also with railway and all other taluks were connected with state highways and other main district roads.

Overall in the district road communication is very good and in the district total **45 KM** National Highway, 709.52 KM State Highway, 1187.84 KM Major District Road and 2800 Km other road is present.

The telecommunication facilities up to Panchayats, Wireless Communications with Police/Forest/Fire, folk media and publicity materials through pomp lets will be used. Messages through Transport operators for remote areas, Information centers, Notice boards in Panchayats and in public places and any other mode of communications available will be taken in to account.

### 2.15 DEMOGRAPHY

In Gadag District, the literate persons constitute 66.10 percent of the total population in 2001 as against 55.88 percent in 1991. This figure is almost near the state average of 56.04 in 1991 and 67.04 in 2001. However, during the past many years there has been a steady substantial increase in the proportion of literates in the population of the district.

As per the census 2001, the density of the district is 209. In the district 4.58 lakh workers and 5.14 lakh non-workers were present. The % of workers to the population of the district is 47.12 %. Out of these workers, 3.89 lakh main workers and 0.69 lakh part time workers are present.

The main occupation of the people in the district is agriculture, and other small scale industries workers, i.e. civil construction, weaving, carpentry, engineering and other allied works are the main occupation of the people of the district.

### 2.16 TYPE OF WORKERS

Sl.No.	Type of Workers							
	Skilled Workers		Semi Skilled Workers		Unskilled Workers		Total Workers	
	M	F	M	F	M	F	M	F
01	--	--	--	--	2019	681	2019	681



**2.17 INDUSTRIES:**

Sl. No	Name of the Taluk	Name of the Industries	Government/ Private	Type of industry	Man-power employed	Infrastructure available	Investment	Production	Insured or not	Disaster plan prepared (yes or no)
1	Gadag	Vijanagar Sugar Pvt Ltd Gangapur village 582118	Private	Large & Megha	507	Yes	487	Sugar, Power ENA, Ethanol, Spirit	Yes	Yes
2		The farmers Co-Op Spinning mills Ltd, Hulakoti			130	Yes	20.36	Cotton Yarn	Yes	Yes
3		Sri Someshwar Farmers Co-Op Spinning mills Ltd. Laxmeshwar			269	Yes	14.33	Cotton Yarn, ranges 20s to 60s both carded and combed	Yes	Yes
4		The farmers Co-Op Olis Ltd Binkadakatti Tq Gadag		Medium	20	Yes	6.91	Cotton cake, Washed oil	Yes	Yes
5		The Gadag Co-Op textile mill Ltd			171	Yes	8.2	100% cotton Yarn	Yes	Yes
6		M/S S R Ballary and Co Sy no 210/10 Shirahatti			29	Yes	5025	M-Sand	Yes	Yes
7		Karnataka OEM and Spares Pvt.Ltd No 119 & 120 KIADB Ind area Narasapur		Small	184	Yes	1.60	Fastemers	Yes	Yes
8		Karnataka OEM and Spares Pvt.Ltd No 64A GCIE Hubli Road Gadag			57	Yes	1.70	Fastemers	Yes	Yes

## CHAPTER 3

### HAZARD, VULNERABILITY, AND RISK ASSESSMENT

#### 3.1 INTRODUCTION

Depending upon the vulnerability of the district, disaster wise management plan has been prepared which is explained in detail as below. Different departments have different role to play in disaster period. Each department's preparedness in terms of different disasters, their capabilities and also any deficits have been assessed and given in annexure.

Gadag district as we know is not much prone to majority of the disasters. The most important, immediate disasters and frequent disasters which occur in the district are drought and heavy rains/flash floods.

During the last several years the district has been facing calamities of one type or the other. The district has had a telling experience of vagaries of nature. With marked fluctuations in monsoons, it has these entire years, faced drought and flood/heavy rains situations alternatively or even simultaneously.

#### **High frequency and high Impact**

##### 3.1.1 DROUGHT

Drought is a slow and natural hazard. It creates a situation of scarcity and distress usually caused by failure of monsoon, affecting agricultural activities leading to loss of production and employment, shortages of drinking water, deficiency in supply of food and fodder. Under such situation people being helpless go in search of an alternative employment to earn their livelihood.

The districts agricultural and food production substantially depend on the monsoon rains.

Due to the failure of the southwest monsoon all the five taluks of the district are facing severe scarcity conditions. The erratic and unfavorable behavior of the monsoons has caused lowering of the ground water table to an alarming extent and widespread damage to kharif crop, which has in turn severely disrupted the rural economy. This implies that the district has been experiencing all types of drought namely - meteorological, agricultural and hydrological.

### **3.1.2 FLOODS**

Gadag District is not much prone to major floods. In 1992 the villages on the Bank of Malprbha and Tungabhadra River in Nargund, Ron and Mundargi taluka have faced the flood situation.

In September 2007 due to heavy rain within the 3 days, water flow was above its level In Malaprbha Rivers and nalas leading to the river. It leads to the submergence of some villages in Nargund and Ron taluka and also caused the heavy damages to the public and private property. Due to this flood district has suffered heavy loss.

### **3.1.3 FLASH FLOODS AND HEAVY RAINS**

Gadag district is much prone to these types of calamities. During the rainy season due to heavy rain, damages are caused to public and private properties.

The heavy of excessive rain which occur mainly during August, September and October months lead to flash floods in majority of the streams flowing in the district. The streams rescued within a day or two but cause accidental deaths-Human and cattle deaths, house collapse and the loss to public properties like buildings, roads, bridges, culverts and tanks.

## **Low frequency and High Impact**

### **3.1.4 EARTHQUAKE**

Earthquake vibrations cause damage to the life and property due to collapse of structures especially if they are not properly engineered. Several related changes accompanying earthquake like the following

- Surface deformation in the surface of the earth
- Fluctuation in the ground water table
- Emission of sounds
- Appearance of ground fissures

In the light of recent devastating earthquake in Gujarath, Karnataka also has been feeling tremors. It is imperative to prepare the district disaster management plan.

## High frequency and Low Impact

### 3.1.5 INDUSTRIES AND CHEMICALS ACCIDENTS

In view of growth of population, industries and chemical sectors are reported to be higher. For example, Bhopal gas accident has cautioned the industries to be careful & to have safety measures.

### 3.1.6 EPIDEMIC AND BIOLOGICALLY RELATED DISASTER

The Health Department will be entrusted with chlorinating and cleaning of Water available in the area affected and ensures additional beds at district and Taluka level hospitals to meet eventualities at the time of disaster. Sufficient medicines will be kept ready at various levels. Taluka level teams and village level teams along with doctors and Para Medical Workers can be pressed into service at any emergency situation. Health Centres have been nominated

## Low frequency and Low Impact

### 3.1.7 FOREST FIRE

Forest fires are a major cause of degradation of our forest resources. There are a number of tangible as well as intangible losses due to forest fires and they cause environmental threat to the affected area. However for effective control it is necessary to take all the necessary measures to combat forest fires.

#### **CAUSE OF FOREST FIRE**

- People put fire to the forest to get fresh thatch of grass
- Hunting Wild animals in the forest
- To celebrate Holy festival
- Putting fire to the malki boundaries and leaving it without putting it off

### 3.1.8 CYCLONE

The cyclone is another devastating disaster affecting life. It usually occurs coastal line. There are two cyclone sessions. First is the pre-monsoon (April & May), Second is the post-monsoon (October to December). The cyclones of the post monsoon are the most intense. These types of cyclones rarely take place. The Gadag District has never witnessed any cyclone, so far, however it is accidental it and may occur any time.

### **CYCLONE WARNINGS**

**The cyclone warnings are through the following media**

- Priority Telegrams
- Telecast through Doordarshan.
- Broadcast through All India Radio.
- Bulletin to the press,
- Satellite based disaster warnings,
- Teleprinters /Telfax /Telephones/etc.

### **Proneness to various types of Hazards /Disasters In Gadag**

<b>Name of Taluka</b>	<b>Time of occurrence</b>	<b>Potential Impact</b>	<b>Vulnerable Areas</b>
<b>Flash Flood</b>			
Gadag	July /August	Loss of crop Loss of human life, Cattle, Damage of Houses and properties	Entire Taluka
Ron	October/November		Entire Taluka
Mundaragi			Entire Taluka
Nargund			Entire Taluka
Shirahatti			Entire Taluka
<b>Flood</b>			
Nargund	August / September	Loss of Crop, Human Lives, Cattle Loss, Houses and property losses	22 villages
Ron			12 Villages
Shirahatti			08 Villages
Mundaragi			12 Villages
<b>DROUGHT</b>			
Gadag	August / September	No Crops Employment problem Drinking Water problem Fodder Problem	Entire Taluka
Ron			Entire Taluka
Mundaragi			Entire Taluka
Nargund			Entire Taluka
Shirahatti			Entire Taluka

**Past History of Disasters in Gadag District (Taluka Wise ) 1990 onwards**

Sl. No.	Taluka	Types of hazard	Year of occurrence	Area affected	Human loss	Crop loss Area/ (Lakhs Rs)	Housing damage No.of houses (Lakhs Rs)	Infrastructure damage	Animals affected
1	2	3	4	5	6	7	8	9	10
1	Gadag	Heavy Rain and Flood	09/2007, 03/2008 & 11/2008	33 Villages	14	16922-34 Rs.2562.00	9274 Rs.529.97	Roads, Bridges & CD's Tank	994
2	Mundargi		09/2007, 03/2008 & 11/2008	18 Villages	05	25642-00 Rs.3458.93	6448 Rs.421.50		45
3	Naragund		09/2007, 03/2008 & 11/2008	Entire Taluk	09	25564-00 Rs.5280.58	9520 Rs.637.75		12
4	Ron		09/2007, 03/2008 & 11/2008	Entire Taluk	05	43073-96 Rs.9354.57	7576 Rs.231.20		59
5	Shirahatti		09/2007, 03/2008 & 11/2008	Entire Taluk	21	24238-30 Rs.5920.12	9085 Rs.224.91		920

### The Details of Losses Due to Heavy Rain during Sept./Oct.2009

Sl. No.	Taluka	Types of hazard	Year of occurrence	Area affected	Human loss	Crop loss Area/ (Lakhs Rs)	Housing damage No.of houses (Lakhs Rs)	Infrastructure damage	Animals affected
1	2	3	4	5	6	7	8	9	10
1	Gadag	Heavy Rain and Flood	09/2009, & 10/2009	08 Villages	02	42815-00 Rs.1250.22	10981 Rs.842.00	Roads, Bridges & CD's Tank	61
2	Mundargi		09/2009 & 10/2009	38 Villages	01	18450-00 Rs.1632.20	8798 Rs.630.52		40
3	Naragund		09/2009 & 10/2009	18 Villages	05	19384-00 Rs.1584.00	9465 Rs.824.10		45
4	Ron		09/2009 & 10/2009	34 Viillages	07	72745-00 Rs.4500.00	23997 Rs.2091.40		233
5	Shirahatti		09/2009 & 10/2009	39 Villages	01	34399-00 Rs.965.90	11241 Rs.814.22		107

### The Details of Losses Due to Flood and Heavy Rain during August – Oct 2019

Sl. No.	Taluka	Types of hazard	Year of occurrence	Area affected	Human loss	Crop loss Area/ (Lakhs Rs)	Housing damage No.of houses (crore Rs)	Infrastructure damage	Animals affected
1	2	3	4	5	6	7	8	9	10
1	Naragund	Heavy Flood and Heavy Rain	August to October 2019	16 Villages	0	14730.2 ha Rs.1839.139	1682 Rs.84.10	Roads, Bridges & CD's Tank 584.14 Rs.2882.73	19
2	Ron			16 Villages	0		793 Rs.39.65		34
3	Shirahatti			04 Villages	0		48 Rs.28.50		04

**Seasonality chart of Disasters**

**Gadag Sub-division**



<b>Months</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
Name of the Disaster	-	-	-	-	-	-	-	-	-	-	-	-
Heavy Rain	-	-	Un expected Rain	Un expected Rain	-	Heavy Rain	-	-	-	Heavy Rain	Heavy Rain	-
Flood	-	-	-	-	-	-	-	-	Flood	-	Flood	-
Drought	-	-	-	-	-	Less Rain	Less Rain	Less Rain	-	-	Less Rain	Less Rain

## CHAPTER 4

### PREPAREDNESS

Capacity Analysis regarding different disasters and preparedness of District administration is discussed in detail below;

#### 4.1 PREPAREDNESS OF THE DISTRICT FOR DIFFERENT DISASTERS

##### 4.1.1 DROUGHT

District Task Force Committee convened under the Chairmanship of the Deputy Commissioner has review the situation frequently and the district is prepared to face the drought situation. Immediate measures have been taken on the following lines.

##### a) Drinking Water Supply

Due to the continuous dry spell, the underground water in the worst hit areas has depleted to a large extent and the scarcity of drinking water has been reported right from April. To meet the essential need of the public, rejuvenation of drinking water bore well and drilling of additional bore wells have become inevitable. In this

regard following action has been taken both in urban and rural areas.

1. Water is being supplied through tanker in affected villages of the District
2. Regular water supply scheme have been got energized. Some schemes which have failed on account leakages in pipelines have been rectified.
3. Hand pumps have been got repaired
4. Deepening of existing bore wells and sinking of new bore wells have been taken up under calamities relief fund.
5. Enough power supply has been ensured for working of rural water supply schemes.
6. Open wells wherever available have been got cleaned.
7. Action has been taken to get the water released from Malaprabha and Tungabhadra reservoir through canals for getting the drinking water tanks filled. This will solve the drinking water problem of about 75 villages of Naragund, Ron and Mundaragi taluks.

##### b) Employment Generation:

The majority of the people in the district depend mainly on agriculture for their livelihood. The inadequate agricultural operations have left the agricultural laborers and small and marginal farmer's unemployed/underemployed. Therefore, it is necessary to provide employment to the vulnerable population.

There are 128535 agricultural laborers, 9245 marginal farmers and 32128 small farmers in the district totaling 130093.

Employment will be provided under Mahatma Gandhi National Rural employment Generation Scheme through the year

### **c) Fodder Supply**

Though availability of fodder is not a problem initially latest reports indicate that it is necessary to assist the farmers. There is a need to take some immediate precautionary measures.

To give fodder at the rate of 6 kgs per adult cattle the district requires 1331 metric tons of fodder per day. To meet the fodder requirements and to help the farmers the following steps have been taken.

⇒ **Thirty one fodder banks have been identified. They are**

- Gadag taluk                      Binkadakatti, Lakkundi, Mulagund, Hanganakatti, Huilgol, Kotumuchagi, Balaganur
- Mundaragi taluk                Hllikeri, Doni, Kadampur, Bagewadi
- Naragund taluk                 Nargund, Kanakikoppa, Shirol, Konnur
- Ron taluk                         Rajuru, Halkeri, Chikkamannur, Madalgeri, Hole-Alur, Hullur
- Shirahatti taluk                Majjur, Shirahatti, Lakshemshwar, Magadi, Balehosuru, Sigli, Gojanur, Bellatti, Koganur, Kadakol

⇒ **It has been planned to open Goshals in the following Nine places**

- Gadag taluk                      Kurtakoti, Lakkundi
- Mundargi taluk                 Dambal
- Naragund taluk                 Bhairahanatti
- Ron taluk                         Nagendragad, Savadi, Hole-Alur
- Shirahatti, taluk                Majjur, Shettikeri tanda.

⇒ Initially fodder will be collected from donors and will be stored in the fodder banks

- ⇒ Fodder will be purchased from the neighboring districts.
- ⇒ Fodder cultivation will be taken up in the areas of river basins, lands having lift irrigation and tube wells, in the tanks of minor irrigation. The agriculture departments will take-up cultivation of fodder of African tall, maize, jowar, bajra.
- ⇒ The needy farmers who have the vehicles will be given transportation charges for purchasing fodder from other places. This is work will look after by Concerned Tahasildars.
- ⇒ Orders banning movement of fodder to outside the state have been passed.

#### **d) Alternate Action Plan of Agricultural and Horticulture Departments**

Both these departments have drawn detailed action plan explaining the alternatives available with the farmers if rains do not come for some more time. Action is being taken to publicize these plan on radio, pomp lets, news paper and through other media and also through the **Raith Sampark Kendras** to make the farmers aware of the various alternatives available with them. The necessary seeds urgently required for the above purpose has been ensured.

#### **e) Taluka Contingency Plans**

The Task Force Committees of each taluk have prepared detailed contingency plans for the drought situation. The plans include the works proposed to be taken and the funding sources.

#### **f) Food grains**

There are 360 fair price shops in the district. Necessary food grains and other essential commodities will be supplied through these shops. The Food and Civil Supplies department will closely monitor the prices and check the artificial scarcity.

#### **g) Health, Sanitation and Nutrition Issues**

Action has been taken in this regard on the following lines

Provision has been made to adequate health care facilities- storing of adequate medicines.

Inoculation against diseases/ disinfect against biological Contamination

Provision of supplementary nutrition/through ICDS/Anganawadi/ to the vulnerable groups

#### **h) Drought Disaster Management Teams**

Teams constituted at district, taluk and village level will meet frequently. They will also supervise, monitor regularly the situation. The village level committee will regularly report to the taluk level committee which in turn will report to the district level committee.

**i) 4.1.2 FLOOD, FLASH FLOOD and HEAVY RAINS**

**j) FLOODS**

District administration has taken all measures to rescue the affected people and provided immediate relief to the victims such as food, clothing etc.

However the district has been preparing every year the action plan for flood control, mitigation and rehabilitation. The Taluka taskforce committee has also prepared the action plan on the same line.

**a) Identification of Flood Prone Village**

There are total 35 flood prone villages in the district. Taluka wise details are given in the following table. Four Villages in Nargund taluk are affected by flash floods of Bennihall.

SI No	Name of the Village	SI No	Name of the Village	SI No	Name of the Village
<b>A</b>	<b>Shirahatti Taluka</b>	<b>B</b>	<b>Ron Taluka</b>	<b>C</b>	<b>Nargund Taluka</b>
1	Itagi	1	Holemannur	1	Muganur
2	Sasalawad	2	Gadagoli	2	Banahatti
3	Kalliganur	3	Hole-Alur	3	Kurlageri
4	Tolali	4	Amaragol	4	Surkod
5	Hammagi	5	HoleHadagali	5	Hadli
<b>D</b>	<b>Mundargi Taluka</b>		Kuruvinakoppa	6	Gangapur
1	Singatalur		Menasagi	7	Khanapur
2	Hesarur		Basarkod	8	Raddernaganur
3	Korlahalli		B S Beleri	9	Vasan
4	Gangapur		Malwad	10	Belleri
5	Hammagi		Bopalapur	11	Lakhamapur
6	Gummagol		Gulagundi	12	Budihal
7	Shirannahalli		Yavagal	13	Kapli
8	Bidarahalli		Y S Hadagali	14	Kallapur
9	Vittalapur		Asuti	15	Shirol
10	Kakkur		Karamadi	16	Konnur

### **b) Rehabilitation centers**

The list of houses and the list of families which are normally affected are prepared and is maintained in the Gram Panchayat and also by the respective Tahasildars. The ADC, AC, Village Accountant and PDO visits each house and the families are alerted about the flow of water. They will be asked to shift immediately with their belongings to the nearest safe place i.e. rehabilitation centers. These rehabilitation centers are mainly Government Schools Sabha Bhavan, etc..

Each center is looked after by the Camp level committee consisting of Garm Panchayat PDO, Secretary, Village Accountant, Agriculture Assistant, Gram Panchayat Adhyaksha and local Gram Panchayat members. These centers will be supervised by Taluka level and district level Nodal Officers.

On receiving the flood warning affected people will be evacuated by road, if floods have not hit the area. Once the floods have hit, boats, Helicopter, Train rafts at villages, rehabilitation centers will be in action and care will be taken to include in each rescue team,

Depending on the situation, the following personnel will be engaged in evacuation and rescue operations. 1) Police, 2) Home Guards, 3) Ex Servicemen, 4) Pre trained local men. 5) NDRF and SDRF, 6) Civil Defense team 7) Fire service team.

Care will be taken to safe guard the belongings left behind by the people in the evacuated areas. District and Taluk level Nodel offices, local residents like Adhyaksh, Panchayat members, social workers, Village Accountants and other officers will be involved in patrolling such areas in the night. It will be ensured that members of the family are evacuated together to the safe place. If human death takes place, such deaths will be promptly reported and corpse disposed off.

### **c) Drinking Water and Food**

District administration will ensure to make available cooked and dry food to all the evacuated at the relief camps. NGO's will be encouraged to run kitchen at the rehabilitation centers Food Grains will be provided to them by the district administration. Adequate safe drinking water will be provided through the tankers which are already kept in the ready position.

### **d) Health and Sanitation**

The Health Department will be entrusted with the chlorinating and cleaning the water available in the area affected and wherever there is a need, people will be asked to use boiled water on the advice of the Health Department. Health Department will be alerted to ensure additional beds at

the district and taluka level hospitals to meet the eventualities. Sufficient medicines will be kept ready at the various levels.

At taluka level team of doctors and paramedical workers, who can be pressed in to services at any emergency situation would be kept ready. In all 37 health centers have been nominated are marked to serve the victims of flood prone areas in the district. All efforts will be made to prevent epidemics during the floods. This will be ensured by stocking safe drinking water and food and by removing and disposing of dead bodies of animals and human. The drinking water will be tested. Adequate publicity will be made to create awareness among the people.

**e) Animal Husbandry**

The medicines required for cattle, have been made available by the Deputy Director, Animal Husbandry and veterinary services. Each center will have one Animal Husbandry doctor. Sufficient fodder and animal feed will also be provided to each centre

**f) ii) FLASH FLOODS AND HEAVY RAINS**

The district administration is prepared to face these types of disasters. The taluka level committee under the chairmanship of Tahasildar takes immediate action to shift and rehabilitate the affected families. Asses the public and private losses due to heavy rain and flash floods. The affected families are also paid compensation as per the Government direction. The repairs to the public properties are also undertaken immediately.

**g) iii) FOREST FIRE**

Forest fires are a major cause of degradation of our forest resources. There are a number of tangible as well as intangible losses due to forest fires and they cause environmental threat to the affected area. However for effective control it is necessary to take all the necessary measures to combat forest fires.

**GENERAL MEASURES**

- All the forest fire area in the district should be clearly identified and a map of prone area should be prepared and intimated to the higher officers for release of grants.
- Data base on forest fires should be compiled and analysis of Statistics on fire damage should be done every year.
- Fire Danger Rating system and Forest Fire Forecasting System should be prepared with the help “National centre for Medium Range Weather Forecasting” of Department of Science and Technology, Lodi Road, New Delhi.

- The services of Ex-servicemen could be utilized and they can be appointed as fire watchers in Division/Range on payment of honorarium.
- The item of forest protection should be treated as plan item so that it gets more attention and more allocation of budget.

#### ***h) Specific Measures***

Following specific measures may be under taken for prevention and control forest fire.

- All the prevention measures should be taken in advance before the fire season starts. Fire lines should be cleared in time fire watcher should be employed and other precautionary measures as per working plan should be taken.
- Crisis group should be constructed at division level. At division level a group under the chairmanship of Deputy Commissioner with Deputy Conservator of Forests, as Secretary with the prominent local and political leaders and other officers of different departments be constituted for effective co-ordination and control. The crisis group would mobilize all the Government and Non Government organizations officials and other material resources for prevention and control of district fires.
- Communication network should also be setup for quick flow of information and movement of the division during fire season.
- The concerned authorities of other departments may be apprised in advance and their co-operation may be sought in dealing with any eventuality.
- Special steps should be taken to prevent fires in the timber depots. Fire extinguishers and water should be kept ready for use in case of any eventuality.
- Awareness among the villages and local people regarding fire and need to take preventive measures. People living in and around the forest areas and getting benefits from the forests should also be actively involved and J.F.P.M. Committees and Forest Protection Committees should be actively involved in prevention and control of fires.
- Keeping fire fighting force at Range & Division head quarters with fire fighting equipments, wireless instruments and if possible the fire fighting vehicle with water.
- Establishing fire watching towers at strategic point in the forest area and stationing two persons with walkie-talkies and map of the area to give information to Range and Division head quarters.
- Engaging fires watchers in the fire prone area : during January to May fire watchers should be engaged towards watch and ward in the fire prone area.
- Giving wide publicity by way of printing pamphlets, showing films announcement in the Jeep during Jatra (festivals) time in those fire prone area. Rewards should be given to those persons who inform immediately to the Department. Efforts should be made to create public awareness the ill effects of forest fires. A fire week could be celebrated to create mass awareness.



### a) Legal Measures

Provisions of the Indian forest Act 1927 regarding forest fires i.e. section 33 and 79 of IFA 1927 should be strictly implemented. A specific circular may be issued regarding mobilization of human and material resources like manpower vehicles etc, in case of forest fires.

### iv) CYCLONE

The cyclone is another devastating disaster affecting life. It usually occurs coastal line. There are two cyclone sessions. First is the pre-monsoon ( April & May), Second is the post- monsoon ( October to December). The cyclones of the post monsoon are the most intense. This type of cyclones rarely takes place. The Gadag District has never witnessed any cyclone, so far, however it is accidental it and may occur any time.

### a) Cyclone Warning

The cyclone warnings are through the following media

- Priority Telegrams
- Telecast through Doordarshan.
- Broadcast through All India Radio.
- Bulletin to the press,
- Satellite based disaster warnings,
- Teleprinters /Telefax /Telephones/etc.

### b) Action Plan for Cyclone

- Rescuing the people who are affected by the disaster with the help of the Govt. and Non Govt. Agency.
- Especially during cyclone, the communication system will be hard hit during which the supply of power, clearing the roads by removing fallen trees, hard sides, etc., with the help of the P.W.D., Police. R.T.O. Departments are to be taken up.
- To take precautions to prevent out break of epidemics and to install inoculations and vaccination booths in the affected areas of the cyclone be the Health Dept. under the guidance of District Administration and D.M.C.
- Immediate repairs and replacement of works will be carried out to restore communications.
- Veterinary and Medical care would be made available cattle.
- Can should be taken to ensure supply of all essential commodity like food, clothing, petroleum products at concessional rates in sufficient.
- New bore wells should be dug for the supply of water quantity if the existing drinking Water wells are inundated by saline water.

The District Administration is ready to dig as many bore wells as possible as and when needed

The land survey would be taken up to assess the damage so as to decide further relief and rehabilitation works.

#### **v) INDUSTRIES AND CHEMICALS ACCIDENTS**

In view of growth of population, industries and chemical sectors are reported to be higher. For example, Bhopal gas accident has cautioned the industries to be careful & to have safety measures.

The departments of factories and boiler and Industries have cautioned to ensure timely checkup of machinery and repairs and replacement of machinery from time to time and thereby ensure safety measures.

In the event of accident, which rarely takes place, would be tackled by the district administration with the help of co-ordinating departments.

#### **VI) EPIDEMIC AND BIOLOGICALLY RELATED DISASTER**

The Health Department will be entrusted with chlorinating and cleaning of Water available in the area affected and ensure additional beds at district and Taluka level hospitals to meet eventualities at the time of disaster. Sufficient medicines will be kept ready at various levels. Taluka level teams and village level teams along with doctors and Para Medical Workers can be pressed into service at any emergency situation. Health Centres have been nominated.

All efforts will be made to prevent epidemics during floods. This will be ensured by stocking safe drinking water and clean food and by removing and disposing dead bodies of animals and human. The drinking water will be tested.

#### **A) ACTION PLAN**

With a view to taluka such disasters the following District, Taluka and Village level Committees formed.

##### **District Level Committees**

- |   |               |
|---|---------------|
| 1. District Health and Family Welfare Officer | Chairman      |
| 2. District Surgeon                           | Vice-Chairman |
| 3. Assistant Commissioner                     | Co-ordinator  |
| 4. D.D.P.I.                                   | Member        |
| 5. N.G.O. Vice President Red Cross Society    | Member        |

- |  |        |
|--|--------|
| 6. Assistant Director, Animal Husbandry      | Member |
| 7. President, Indian Medical Association     | Member |
| 8. Medical Officer, City Municipal Committee | Member |
| 9. Dy. Supdt., of Police                     | Member |

### **Taluka Level Committee**

- |  |               |
|--|---------------|
| 1. Taluka Medical Officer                                    | Chairman      |
| 2. Administrative Medical Officer<br>Community Health Centre | Vice-Chairman |
| 3. Tahsildar   | Coordinator   |
| 4. Block Education Officer                                   | Member        |
| 5. Police Inspector  | Member        |

### **Village Level Committee**

- |   |          |
|---|----------|
| 6. Village Accountant                       | Chairman |
| 7. President, Gram Panchayat                | Member   |
| 8. Agriculture Assistant                    | Member   |
| 9. Head Master, Primary School              | Member   |
| 10. Members of NGO's                        | Member   |
| 11. Secy. Gram Panchayat                    | Member   |
| 12. Medical Officer of the concerned        | Member   |
| 13. Primary Health Centre                   | Member   |
| 14. Superintendent of Primary Health Centre | Member   |

## **B) AVAILABLE OF MAN POWER AND EQUIPMENTS**

The expert doctors and equipments will be made available during emergency

## **C) ESSENTIALITY AND EMERGENCY SERVICES**

24 hours accident and emergency services are available at essentiality with specialized doctors and attendants. The Ambulance is also available equipped with emergency medicines.

## **VII) EARTHQUAKE**

During the period of earthquake disaster, the district administration with the co-operation of other departments has to launch immediate relief measures such as rescue and salvage operations provision of temporary shelters, food, clothing medical aid etc. The Gadag district has good network of relief machinery to mitigate the hardship of sufferers of natural calamities. At the district level “Disaster Management Committees under the chairmanship of Deputy Commissioner and Taluka level and Village level committees have also been constituted, involving taluka and village level offices with the people responsibilities.

The District Disaster Management Committee under the chairmanship of the Deputy Commissioner with the Chief Executive Officer of Zilla Panchayat as Vice-chairman, reviews and monitors the implementation of relief programs, prepare contingency action plan for different types of possible disaster at the district level, respectively, Taluka level committee to reviews and monitors the calamity relief measures.

Earthquake being always accidental, without any indication it occurs and smashes life standing structures, buildings, crops etc. Hence it is not possible to take precautionary measures. Though there is a notion that this area is free from earthquake this cannot be hold good as Koyana, Navilteerth and Gujarath have clearly indicated the district administration that the earthquake may affect also Gadag district too. Hence it is most imperative for district administration to prepare a comprehensive action plan to combat devastating earthquake, which may accidentally happen any time.

### **A) EMERGENCY RELIEF MEASURE**

The moment earthquake takes place we have to introduce immediately the emergency relief measure with the help of DMC from district to village level such as rescuing the survivors and rendering medical aid to the injured including hospitalization and to provide shelter, water, food, clothing etc.

The dead bodies of men and live stocks will be recovered from the debris and to dispose of according to procedure.

The Deputy Commissioner will have to take an estimation of the affected area with the help of Taluka level officers to decide the type of services to be given to the victims with regards to basic needs.

To face the eventualities of earthquake, we have got the following potentiality of man power etc.

- **Policeman**: Available in the district furnished by the Superintendent of Police is enclosed herewith.
- **Home guard**: The district is having very strong home guard unit and district administration will utilize the services of home guards as and when needed.
- **Transport**: As revealed by transport dept. we have number of trucks, light vehicles and ambulances.
- **Health**: The district administration is ready to provide health services to the victims with cooperation of Health dept. The detailed statement indicating number of hospital available in the district and health manpower and equipment etc. in the district. In addition to this we can also avail the services of private medical practitioners, IMA and social club, Red Cross, Inner wheel club, Rotary club, voluntary organizations and NGO etc. Mahila mandals, Yuvwak and Yuwati mandal;s, local bodies like Panchayat, Municipalities, Corporation etc. both for supplying of medicines and treatment of the victims.

## **B) REPAIRS OF BUILDINGS AND REHABILITATION**

The district administration is ready to rehabilitate the victims, who have lost their houses belongings in the earthquake. Temporary sheds with erected and necessary basic needs likes food, shelter, clothing and medical will be provided. A common cell of NGPO volunteers NCC cadets will be engaged in serving the food to the victims through a common kitchen till there houses are constructed permanently. The public service of Public Health, Engineering PWD, Irrigation and the service of the contractors association will be utilized in constructing the houses of the victims. In the event of the loss of standing crops the loss will be covered under crop insurance policy and compensation will be awarded as for the provisions on the recommendation of agricultural department.

## **C) PAYMENT OF EXGRATIA TO THE SUFFERER**

Ex-gratia will be made as easily as possible as per the provisions contained in Go. No.RD 292 TNR 2007 Bangalore dt.03-07-2007(RD 410 TNR 2012 Dtd: 05-1-2012)

## **D) PROVISIONS OF FOODGRAINS**

During earthquake, people will be afraid to stay in their houses. The disaster management committee and District Administration, realizing the magnitude of the problem, has to respond to immediate needs of the people by putting up temporary shelters in open places, distributing food packets and also setting up communication links.

## **E) PRECAUTIONS DURING EARTH QUAKE**

- There are some common and possible safer measures during the time of an earthquake.
- As soon as you feel something abnormal that the usual in the surrounding, first suspect something unwanted to happen, and caution others.
- The animals and birds are more sensitive to changes around them. Please watch them for any abnormal behavior.
- When the earth starts to shake or tremble, the very first thing to do is rush out of the building and make others also to come out.
- As soon as you come out stretch yourself and others in open areas and away from buildings, electrical poles or fire furnaces.
- You are the bravest amongst all. Hence, instead of getting panicked, try to help others with courageous works and make them maintain cool head. Many people may get hysterical. Try to cool them, otherwise they will create more problems.
- When you are sure that you are safe, or better than others, try to help your surrounding people, animals or whatever living creatures you feel are in need of help.
- While construction of buildings, especially in earthquake prone areas, precautionary measures should be adopted in consultation with the structural engineers. Preference should be given for single storied constructions that the multi storied buildings.
- Consult expert opinion of structural engineers while constructing new houses.

The Deccan Plateau with hard, compact igneous formations seems to be more stable than other parts of the country. It is expected by scientists that many more earth quakes may rock the Northern region

## F) LOCATION OF SAFE SHELTER FOR FOOD SALVATIONS

At the time of disasters district administration identified the safe locations for safe shelter for food and salvations. This responsibility will be handled by Deputy Director, Food and Civil Supply, and District Health Officer.

Food will be stored in different godowns of food department and Medicine will be stored in department stores in taluka level.

## G) STORAGE OF FOOD

At the time of disasters district administration identified the safe locations of safe shelter for food. Location of storage for food, contact person etc, are given below;

### Contact Persons

Chief Nodal Officer	Deputy Director, Food & Civil Supply, Dept.	(08372) 239443
	Assistant Director, Food & Civil Supply Dept	(08372) 239443
In charge Officer	District Manager, Food & Civil Supply Corp.  Depot Manager, Karnataka Where Housing Corporation, Gadag.  Depot Managers, Gadag, Ron, Mundaragi, Shirahatti, Naragund	(08372) 237408
Locations	Central Ware-house godowns. Hubli, Road, Gadag.  (03872-236124)  Food and Civil Supply Corporation Godown  Behind APMC, Sambhapur Road, Gadag	

## FORMATION OF CORE TEAMS

**Two main Control room for 24 hours in the event of disaster, two core teams have been formed as below.**

TEAM - I		TEAM - II	
1	Grade-II-Tahsildar	1.	Grade II Tahasildar
2	Two Shirastedar,	2.	Two Shirastedars
3	Four FDA	3.	Four FDA
4	Two Group D, employees.	4.	Two Group D. Employees.
5	One vehicle with driver (24 hours)	5.	One vehicle with driver (24 hours)

The teams are required to be in constant touch with the DMC and supervise the rehabilitation programs as per the action plan and to give feed back as to what more facilities and services are required to the district administration.

### **H) DISTRICT CONTROL ROOM**

- Control room is the noel center or the nerve centre in terms of disaster management.
- Gadag Deputy Commissioner office is designated as Control Room. This Control Room which will be in charge of the senior most officer of the Deputy Commissioner that is the Head Quarters Assistant to Deputy Commissioner.
- This Control Room collects and transmits information's to the appropriate places and persons. Through Police Control Room and other sources.
- This Control Room monitors co-ordinates and implements the actions for disaster management.
- It checks periodically and encores that all warning,/ communication systems and instruments are in working condition.
- It receives reports on the preparedness of the district Laval department s and the resources at their disposal to arrange meet their requirements.
- It upgrades the disaster management Action plan according to the changing scenario.
- It maintains an inventory of all resources.
- It furnish information to al those who are seeking and needy.
- It monitories preparedness majors and conducts training programs .
- It provides information at district Level, Local level and disaster prone area through appropriate media.
- It briefs the media of the situations and day to day reports during the disasters.
- It reports the ground situations and the action taken by the district administration.
- It will have list of all personnel and trained persons who could be contacted at any time.



## **I) MEDIA CENTRE**

- The meeting hall of the Deputy Commissioner is designated as Media Center.
- The Office Assistant to Deputy Commissioner is designated as the Officer in charge of Media Center.
- Felicities press releases, Fax phones internet and TV will be provided for the Media persons.
- The list of all local news papers Radio stations, TV transmission centers and cable operators is prepared for use in times of disasters. This is appended as annexure.

## **J) Identification of Stakeholders involved in Preparedness**

Preparation for the disasters is a joint venture of various departments and agencies within the district. Accordingly, departments wise preparedness checklist and their task and responsibilities given in table 5.1.

### **J.1 Preparedness and evacuation for disabled**

- ❖ Persons with disabilities are often overlooked during a disaster. Keeping this in view, some potential problems encountered by people with various types of disabilities and possible measures taken are mentioned below for preparedness during response and evacuation:
- ❖ Training of the support staff of the disabled people with regards to response and evacuation
- ❖ The physically impaired should be provided with whistles as part of emergency preparedness kit.
- ❖ Clear markings for the evacuation routes in all government buildings
- ❖ Procurement of equipment for physical impaired people like mobility aids
- ❖ Use of picture cards to communicate immediate needs of food, water, toilet, medication, etc. by the impaired

**Table K: Department wise Preparedness Checklist and their task and responsibilities**

SN	Department	Preparedness Task and Responsibilities
1.	District Administration/ DDMA	<ul style="list-style-type: none"> <li>• Prepare, Coordinate and monitor overall district response to DRR.</li> <li>• Review the state of capabilities for responding to any disaster or threatening disastrous situation</li> <li>• Advise, assist and coordinate the activities of the other Departments</li> <li>• Establish stockpiles of relief and rescue materials</li> <li>• Ensure communication systems are in order</li> <li>• Mock drills are carried out periodically;</li> <li>• Ensuring of preparing response plans by Departments of the Government</li> <li>• Ensure enforcement of the codes, bylaws and act such as National Building Code, Bureau of Indian Standards, etc in the upcoming development projects, construction work, and commercial complexes.</li> </ul>
2.	DEOC	<ul style="list-style-type: none"> <li>• Proper functioning of the DEOC including hunting line 1077</li> <li>• Keep updated resource inventory for disastrous situation (IDRN) Keep updated the functioning of Satellite phones</li> <li>• Stock piling of multi –hazard emergency equipment and maintenance</li> </ul>
3.	Police Department	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all equipments.</li> <li>• Ensure proper mechanism in place for early warning of different hazards through police stations and police posts.</li> <li>• Arrange for public address system and siren.</li> <li>• Prepare for temporary installation of wireless systems between district and subdivisions in case of any damage to existing wireless system with the department.</li> <li>• Train the communication wing of police in setting up control room at short notice at a required site.</li> <li>• Prepare Contingency Plan for response to bomb blast, riots, terrorist attack and other law and order emergencies.</li> <li>• Prepare deployment plan of home guards and other volunteers for protection of property of affected community.</li> <li>• Prepare for proper arrangement for custody of recovered belongings and property from dead bodies and affected sites.</li> </ul>

		<ul style="list-style-type: none"> <li>• Police personal and staff of PCR vans should keep basic first aid box and ensure proper functioning of equipments.</li> <li>• Prepare for proper protection to women, girls and children to avoid cases of human trafficking.</li> <li>• Prepare for protection of dead bodies to avoid their theft and false claims.</li> <li>• Train police personnel and staff of PCR vans in first aid and basic life saving techniques.</li> <li>• Prepare for safety and security of food and other commodities.</li> <li>• Prepare for protection against hoarding, black marketing of relief material.</li> </ul>
		<ul style="list-style-type: none"> <li>• Prepare for safety and security arrangements for evacuated area, affected area, transit camps, relief camps, hospital, medical centre, cattle camps and feeding entrees.</li> <li>• Ensure traffic plan of Police at disposal.</li> <li>• Keep updated telephone Nos and databases of reserved battalions of police, BDS and Dog Squad in police control Room</li> </ul>
4.	Home Guards	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all equipments.</li> <li>• Prepare teams trained in search and rescue, first aid, firefighting, etc.</li> <li>• Prepare a database of volunteers and equipments and update the same in DDMP. emergency arrangements in industries and direct for corrective measures, if necessary, with respect to statutory provisions for safety.</li> <li>• Direct the management of industries and units to prepare on-site emergency plan of their units.</li> </ul>

5.	Fire Services	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all firefighting equipments, appliances and respiratory equipments.</li> <li>• Ensure important buildings should have sketched maps and marked evacuation routes with growing sign.</li> <li>• Ensure regular evacuation drills as per evacuation plans in all important buildings, malls, hospitals, etc.</li> <li>• Make a database of existing firefighting services and facilities provided with private agencies.</li> <li>• Be aware of MAH units and other potential hazardous installations and level of possible emergency required.</li> <li>• <input type="checkbox"/> Prepare to deal with leakage of flammable toxic substances.</li> <li>• Ensure, at disposal, the list of adverse effects of chemicals and antidotes/ methods to deal with emergency involving each chemical. This is prepared by Department of Industrial Safety and Health</li> <li>• Review the adequacy of existing fire prevention arrangements in each MAH and other hazardous units before and after the installations. Share the report with Department of Industrial Safety and Health.</li> <li>• Identify roads and routes of access and escape to and from MAH and</li> <li>• other potential hazardous units.</li> </ul>
6.	Health Department	<ul style="list-style-type: none"> <li>• Prepare trained team of paramedics.</li> <li>• Develop dos and don'ts and IEC materials regarding health and hygiene.</li> <li>• Organise awareness camps with help of PHCs and Development and Panchayat Department for hygiene promotion and public health issues.</li> <li>• Ensure availability of trained mobile medical teams at disposal. Prepare psychological and psychosocial care teams.</li> <li>• Ensure availability of generator sets and buffer stock of fuel at disposal. Ensure availability of adequate supply of life saving equipments and stock of medicines, portable supplies including portable oxygen cylinders, portable X-ray machine, portable ultrasound machines, triage tags, etc.</li> <li>• Ensure availability of adequate space with suitable facilities for storage of medicines.</li> <li>• Prepare a database of private hospitals and nursing homes with services and facilities available.</li> <li>• Prepare a database of doctors registered with Indian Medical</li> </ul>

		<p>Association (IMA).</p> <ul style="list-style-type: none"> <li>• Prepare a database of available ambulance services from government, private agencies and District Red Cross Society, if any.</li> </ul>
		<ul style="list-style-type: none"> <li>• Ensure, at disposal, list of MAH units and hazardous chemicals stored in them.</li> <li>• Ensure, at disposal, the list of antidotes for various hazardous chemicals. This list is prepared by Department of Industrial safety and Health.</li> <li>• Ensure availability of adequate supply of blood units.</li> <li>• Prepare database of blood donors in the district and update the same in DDMP.</li> <li>• Prepare a database of providers of refrigerated vehicles for transportation of vaccines, blood, blood products, etc.</li> <li>• Train drivers and attendants of ambulance and mobile medical units in first aid and basic life saving techniques.</li> <li>• Prepare a decontamination ward in view of any possible chemical or industrial hazard.</li> <li>• Prepare for prompt establishment of temporary hospital, mobile surgical unit, etc at short notice, near the affected area.</li> <li>• Ensure proper and safe mechanism for medical waste disposal. Prepare for proper disease surveillance system.</li> <li>• Make proper arrangement and mechanism for mass casualty</li> </ul>

		management.
--	--	-------------

7.	Agriculture Department	<ul style="list-style-type: none"> <li>• Prepare Agriculture Contingency Plan.</li> <li>• Constitute a Crop Weather Watch Group at district level (as per ‘A Model Manual for Drought Management’, GOI) with representatives from Meteorological Department and concerned officers dealing with agricultural inputs, credit extension, etc to keep a close watch on the monsoon situation, extreme temperature, hail and wind storm.</li> <li>• Identify vulnerable areas prone to pest infestation, drought, flood and other hazards.</li> <li>• Ensure awareness generation in farmers regarding various plant diseases, alternate cropping practices in disaster-prone areas, crop insurance, provision of credit facilities, proper storage of seeds, etc.</li> <li>• Provide training to farmers in alternate cropping techniques mixed cropping and other agricultural practices which minimise crop losses during future disasters.</li> <li>• Ensure surveillance for pest infestation and crop diseases.</li> <li>• Ensure availability of stock for immediate replacement of broken/non-functioning gadgets/equipments.</li> <li>• Ensure availability of adequate stock of seeds and other agro inputs particularly for areas vulnerable to hazards.</li> <li>• Prepare trained and equipped team for assessment of damage to soil, crop, plantation, drainage, embankment, other water bodies and storage facilities that might impact agricultural activities.</li> <li>• Prepare for establishment of public information booths, with</li> <li>• appropriate and modern means of communication, to assist farmers in providing information regarding insurance, compensation, repair of agro equipments and restoring of agricultural activities at the earliest.’</li> <li>• Identify sources of feed and fodder.</li> </ul>
----	------------------------	---

8.	Animal Husbandry	<ul style="list-style-type: none"> <li>• Ensure isolation/ separation of sick and healthy animals and prepare for arrangements for keeping, feeding and watering of animals suffering from contagious diseases.</li> <li>• Sensitize farmers/ owners for above problems.</li> <li>• Ensure separate transportation of animals suffering from contagious diseases.</li> <li>• Ensure proper disinfection of space, vehicle and manpower involved in transportation of sick/ infected and dead animal from contagious diseases.</li> <li>• Ensure fully functional mobile veterinary unit at disposal.</li> <li>• Prepare a database of veterinary hospitals/ clinics and agencies working for animal care.</li> <li>• Ensure availability of stocks of mineral and feed supplements, lifesaving drugs, electrolytes, vaccines, etc.</li> <li>• Ensure sensitization of farmers about protection of their feed and fodder prior to the onset of monsoon.</li> <li>• Ensure filling feed banks before the scarcity period.</li> <li>• Prepare for the feed of the poultry birds for drought situation.</li> <li>• Locate feed and fodder banks in view of submergence situation during the monsoon.</li> <li>• Identify source for procurement of fodder.</li> <li>• Identify safe locations for fodder depot and cattle camps within the district.</li> <li>• Ensure assured source of water or canals for drinking and growing fodder along with the above locations.</li> <li>• Prepare for necessary arrangements of tatties, gunny bags and tarpaulin sheets to cover the sheds during heat and cold waves.</li> <li>• Prepare for special care for productive, lactating and pregnant animals; also supplement them with additional concentrates and fodder.</li> <li>• Ensure proper administration of deworming and vaccinations for cattle, sheep and goats, pigs and other relevant measures for disease management.</li> <li>• Prepare for arrangements for transportation of critically injured livestock.</li> <li>• Identify space for burial of animals and ensure proper disposal of dead</li> </ul>
----	------------------	---



		<p>animals.</p> <ul style="list-style-type: none"> <li>•</li> </ul>
9.	Bharat Sanchar Nigam Limited	<ul style="list-style-type: none"> <li>• Procure recovery plans from private communication service providers for their recovery time objectives.</li> <li>• Prepare for alternate communication System</li> </ul>

10.	Rural Development and Panchayat Raj	<ul style="list-style-type: none"> <li>• Prepare mechanism for proper solid waste management, disposal of waste and removal of debris in shelter and relief camps, feeding centers and affected rural areas.</li> <li>• Prepare for sanitation operations in view of post flood situations.</li> <li>• Ensure availability of tractor trolleys and other required equipments for the same.</li> </ul>
		<ul style="list-style-type: none"> <li>• Plan to provide building/guest house/dharamshalas at different locations to establish control room, first aid and medical post or shelters during emergency.</li> <li>• Prepare a database of catering services providers.</li> <li>• Prepare mechanism for proper solid waste management and disposal of waste in shelter and relief camps, feeding centers and affected villages.</li> <li>• Prepare for prompt provision of temporary toilets/ trench latrines in the affected area and relief camps in rural area.</li> </ul>
11.	Education Department	<ul style="list-style-type: none"> <li>• Organise awareness generation programs in schools and colleges for students, teachers, administrative staff and other helpers. These programs should focus on dos and don'ts for various hazards and safe evacuation in case of any emergency.</li> <li>• Conduct hygiene promotion activities as per direction issued by the Health Department on a regular basis.</li> <li>• Ensure preparation of first aid and disaster management kit in each school and college.</li> <li>• Ensure preparation of school and colleges disaster management plan.</li> <li>• Identify safe schools and colleges to serve as relief shelter in case of any emergency within that area, only for short period of time.</li> </ul>

12.	Food & Supplies Department	<ul style="list-style-type: none"> <li>• Prepare a database of godowns and cold storage facilities in the district. Prepare a database of catering services providers.</li> <li>• Prepare for safety of stored food grains in godowns against inundation and water logging, fire and other possible hazards.</li> <li>• Prepare for out-movement of food grains to a pre-decided safer location, if required.</li> <li>• Ensure availability of adequate food grains storage in godowns in view of the scarcity or emergency period.</li> <li>• Prepare a database of kerosene depots, petrol pumps, gas agencies, etc and update the same in DDMP.</li> <li>• Ensure availability of adequate stock of gas cylinders, kerosene, etc.</li> <li>• Prepare database of private retailers and wholesalers of edible food items.</li> <li>• Prepare a database of providers of refrigerated vehicles for transportation of perishable food items.</li> <li>• Prepare for large scale movement of food grains, their transportation, expeditious unloading, proper storage and prompt distribution through fair price shops, if required.</li> <li>• Prepare a database of private providers of tents, tarpaulin sheets, poles, kanats, cooking utensils, polythene bags, shrouds and other essential items that could be used for community kitchen and cremation and burial.</li> </ul>
13.	Forest Department	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all equipments and vehicles. Prepare a database of Ara machine holders carpenters.</li> <li>• Prepare team for catching wild animals to prevent infiltration in habituated areas, relief camps, etc.</li> <li>• Prepare for supply of wood for cremation.</li> </ul>
14.	KSRTC	<ul style="list-style-type: none"> <li>• Ensure proper functioning of filling station, vehicles and equipments including fire extinguishers, first aid kits, etc.</li> <li>• Prepare for prompt deployment of vehicles at short notice for various purposes like mass evacuation, transportation of response teams, relief items, victims, etc.</li> <li>• Prepare mechanical team for prompt repair of equipment and vehicles.</li> <li>• Drivers and conductors in first aid and basic life saving techniques.</li> <li>• Identify the vehicle for rescue operations.</li> <li>• Be well familiar with routes of potential hazardous installations and</li> </ul>

		follow incident traffic plan.
15.	Irrigation Department	<ul style="list-style-type: none"> <li>• Ensure proper early warning mechanism in place for flood by monitoring water level of surface water bodies.</li> <li>• Ensure proper and timely inspection of conditions of bunds, siphons, regulators, embankments, inlet and outlets of lakes and reservoirs, etc.</li> <li>• Ensure timely de-silting and dredging of rivers and canals, if required. Ensure prompt repair of channels, if required.</li> <li>• Ensure proper functioning of all equipments including dewatering pumps.</li> <li>• Prepare for the arrangements of clean drinking water for affected livestock and poultry.</li> </ul>
16.	Municipalities	<ul style="list-style-type: none"> <li>• Prepare for sanitation operations in view of post flood situations within jurisdiction of the area.</li> <li>• Ensure cleaning of drains before the monsoon season.</li> <li>• Prepare mechanism for proper solid waste management and disposal of waste in shelter and relief camps, feeding centers and affected area.</li> <li>• Ensure availability of tractor trolleys and other required equipments for the same.</li> <li>• Prepare mechanism for proper solid waste management, disposal of waste and removal of debris in shelter and relief camps, feeding centers and affected areas in their jurisdiction.</li> <li>• Plan to provide building/ guest house at different locations to establish control room, first aid and medical post or shelters during emergency in coordination with DDMA.</li> </ul>
17.	Pollution Control Board	<ul style="list-style-type: none"> <li>• Prepare a database of hazardous chemicals and pollutants in the districts and their probable adverse effects on environment.</li> </ul>

		<ul style="list-style-type: none"> <li>• Prepare for methods and techniques of decontamination of the same.</li> </ul>
20.	District Information Officer	<ul style="list-style-type: none"> <li>• Prepare for proper public address system ensuring rumour control. Prepare for media management.</li> <li>• Ensure database of dos and don'ts of all possible hazards in the district.</li> <li>• Ensure distribution of IEC material to community for awareness generation about the same.</li> <li>• Publicise the information in the interest of public awareness through booklets, pamphlets, radio, television, film shows, newspapers, documentary films, door to door campaign, meetings, etc.</li> </ul>
21.	Public Works Department	<ul style="list-style-type: none"> <li>• Ensure availability and functioning of all equipments like cranes, JCB, etc.</li> <li>• Prepare a data base of availability of heavy equipments like cranes, JCB with private agencies also.</li> <li>• Ensure, at disposal, the list of MAH units and other vulnerable buildings Prepare for prompt clearance of debris.</li> <li>• Prepare the demolishing squad for prompt demolition of unsafe buildings.</li> <li>• Prepare for prompt clearing and repairing of damaged roads, culverts, bridges and flyovers.</li> <li>• Prepare for construction of new temporary roads at short notice for diverting traffic from the affected area.</li> <li>• Prepare for construction of temporary facilities like that of medical post, temporary shelters, etc at short notice.</li> <li>• Prepare for prompt establishment of helipad near the affected site for VVIP visits.</li> <li>• Prepare for restoration of government buildings damaged during disaster.</li> </ul>
22.	Regional Transport Authority	<p>Make a database of private vehicles available with schools, colleges and other private agencies.</p>

□

23.	Revenue Department	<ul style="list-style-type: none"> <li>• Ensure regular monitoring of rain gauge and regular updation of database for distribution and variation in rainfall.</li> <li>• Ensure proper mechanism in place for early warning of different hazards to village level through tahsildars.</li> <li>• Ensure proper functioning of district Flood Control Room during monsoon period and otherwise, if required.</li> <li>• Identify villages vulnerable to flood and drought.</li> <li>• Prepare a database of critical and lifesaving infrastructure in the district Prepare a database of safe locations for evacuation.</li> <li>• Identify possible safe sites for temporary shelters, relief camps and staging area.</li> <li>• Ensure availability of fully functional boats, life jackets and oars in view of flood condition of the district.</li> <li>• Prepare a database of voluntary organizations and service they offer.</li> <li>• Ensure the authenticity of the same.</li> <li>• Identify competent persons/experts from various required fields for carrying out damage and need assessment post disaster.</li> <li>• Prepare proper mechanism for disbursement of compensation to victims or families of deceased.</li> <li>• Prepare a database of safe locations for relief distribution site for mass care and housing.</li> <li>• Identify site(s) for temporary burial.</li> </ul>
-----	--------------------	--

## L) NGO Participation

Sections 35 and 38 of the Disaster Management Act *inter alia* specifically emphasis the coordination of actions with NGOs. The National Policy on Disaster Management (NPDM) also states the national vision for community mobilization and participation in DM and aims to provide momentum and sustenance through the collective efforts of all government agencies and NGOs. There is emphasis on community based disaster management, including last mile integration of the policy, plans and execution and early warning dissemination. Promoting a productive partnership with NGOs is a prominent thrust area in the NPDM. There is a large scope for improving the engagement of NGOs in DM and on efficiently utilizing their unique advantages and core competencies by strengthening humanitarian coalitions, alliances and NGO networks. There is also need to strengthen public awareness, capacity building and knowledge management through CBOs and NGOs. Institutional mechanisms for the advocacy and engagement of NGOs with government agencies on DM concerns require to be strengthened. Replication and scaling up of community level good practices has to be promoted.

## **M) Community Based Disaster Preparedness**

Communities are not only the first to be affected in disasters but also the first responders. Community participation ensures local ownership, addresses local needs, and promotes volunteerism and mutual help to prevent and minimize damage. The community participation for DM would be promoted on the motto of “self-help”, “help thy neighbor” and “help thy community”. The needs of the elderly, women, children and differently able persons require special attention. Women and youth will be encouraged to participate in decision making committees and action groups for management of disasters. Networking of youth and women based organization would be done and they will be trained in the various aspects of response such as first aid, search and rescue, management of community shelters, psycho-social counseling, distribution of relief and accessing support from government/agencies etc. Community plans will be dovetailed into the Panchayat, Block and District plans. Preparedness to face disasters is required at all levels right from the Household to the state Government to minimize the impact of Disasters. The district administration cannot provide relief and commences rescue operation immediately at the time of disaster. Therefore the first responder of any disaster can develop some traditional coping mechanisms by the local community which reduce their vulnerabilities. The involvement of the community is the key factor in any disaster preparedness. The participation of the community is vital to sustain the activities of rebuilding the shattered community life.

### **Community Based Disaster Preparedness is:**

- ❖ A response mechanism to save life, livelihood, livestock and assets with available resources within the community.
- ❖ Leads to multi pronged development interventions to address the root cause of vulnerability.
- ❖ Leads to a self-reliant disaster proof community.

In order to generate the preparedness and response within the people, Community Based Disaster Preparedness Plans (CBDP) can also be developed in all the vulnerable areas. District Disaster Management Authority, Gadag has to take initiative for community based disaster preparedness and develop ownership for sustainability of the process, effort is to be made to ensure maximum participation of all sections of the community irrespective of class, caste, sex and occupation.

## **L) DISTRICT COMMUNICATION NETWORK**

The telecommunication facilities up to Panchayats, Wireless Communications with Police / Forest / Fire, folk media and publicity materials through pomp lets will be used. Messages through Transport operators for remote areas, Information centers, Notice boards in panchayats

and in public places and any other mode of communications available will be taken in to account.

**COMMUNICATION AND CONTACT TELEPHONE/FAX NO.OF THE  
OFFICES DURING THE PERIOD OF DIASTER  
(REVENUE DEPARTMENT)**

Sl. No.	NAME OF THE OFFICE	TELEPHONE NUMBERS		
		Office	Residence	Fax No.
1	Regional Commissioner Belgaum	2404007	2461402	2461920
2	Deputy Commissioner Gadag	237300	276550	232413
3	Additional Deputy Commissioner	238042	236996	-
4	Assistant Commissioner Gadag	278506	238586	278506
5	Tahsildar Gadag	278532	238239	278532
6	Tahsildar Mundargi	262237	262367	262237
7	Tahsildar Naragund	245243	244382	245243
8	Tahsildar Ron	267239	267504	267239
9	Tahsildar Shirhatti	242430	-	242430
10	Superintendent of Police	236260	235066	236260
11	Chief Executive Officer, Z.P.	234375	230599	230211
12	Municipal Commissioner, Gadag	278307	-	--
13	District Forest Officer (Regular)	238502 220503	238448	238502
14	Dist Forest Officer (Social Forest)	239259	234358	-
15	Joint Director Agriculture	236552 235443	235453	235443
16	Inspector of Factories	-	-	-
17	Pollution Control Board	-	-	-
18	Sr. Geologist Gadag	220586	-	-
19	Dy. Registrar of Co-Operative Societies	234430	-	-
20	D.D.P.I.	220644	239156	-
21	Home Guard	232842	-	-
22	Fire brigade	237444	-	-



23	Information & Publicity Dept.	239452	239668	-
24	Ex. Eng. PWD Dn.	238782	238082	237268
25	Ex. Eng. PRE Div	238035	238053	239269
26	Ex. Eng. KUWS	238783	236048	238783
27	Ex .Eng. KPTCL	236130 237258	238620	-
28	Deputy .Director of Food & Civil Supply	239443	239582	-
29	District Statistical Office	220544	-	-
30	Deputy Director, Animal Husbandry & Veterinary Services	274069	234222	-
31	District Lead Bank Manager	235122	239809	-
32	Regional Transport officer Gadag	237078	235694	-
33	Manager, D.I.C.	245879	-	-
34	Chief Planning Officer, Z.P.	234957	234917	-
35	Deputy Director, Women & C.Dept	231211	246042	-
36	EE, Minor Irrigation, Dn, Dharwad	0836- 2448310	-	-
37	District Surgeon	277993	--	239597
38	District Health Officer	233996 231744	232440	239597
39	Ambulance	230933	-	-
40	District Sport & Youth Service Officer	238345	-	-
41	District Treasury Officer Gadag	237477	-	-
42	Dist. Officer, B.C.M	237414	-	-
43	District Social Welfare Officer	231838	234460	-
44	Police Control Room	238300	-	-
45	Railway Enquiry	131	-	-

## COMMUNICATION AND CONTACT

## TELEPHONE NUMBERS OF MEDIA PERSONS

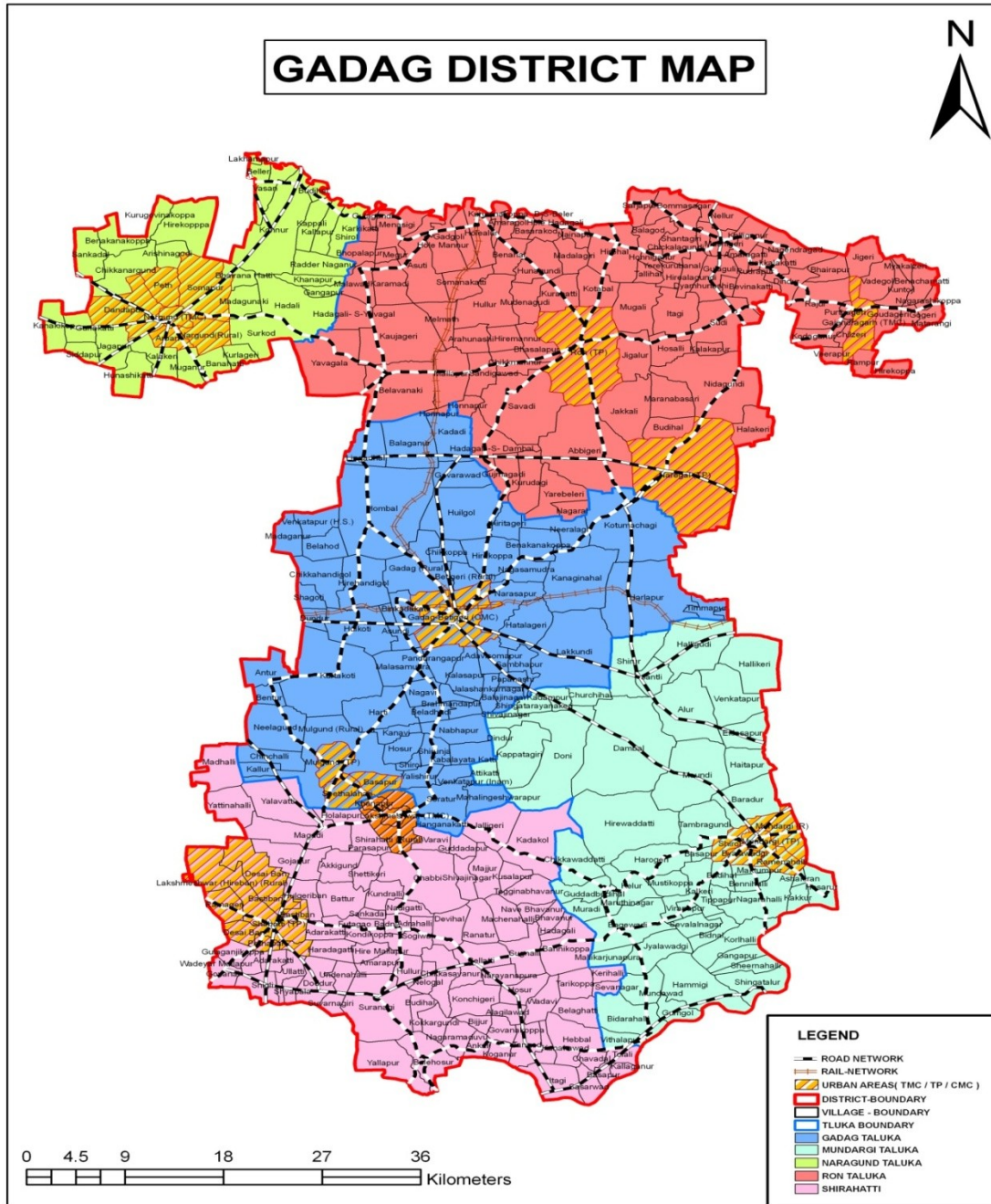
Sl. No.	NAME	Telephone Number	Email Address
<b>News Papers</b>			
1	Navodaya	246332	<a href="mailto:navodayadaily@gamil.com">navodayadaily@gamil.com</a>
2	Nagarika	238473/ 9448478473	<a href="mailto:ajithombali@yahoo.com">ajithombali@yahoo.com</a>
3	Kitturu Karnatak	220425/220426/3448138271	<a href="mailto:kitturukarnatakgadag@gmail.com">kitturukarnatakgadag@gmail.com</a>
4	Vijaya Karnataka	276672 / 9845618505	<a href="mailto:vkgadag@gmail.com">vkgadag@gmail.com</a>
5	Vijaya Vani	8844-32141, 8844-32155	<a href="mailto:vijayavanigdg@gmail.com">vijayavanigdg@gmail.com</a>
6	Samyukta Karnatak	7019017919, / 9448126081	<a href="mailto:naragundakargadag@gmail.com">naragundakargadag@gmail.com</a>
7	Kannada Prabha	250066, 99863-73189	<a href="mailto:shivannaakp@gmail.com">shivannaakp@gmail.com</a>
8	Udaya Vani	99000-49528	<a href="mailto:uvgadag@gmail.com">uvgadag@gmail.com</a>
9	Praja Vani	220320, 94484-70158	<a href="mailto:prajavanigadag@gmail.com">prajavanigadag@gmail.com</a>
10	Hosadigant	9742842133	<a href="mailto:venkateshbi1857@gmail.com">venkateshbi1857@gmail.com</a>
11	Vishwavani	9448422217	<a href="mailto:svsgdg@gmail.com">svsgdg@gmail.com</a>
12	Indian Express	9945249644	<a href="mailto:rkoppar@gmail.com">rkoppar@gmail.com</a>
13	Lokadarshan	99456662895	<a href="mailto:iknagaraj@gmail.com">iknagaraj@gmail.com</a>
<b>T.V. Channels</b>			
1	Public TV	9900060845/9008454435	<a href="mailto:bheemupatil2@gamil.com">bheemupatil2@gamil.com</a>
2	Kasturi T.V.	99000-32177	<a href="mailto:chaman.mh@gmail.com">chaman.mh@gmail.com</a>
3	Dooradarshan	9448357024	<a href="mailto:m.bommanakatti@gmail.com">m.bommanakatti@gmail.com</a>
4	A.I.R.	94485 60361	<a href="mailto:shashigk68@gamil.com">shashigk68@gamil.com</a>
5	E T.V.	7829118173	<a href="mailto:shantoshbkonnur@gamil.com">shantoshbkonnur@gamil.com</a>
6	Suvarna T.V.	9945222053	<a href="mailto:amruth.ajji@gmail.com">amruth.ajji@gmail.com</a>
7	T.V.9	99809-14166	<a href="mailto:sanjeev.pandre@gmail.com">sanjeev.pandre@gmail.com</a>
8	B TV	9900025442/9448326533	<a href="mailto:sharefanavar@gmail.com">sharefanavar@gmail.com</a>
9	Praja TV	7022596823	<a href="mailto:shaanhampi@gmail.com">shaanhampi@gmail.com</a>
10	Suddi TV	8151955826	<a href="mailto:noorgdg6@gmail.com">noorgdg6@gmail.com</a>
11	Samaya TV	9886016003/7618773214	<a href="mailto:mahaligahiremath54@gmail.com">mahaligahiremath54@gmail.com</a>
12	Digvijaya TV	8884432141	<a href="mailto:shivanand61@gmail.com">shivanand61@gmail.com</a>
13	T V 5	7993555004	<a href="mailto:patiltv5news@gmail.com">patiltv5news@gmail.com</a>
14	Janashree TV	9945663586	

### CHAPTER 5

## GIS AND PREPARATION OF BASIC MAPS

## 5.1 Use the GIS, RS and GPS technology for preparing the following;

### 5.1.1 Maps showing boundaries of Taluks,



### 5.1.2 Map showing Health Institutes of Gadag District

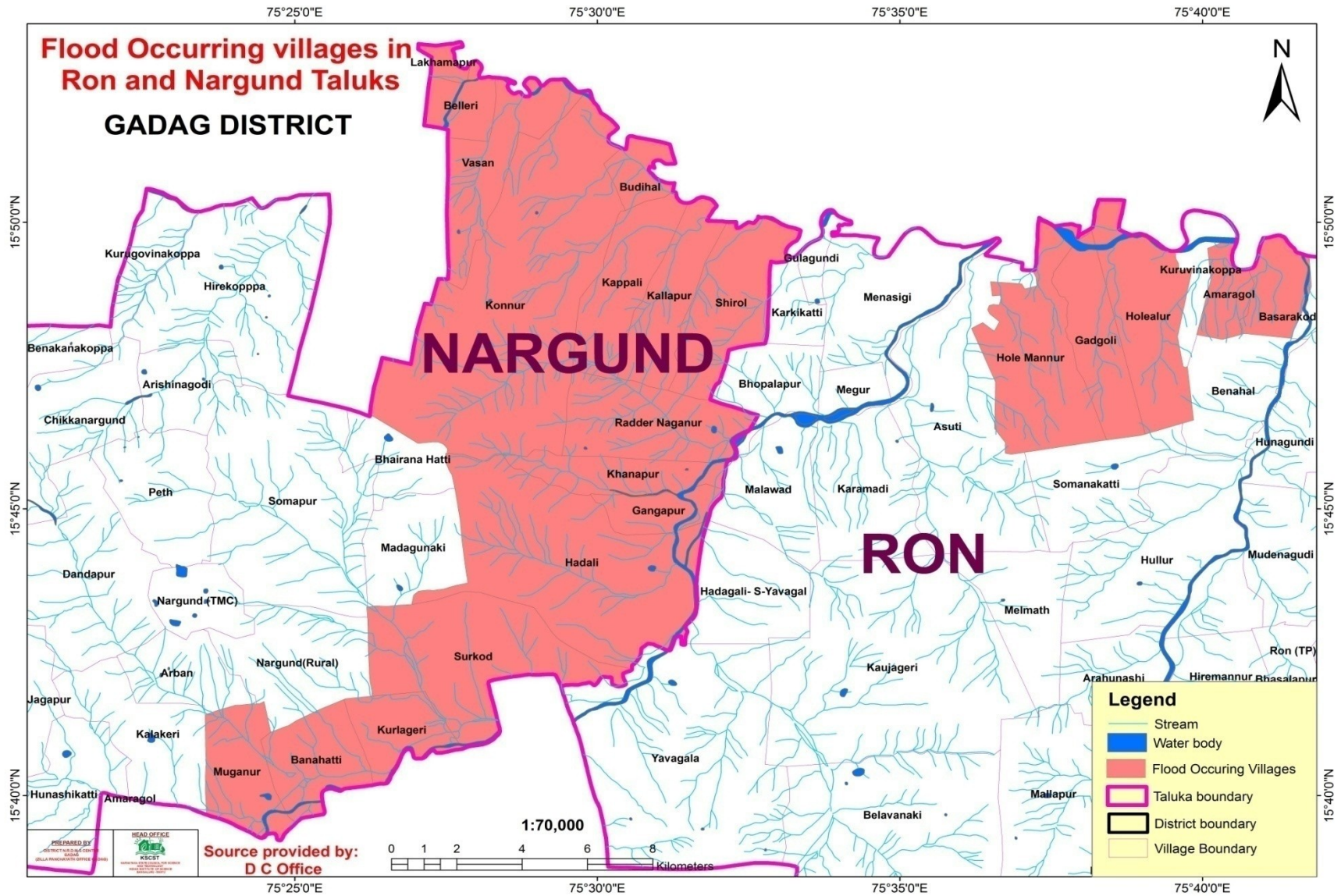
# MAP SHOWING PUBLIC HEALTH FACILITY GADAG DISTRICT



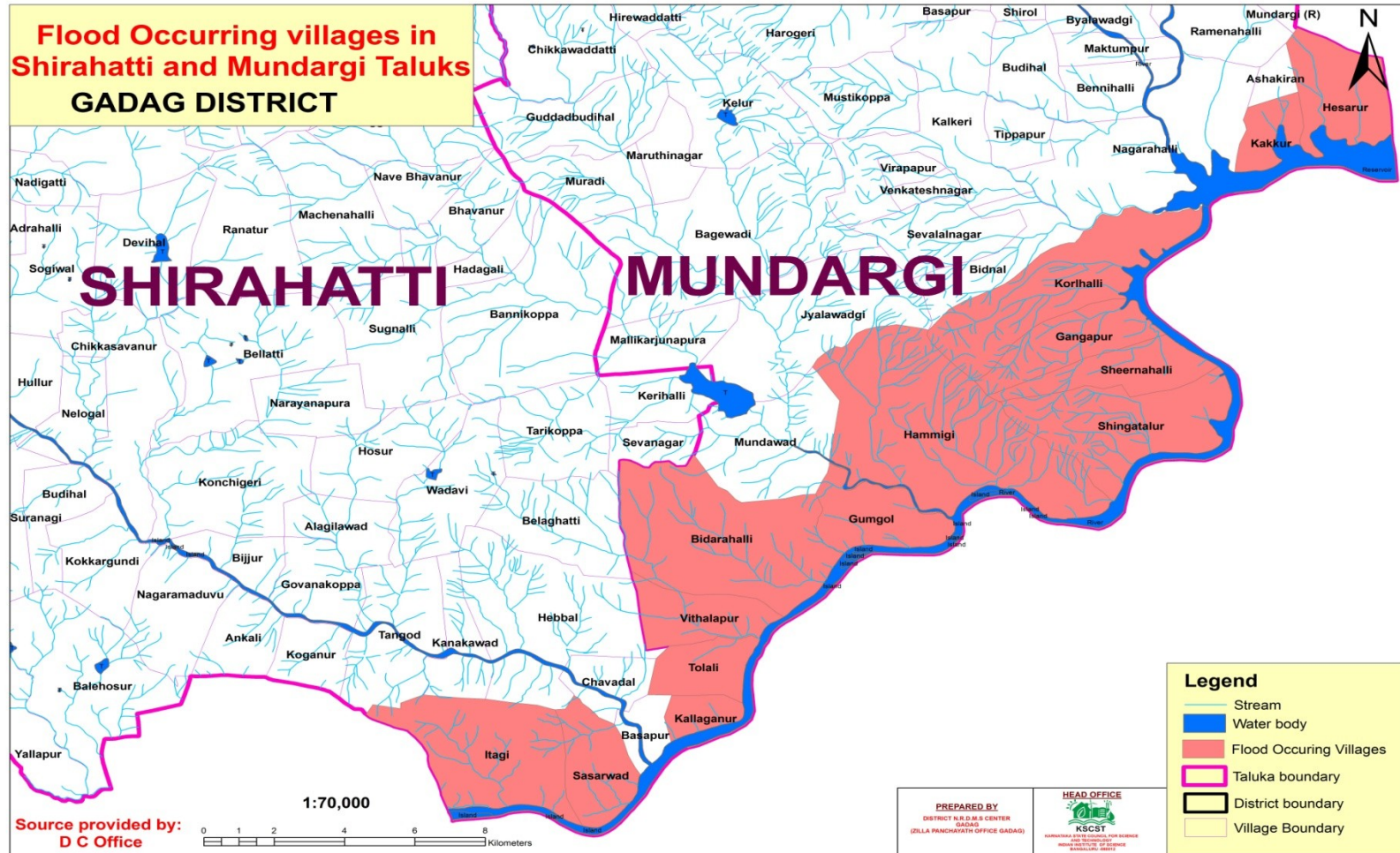
### Legend

- Gadag\_PHC\_Settlment
- Gadag\_CHC\_Settlment
- H Gadag\_TLH\_Settlment
- + Gadag\_DH\_Settlment
- Gadag\_Taluk\_Boundary
- Gadag\_PHC

### 5.1.3 Maps Showing Vulnerable Areas to floods in Naragund and Ron Taluk



## 5.1.4 Maps Showing Vulnerable Areas to floods in Shirahatti and Mundargi Taluk



## CHAPTER-6

### PREVENTION AND MITIGATION MEASURES

#### 6.1. Introduction

Disaster mitigation means measures designed to prevent, predict, and prepare, for respond to monitor and / or mitigate the impact of disaster. In chapter-2 all potential hazards in Gadag district has been discussed in details. The disaster especially the natural hazards like drought, flash floods, earthquakes, and cloudbursts cannot be avoided, however, with mitigation measures along with proper planning of developmental work in the risk prone area, these hazards can be prevented from turning into disasters if we take preventive and mitigation measures in advance. This requires changes in the current development model, practices and priorities. 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. Since usually the disaster consider as a development problem, prevention and mitigation needs to be built in this process only. The primary objectives of prevention and mitigation efforts for the district Gadag district would be:

- ❖ To identify and assess the existing and potential risks and to work towards reducing casualties and damage from disaster.
- ❖ To substantially increase public awareness of disaster risk to ensure safer environment for communities to live and work.
- ❖ To reduce the risk of loss of life, infrastructure, economic costs, and destruction that result from disasters.

#### 6.2. Hazard-specific Prevention & Mitigation Measures (Structural & Non-Structural Measures)

The major hazards which are likely to affect district Gadag district as discussed in chapter 2 are being discussed below for mitigation purposes. Both structural and non-structural measures shall be taken as part of mitigation plan. Structural mitigation refers to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure. Non-structural mitigation refers to policies, awareness, knowledge development, public commitment, information sharing which can reduce risk

**Table 6.3: Hazard-specific Prevention & Mitigation Measures (Structural & Non-Structural Measures)**

Hazard	Possibilities Mitigation Measures	Implementing Departments	Remarks
<b>Structural Mitigation Measures</b>			
<b>Flood</b>	<ul style="list-style-type: none"> <li>• Desalting /dredging of water bodies and deepening of water channel</li> <li>• Repair/Construction of embankments/ protection wall and maintenance of Flood Channels, canals, natural drainage, storm water lines</li> <li>• Drainage improvement and Diversion of flood water in order to lower water levels in the rivers.</li> </ul>	Primary Agency: Irrigation Supporting Agency: PWD, ULBs	
	<ul style="list-style-type: none"> <li>• Vegetative cover against the land erosion</li> </ul>	Primary Agency: Forest Department	
	<b>Non-Structural Mitigation Measures</b>		
	<ul style="list-style-type: none"> <li>• Flood Zoning mapping and demarcation using GIS</li> <li>• Capacity building of volunteers and technicians.</li> <li>• Awareness generation on health and safety of livestock.</li> <li>• Promote people for the cleanliness of water channels</li> <li>• Tie-up with IMD, CWC has been strengthened so that EWS can be effectively communicated to the vulnerable community</li> </ul>	Primary Agency: DDMA, Gadag district  Supporting Agency: Irrigation, District information officer, PRED, DUDC, ULBs.	



<b>Flood</b>	Safety audit of existing and proposed housing stock in flood prone areas	Primary Agency: Revenue Dept. Supporting Agency: PWD, DUDC	
	<ul style="list-style-type: none"> <li>Promotion of traditional, local and innovative practices like bamboo/plastic bottle rafts etc.</li> </ul>	Primary Agency: DRD Dept., Gadag district	
	<ul style="list-style-type: none"> <li>Creation of trained medical first responders for first aid and resuscitation measures</li> <li>Developing of patient evacuation plans</li> </ul>	Primary Agency: Medical and Health Department Supporting Agency: DDMA and SDMA	
<b>Structural Mitigation Measures</b>			
<b>Fire (Forest &amp; Domestic)</b>	<ul style="list-style-type: none"> <li>Establishment of Fire stations as per Fire Safety Bye-laws</li> <li>All fire tenders should be equipped with wireless sets / mobile phones</li> </ul>	Primary Agency: Fire Department	
	Zoning of forest areas	Primary Agency: Dept. of Forest	
	<b>Non-Structural Mitigation Measures</b>		
	<ul style="list-style-type: none"> <li>Implementation of Fire safety measures and enforcement</li> <li>Updating basic infrastructure and adopting modern fire-resistant technologies</li> <li>Improving outreach of fire services.</li> <li>Making the fire services a multi-hazard response unit</li> <li>Compulsory fire hazard evaluation of life line building e.g. Hospital, School, Warehouse, industries and all other Public Buildings</li> </ul>	Primary Agency: Fire Department Supporting Agency: Irrigation,  PWD, ULBs,	Fire extinguisher swill be made available in Panchayat offices far from a water source.

		DTCP, and DRD Dept.	
--	--	------------------------	--

<b>Fire (Forest &amp; Domestic)</b>	<ul style="list-style-type: none"> <li>• Training of community members in fire-fighting techniques</li> </ul>	Primary  Agency: DDMA Supporting	
	<ul style="list-style-type: none"> <li>• Planning and calendar of evacuation drills/ mock drills in vital installations/ industrial plants/ government buildings / schools and critical infrastructure like hospitals, etc</li> </ul>	Agency: Fire Department	

**Structural Mitigation Measures**

<b>Earthquake</b>	<ul style="list-style-type: none"> <li>• Seismic strengthening of existing structures Prioritization of structures especially critical/ lifeline structures</li> <li>• Structural safety audit of critical lifeline structures e.g. Hospital, School, Warehouse, industries all other Admin Building</li> <li>• Retrofitting of lifeline structures, weak or old buildings, rural unsafe house and public building and office</li> <li>• Earthquake-resistant construction in urban, rural and semi-urban areas</li> </ul>	Primary Agency: PWD Supporting Agency: DTCP, DRD Dept, BESCO, ULBs.	
	<b>Non-Structural Mitigation</b>		

<b>Measures</b>			
	<ul style="list-style-type: none"> <li>• Development of Rapid Visual Screening procedures and Detailed Vulnerability Assessment</li> <li>• Regular conduction of Fire Safety Audits and Electrical Safety Audits</li> <li>• Techno-legal regime for ensuring compliance of earthquake-resistant design and construction practices in all new constructions</li> <li>• Licensing and certification of professionals Strict enforcement of guideline pertaining to seismic safety for government rural housing, urban development structure</li> </ul>	<p>Primary Agency: PWD</p> <p>Supporting Agency: DTCP, DRD Dept, BESCO, ULBs.</p>	<p>Supporting Agency: DTCP, DRD Dept, ULBs. Safety in Urban areas of Gadag district will be assessed and the same will be disseminated with the help of workshops and trainings.</p>

<b>Earthquake</b>	<ul style="list-style-type: none"> <li>• Mock-drills for Schools, Hospitals and , Public Buildings and trainings for mason, engineers and architects</li> <li>• Registration of trained and certified</li> </ul>	<p>Primary Agency: DDMA</p> <p>Supporting</p>	<p>Trainings and awareness campaigns will be aimed at</p>
	<ul style="list-style-type: none"> <li>• mason Mock-drills for Schools, Hospitals and , Public Buildings and trainings for mason, engineers and architects</li> <li>• Registration of trained and certified mason</li> </ul>	<p>Agency: District information officer, ULBs, DDPI, PWD</p>	<p>training rural population.</p>
<b>Structural Mitigation Measures</b>			

<b>Drought</b>	<ul style="list-style-type: none"> <li>• Water management including water harvesting and conservation</li> <li>• Promote modern irrigation methods in drought prone areas e.g. micro-irrigation including drip and sprinkler irrigation.</li> <li>• Rain Water Harvesting storage tanks at household level and public buildings</li> <li>• Structures for water harvesting and recharging like wells, ponds, check dams, farm ponds, etc</li> <li>• Development of fodder plots/banks</li> </ul>	<p>Primary Agency: Irrigation Supporting Agency: PWD, ULBs and DRD Dept</p>	
	<ul style="list-style-type: none"> <li>• Afforestation with bio-diesel species through the National Afforestation Programme Development of Pasture land in common property, seed farms and trust land</li> </ul>	<p>Primary Agency: Forest Department Supporting Agency: Agriculture  and Horticulture Dept. Animal husbandry</p>	

	<b>Non-Structural Mitigation Measures</b>
--	---

	<ul style="list-style-type: none"> <li>• Drought-prone area delineation at block level based on rainfall, cropping pattern, available supplement irrigation, satellite derived indicators, soil map, groundwater availability map, cattle population and fodder demand and socio- economic data</li> <li>• Gradation of drought-prone areas based on the frequency of occurrence of droughts, sensitivity to rainfall variation and vulnerability of community</li> <li>• Monitoring of drought based on rainfall and other parameters, crop health, available ground water and migration and impact on community</li> <li>• Set up control mechanism for regulated water use (ponds, small dams, check dams) on the early onset.</li> </ul>	<p>Primary Agency: Irrigation Supporting Agency: PWD,  ULBs, DDMA and IMD regional office</p>	
	<p>Insuring of crops</p>	<p>Primary Agency: Banks Supporting Agency: Revenue Dept. &amp; Agriculture and Horticulture Dept.</p>	
	<p>Farmer education to practice drought resistant crops and efficient water use.</p>	<p>Primary Agency: Agriculture and Horticulture Dept. Supporting Agency: DDMA</p>	

<b>Structural Mitigation Measures</b>			
<b>Chemical &amp; Industrial</b>	Creation of appropriate infrastructure as mentioned in Off-site and On-site plans including Public Address system	Primary Agency: Dept. of Industries Supporting Agency: PWD and ULBs	
	<ul style="list-style-type: none"> <li>• Enforcement of code of practices, procedures and standards</li> <li>• Audits of On-site &amp; Off-site Emergency plans at regular intervals</li> <li>• Statutory inspection, safety audit and testing of emergency plans</li> <li>• Safety Auditing</li> </ul>	Primary Agency: Dept. of Industries Supporting Agency: Department of labour and Employment,  PWD and ULBs.	
	Hotline telephone connection with nearby emergency services	Primary Agency: BSNL Supporting Agency: Dept. of Industries	
	Awareness generation among community	Primary Agency: DDMA Supporting Agency: Dept. of Industries	

	Training of specialized Medical First Aid Responders	Primary Agency: Medical and Health Dept. Supporting Agency: Dept. of Industries	
--	--	--	--

<b>Structural Mitigation Measures</b>			
<b>Road Accident</b>	<ul style="list-style-type: none"> <li>• Provision of adequate signboards, speed breakers and guard stones near the accident prone spots.</li> <li>• Adequate construction/ resurfacing/widening etc. at risky or prone areas</li> <li>• Construction of pedestrians both side of the road</li> <li>• Install reflectors on roads so that deviations and medians are clearly visible to drivers.</li> </ul>	Primary Agency: PWD Supporting Agency: RTO and Revenue Dept.	
	<b>Non-Structural Mitigation Measures</b>		
	Setting up of a Highway Safety Patrol	Primary Agency: Police Dept.	
	Awareness and Installation of warning hoardings	Primary Agency: DDMA and Revenue	
	Vehicle registration and proper investigation under road safety acts	Primary Agency: RTO	
<b>Structural Mitigation Measures</b>			

<b>Landslide</b>	Catchment area treatment/ A forestation, building up of check dams/detention basins in order to reduce the flood peaks and control the suddenness of the runoff	Primary Agency: IPH Supporting Agency: Forest Dept.	Distribution of seedlings of plant material useful in land reclamation in sloppy areas will be taken up with the
	<ul style="list-style-type: none"> <li>Stabilization of slopes in landslides prone areas.</li> <li>Construction of retaining walls and other structures to bring greater stability to dangerous slopes.</li> </ul>	Primary Agency: PWD Supporting	
	<ul style="list-style-type: none"> <li>Construction walls of piles in slope areas to</li> <li>prevent landslides.</li> </ul>	Agency: IPH, DTCP,	

	<b>Non-Structural Mitigation Measures</b>		
	<ul style="list-style-type: none"> <li>Enforce land-use and building ordinances in areas susceptible to landslides and debris flows.</li> <li>Discourage construction of buildings on steep slopes or near streams and rivers</li> </ul>	Primary Agency: DTCP/RT O Supporting Agency: PWD	
	Assessment of the availability of equipment's that would be needed at the time of landslides and regular updating of them.	Primary Agency: PWD Supporting Agency: ULBs.	

**1. Drought Mitigation Plan:**



Drought is a normal, recurrent feature of climate and characterized in terms of its spatial extension, intensity and duration. Conditions of drought appear when rainfall is deficient in relation to the statistical multi-year average for a region, over an extended period of a season or a year, or even more. Drought is a temporary aberration unlike aridity, which is a permanent feature of climate. Drought produces wide-ranging impacts that span across many sectors of the economy and are felt far beyond the area experiencing physical drought. Direct or primary impacts of droughts are usually associated with reduced agricultural production; depleted water levels; higher livestock mortality rates and damage to wildlife and fish habitats. When direct impacts have multiplier effect through the economy and society, they are referred to as indirect impacts in terms of reduced income for farmers and agri-business, increased prices for food and timber, unemployment, reduced purchasing capacity and demand for consumption, default on agricultural loans, and reduction in agricultural employment leading to migration etc.

### **Drought Mitigation**

Mitigation measures are initiatives undertaken to reduce the incidence or minimize impacts of drought. Besides drought proofing, these measures help in adapting to climate change, restoring ecological balance and bringing development benefits to the people. However, drought mitigation programmes are not to be construed stand-alone interventions that are to be implemented only in the wake of a drought; but must form part of developmental planning in the domain of soil conservation, watershed development and forestry. As such, drought mitigation measures are to be mainstreamed in regular development programmes of Central and State Governments. Government's policy towards drought management has changed considerably over the years and now rests upon early warning & preparedness, crisis management response, medium and long-term drought mitigation measures with greater application of state-of-the art technology and scientific tools. A number of Central Governments Schemes/ Programmes have evolved over time to address the need for medium and long-term drought mitigation requirements. Notable among them are Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Integrated Watershed Management Programme (IWMP), subsuming erstwhile Drought Prone Area Programme (DPAP), National Rural Drinking Water Programme (NRDWP), Swarna-jayanthi Grameen Swarozgar Yojana (SGSY), Rashtriya Krishi Vikas Yojna (RKVY), Fodder & Feed Development Scheme etc. Besides, various area development programmes by State Governments either through their own resources or with Government of India's support like Backward Region Grant Fund (BRGF), Rural Infrastructure Development Fund (RIDF) are contributing significantly to enhance drought resilience. Central and State Governments continue to consider further possibilities of reorienting/synergizing regular development programs for achieving a robust drought resilient regime.

### **Mitigation Plan for Drinking Water during Drought Situation:**

## **Structural Mitigation Measures for Drought**

- a) 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;
- b) 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.
- c) Construction of watershed structures at the right place where water recharge can be enhanced/will be used for life saving irrigation at critical stages of crop growth and during drought situations.
- d) Construction of “Community Ponds” through Panchayati Raj Institutions (PRI) and maintenance by levying user charges.
- e) Augmentation of agro-based food processing industries in rural areas for sustenance of employment,
- f) Establishing chain of cold storages to minimise post-harvest losses along with adaptation of appropriate post-harvest management practices like pre cooling, cold storages and refrigerated transport. Pre-harvest losses due to diseases and pests can also be minimized through better management practices;
- g) Construction of shelters for cattle and development of infrastructure for storage and transportation of dry and green fodder etc.;
- h) Ensuring provision of medicines and critical health care in the risk prone areas during drought for humans and animals;
- i) Ensuring efficient functioning of the PDS in drought affected areas;
- j) Provision of adequate infrastructure for dissemination of weather based advisories to the farming community on real-time basis in regional languages through extension machineries;
- k) Providing credit promptly in the drought affected areas and extending marketing and price support to farmers;
- l) Insurance products need to be developed for different agro-climatic zones providing coverage against drought. The Central/State Governments need to promote, agricultural insurance programmes and ensure that farmers are informed about the availability of insurance products and educate them about the need for managing their yield and income risks through insurance coverage;
- m) Identifying, procuring and keeping in readiness drought proofing materials in required quantities before the onset of monsoon season such as :- Seed & fodder Plan (including alternative varieties, mini kits etc. keeping in view the impending drought);

### **Non-Structural Mitigation Measures for Drought:**

For creating an enabling environment for the mitigation measures existing laws including the following (illustrative) would need to be considered/reviewed/updated:-

- (i) Revisiting Mahatma Gandhi National Rural Employment Guarantee Act/Operational Guidelines of MGNREGS to include/strengthen drought mitigation measures;
- (ii) Updating of State Scarcity Relief Manuals which replaced the erstwhile famine codes on the lines of Manual for Drought Management at National level;
- (iii) Establishing a definite procedure and fixing of time frame for attending to drought relief measures;
- (iv) Establishing an appropriate water regulatory regime in consultation with the States;
- (v) Empowerment of Panchayats, Municipalities, Local bodies and inclusion of drought mitigation measures as part of their role in Eleventh and Twelfth Schedules of Constitution of India.

### **2. Mitigation in case of Floods:**

Floods caused extensive damage to human, animal and plant life. Flood result in rendering many people homeless leading to devastation and total chaos to lack of communication and means of transportation. Gadag district is vulnerable to floods due to breach of Tungabhadra Malaprabha and belli hall river in the taluk of Mundaragi, Ron and Naragund for over flow of the above said rivers . Still precautionary measures have to be taken to mitigate the disaster.

#### **Existing facilities:**

Facilities available in the villages in the flood plain zone and also villages on higher elevations nearby have been identified. These facilities are in the form of school buildings, panchayat buildings land temples. In case of emergency such buildings will be mobilized to serve as shelters temporarily. In addition requirement of tents has also been assessed. Sources who can supply tents at a very short notice have been identified. Depending upon the need of the hour external relief will be mobilized. Time of travel of flood wave from the time of occurrence of disaster is assessed in the Study **Gadag District Disaster Management Plan: 2019-20** of Dam breaks analysis. The minimum time available at the nearest habilitation is about an hour. Transport requirement for emergency evacuation has been assessed. Keeping in view, the time available at respective locations, required transport facilities can be mobilized through transport department. Number of boats and coracles available and their locations have been identified and are enlisted in chapter-logistics. These can be put to service at short notice. In case of extreme emergency, machine boat services will also be mobilized. Such facilities are available and can

reach the spots within about 3 hours. During such situations maintenance of law and order is very important. Help of police and home guards will be taken. There are number of police stations and police out posts in the nearby areas. District administration will be informed to keep some additional force during the monsoon season. If need be help will be taken of the reserve police force, stationed at district head quarters. As evacuation during emergency has to be carried out immediately, the flood reaches a particular village such operation may be required to be done round the clock. For operation during night, illumination in the villages is very important. These are n surety of uninterrupted power supply. Therefore, alternate lighting arrangements are necessary. It is proposed to mobilize, LPG lanterns, petro maxes, etc., in addition, advantage will be taken of the head lights of transport vehicles.

## FLOOD MITIGATION

<b>Before</b>	<b>During</b>	<b>After</b>
<p>Learn warning signs and community alert systems</p> <ul style="list-style-type: none"> <li>• Stockpile emergency building materials</li> <li>• Install check valves in sewer traps to prevent flood waters from backing up in sewer drains</li> <li>• Plan and practice an evacuation route</li> <li>• Have disaster supplies on hand</li> <li>• Develop an emergency communication plan in case of separation</li> <li>• Ask an out-of-state relative to serve as the "family contact"</li> <li>• Teach family members how and when to turn off the gas, electricity, and water and teach children how</li> <li>• Ask your insurance agent about flood insurance</li> </ul>	<p>During a flood watch:</p> <p>If indoors:</p> <ul style="list-style-type: none"> <li>• Turn on battery operated radio to get latest emergency information</li> <li>• Get pre-assembled emergency supplies</li> <li>• If told to leave, do so immediately.</li> </ul> <p>If outdoors:</p> <ul style="list-style-type: none"> <li>• Climb to high ground and stay there</li> <li>• Avoid walking through any Flood waters.</li> <li>• If in a car, turn around and go another way; if your car stalls, abandon it immediately and climb to higher ground.</li> </ul> <p>During an evacuation:</p> <ul style="list-style-type: none"> <li>• If advised to evacuate, do so immediately to avoid flooded roads, being sure to follow recommended evacuation routes and listen to radio for evacuation instructions</li> </ul>	<p>Don't return home until authorities express express it is safe to do so</p> <ul style="list-style-type: none"> <li>• Help neighbors whom may need assistance</li> <li>• Use extreme caution when entering buildings</li> <li>• Inspect foundations for cracks or other damage and examine walls, floors, doors, and windows to make sure that the building is not in danger of collapsing</li> <li>• Watch out for animals, especially poisonous snakes, that may have come into your home with flood waters</li> <li>• Watch for loose plaster and ceilings that could fall</li> <li>• Take pictures of damage for insurance claims</li> <li>• Look for fire hazards</li> <li>• Throw away all food (including canned) that has come in contact with flood waters</li> </ul>

□  
**3. 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

<b>Before Disaster</b>	<b>During Disaster</b>	<b>After Disaster</b>
-Installation of an effective lightning rod system -Staying inside for at least 30 minutes after the last strike -Seeking shelter in a low area and staying away from trees while being caught up in an open area -Staying away from metal objects and tall objects, such as telephone poles, light standards, antennas and tall trees -Staying away from water sources like swimming pool, ponds, lakes or rivers	-Mobilization of specialized equipment and machinery to affected areas -Arrangements to be made for quick transportation of injured victims to the hospitals	-Arrangements for distribution of gratuitous relief and cash doles

**4.2.1.1 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.

#### **4.2.2 Measures to be taken –Chemical/Industrial Disaster**

In Gadag District most of MAH units are located Ranebennur taluk. Following are the emergency response plan for various types of industrial disasters as identified in.

##### **4.2.2.1 Prepare for a Chemical Emergency**

- Avoid mixing chemicals, even common household products. Some combinations, such as ammonia and bleach, can create toxic gases.
- Always read and follow the directions when using a new product. Some products should not be used in small, confined spaces to avoid inhaling dangerous vapors. Other products should not be used without gloves and eye protection to help prevent the chemical from touching your body.
- Store chemical products properly. Non-food products should be stored tightly closed in their original containers so you can always identify the contents of each container and how to properly use the product. Better yet – don't store chemicals at home. Buy only as much of a chemical as you think you will use. If you have product left over, try to give it to someone who will use it. Or see below for tips on proper disposal.
- Beware of fire. Never smoke while using household chemicals. Don't use hair spray, cleaning solutions, paint products, or pesticides near the open flame of an appliance, pilot light, lighted candle, fireplace, wood burning stove, etc. Although you may not be able to see or smell them, vapor particles in the air could catch fire or explode.
- Clean up any spills immediately with some rags, being careful to protect your eyes and skin. Allow the fumes in the rags to evaporate outdoors in a safe place then wrap them in a newspaper and place the bundle in a sealed plastic bag. Dispose of these materials with your trash. If you don't already have one, buy a fire extinguisher that is labeled for A, B, and C class fires and keep it handy.
- Dispose of unused chemicals properly. Improper disposal can result in harm to yourself or members of your family, accidentally contaminate our local water supply, or harm other people or wildlife.

**4.2.2.2** Many household chemicals can be taken to your local household hazardous waste collection facility. Many facilities accept pesticides, fertilizers, household cleaners, oil- based paints, drain and pool cleaners, antifreeze, and brake fluid. Some products can be recycled, which is better for our environment. If you have questions about how to dispose of a chemical, call the facility or the environmental or recycling agency to learn the proper method of disposal.

#### **4.2.2.3 Toxic Release**

The emergency procedures address to large-scale release of toxic chemical like ammonia having widespread impact.

- Assess the situation in consultation with industries handling toxic chemicals like Ammonia, Benzene, H<sub>2</sub>S. Depending on the situation, determine the action to be taken.
- Inform general public with the help of police, Radio broadcast or TV channel about required precaution to be taken.
- In case of ammonia leakage, instruct general public to cover their nose with wet cloth and move towards safe location notified (crosswind direction).
- Ask them to evacuate or remain indoors as per the situation.
- Instruct the villagers to free all the live-stocks to enable them escape. They will move out to safe place by their natural instinct.
- If evacuation is required, determine the area to be evacuated in downwind direction to designated Safe Assembly points.

#### **4.2.2.4 Fire / Explosion**

Leakage of LPG from storages or tankers and subsequent fire / explosion can cause widespread damage. Emergency response action for tackling LPG leaks is given below.

- Leaks from LPG storages, tankers, LPG pump glands, pipes flanges or pipeline ruptures or from vent emissions due to cargo tank over-pressure or relief valve failure will initiate a vapour cloud. Therefore, in case of release of large quantity of flammable vapour, immediate effort should be directed to eliminate source of ignition. In such event, eliminate all sources of ignition i.e. open flames, welding, cutting, operation etc.
- If possible, isolate the vessel involved in the incident.
- Direct or disperse the vapour cloud away from such sources by means of fixed and/or mobile water sprays or by water fog arrangement.
- If ignition does occur, there are chances of flash back to the source of leak. Leaks from pipelines are likely to be under pressure and these, if ignited, will give rise to a jet flame.

- In such a case it may be safer to allow the fire to burn out while protecting surroundings by copious cooling water rather than to extinguish the fire and risk a further vapour cloud which may result in explosion or flash back on encountering ignition source again.

Spillage of POL products in the industry will generally be contained in dyke resulting in confined pool. Leakages from road/rail tankers will result into unconfined pool. Emergency response actions for tackling such leaks are given below.

- A liquid spillage on land from tank or pipeline ruptures may be in large quantities and will generally be contained in bonded areas or culverts. The ignition of the ensuing vapour cloud would then result in a pool fire.
- If possible, isolate the vessel involved in the incident.
- Fire fighting operation should be carried from upwind direction.
- The hydrocarbon liquids like POL burn with a production of soot. Hence fire fighting operation should be carried out using respiratory personal protective equipment and / or fire proximity suits.
- Cool surrounding area exposed to heat radiation or flame impingement, with water in order to prevent secondary fire. It is suggested that fire fighters should maintain safe distances from fire.
- The bunds or dykes are provided around the storage tanks storing flammable materials to limit the size of any pool fires. The storage tanks containing Class ‘A’ products are normally provided high expansion foam pouring arrangement to control the rate of burning. This is to be activated in the event of a fire.
- If there is no fire, arrangement should be made to pump out / transfer spilled material to safer place e.g. into another tank or tankers.

<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 centers and in the affected areas as well</li> <li>➤ Identify the trauma cases and counsel them appropriately</li> <li>➤ Identify and characterize the source and its origin</li> <li>➤ Arrangements for distribution of gratuitous relief and cash doles</li> <li>➤ Special attention to ladies, children and elders</li> </ul>
---	---	--

#### **4.2.2 EMERGENCY RESPONSE PROCEDURE - TRANSPORTATION DISASTERS Road Tanker Accident**

Various hazardous chemicals are transported along the major roads in the district. Any accidents involving these tankers may or may not result in release of hazardous chemicals.

Following procedures is formulated to deal with such emergencies

- It should be the endeavour of the first observer to immediately inform the nearest Police Station clearly indicating the location of the accident and the number of vehicles affected.

**While talking to the caller the following information should be sought from him:**

- Where has the accident occurred?
- Where is the accident location i.e. nearest village / town etc?
- How many people are hurt?
- Is the driver alive and is he around?
- What is material involved in the accident, is it hazardous? And has he initiated any action? (if driver is calling)
- How many vehicles are involved in the accident?
- Is the road blocked due to accident?

- Is it a tanker or trailer?
- Can you cite any fire?
- Is any leakage observed from tanker?
- Do you feel any irritation in your throat or eyes?

**Instructions by Police to be given immediately to the caller / Informer are:**

- Ask no one to go near the tanker.
- Do not try to plug the leak.
- Try to instruct people to move away from the downwind direction of the leak (in the direction of wind).
- Stay clear from the road
- The Police should immediately rush to the site and cordon off the accident site from either side of the State Highway/District road and stop the traffic on either side.
- Request for ambulance and heavy equipment like crane for rescue operation and normalisation.
- Police should ascertain the chemical in the tanker based on HAZCHEM code on the tanker or from the tremcard. The information may also be obtained from tanker crew, if not seriously injured.
- Inform the District Administration, fire brigade and nearby industry who are supplier / user of these chemicals, if information available. Industry to be contacted for specific chemicals is given below.
  - Depending on nature of chemicals, action should be initiated to evacuate the persons in downwind direction. If chemical is flammable like LPG, Petrol or others, effort should be made to put-off all ignition sources like open flame, bidis, cigarettes etc.
  - All the vehicles in vicinity should be asked to stay put and with their ignition off.
  - Using proper personal protective equipment, rescue of affected persons should be initiated. Proper medical attention should be provided.
  - On arrival of expert help and depending on the situation, efforts should be made to contain the leak or transfer into another tanker or to neutralise the leak.

## **CHAPTER 7**

### **CAPACITY BUILDING AND TRAINING MEASURES**

As per the Disaster Management Act -2005, capacity-building includes:

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

management of disasters.

The primary purpose of capacity-building in disaster management is to reduce risk and thus make communities safer. This can be done by increasing resilience and enhancing coping capacities. Effective capacity-building at the district level requires the active participation of all those who are tasked with it. It must, therefore, include maintaining a comprehensive and up-to-date District Disaster Management Resource Inventory, awareness generation, education, Research and Development (R&D) and systematic and systematized training. The Deputy Commissioner should ensure the following capacity-building activities of the entire district, and the various Heads of Departments should ensure capacity-building of their respective departments. DDMA will work towards capacity building of the district to disasters by doing the following activities:

- Awareness generation and sensitization of public by trainings, mock drills, print media, mass media and street plays.
- Organizing mock drills at regular intervals in schools and government buildings.
- Organizing marathons, slogan writing, painting etc. in different sub division so as to ensure participation of people from different spheres.
- Organizing specific trainings for masons and engineers for making disaster resistant buildings.
- Distribution of IEC material to government offices, schools, colleges and panchayats.
- Organizing trainings for stake holders and other employees of state government.
- Ensuring that all villages/Panchayats have an active DM plan and DM task forces.
- Ensuring that all line departments have an active DM plan and DM task forces.
- Updating resource list of all line department at least twice a year.

## 7.1. Trainings and Capacity Building

The approach for the capacity analysis should eye the short term, medium term and long term timeline for policy and cutting edge level with a multi-layer approach. The trainings must target the stakeholders responsible to fill in the gaps in capacity identified in chapter 2. These trainings should leverage upon the local capacity of the district to facilitate various programs. The programs to work on the capacity gaps must target the stakeholders at the policy level with training of officials at DDMA, at cutting edge level with training of civil defense, home guard and police. These trainings should eye both response and mitigation centric approach to build upon the existing capacity of the district. To enhance capacity for disaster management the following training plan is proposed:

**Table 7.2: Short –Team and Long-Term Capacity Building Programmes  
for the Stakeholders**

Nature of training	Responsible departments	Potential training institutes	Frequency	Approach
--------------------	-------------------------	-------------------------------	-----------	----------

Training for DDMA and Senior Executives on Policies	DDMA	DDMA,SDMA	Annually	Short term
Emergency Operation Center staff training	DDMA	Home Guards NDRF	Quarterly	Short Term
Advanced search & Rescue training	Police , Home guards, Fire Department, DDMA	NDRF, Karnataka Police Academy,	Quarterly	Medium to long Term
Training to Police for Crowd Management and emergency Response	Police Service	Police Academy, NDRF, Home guards,	Quarterly	Long Term
Training on Applicable Wireless Communication (Walkie Talkie/ Wireless/ HF/ UHF/ VHF/ Ham Radio)	Police and Home Guards	SDMA, Police	Quarterly	Short Term to Medium Term
Training of Doctors on Mass casualty Management	DMO	Medical , DDMA	Quarterly	Medium Term
Training of Asha Workers Mass casualty Management	Health and Family Welfare	DHO	Quarterly	Medium Term
Training of ASHA, ANM for medical first response / psychosocial care	Health and Family Welfare	SDMA, Red Cross	Quarterly	Short Term
Training doctors on emergency response	Health and Family Welfare	Red cross, SDMA/DDMA	Quarterly	Long term / existing institutions
Training of ASHA, ANM for medical first response / psychosocial care	EMRI, District hospital Una	District hospital	Biannually	Long term
Teacher Sensitization	Education Departments	DIET	Bimonthly	Medium to Long Term
Training to teacher of Special Needs Children (Old Age, Orphan, ) for evacuation and rescue	Education Departments	NDRF/ Home guards/ Education Departments	Quarterly	Medium to Long Term

School safety training	Education	PWD, Engineers ,DM specialist from NDRF/ DDMA/SDMA, Civil defense, Home guard, Police	Quarterly	Long term using local institutions
Comprehensive training for NCC, NSS	DDMA and district authority	SDMA and DDMA, UNDP	Annually	Medium to Long term
Municipal Corporation training on DRR and disaster preparedness	DDMA and district administration	DDMA, UNDP	Annually	Medium to Long term
Basic training on GIS remote sensing and disaster mapping for DEOC staff	DDMA	DDMA,SDMA, KSNDMC, ISRO,NIDM	Annually	Medium to Long term

**Table 7.3: Roles and Responsibilities of the Departments with regard to Capacity Building**

SN	Dept.	Roles and Responsibilities pertaining to Capacity Building
1.	<b>Revenue &amp; Disaster Management Department</b>	<ul style="list-style-type: none"> <li>□ • DEOC to be functional and active. Ensure regular training of DEOC staff</li> <li>• DEOC to be equipped with emergency resources, maps and well non- interrupted communication network.</li> <li>• Develop trained human resource as mountain rescuers, swimmers, divers and boat-operators in view of vulnerability of the district and tourist destination.</li> <li>• Train rescue teams in first aid, search and rescue and basic life saving techniques.</li> <li>• Maintain data base of the trained personnel's in different fields of Disaster Management and revenue with the district administration.</li> <li>• Adequate stocking/replenishing of SAR equipment, first aid kits public addressable system, blankets, tarpaulins, etc.</li> <li>• Train officers of revenue in first aid and basic SAR at the ground level.</li> <li>• Development of District Disaster Response Force on lines of NDRF</li> </ul>

2.	<b>Police Dept.</b>	<ul style="list-style-type: none"> <li>• The trained police personnel should be placed on record within a district-level database of persons trained in disaster management.</li> <li>• Trainings of police personnel for capacity-building in respect to new techniques and modern technologies used to manage disasters and SAR operations.</li> <li>• Refresher courses for District police officials under the guidance of NDRF</li> <li>• Training in Psycho- socio care of the teams formed to help prevent human trafficking which is increasingly becoming common in the aftermath of disasters</li> <li>• Ensure availability of required SAR equipment for the teams of disaster management.</li> </ul>
3.	<b>Home Guards</b>	<ul style="list-style-type: none"> <li>• Provision of trainings for volunteers in search and rescue (SAR), first aid, traffic management, dead body management, evacuation, shelter and camp management, mass care and crowd management.</li> <li>• Home Guards companies would be equipped with SAR items to deal with and respond to emergencies.</li> </ul>
4.	<b>Fire Services</b>	<ul style="list-style-type: none"> <li>• Network of fire services would be increased and they would be equipped to deal with other emergencies too.</li> <li>• Database of fire personals trained in disaster management should be placed on record at district-level with the DEOC.</li> <li>• Regular Mock drills conducted by firefighting staff and personnel for dealing with hazardous materials and accidents involving the same.</li> <li>• Conduct of regular refreshers course for staff within department from national and state level training institutes.</li> <li>• Providing awareness regarding fire safety to the society and community on the large.</li> <li>• Formation of Task force for checking industrial units and offices for fire safety norms twice a year.</li> <li>• Procurement of specialised equipment's for SAR, hydraulic platform, HAZMAT van, motorcycle fire tenders and other advanced rescue tender,etc.</li> </ul>

5.	<b>Health Dept.</b>	<ul style="list-style-type: none"> <li>• Trainings of paramedics staff, mobile medical teams, psycho-social care teams and Quick Response Medical teams (QRMTs), for health attendants and ambulance staff in first aid and life-saving techniques</li> <li>• Procurement / stock availability of portable equipments for field and hospital diagnosis triage, etc.</li> <li>• Training of members of local communities, PHC, CHC, Anganwadies, Asha Workers in new techniques and procedures for health, WASH practices, trauma counseling, psycho – socio care, dealing with PWD, etc.</li> <li>• Capacity building at the institutional level should be done by carrying out various activities under the Hospital Emergency Preparedness Programme (HEPP).</li> <li>• Coordinate and liaison with Red Cross, NCC, NSS, NYKS and Civil Defense volunteers to spread awareness among the community</li> <li>• Developing awareness material for the community. Creation of a core group of master trainers at district level.</li> <li>• Evolve a mechanism for community outreach education programmes. Maintain a data base of the trained officials and provide the same to DEOC</li> </ul>
6.	<b>Irrigation Dept.</b>	<ul style="list-style-type: none"> <li>• Training of Staff in irrigation and Public Health related problems under a disastrous situation</li> <li>• Procurement of early warning and communication equipments through appropriate channels of the District Administration and providing trainings to all human resources with regard to early-warning especially for floods within district</li> <li>• Awareness regarding Participatory Irrigation Management for farmer staff.</li> </ul>

7.	<b>Agriculture Dept.</b>	<ul style="list-style-type: none"> <li>• Formation and training of a Weather Watch Group for the purpose of monitoring crops in the district.</li> <li>• Putting in place disaster management protocols for the hazards of drought, flood, hailstorm, etc.</li> <li>• Training of farmers in alternate cropping techniques and mixed cropping.</li> <li>• Awareness of farmers with regards to various diseases and their management.</li> <li>• Awareness and Training to farmer's regarding fodder management, seed banks and fodder banks.</li> <li>• Formation of Rapid Damage Assessment Teams who will be capable of assessing the condition of soil, fields, irrigation systems and any other damage to crops in post-disaster situations.</li> </ul>
8.	<b>Animal Husbandry</b>	<ul style="list-style-type: none"> <li>• Awareness regarding various diseases that different livestock within Gadag district can be effected with and their proper management especially the nomadic population.</li> <li>• Training of people regarding maintenance of livestock and increasing the capacity of their livestock.</li> <li>• Formation of Rapid Damage Assessment teams capable of examining and assessing damage caused to livestock, feed and fodder, and other things within the domain of animal husbandry.</li> </ul>
9.	<b>Rural Development and Panchayat raj Dept.</b>	<ul style="list-style-type: none"> <li>• Formation of Task Forces at village level to spread awareness with regards to issues of hygiene and sanitation (WASH) and disaster management at the village level through the Gram Panchayats.</li> <li>• Formation and training of Village Level Disaster Management Plans and Committees</li> <li>• Conducting of meetings at village levels every year quarterly and maintain the record.</li> <li>• Maintaining data base of the trained community at the village level and share the same with the district administration</li> <li>• Provision of training of teams regarding relief distribution, shelter &amp; camp management as per IRS.</li> </ul>



11.	<b>Education Dept. (Government and Private)</b>	<ul style="list-style-type: none"> <li>• Education and awareness programs on disaster management to be incorporated within educational curriculum of school/college and made mandatory.</li> <li>• Conducting of Mock Exercises like “Drop, Cover, Hold” on regular bases.</li> <li>• Development of Emergency Evacuation Plans for the schools and place in school building for all to see.</li> <li>• Formation and training of damage and needs assessment teams within the department.</li> </ul>
12.	<b>BESCOM</b>	<ul style="list-style-type: none"> <li>• Training of Staff in disaster management and its related preparedness and maintenance needs.</li> <li>• The timely purchase of electric equipment’s necessary for maintaining a state of adequate preparedness and for speedy and efficient disaster response, through the appropriate channels of the District Administration.</li> <li>• Forming of Task Force for dealing with power problems and to provide awareness on electrical safety to departments &amp; community.</li> </ul>
13.	<b>Forest Dept.</b>	<ul style="list-style-type: none"> <li>• Training of department officers/ officials in disaster with regards to related forest fires and wild/escaped animals who could pose a threat to human safety.</li> <li>• Generate awareness among the community with regards to forest fire/wild animals and maintenance of green belt</li> <li>• Formation of Task Force teams to watch over trackers / tourist in forested areas of the district both in winters and summers</li> </ul>
14.	<b>KSRTC</b>	<ul style="list-style-type: none"> <li>• Training to drivers, conductors and staff in basic first aid and life saving techniques</li> <li>• Adequate stocking/replenishing of First Aid kits and maintenance of fire extinguishers in all vehicles and depots in the district.</li> <li>• Spreading awareness among public with regards to driving norms and safety measures to avoid disasters.</li> </ul>
15.	<b>Media (electronic and print)</b>	<ul style="list-style-type: none"> <li>• Training of the Staff for sensitization towards reporting during Disaster Ensure timely community awareness, early warning and its dissemination by the concerned personals both pre and post disasters</li> <li>• Developing means of spreading awareness through social media and latest techniques and technologies</li> <li>• The DPRO in consultation with DDMA would educate the community in disaster management.</li> </ul>

### **6.3. Community Capacity Building**

Communities are not only the first to be affected in disasters but also the first responders. Community participation ensures local ownership, addresses local needs, and promotes volunteerism and mutual help to prevent and minimize damage. The community participation for DM would be promoted on the motto of “self-help”, “help the neighbour” and “help the community”. The Community Based Approaches or community participation in disaster management is also referred to as Community Based Disaster Management (CBDM) or Community Based Disaster Risk Management Capacity (CBDRM) with the essential feature of reducing vulnerability and disaster risk. Community Capacity Building includes formation and strengthening of the community disaster response or preparedness structures, awareness, training, public information campaigns, sustainable livelihood activities, through skill development, formation of task teams for SAR, WASH, Early Warning, First Aid, Shelter Management. The needs of the elderly, women, children and differently able persons require special attention. Networking of youth and women based organisation would be done and they will be trained in the various aspects of response such as first aid, search and rescue, management of community shelters, psycho-social counseling, distribution of relief and accessing support from government/agencies etc. Community plans will be dovetailed into the Panchayat, Block and District plans. DDMA will coordinate with volunteers and social organizations like Home Guards, NCC, Red Cross, Market Trade Associations, Youth Clubs, Self Help Group (SHGs), CBO’s, NGO’s and Anganwadi centres, etc. play a vital role in spreading mass scale community awareness. Media equally plays an important role in raising awareness and educating people. Skill- development at the community level can be done on the Public Private Partnership (PPP) model to ensure sustainability of the community against disasters. Public awareness can be brought about through:

- Traditional modes of promoting knowledge and awareness would be adopted such as use of folk songs, nuked nataks, etc.
- Community would be targeted through local fairs and festivals.
- Documentaries in local language would be screened through local cable networks etc. and mass media would be roped to promote education and awareness.

Community-based Disaster Risk Reduction (CBDRR) and Village Contingency Planning (VCP) are critical aspects for capacity building at the community-level and will be managed by the concerned departments in the district. Multiple responsibilities within the arena of capacity-building and training will be delegated to local authorities, PRIs and ULBs under the overall guidance of the District Administration.

**Table 7.4: Community Capacity Building Strategies**

<b>S. No</b>	<b>Tasks</b>	<b>Mode of conduct</b>	<b>Nodal Agencies</b>	<b>Supporting Agencies</b>
1	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. First priority needs to be given to the schools, industrial clusters, slums and resettlement colonies Second Priority shall be given to the communities living in the outer part of the district especially villages.	Through Nukkad Natak, Film Shows, Rallies, Media, Newspaper Media, Posters and Pamphlets, Group discussions and workshops etc	District Administration	NGOs, Schools and colleges volunteers, NSS, NCC, Sports groups, groups, etc.
2.	Constitution of Community Based Disaster Management Committees and Taskforces	Through community level meetings	District Administration	Members, Local Volunteers etc.
3.	Capacity Building of Community Members	Through mock-drills, preparation of community plans, trainings and workshops on disaster specific topics	District administration	108 Ambulance and NGOs
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	Revenue Department along with Health, Police and Fire Dept.	Home Guard, 108 Ambulance and NGOs
5.	Post disaster epidemic problems	Seminars and community meetings	Health dept.	Local health dept., 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	Showing Films, videos, distributing posters and brochures, reading materials, etc in trainings and workshops.	District administration	PWD, Private contractors and NGOs etc
---	--	---	-------------------------	---------------------------------------

**Table 6.4: Setting Up Of Disaster Volunteer Force - Identification& Training**

<p><b>Block level Task Force</b></p> <p><b>G.P. Level Task Force</b></p> <p><b>Village Level Task Force</b></p>	<ul style="list-style-type: none"> <li>➤ <b>Early Warning Group-</b> Warn the community of the impending danger.</li> <li>➤ <b>Rescue &amp; Evacuation Group-</b> To be put into task immediately after abatement of calamity.</li> <li>➤ <b>Water &amp; Sanitation Group-</b> Ensured safe drinking water in the shelter camps, MCS</li> <li>➤ <b>Shelter management Group-</b> Shall remain overall charge of managing the evacuees in shelter camps.</li> <li>➤ <b>First Aid &amp; Medical Group-</b> Shall take care of the minor elements in the rescue camp.</li> <li>➤ <b>Patrolling and Liaison Group-</b> Shall watch &amp; Word belongings of the inmates in the shelter camps &amp; keep liaison with Govt.</li> </ul>
---	---

#### **6.4. Capacity Building of Persons with Disabilities (PWD)**

It is important to consider the special/specific needs of persons with disabilities in every phase of disaster management and risk reduction planning. Specialist Services to empower PWD's by promoting access to following can reduce vulnerability and increase their capacity:

- Functional rehabilitation: e. g., Physiotherapy, occupational therapy, prosthetic and orthotic service
- Correctivugery Assistive devices
- Information leaflets in Braille
- Sign language for early warning systems Disabled Peoples
- Organisations

**Support services:** care taker, sign language interpreter, adapted transportation services, etc. Not all organizations can focus on disability issues to the same extent, every organization has to

choose its level of involvement and accordingly obtains the appropriate education/training/skilled personnel.

## CHAPTER -8

### INSTITUTIONAL MECHANISM OF DISASTER MANAGEMENT

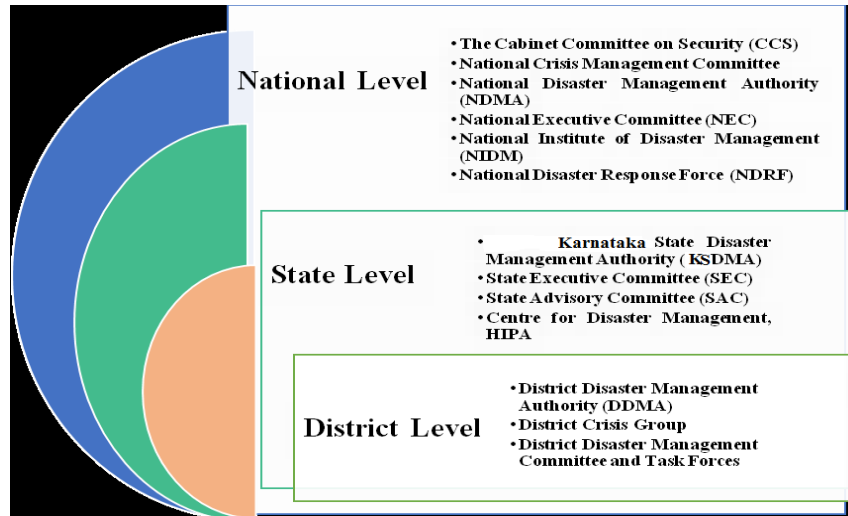
There are two distinct features of the institutional structure for Disaster Management in India. Firstly, the structure is hierarchical and functions at four levels - Centre, State, District and Local. Secondly, it is a multi-stakeholder setup, i.e., the structure draws involvement of various ministries, government departments and administrative bodies. The institutional structure for disaster management in India is in a state of transition after enactment of GoI's Disaster Management (DM) Act 2005. The National Disaster Management Authority has been established at the GoI level, and the SDMA at state and DDMA at district level are formalized. In addition to this, the National Crisis Management Committee, part of the earlier setup, also functions at the Centre. The nodal ministries, as identified for different disaster types of function under the overall guidance of the Ministry of Home Affairs (Nodal Ministry for disaster management). This makes the stakeholders interact at different levels within the disaster management framework.

#### 8.1 Disaster Management Act, 2005

DM Act provides for the effective management of disasters and for matters connected therewith or incidental thereto. It provides institutional mechanisms for drawing up and monitoring the implementation of the disaster management. The Act also ensures measures by the various wings of the Government for prevention and mitigation of disasters and prompts response to any disaster situation.

The Act provides for setting up of a National Disaster Management Authority (NDMA) under the Chairmanship of the Prime Minister; State Disaster Management Authorities (SDMAs) under the Chairmanship of the Chief Minister of the respective states; District Disaster Management Authorities (DDMAs) under the Chairmanship of Deputy Commissioners at the district level. The Act further provides for the constitution of different Executive Committee at national and state levels. Under its aegis, the National Institute of Disaster Management (NIDM) for capacity building and National Disaster Response Force (NDRF) for response/rescue purpose has been set up. It also mandates the concerned Ministries and Departments to draw up their own plans in accordance with the National Plan. The Act further contains the provisions for financial mechanisms such as creation of National Disaster Response Fund and State Disaster Response Fund to take up preparedness and mitigation measures and to respond to disasters effectively. The Act also provides specific roles to local bodies in disaster management.

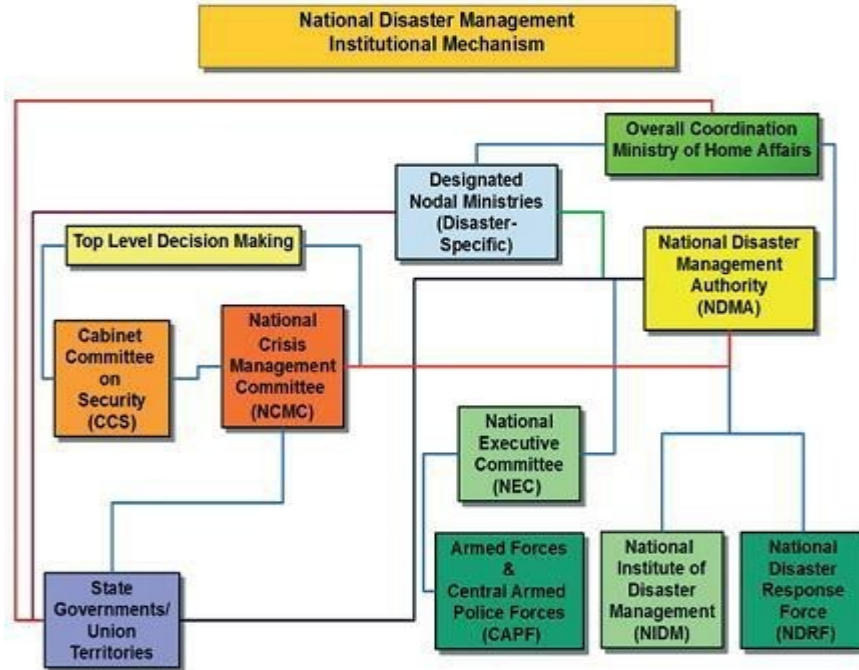
**Figure 8.1: Three-Tire institutional mechanism of disaster management in India.**



## 8.2. Institutional Framework

### 8.2.1 National Level

The overall coordination of disaster management vests with the Ministry of Home Affairs (MHA). The Cabinet Committee on Security (CCS) and the National Crisis Management Committee (NCMC) are the key committees involved in the top-level decision-making with regard to disaster management. The NDMA is the lead agency responsible for the preparation DM plans and the execution of DM functions at the national level. Figure 3.1 provides a schematic view of the basic institutional structure for DM at national level. The figure represents merely the institutional pathways for coordination, decision-making and communication for disaster management and does not imply any chain of command. In most cases, state governments will be carrying out disaster management with the central government playing a supporting role. The central agencies will participate only on the request from the state government. Within each state, there is a separate institutional framework for disaster management at the state-level. The DM Act of 2005 provides for the setting up of NDMA at national level, and, the SDMA at the state level. The role, composition and the role of the key decision making bodies for disaster management at national-level are briefly described in the Table 3.1. The extent of involvement of central agencies will depend on the type, scale, and administrative spread of the disaster. If the situation requires the direct assistance from central government or the deployment of central agencies, the central government will provide all necessary support irrespective of the classification of the disaster.



**Figure 8.2: National-level disaster management - basic institutional framework.**

*Note: this represents merely the institutional pathways for coordination, decision-making and communication for disaster management and does not imply any chain of command (Source: NDMP-2009).*

**Table 8.1: Institutional Arrangements for Disaster Management & Roles & responsibilities**

Agencies	Departments	Roles & responsibilities
<b>Cabinet Committee on Security (CCS)</b>	Prime Minister, Minister of Defense, Minister of Finance, Minister of Home Affairs, Minister of External Affairs	<p>Evaluation from a national security perspective, if an incident has potentially security implications.</p> <p>Oversee all aspects of preparedness, mitigation and management of CBRN emergencies and of disasters with security implications</p> <p>Review risks of CBRN emergencies from time to time, giving directions for measures considered necessary for disaster prevention, mitigation, preparedness and effective response</p>
<b>National Crisis Management Committee (NCMC)</b>	Cabinet Secretary, Secretaries of Ministries Departments and agencies with specific DM responsibilities	<p>Oversee the Command, Control and Coordination of the disaster response.</p> <p>Give direction to the Crisis Management Group as deemed necessary</p> <p>Give direction for specific actions to face crisis situations</p>
<b>National Disaster Management Authority (NDMA)</b>	Prime Minister, Members (not exceeding nine, nominated by the Chairperson)	<p>Lay down policies, plans and guidelines for disaster management</p> <p>Coordinate their enforcement and implementation throughout the country Approve the NDMP and the DM plans of the respective Ministries and Departments of Government of India</p> <p>Lay down guidelines for disaster management to be followed by the different Central Ministries,/Departments and the State Governments</p>



<p><b>National Executive Committee (NEC)</b></p>	<p>Union Home Secretary Secretaries to the GOI in the Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water and sanitation, Environment, Forests and Climate Change, Finance (Expenditure), health and Family Welfare, Power, Rural Development, Science and Technology, Space, Telecommunications, Urban Development, Water Resources, River development The Chief of the Integrated Defence Staff of the Chiefs of Staff Committee, ex-</p>	<p>To assist the NDMA in the discharge of its functions;</p> <ul style="list-style-type: none"> <li>• Preparation of the National Plan.</li> <li>• Coordinate and monitor the implementation of the National Policy.</li> <li>• Monitor the implementation of the National Plan and the plans prepared by the Ministries or Departments of the Government of India.</li> <li>• Direct any department or agency of the Govt. to make available to the NDMA or SDMA's such men, material or resources as are available with it for the purpose of emergency response, rescue and relief.</li> <li>• Ensure compliance of the directions issued by the Central Government, Coordinate response in the event of any Threatening disaster situation or disaster.</li> <li>• Direct the relevant Ministries / Departments of</li> </ul>
	<p>Officio as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport and Highways &amp; Secretary, NDMA are special</p>	<p>the GoI, the State Governments and the SDMA's regarding measures to be taken in response to any specific threatening disaster situation or disaster.</p> <ul style="list-style-type: none"> <li>• Coordinate with relevant Central Ministries/ Departments / Agencies which are expected to provide assistance to the affected State as per Standard Operating Procedures (SOPs).</li> <li>• Coordinate with the Armed Forces, Central Armed Police Forces (CAPF), the National Disaster Response Force (NDRF) and other uniformed services which comprise the GoI's Response to aid the State authorities.</li> <li>• Coordinate with India Meteorological Department (IMD) and a number of other specialised scientific institutions which constitute key early warning and monitoring agencies.</li> <li>• Coordinate with Civil Defence volunteers, home guards and fire services, through the relevant administrative departments of the State Governments</li> </ul>

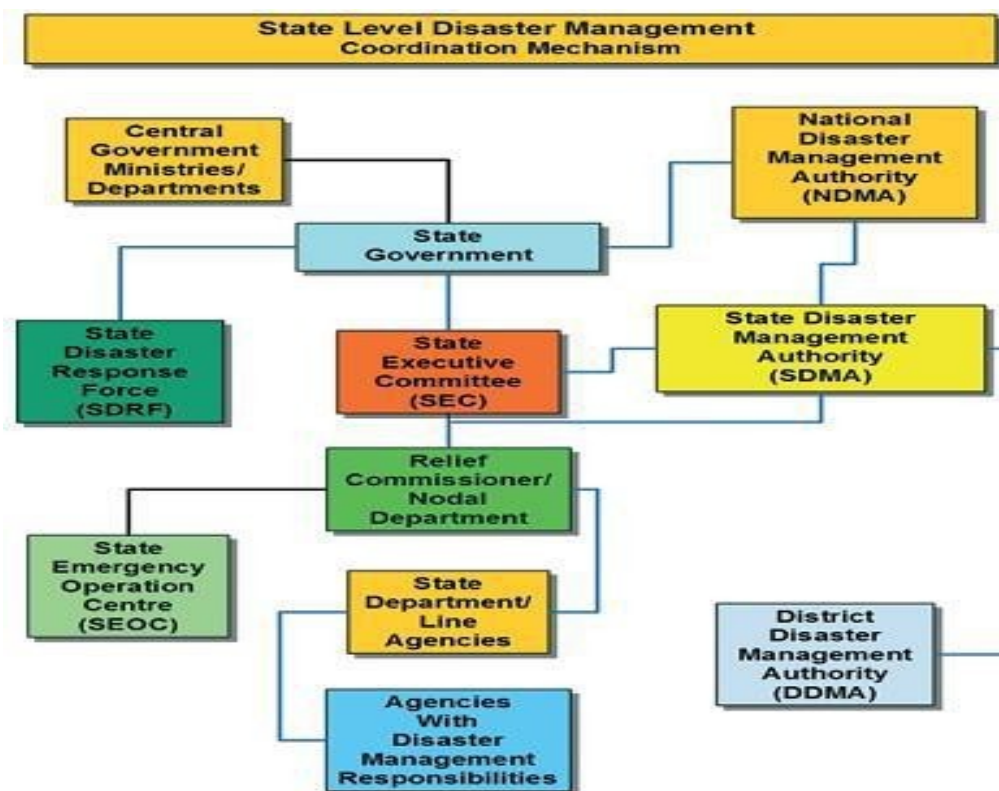
## 8.2.1 State Level

### 8.2.1.1 State disaster Management Authority (SDMA)

As per the DM Act of 2005, each state in India shall have its own institutional framework for disaster management. The DM Act mandates the setting of a State Disaster Management Authority (SDMA) with the Chief Minister as the ex-officio Chairperson. Figure 3.3 provides schematic view of the typical state-level institutional framework. As per clause (b) of sub-section (2) of Section 14 of the Disaster Management Act 2005, the Karnataka State Disaster Management Authority under the chairperson of the Honorable Chief minister was constituted with the following persons as member of the KSDMA.

**Table 8.2:  
SDMA Structure**

<b>Sl. No.</b>	<b>SDMA Members</b>	<b>Designation</b>
1.	Chief Minister of Karnataka	Chairman, Ex-officio
2.	Minister for Revenue	Vice-Chairman
3.	Minister for Home	Member
4.	Minister for Agriculture	Member
5.	Minister for Health and Family Welfare	Member
6.	Minister for Rural Development and Panchayat Raj	Member
7.	Minister for Public Works	Member
8.	Minister for Animal Husbandry	Member
9.	Minister for Housing	Member
10.	Minister for Energy	Member
11.	Chief Secretary (Chairman of SEC)	Chief Executive Officer
12.	Secretary, Dept. of Revenue(Disaster Management)	Member Secretary



**Figure 8.3: State-level disaster management - basic institutional framework.**

*Note: The figure represents merely the institutional pathways for coordination, decision-making and communication for disaster management and does not imply any chain of command (Source: NDMP-2009).*

### **Role & Responsibility of SDMA**

State Authority shall have the responsibility for laying down policies and plans for disaster management in the State.

- Lay down the State disaster management policy.
- Approve the State Plan in accordance with the guidelines laid down by the National Authority.
- Approve the disaster management plans prepared by the departments of the Government of the State.
- Lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefore.
- Coordinate the implementation of the State Plan.
- Recommend provision of funds for mitigation and preparedness measures
- Review the development plans of the different departments of the State and ensure

that prevention and mitigation measures are integrated therein.

- Review the measures being taken for mitigation, capacity building and preparedness by the departments of the Government of the State and issue such guidelines as may be necessary.
- The Chairperson of the State Authority shall, in the case of emergency, have power to exercise all or any of the powers of the State Authority but the exercise of such powers shall be subject to ex post facto ratification of the State Authority".

### **Cabinet Sub-Committee on Disaster Management**

Cabinet Sub-committee on Disaster Management is formed under the Chairmanship of Revenue Minister. The Cabinet Sub-Committee meets regularly to take stock of situation especially drought situation gives necessary guidance and directions. The composition of SEC is as follows:

**Table 3.3: Cabinet Sub-Committee on Disaster Management**

<b>Sl. No</b>	<b>Cab. Sub-Committee Members</b>	<b>Designation</b>
1.	Minister for Revenue	Chairman
2.	Minister for Law and Parliamentary affairs	Member
3.	Minister for Rural Development and Panchayat Raj	Member
4.	Minister for Horticulture and Agriculture Marketing	Member
5.	Minister for Co-operation and Sugar	Member
6.	Minister for Agriculture	Member
7.	Minister for Food and Civil Supplies and Consumer Affairs	Member
8.	Minister for Minor Irrigation	Member

### **State Executive Committee**

State Executive Committee (SEC) has been constituted under the chairmanship of Chief Secretary. SEC has the responsibility for coordinating and monitoring the implementation of the National

Policy, the National Plan and the State Plan as provided under section 22 of the Act. The composition of SEC is as follows:

**Table 3.4: State Executive Committee Structure in Karnataka State**

<b>Sl. No</b>	<b>SEC Members</b>	<b>Designation</b>
1	Chief Secretary to Government of Karnataka	Chairperson, Ex-officio
2	Addl. Chief Secretary/Principal Secretary to the Government, Home Department	Member
3	Principal Secretary/Secretary to the Government, Rural Development and Panchayat Raj Department	Member
4	Principal Secretary/Secretary to the Government, Agriculture Department	Member
5	Director General of ATI	Member
6	Director KSNDMC	Member
7	Secretary to the Government, Revenue Department (Disaster Management)	Member Secretary
8	Director General of Police and Director General of Fire and Emergency Services, Home Guards, and Civil Defence	Permanent Invitee

### **Role & Responsibility of SEC**

- Development of awareness campaign strategy and its implementation in the state.
- Development of Human Resource Plan for implementation thereof – development of training modules and material
- Preparation or updation of state disaster management plan to ensure that the issues of DRR have been addressed
- To initiating risk and vulnerability assessments and preparation of annual vulnerability and risk reduction reports.
- Laying down guidelines to integrate DRR into development process
- Follow up with various line departments to ensure that DRR issues have been addressed in their development plans.
- Preparation of Disaster Risk Reduction Projects in various sectors.
- Carrying out DRR Audit of the development plans prepared by line departments.
- Developing a Recovery framework for the state.
- Development of Knowledge and information sharing platform in DRR
- Conceptualizing and formulating projects and programmes as a part of the national

initiatives/schemes.

- Preparation of Minimum Standards of Relief
- Preparation of Disaster Management Policy
- Preparation of Mitigation plans vis a vis various hazards
- Coordinate and monitor the implementation of National Policy, National Plan and State Plan
- Lay down guidelines for the preparation of DMP by various departments
- Lay down guidelines for safe construction practices and ensure compliance thereof
- Provide necessary technical assistance or give advice to District Authorities.
- Lay down, review and update state level response plans and guidelines
- Ensuring the communication system is in order – setting up and strengthening of EOCs
- Ensuring the conduct of mock drills regularly.

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

Karnataka is raising 4 companies of SDRF. SDRF is a hybrid force which consists of personnel from state police, reserve police, and fire and emergency personnel. This force is raised exclusively for rescue and relief operations in times of disasters.

#### **3.2.2.4 State Crisis Management Group (SCMG)**

The crisis management groups at State level have been constituted. The State Crisis Management Group (SCMG) is headed by the Chief Secretary along with Relief Commissioner. This group comprises of senior officers from departments of revenue, relief, home, civil supplies, power, irrigation, water supply, agriculture, forests, rural development, health, planning, Public works, finance and Panchayat. The SCMG shall normally handle all crisis situation and advice and guide the District Crisis Management Group (DCMG) also. Its duty is to set establish a Emergency Operation Centre(Control Room) as soon as the disaster situation arises including all information on forecasting and warning of disasters.

#### **3.2.2.5 State Emergency Control Room**

There is a State Emergency Control Room in the Karnataka Disaster Management Secretariat, to provide Secretarial support to the Karnataka State Disaster Management Authority and also facilitate the functioning of the Authority. 1070 is the Helpline Line No. of State Emergency Control room which is operational 24 x 7. This Control Room will receive the information from various sources. It shall be in constant contact with the District Disaster Control Rooms, Police Control Rooms. The State Emergency Control Room will receive the information, record it properly and put up to the State Disaster Management Authority instantly. Similarly the instructions passed by the State Authority shall be conveyed to the addressees and a record maintained to that effect.

### 3.2.1. District Level

The district administration is the local point for implementation of all governmental plans and activities. The actual day-to-day function of administering relief is the responsibility of the District Magistrate who exercises coordinating and supervising powers over all departments at the district level. As per provisions in Chapter-IV of the DM Act, each State Government shall establish a District Disaster Management Authority for every district in the State with such name as may be specified in that notification.

#### 3.2.1.1. District Disaster management Authority (DDMA), Gadag District

In general the role of District Disaster Management Authority, Gadag District is to plan, coordinate, implement and to carry out any other measures for disaster management in the district as per the guidelines laid down by National Disaster Management Authority (NDMA) and State Disaster Management Authority (SDMA). The DDMA is headed by the Deputy Commissioner with the elected representative of the local authority (Chairman Zila-Parishad) as the Co-Chairperson. DDMA acts as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It inter alia prepares the District Disaster Management Plan for the District and monitors the implementation of the National Policy, the State Policy, the National Plan, the State Plan and the District Plan. DDMA also ensures that the guidelines for prevention, mitigation, preparedness and response measures lay down by the NDMA and SDMA are followed by all Departments of the State Government at the District Level and the local authorities in the District.

The DDMA acts as District Planning, coordinating and monitoring body in accordance with the guidelines lay down by the State Authority. As per Section 25 of the DM Act 2005 DDMA has been constituted for Gadag District as follows:

**Table 3.5: DDMA Structure of Gadag District**

Sl No.	Designation of the Officer	Designation in DDMA	Contact no.	Email ID
1	Deputy Commissioner, Gadag District	Chairperson (Ex Officio)	08372-237300	<a href="mailto:deo.gadag@gmail.com">deo.gadag@gmail.com</a>
2	President, Gadag Zilla Panchayath, Bangalore	Co- Chairperson (Ex Officio)		
3	Superintendent of Police, Gadag District	Member (Ex Officio)	08372-236260	<a href="mailto:ccgdg@ksp.gov.in">ccgdg@ksp.gov.in</a>

4	Chief Executive Officer, Gadag Zilla Panchayath, Bangalore	Member (Ex Officio)	08372-234375	<a href="mailto:ceozp.gadag@gmail.com">ceozp.gadag@gmail.com</a>
---	--	---------------------	--------------	--

5	Addl. Deputy Commissioner, Gadag District	Chief Executive Officer of the District Authority (Ex Officio)	08372-238042	
6	Joint Director, Agriculture Dept. Gadag District	Member (Ex Officio)	08372-235443	<a href="mailto:jdagadag@gmail.com">jdagadag@gmail.com</a>
7	District Health Officer, Gadag District	Member (Ex Officio)	08372-233996	<a href="mailto:dhogada@gmail.com">dhogada@gmail.com</a>

### 3.2.3.2 The roles and responsibilities of the DDMA, Gadag District

The roles and responsibilities of the DDMA, Gadag District has been elaborated in Section 30 of the DM Act, 2005.

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



- The DDMA will also monitor the implementation of disaster management plans prepared by the Departments of the Government at the district level;
- The DDMA will also ensure 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 monitor the implementation of the same,
- The DDMA will review the state of capabilities and preparedness level for responding to any disaster or threatening disaster situation at the district level and take steps for their up gradation as may be necessary,
- The DDMA will organise and coordinate specialised training programmes for different levels of officers, employees and voluntary rescue workers in the district, facilitate community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, governmental and non-governmental organisations, set up, maintain,
- The DDMA will 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.
- The DDMA will also coordinate response to any threatening disaster situation or disaster, coordinate with, and provide necessary technical assistance or give advice to the local authorities in the district for carrying out their functions,
- The DDMA will examine the construction in any area in the district and issue direction the concerned authority to take such action as may be necessary to secure compliance of such standards as may be required for the area;
- The DDMA will further 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 for water supply and sanitation in such buildings or places establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at a short notice.
- The DDMA will encourage the involvement of non -governmental organisations 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.

### **3.2.3.3 CONSTITUTION OF DISTRICT CRISIS GROUP**

The Crisis Group of the Gadag District is formulated under The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996. The Govt. of Karnataka under the Rules conferred vide Section 8 of the said Rules, Issued a Notification No. KAEE 36 KABANI 98, Dated: 04.09.1998, constituted the District Crisis Group of Gadag District

to implement Environmental Protection Act and the Rules made there under. The following is the composition of District Crisis Group.

**Table 3.6: The composition of District Crisis Group.**

<b>Sl. No</b>	<b>District Crisis Group Members</b>	<b>Designation</b>
1	Deputy Commissioner, Gadag Dist.	Chairman
2	Superintendent of Police. Gadag Dist.	Member
3	Addl. Deputy Commissioner (Emergency Officer), Gadag Dist.	Member
4	District Fire Officer, Gadag Dist.	Member
5	Deputy Director, Information Department, Gadag Dist.	Member
6	District Commandant, Home Guards, Gadag Dist.	Member
7	District Health Officer, Gadag Dist.	Member
8	Superintendent Engineer, HESCOM, Gadag Dist.	Member
9	Deputy Controller of Explosives, Mangalore.	Member
10	Executive Engineer, Panchayath Raj Engineering Dept. Gadag Dist.	Member
11	Environmental Officer, KSPCB, Gadag Dist.	Member
12	Joint Director of Agriculture, Gadag Dist.	Member
13	Regional Transport Officer. Gadag Dist.	Member
17	Deputy Director of Factories and Boilers	Member Secretary

### **3.2.3.4 Control Room, Gadag District**

It has been observed that at the time of a calamity/disaster, communication services are the first to go out of order. The Control Room reachable round the clock through toll free number -1077. Control Room plays a vital role in Emergency Operation activation and place multi-mode and multi-channel communication system pre, during and post emergency situation. It coordinates the flow of information with respect to activities associated with relief operations. Additional District Magistrate is the nodal officer for the Control room and all operations of Disaster management in the District.

### **3.2.3.5 Role and Objectives of Control Room, Gadag District**

Control Room plays a vital role in Emergency Operation activation in the district and has following roles and objectives during occurrence of any disaster and normal time,

- It act as a control room that would be the nerve centre for the fatal incident and disaster management in the district.
- To monitor, coordinate and implement the actions for disaster risk management within the district.
- Activate the Emergency Support Function (ESF) in the event of a disaster and coordinate the actions of various line departments/ agencies.
- Encourage each line and stakeholder department within the districts to prepare their area- specific plans in terms of their vulnerability and proneness to specific disasters and receive reports on preparedness from their side.
- Serve as a data bank to all line departments and the planning department with respect to risks and vulnerabilities and ensure that due consideration is given to mitigation strategies in the planning process.
- Maintain a web-based inventory of all resources available with all concerned department in the district and update it through the India Disaster Resource Network (IDRN).
- Receive appropriate proposals on preparedness, risk reduction and mitigation measures from various departments/agencies and place the same for consideration of the Chief Secretary through Deputy Commissioner's approval.
- Monitor preparedness measures undertaken at the district levels including simulation exercises undertaken by various departments.
- Ensure from each line departments that all warning, communication systems and instruments are in working conditions. Upgrade the Disaster Management Action according to the changing scenario.
- Monitor preparedness measures and build the capacity on the disaster risk management training, workshops and awareness generation programme.
- Maintain a data base of trained personnel and volunteers who could be contacted at any time.

### 3.2.4 Incident Response System (IRS)

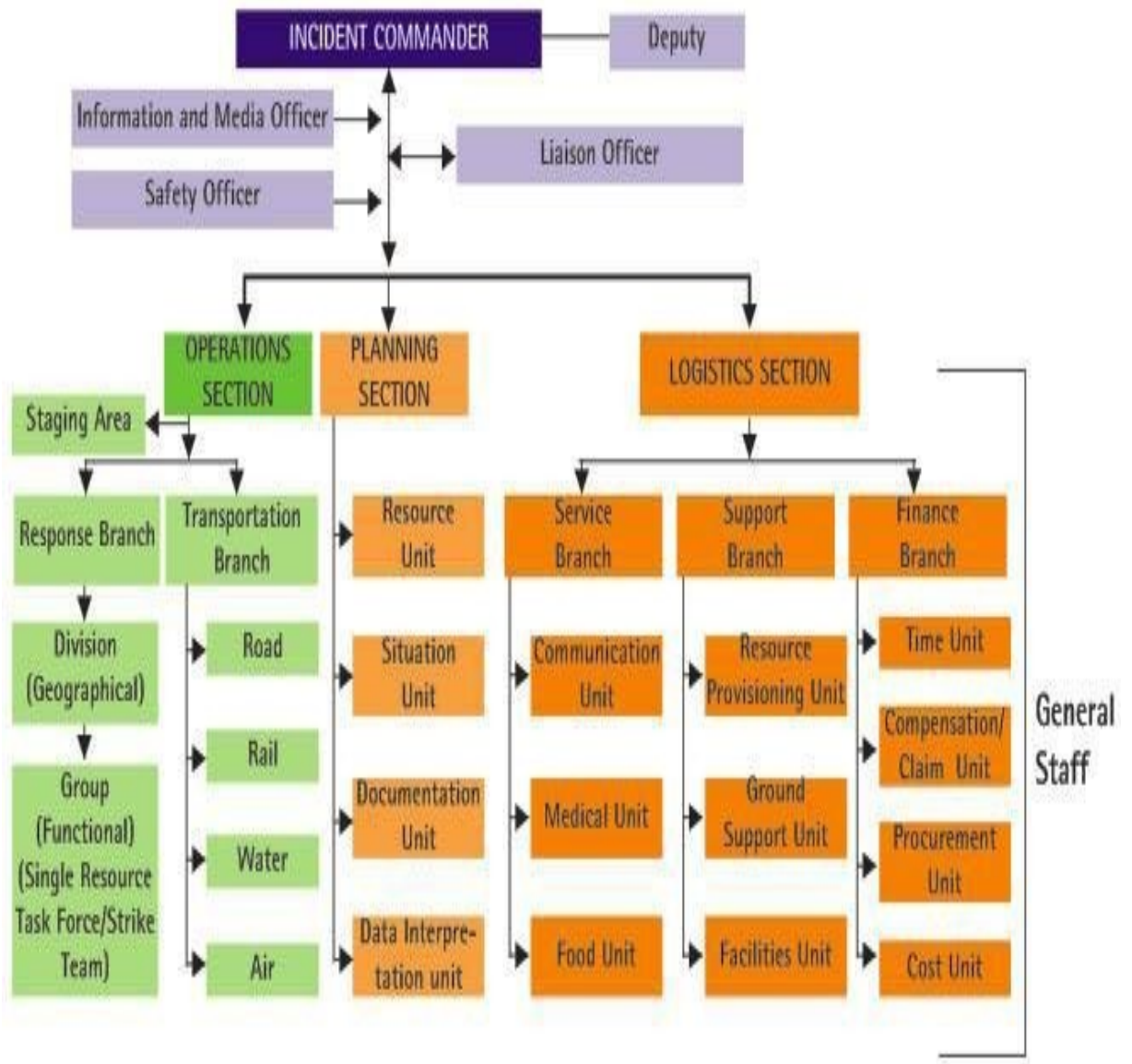
Incident Response System is a combination of facilities, logistic, personnel, finance, operation and communication operating within a common organizational structure, with responsibility for the management of assigned resources to accomplish the objectives effectively pertaining to an incident. The IRS organization functions through Incident Response Team (IRT s) in the field. The District Magistrate (DM) as the chairman of the DDMA is a Responsible Person (RO) as overall in charge of the incident response management. If needed, he can delegate his functions to any other responsible officer or appoint another senior officer as an incident commander if the disaster is in more than scenario.

**Table 3.7: Major Responsibilities of the IRS sections.**

<b>Responsible Officer</b>	<b>Major responsibilities</b>	<b>Primarily responsible for effective response</b>
Incident commander	Overall In-charge of the Incident Response Team & its Effective Functioning.	<ul style="list-style-type: none"> <li>• To create and integrate communication flow during emergency period</li> <li>• To manage incident scene, and report through integrated and coordinated command</li> <li>• To facilitate procedures and protocols according to ESF Departments within District as well as State and Central Government.</li> <li>• To put the communication system in place to receive, record, acknowledge incoming and outgoing information of any form during the disaster</li> <li>• To manage resources as per their availability such as– distribution of relief material with ESF agencies required during emergency etc.</li> <li>• Monitoring functional areas during and post disaster phase</li> </ul>
Operations Sections	Direct & supervise all tactical actions.	<ul style="list-style-type: none"> <li>• Activates and supervises organization elements in accordance with the Incident Action Plan and directs its execution</li> <li>• Determine need and request additional resources Review suggested list of resources to be rebased and</li> <li>• initiate recommendation for release of resources</li> <li>• Report Information about special activities,</li> </ul>

		<p>events or occurrences to Incident Commander</p> <ul style="list-style-type: none"> <li>• Maintain Unit / Activity details</li> </ul>
Planning Sections	Collect/Analyse data, Workout need of required resources and prepare action plan for incident/ Disaster of the district Una.	<ul style="list-style-type: none"> <li>• Prepare alternative strategies and control of operations,</li> <li>• Supervise preparation of Immediate Action Plan (IAP)</li> <li>• Provide input to IC and Operation in preparation of IAP</li> <li>• Reassign of service personnel already on site to other positions as appropriate</li> <li>• Determine need for any specialized resources in support of the incident</li> </ul>

Logistics Section	Provide logistic support, procurement & cost accounting	<ul style="list-style-type: none"> <li>• Compile and display incident status information</li> <li>• Oversee preparation and implementation of Incident Demobilization Plan.</li> <li>• Incorporate Plans (e.g. Traffic, Medical, Site Safety, and Communication) into IAP.</li> <li>• Other Functions include, briefing on situation and resource status, setting objectives, establishing division boundaries, identifying group assignments, specifying tactics/safety for each division, specifying resources needed by division, specifying operations facilities and reporting locations – plot on map and placing resource and personnel order.</li> <li>• Assign work locations and tasks to section personnel.</li> <li>• Identify service and support requirements for planned and expected operations</li> <li>• Coordinate and process requests for additional resources.</li> <li>• Provide input to / review communication plan, traffic plan, medical plan etc</li> <li>• Recommend release of unit resources</li> <li>• Maintain Unit/ Activity details</li> </ul>
Finance Section	The Finance section is basically of the administration and managing finance.	<ul style="list-style-type: none"> <li>• The major roles of this section include managing (1) Incident Command Post, (2) Staging Areas, (3) Base, and (4) Camps. The major functions are:</li> <li>• Minimize excessive communication of resources calling for assignment</li> <li>• Allow 1C/OPS to properly plan for resources use</li> <li>• and allow for contingencies.</li> </ul>



**Figure 3.4: General flowchart of IRS in District Gadag District**

### 3.2.5 Forecasting and warning agencies

The timely flow of early warning system from the source to the targeted stakeholder is very important. The dissemination of early warning should be institutionalized so that it reaches the stakeholders in minimum possible time by recognized means of communication. In the following table, the name of the Nodal agencies of the Government of India mentioned which are mandated for providing early warning of different natural hazards that may strike within the state of Gadag i District.

**Table 3.8: Forecasting and warning agencies, their contact number and other details.**

Disaster	Nodal Ministry/ Department	Early Warning/Forecasting Agencies	Contact Details	Email/Webpage/Remarks
Floods	Min. of Water Resources (MoWR)	<ul style="list-style-type: none"> <li>➤ N- (CWC) Central Water Commission</li> <li>➤ S-IMD</li> <li>➤ D -Irrigation and Public Health Dept./ DEOC</li> </ul>	N-011-26187232 S- 080-22244419  22235725, D-	<a href="http://india-water.gov.in/ffs/">http://india-water.gov.in/ffs/</a> <a href="http://www.imd.gov.in/pages/main.php">http://www.imd.gov.in/pages/main.php</a>
Droughts	Min. of Agriculture and Farmers Welfare (MoAFW)	<ul style="list-style-type: none"> <li>➤ N- IMD</li> <li>➤ S – State Regional IMD office</li> <li>➤ D –Agriculture, IPH and DEOC</li> </ul>	N-011-24619167 S- 080-22244419  22235725, 22235733,  D-	<a href="http://www.imd.gov.in/pages/main.php">http://www.imd.gov.in/pages/main.php</a>
Earthquake / Tsunami	Min. of Earth Sciences (MoES)	<ul style="list-style-type: none"> <li>➤ N- IMD</li> <li>➤ S SDMA/SEOC/K SN DMC</li> <li>➤ INCOIS</li> <li>➤ D- DDMA/ DEOC</li> </ul>	S-1070/ 080-22253707  D-1077	<a href="http://www.imd.gov.in/pages/earthquakeprelim.php">http://www.imd.gov.in/pages/earthquakeprelim.php</a> <a href="mailto:secy.dm@gmail.com">secy.dm@gmail.com</a>
Forest Fire (FF)/Domestic Fire (DF)	Min. of Environment, Forest and Climate Change (MoEFCC)	<ul style="list-style-type: none"> <li>➤ N-Forest Survey of India/ISRO (for FF)</li> <li>➤ S- SEOC/Forest Deptt. (For FF)</li> <li>➤ D- Department of Forest (For FF)</li> <li>➤ D- Department of Fire Services (Domestic Fire)</li> </ul>	S-1070/080-22032995 D-	<a href="https://earthdata.nasa.gov/earth-observation-data/near-real-time/firms/active-fire-data">https://earthdata.nasa.gov/earth-observation-data/near-real-time/firms/active-fire-data</a>  <a href="mailto:secy.dm@gmail.com">secy.dm@gmail.com</a>  <a href="mailto:cfomlr@ksfes.gov.in">cfomlr@ksfes.gov.in</a>



Landslide	Min. of Mines (MoM)	<ul style="list-style-type: none"> <li>➤ N- GSI &gt;</li> <li>➤ S- Regional office of GSI</li> <li>➤ DEOC/DDMA/ PW D</li> </ul>	S-1070/080-22032995	<a href="http://www.portal.gsi.gov.in/">http://www.portal.gsi.gov.in/</a>
Chemical and Industrial	MoEFCC/ Ministry of Industries	<ul style="list-style-type: none"> <li>➤ D- Deptt. of Industries</li> <li>➤ D- Department of labour and employment</li> </ul>	S- 080-26531200 D-	<a href="mailto:secy-moef@nic.in">secy-moef@nic.in</a> <a href="mailto:secy.dm@gmail.com">secy.dm@gmail.com</a>
Road Accidents	Min. of Road Transport	➤ D- Police	D- D-	
	and Highways (MoRTH)			
Aircraft Crash	Ministry of civil aviation	➤ N-Airports Authority of India (AAI)	N-011 2463 2950 S-1070  080-22253707  D-1077	<a href="mailto:dc.mnglr@gmail.com">dc.mnglr@gmail.com</a> <a href="mailto:tn.dwivedi57@nic.in">tn.dwivedi57@nic.in</a> <a href="mailto:secy.dm@gmail.com">secy.dm@gmail.com</a>
Stampede	Ministry of Revenue	➤ D- District Administration/ DEO	S-1070 D-1077	
Dam / Reservoir Burst	Min. of Water Resources	➤ D- Hydro power Project, I&PH, District Administration	D-1077	<a href="mailto:egov-mowr@nic.in">egov-mowr@nic.in</a>
Epidemics	Ministry of - Health and Family Welfare	➤ D- Health and Family Welfare Department	D-	
Human Induced Hazards	NDMA	➤ D- Karnataka Police	D- D-	<a href="mailto:Secretary@ndma.gov.in">Secretary@ndma.gov.in</a> <a href="mailto:controlroom@ndma.gov.in">controlroom@ndma.gov.in</a>
Hydro-meteorological (High Wind, Heat)	Min. of Agriculture and Farmers Welfare (MoAFW)	<ul style="list-style-type: none"> <li>➤ N- IMD/INCOIS</li> <li>➤ S- SEOC</li> <li>➤ D- DEOC</li> </ul>	S-1070  080-22253707  D-1077	<a href="http://www.imd.gov.in/pages/allindiawxbulletin.php">http://www.imd.gov.in/pages/allindiawxbulletin.php</a>

Wave,				
-------	--	--	--	--

## CHAPTER-9

### RESPONSE AND RELIEF MEASURES

#### 9.1 Introduction

The post disaster phase of Disaster Management looks into Relief, rehabilitation, reconstruction and recovery. The effective disaster management strategy aims to lessen disaster impacts through strengthening and reorienting existing organizational and administrative structure from district – state to national level. Relief on the contrary, is viewed as an overarching system of facilitation of assistance to the victims of disaster for their rehabilitation in States and ensuring social safety and security of the affected persons. Relief needs to be prompt, adequate and of approved standards. It is no longer perceived only as gratuitous assistance or provision of emergency relief supplies on time. Emergency response plan is, thus, a first attempt to follow a multi-hazard approach to bring out all the disasters on a single platform, incorporating disaster resilient features to ‘build back better’ as the guiding principle. It provides a framework to the primary and secondary agencies and departments, which can outline their own activities for disaster response. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until the disaster is declared to be over Disaster response is aimed at: Saving Life-Minimis the Loss-Stabilizing the Situation.

#### 9.2. Response Planning

The onset of an emergency creates the need for time sensitive actions to save life and property, reduce hardships and suffering, and restore essential life support and community systems, to mitigate further damage or loss and provide the foundation for subsequent recovery. Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. A response plan essentially outlines the strategy and resources needed for search and rescue, evacuation, etc.

**Table 9.1: Response planning phases during the early warning**

Pre-Disaster	Responsible Dept.	Post-Disaster	Responsible Dept.
Activate control room if necessary	DDMA will activate the control room at district level. Control room at Sub-Division and Taluk level will be activating by concerned disaster management authority.	Quick Damage and Need Assessment	Multi-Sectoral committees encompass all line departments constituted by DDMA
Review situation	DDMA will review all the situation on the basis of data and reports provide by the line departments	Search and rescue	Home Guard/Civil Defense/Fire with coordination with Police and NDRF (if required)

<p>Communicate warning (Inform community likely to be affected by the impending disaster)</p> <p>Inform line departments/agencies to mobile resources/teams for quick deployment)</p>	<p>DEOC will communicate the warning to all potential affected areas with support of district information officer, Police, Home Guard, Fire and Local Administration.</p>	<p>Activate Line Departments/Agencies to Quick restoration of basic utilities and critical infrastructure e.g. Roads, Life Line Buildings i.e. Hospital, Blood Bank, Schools and Banks, Admin Building, Electricity, Water/Sanitation,</p>	<p>DDMA will coordinate with all line departments for quick restoration</p>
<p>Coordination with all line departments</p>	<p>Chief Executive officer appointed by DDMA will coordinate</p>	<p>Activate all Quick response Team QRTs/ First Responder Team</p>	<p>DDMA will coordinate with all available QRTs in the District</p>
<p>Stocking of Essential and basic life line Items and materials</p>	<p>All frontline departments i.e. Medical, Food and Civil Supplies, PWD, BESCOM, Police</p>	<p>Sharing, reporting and communicating the info to the State and National Level and Requisition for assistance to prompt response or relief</p>	<p>Chief Executive officer appointed by DDMA will coordinate</p>
<p>Identification of temporary shelter</p>	<p>Revenue Department will identify the shelter with support of PWD, Municipalities and Education</p>	<p>Activate and deploy the Incident Response Teams</p>	<p>DDMA Chairman</p>
<p>Evacuate people to temporary shelter with necessitated facilities</p>	<p>Police and Home guard will evacuate the people to safer place or identified temporary shelter in support of Fire Dept., NCC,NGO</p>	<p>Provide temporary shelter and basic necessitate facilities to people</p>	<p>Revenue Department will coordinate with all line departments</p>
<p>Remove assets from dangerous areas</p>	<p>PWD will facilitates all these activities in coordination with RTO, KSRTC</p>	<p>Make sure the functioning of all communication networks</p>	<p>RTO, KSRTC, NHAI will further help</p>

**Table 9.2: Response planning phases during the no early warning**

<b>Activities</b>	<b>Responsible Dept.</b>
Activate control room and forward the report to state and national level	DDMA will activate the control room at district level. Control room at Sub-Division and Taluk level will be activating by concerned disaster management authority. CEO of DDMA will report to higher Authority
All heads of the departments will report to the Control Room	DDMA will coordinate with line departments
Activation of damages and needs assessment teams to undertake damages and needs assessment	Multi-Sectoral committees encompass all line departments constituted by DDMA will undertake an assessment of damages to assets and infrastructure and assess the needs of the community.
Restoration of Critical and life line infrastructure	PWD, Irrigation, BESCOM, Health and family Welfare, Food and Civil Supplies will initiate efforts to restore the infrastructure starting especially with the most critical infrastructure that could assist relief
Activate and deploy the Incident Response Teams	Chief Executive officer appointed by DDMA will coordinate
Provide relief to the affected communities	DDMA will coordinate with food and civil supplies, health and family welfare, Police, RTO, KSRTC, PWD and Irrigation
Coordinate relief operations	DDMA and Revenue Dept. coordinate with Incident response team at Hierarchical admin level e.g. Taluk, ZP
Request for possible help from external sources/ Resource's Mobilization	Chief Executive officer appointed by DDMA will coordinate

### **9.3. Disaster Response Functions to be carried out:**

#### **9.3.1 Early Warning Phase**

1. Activation of Control Room/EOC: As soon as EW Message/Information is available through  
IMD/CWC/GSI/KSNDMC/ DDMA will activate EOC/CR
2. Inform Community likely to be impacted
3. Inform Line Departments/Agencies
4. Hold Meetings of DDMA

5. Requisition of NDRF
6. Requisition of Paramilitary

### 9.3.2 Immediate Post Disaster Phase

1. Search & Rescue: Home Guard/Civil Defense/Fire will carried out the search and rescue with coordination with Police and NDRF (if required) and the existed Paramilitary Forces within or near by the district.

2. Quick Damage Assessments: DDMA will constitute a multi-sectoral damage and need assessment team which will carry out the process of damage and need assessment and report to the DDMA for further action. The multi-sectoral teams will be constituted and its members having local knowledge and will comes from different expertise to do the synthesis damage and need assessment compressively. The team will conduct damage assessment in the special following sectors

**Table 9.3: Damage assessment in context to Response**

Sl. No	Damages
1	Roads and Bridges
2	Life Line Buildings
3	Food and Civil Supplies
4	Houses
5	Water lines and Tanks
6	Electricity
7	Communication
8	Medical Infrastructure
9	Monuments
10	Agriculture Crops and Horticulture
11	Livestock
12	Forest

### 9.4. Quick Need Assessments

Need assessment will be undertaken by a multi-sectoral team with a special focus on the following sectors mentioned in table 7.4.

**Table 9.4: Need assessment in context to Response**

Sl. No.	Sector of Need
1.	Temporary Shelter
2.	Food and Civil Supplies
3.	Medical/health
4.	WASH
5.	Special Needs
6.	Psychosocial care
7.	Security needs in context to varying social groups
8	Restoration of essential services like, roads, water facilities, power ,communication

## 9.5. Resource Mobilization

Resource mobilization is one of the most important and crucial activity when any disaster occurs in the district for responding to disaster in an efficient manner. The IDRN portal has information regarding the different kind of resources available for multi-hazard, with the various departments along with their location across district. It can lead to quick and immediate procurement of the required resources from the nearest available site and department for response to any disaster. Various resources required in the damages and needs assessment will be mobilized by the concerned departments. Following is the list of the departments which are responsible for mobilizing various needs identified in the damages and needs assessment:

**Table 9.5: Resource Mobilization and Responsible Department**

SN	Identified Need	Action	Nature of resources	Responsibility
1	Temporary Shelter	DDMA/Revenue Department will arrange relief camps/shelters. Wherever required Tents will be pitched in to accommodate affected people. Departments of Education, Health and Family Welfare will provide support	Tents, sleeping bags blankets and clothing's, Sanitizer and sanitary pads, stretchers	Revenue Dept./ DDMA/ Health/
2.	Food and Civil Supplies	Food and Civil Supplies Dept. will Provide food, Fuel, and Drugs	Essential food items and fuel	Food and Civil Supplies Dept.
3.	Medical	Medical Dept. will arrange the lifesaving medicines, blood, Doctors, Paramedical staff	Medicines, doctors, ANM, nurses, Asha Workers	Health and Family Welfare Dept./ Red Cross
4.	WASH	IPH will provide chlorine tables for water purification, drinking portable water, sanitation kits	Drinking water, sanitation	Irrigation Dept.
6.	Psychosoci al care	Health and Family Welfare Dept./Red Cross will take care the reported Physco and Mental Trauma cases	Psychosocial care	Health and Family Welfare Dept./Red Cross

7.	Security needs in context to varying social groups	Maintain the Law and Order and security of Social group and tackle the human trafficking situation	Trained personnel	Police/Home Guard, Civil Defense
----	--	--	-------------------	----------------------------------

8.	Road clearance	To restore the road function, remove the debris and clearance of any blockage	Earth removers and man power	PWD
9.	Power storage	To restore the power, provide the temporary chargeable generators and batteries	DG sets, wires, manpower, batteries, search lights,	BESCOM
10	Communication	To restore the communication network	Network restoration, v-sets, satellite phones, walkie talkie	BSNL, NIC, Police

## 9.6 Response Management

### 9.6.1 Activation of EOC

The DEOC will function to its fullest capacity on the occurrence of disaster. The district DEOC will be fully activated during disasters. The activation would come into effect either on occurrence of disaster or on receipt of warning. On the receipt of warning or alert from any approved agency which is competent to issue any early emergency warning, all community preparedness measures including counter-disaster measures will be put into operation. The Deputy Commissioner will assume the role of the Chief of Operations for Disaster Management. All line departments senior official will be immediately reported to the DEOC. The DDMA will expand the Emergency Operations Centre to include Branch arrangements with responsibilities for specific tasks depending on the nature of disaster and extent of its impact. All the occurrences report would be communicated to the SEOC/SDMA, NEOC/NDMA and Supporting Agencies by means of telephone and subsequently fax periodically. The occurrence of disaster shall be immediately communicated to the stakeholders such as NGOs, trained volunteers through SMS gateway (or telephonic in case of communication exist or any available communication network) for which specific provision of group mobile directory would be made.

### 9.6.2 Main Roles of DEOC after activation:



- a. Assimilation and dissemination of information.
- b. Liaise between Disaster site and State Head Quarter.
- c. Monitoring, coordinate and implement the DDMP.
- d. Coordinate actions and response of different departments and agencies.
- e. Coordinate relief and rehabilitations operations
- f. Hold press briefings.

### **9.7. Relief distribution**

Relief distribution will be coordinated by sub divisional, taluk and respective disaster management committees. The onsite distribution will be done by incident response team. The updated needs will be communicated to the DDMA and the DDMA will ensure the regular supply of the required items. The relief distribution will include essential items which serves the basic needs of the affected community like LPG , medicines, clothes, food items, drinking water, soaps, blankets, items of special needs for women's, children's, differently able persons and old aged.

### **9.8 Search and rescue management**

Search and Rescue activities include, but are not limited to, locating, extricating, and providing immediate medical assistance to victims trapped in exigency situation. People who are trapped under destroyed buildings or are isolated due to any disaster need immediate assistance. The District Commissioner, in conjunction with local authorities will be responsible for the search and rescue operations in an affected region. At present, Nodal department for this activity is NDRF and Home Guard/civil Defense Department. The helping departments for search and rescue are P.W.D., ZP/MCC, Self-help groups, N.C.C, NGO and PRED. There are other bodies too that help these departments in this work, like, Health department, Fire department. In doing so, the DC will be guided by relevant disaster management plans and will be supported by Government departments and local authorities.

### **9.9 Information management and Media management**

Media has to play a major role during disaster. They will aid in information dissemination about help- line, aid-distribution camps, emergency phone number or the needs of the people. Further, they will also help in quashing rumours, for crowd management and prevent panic situation. Media will also help in mobilizing resources [money, volunteers etc.] from other areas. To disseminate information about various hazards in the district and the relevant dos and don'ts during and after a disaster encompass under the media management. This will be done through various media such as newspapers, television, radio, internet, media and information van, street theatre, etc. The DDMA will establish an effective system of collaborating with the media during

emergencies. At the District Emergency Operation Centre (DEOC), a special media cell will be created during the emergency. Both print and electronic media are regularly brief by some senior official designated from DDMA at predetermined time intervals about the events as they occur and the prevailing situation on ground. The District information Officer in consultation with the DDMA would take appropriate steps in this direction also too.

### **9.10 VIP management**

It may be possible that the scale of a disaster may in addition prompt visits of the VVIPs/VIP which further requires the active management to ensure the effortlessly ongoing response and relief work without any interruption. DDMA will be designated senior official to handle the VVIPs/VIPs visits to the affected areas and further to brief the VVIP/VIP beforehand about the details of casualties, damage and the nature of the disaster. The Police and Home guard will be handled all the security of VVIPs/VIP during their visit. 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.

### **9.11 NGO Coordination and Management**

Non-governmental organizations (NGOs) will play as one of the most effective alternative means of achieving an efficient communications link between the disaster management agencies and the effected community due to their outreach at the grassroots level. As per the section 35 and 38 of the DM Act 2005 stipulates that the DDMA shall specifically emphasize the coordination of actions with NGOs. In typical disaster situation, DDMA with the support of DRDA, will coordinate the NGOs/CBO's and further manage their work in prompt response, relief and rescue. It will also monitor and take feedback at grassroots level by the agreeable community participation.

### **9.12 Disposal of dead bodies and carcass**

District administration will coordinate to arrange the mass cremation burial of the dead bodies with support of police & forest department after observing all codal formalities & maintain the

video recording of such unclaimed dead bodies after properly handing over the same to their kith or kin. Department of animal husbandry in association with the local administration shall be responsible for the disposal of the animal carcass in case of mass destruction.

## **Seeking external help for assistance**

### **1. Procedure for Provision of Aid:**

i. The Armed Forces are conscious of not only their constitutional responsibility in-aid to civil authority, but also, more importantly, the aspirations and the hopes of the people. Although such assistance is part of their secondary role, once the Army steps in, personnel in uniform whole heartedly immerse themselves in the tasks in accordance with the Army's credo-“SERVICE BEFORE SELF”.

ii. Assistance during a disaster situation is to be provided by the Defense Services with the approval and on orders of the central government. In case, the request for aid is of an emergency nature, where government sanctions for assistance is not practicable, local military authorities when approached for assistance should provide the same. This will be reported immediately to respective Services Headquarters (Operations Directorate) and normal channels taken recourse to, as early as possible.

### **2. Requisition Procedure:**

Any state unable to cope with a major disaster situation on its own and having deployed all its resources will request Government of India for additional assistance. Ministry of Defense will direct respective service headquarters to take executive action on approved requests. The chief secretary of state may initiate a direct request for emergency assistance, for example, helicopter for aerial reconnaissance, or formation of local headquarter (Command/Area Headquarters) or naval base or air force station.

### **3. *The Armed Forces may be called upon to provide the following types of assistance:***

- Infrastructure for command and control for providing relief. This would entail provision of communications and technical man power.
- Search rescue and relief operations at disaster sites.
- Provision of medical care at the incident site and evacuation of casualties.
- Logistics support for transportation of relief materials
- Setting up and running of relief camps
- Construction and repair of roads and bridges to enable relief teams/material

- to reach affected areas.
- Repair, maintenance and running of essential services especially in the initial stages of disaster relief.
  - Assist in evacuation of people to safer places before and after the disaster
  - Coordinate provisioning of escorts for men, material and security of installations,
  - Stage management and handling of International relief, if requested by the civil ministry

#### **4. Disaster Relief Operation**

Important aspects of policy for providing disaster relief are as under:

- Disaster relief act can be undertaken by local commanders. However, HQ Sub Area is to be informed at the first opportunity and then flow of information to be maintained till completion of the task.
- Effective and efficient disaster relief by the army while at task.
- Disaster relief tasks will be controlled and coordinated through Commanders of Static headquarters while field units Commanders may move to disaster site for gaining first-hand knowledge and ensuring effective assistance.
- Once situation is under control of the civil administration, army aid should be promptly de-requisitioned.
- Adequate communication, both line and radio, will be ensured from Field Force to Command Headquarters.

#### **5. Procedure to Requisition Army, and Air Force:**

*a.* It will be ensured by the local administration that all local resources including Home Guards, Police and others are fully utilised before assistance is sought from outside. The District Magistrate will assess the situation and project his requirements to the State Government. District Control Room will ensure that updated information is regularly communicated to the State Control Room, Defense Service establishments and other concerned agencies.

*b.* District Magistrate will apprise the State Government of additional requirements through State Control Room and Relief Commissioner of the State.

*c.* Additional assistance required for relief operations will be released to the District Magistrate from the state resources. If it is felt that the situation is beyond the control of state administration, the Relief commissioner will approach the Chief Secretary to get the aid from the Defense Services. Based on the final assessment, the Chief Secretary will project the requirement as under while approaching the Ministry of Defense, Government of India simultaneously for clearance of the aid:

**6. Co-Ordination between Civil and Army:** For deployment of the Army along with civil agencies on disaster relief, co-ordination should be carried out by the district civil authorities and not by the departmental heads of the line departments like Police, Health & Family Welfare, PWD and PHED etc.

**7. Overall Responsibility When Navy and Air Force are also being employed:** When Navy and Air Force are also involved in disaster relief along with the Army, the Army will remain over all responsible for the tasks unless specified otherwise.

## **8. Principles of Deployment of Armed Forces**

**Judicious Use of Armed Forces:** Assistance by Armed Forces should be requisitioned only when

- **It becomes absolutely necessary** and when the situation cannot be handled by the civil administration from within its resources. However, this does not imply that the response must be graduated. If the scale of disaster so dictates, all available resources must be requisitioned simultaneously.
- **Immediate Response:** When natural and other calamities occur, the speed for rendering aid is of paramount importance. It is clear that, under such circumstances, prior sanction for assistance may not always be forth coming. In such cases, when approached for assistance, the Army should provide the same without delay. No separate Government approval for aid rendered in connection with assistance during natural disaster sand other calamities is necessary.
- **Command of Troops:** Army units while operating under these circumstances continue to be under command of their own commanders, and assistance rendered is based on task basis.
- **No Menial Tasks:** While assigning tasks to troops, it must be rendered that they are not employed for menial tasks e.g. troops must not be utilised for disposal of dead bodies.
- **Requisition of Aid on Task Basis:** While requisitioning the Army, the assistance should not be asked for in terms of number of columns, engineers and medical teams. Instead, the- civil administration should spell out tasks, and leave it to Army authorities to decide on the force level, equipment and methodologies to tackle the situation.

- **Regular Liaison and Co-ordination:** In order to ensure that optimum benefits derived out of Armed Forces employment, regular liaison and coordination needs to be done at all levels and contingency plans made and disseminated to the lowest level of civil administration and the Army.
- **Advance Planning and Training:** Army formations located in areas prone to disaster must have detailed plans worked out to cater for all possible contingencies. Troops should be well briefed and kept ready to meet any contingency. Use of the Vulnerability Atlas where available must be made.
- **Integration of all Available Resources:** All available resources, equipment, accommodation and medical resources with civil administration, civil firms and NGOs need to be taken into account while evolving disaster relief plans. All the resources should be integrated to achieve optimum results. Assistance from outside agencies can be super imposed on the available resources.
- **Early De-requisitioning:** Soon after the situation in a disaster-affected area has been brought under control of the civil administration, Armed Forces should be de-requisitioned.

### 9.13 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, Bengaluru rural district & 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, earthquakes, accidents etc.

**Table 9.6 Revised lists 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	Items	Norms of Assistance
1	<b>GRATUITOUS RELIEF</b>	

	a) Ex-Gratia payment to families of deceased persons	<b>Rs. 4.00 lakhs</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. 2.00 lakhs/-</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/household goods for families whose houses have been washed away/fully damaged/severely inundated for more than a week due to natural calamity	<b>Rs. 1,800/-</b> per family, for loss of clothing. <b>Rs. 2,000/-</b> per family, for loss of utensils/household goods
	e) Gratuitous relief for families whose livelihood is seriously affected	<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. 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.
2	<b>SEARCH &amp; RESCUE OPERATIONS</b>	
	(a) Cost of search and rescue measures/ evacuation of people affected/ likely to be affected.	As per actual cost incurred, assessed by SEC and recommended by central Team (in case of NDRF). - 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 recommend actual / near-actual costs.

	(b) Hiring of boats for carrying immediate relief and saving lives.	As per actual costs incurred, assessed by SEC and recommended by the Central Team (in case of NDRF). 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.
3	<b>RELIEF MEASURES</b>	
	a) Provision for temporary accommodation, food, clothing, medical care etc. for people affected/ evacuated and sheltered in relief camps.	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. Medical care may be provided from National Rural Health Mission (NRHM).
	b) Air dropping of essential supplies	As per actual, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF). - 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.
	Provision of emergency supply of drinking water in rural areas and urban areas.	As per the actual cost based on the assessment need by NEC and recommended by the Central Team ( in case of NDRF), up to 30 days and may be extended up to 90 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.
4	<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/ Carcases	As per actual, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF).
5	<b>AGRICULTURE</b>	
	<b>Assistance to farmers having landholding up to 2 ha 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
	b) Removal of debris on agriculture land in hilly areas.	(Subject to the condition that no other assistance/subsidy has been availed of by/is eligible to the beneficiary under any other Government Scheme.)
	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 o the land is legitimate as per the revenue records.
6	<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 6000/-</b> per ha. For Muga

	<b>Input Subsidy to farmers having more than 2Ha of landholding</b>	<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.
<b>ANIMAL HUSBANDRY - ASSISTANCE TO SMALL AND MARGINAL FARMERS</b>		
	i) Replacement of milch animals, draught animals or animals used for haulage.	<p><b>Milch animals- Rs. 30,000/-</b> Buffalo/cow/camel/yak/Mithun etc. <b>Rs. 3,000/-</b> Sheep/goat/pig.</p> <p><b>Draught animal - Rs. 25,000/-</b> Camel/horse/bullock etc. <b>Rs. 16,000/-</b> Calf/Donkey/Pony/Mule - 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</p>
		<p>house hold 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:- Poultry @ 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. 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 concentrates 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. 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.</p> <p>Period beyond the prescribed limit, subject to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the 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.</p>
	<p>iii) Transport of fodder to cattle outside cattle camps</p>	<p>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.</p>

7	<b>FISHERY</b>	
	<p>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.)</p>	<p><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.</p>

	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.)
8	<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.
9	<b>HOUSING</b>	
	<b>a) Fully damaged/ destroyed houses</b>	
	i) Pucca house	<b>Rs. 95,100/-</b> per house, in plain areas <b>Rs. 1,01,900/-</b> per house, in hilly areas including Integrated Action Plan (IAP) districts.
	ii) Kutcha house	
	<b>b) Severely damaged houses</b>	
	i) Pucca house	
	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.
	<b>d) 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) Cattle shed attached with house	Rs. 2,100/- per shed.
10	<b>INFRASTRUCTURE</b>	
	<i>Repair/restoration (of immediate nature) of damaged infrastructure.</i>	
	(1) Roads & 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. Sectors such as	<b>Activities of immediate nature:</b> Illustrative of activities which may be considered as works of an immediate nature is given in the Appendix. <b>Assessment of requirements:</b> 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). - As regards repair of roads, due to consideration shall be given to Norms for Maintenance of Roads in India, 2001, as amended

	<p>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>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. - 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 @ 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. - Regarding repairs of damaged drinking water schemes, the eligible damaged drinking water structures will be eligible for assistance @ Rs.1.5 lakh/damaged structure. - 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. - Regarding repair of damaged power sector, assistance will be given to damaged conductors, poles and transformers up to 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>
--	---	---

11	<b>PROCUREMENT</b>	
	Procurement of essential search, rescue and evacuation equipments  including communication equipments, etc. for response to disaster.	- Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC). - The total expenditure on this item should not exceed 10% of the annual allocation of the SDRF.
12	<b>CAPACITY BUILDING</b>	- Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC). - The total expenditure on this item should not exceed 5% of the annual allocation of the SDRF.
13	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.	- Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC). - The norm for various items will be the same as applicable to other notified natural disasters, as listed above. Or - In these cases, the scale of relief assistance against each item for 'local disaster' should not exceed the norms of SDRF. - 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.
<b>APPENDIX Illustrative list of activities identified as of an immediate nature</b>		
1	<b>Drinking Water Supply</b> Repair of damaged platforms of hand pumps/ring wells/spring-tapped chambers/public stand posts, cisterns. 2. 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). 3. Repair of damaged pumping machines, leaking overhead reservoirs and water pumps including damaged intake - structure, approach gantries/jetties.	

2	<b>Roads:</b> 1. Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments. 2. Repair of breached culverts. 3. Providing diversions to the damaged/washed out portions of bridges to restore immediate connectivity.  4. 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	<b>Irrigation:</b> 1. Immediate repair of damaged canal structures and earthen/masonry works of tanks and small reservoirs with the use of cement, sand bags and stones.  2. Repair of weak areas as piping or rat holes in dam walls/embankments.  3. Removal of vegetative material/building material/debris from canal and drainage system. 4. Repair of embankments of minor, medium and major irrigation projects.	
4	<b>Health:</b> Repair of damaged approach roads, buildings and electrical lines of PHCs/community Health Centres.	
5	<b>Community assets of Panchayat</b> <ul style="list-style-type: none"> <li>➤ Repair of village internal roads.</li> <li>➤ Removal of debris from drainage/sewerage lines.</li> <li>➤ Repair of internal water supply lines.</li> <li>➤ Repair of street lights.</li> <li>➤ Temporary repair of primary schools, panchayat ghars, community halls, anganwadi, etc.</li> </ul>	
6	<b>Power</b> Poles/Conductors and transformers upto 11 kv.	
7	<b>The assistance will be considered as per the merit towards the following activities:</b>	
i)	Damaged primary school building	Up to Rs. 1.50 lakh/unit not covered
	Higher secondary/middle/ college and other educational institutions building	
ii)	Primary Health Centre	Up to 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	Up to 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	Up to 1.50 lakh/unit
viii)	Irrigation Sector: Minor Irrigation schemes/Canal Major irrigation scheme Flood control and anti Erosion Protection work	up to Rs.1.50 lakh/scheme Not Covered Not Covered
ix)	Hydro Power Project/HT Distribution systems/ Transformers and subs stations	Not Covered
x)	High Tension Lines (above 11 kv)	Not Covered
xii)	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
xiii)	Long terms/Permanent Restoration Work incentive	Not Covered
xiv)	Any new work of long term nature	Not Covered
xv)	Distribution of commodities	Not Covered (However, there is a provision for assistance as GR to families in dire need of assistance after a disasters)
xvi)	Procurement of equipments/machineries under NDRF	Not Covered
xvii)	National Highways	Not Covered (Since GOI born entire expenditure towards restoration work activities)

	Fodder seed to augment fodder production	Not Covered
--	--	-------------

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

**Table 9.7 Minimum Standards of Relief:**

Sl No	In respect of Relief Camps	Steps to ensure Minimum Standards
1	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>➤ Safety of inmates and special arrangements to differently able persons, old and mentally serious patients should be giving top most priority.</li> </ul>
2	Food	<ul style="list-style-type: none"> <li>➤ Each relief centre must have adequate quantity of food especially f or 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>
3	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 being more than 500 mts.</li> </ul>

4	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 defecation system shall not run towards any surface water source or shallow ground water source.</li> </ul>
5	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> </ul>
		<ul style="list-style-type: none"> <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>
6	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>

## **CHAPTER-10**

### **RECONSTRUCTION, REHABILITATION AND RECOVERY**

#### **10.1. Sector specific approach and processes for Reconstruction, Rehabilitation and Recovery**

**Reconstruction, Rehabilitation and Recovery** process demands co-ordinate focus on multi disciplinary aspects of reconstruction and rehabilitation for recovery and is essential to understand disaster reconstruction, rehabilitation under the holistic framework of post disaster recovery. It will be in the form of recommendation rather than the rule. Rehabilitation and reconstruction are primarily carried out by the local bodies (Gram Panchayats, District, Talukas, Municipal Corporations, Municipalities, etc.) and different Government departments and boards. The reconstruction and rehabilitation plan is designed specifically for worst case scenario. Post disaster reconstruction and rehabilitation should pay attention to the following activities for speedy recovery in disaster affected areas. The contribution of both government as well as affected people is significant to deal with all the issues properly. Immediate and Long Term recovery plan includes following broad activities:

- ✓ Damage assessment
- ✓ Disposal of debris
- ✓ Disbursement of assistance for houses
- ✓ Formulation of assistance packages
- ✓ Monitoring and review
- ✓ Relocation
- ✓ Town planning and development plans
- ✓ Reconstruction as Housing Replacement Policy
- ✓ Awareness and capacity building
- ✓ Housing insurance
- ✓ Grievance redressal

**Table 10.1: Sector specific approach and processes for Reconstruction, Rehabilitation and Recovery are as follows:**

<b>Sector</b>	<b>Approach</b>	<b>Process</b>
<p>Public assets: Roads and bridges Culverts Public buildings like hospitals and schools</p>	<p>Multi hazard resistant construction to be followed while reconstruction of public assets. For example Hazard resistant buildings to be made with the help of certified engineers. Use of non-shrinking mortar Evacuation plans to be made for the public buildings Non-structural mitigation measures to be taken into consideration</p> <p>Risk sensitive development will be ensured in each of the reconstruction Programme. For example: landslide and flood zone mapping to be implemented</p> <p>Detailed geological survey of the land to be used for reconstruction. □ Recommendations from PDNA report to be considered.</p>	<ul style="list-style-type: none"> <li>•Detailed damages and needs assessment: Multi sectoral/ multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</li> <li>•Develop a detailed recovery plan through multi departmental participation. Specific recovery plan through consultative process of different line department are to be made.</li> <li>•Arrange for funds from Central government, state government, multi-lateral agencies (World Bank or ADB)”</li> <li>•Multi sectoral Project Management Unit to be made.</li> <li>• The process of monitoring and manipulation is to be done by SDMA</li> </ul>

<p>Utilities Water supply electricity communication</p>	<p>Multi hazard resistant construction to be followed. For example:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Water pipelines, communication equipment used can be of such material which can resist impact of certain hazards Risk sensitive development will be ensured</li> <li><input type="checkbox"/> Electric and communication junctions to be installed after considering landslide and flood zonation.</li> <li><input type="checkbox"/> Recommendations from PDNA report to be considered.</li> </ul>	<ul style="list-style-type: none"> <li>•Detailed damages and needs assessment: Multi sectoral/multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the utilities of the entire area.</li> <li>•Develop a detailed recovery plan through multi departmental participation including specific line departments and other stake holders.</li> <li>•Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)”</li> <li>•Multi sectoral Project Management Unit to be made.</li> <li>•Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</li> </ul>
<p>Housing</p>	<ul style="list-style-type: none"> <li>•Multi hazard resistant construction to be followed.</li> <li>•Risk sensitive development will be ensured</li> <li>•Owner driven approach will be preferred. For example: National and State schemes like Pradhan Mantri Awas Yojna (rural/urban) and Mukhya Mantri Awas Yojna can be included in construction of the individual houses. Non-structural mitigation measures to be taken into consideration Use of non-shrinking mortar</li> <li><input type="checkbox"/> Further loans can be sourced through banks and other financial institutions.</li> </ul>	<p>Detailed damages and needs assessment: Multi sectoral/ multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</p> <p>Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made.</p> <ul style="list-style-type: none"> <li>-Arrange for funds from Central government, state government and multi-lateral (World Bank or ADB)”</li> <li>-Multi sectoral Project Management Unit to be made.</li> <li>-Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</li> </ul>

<p>Economic restoration</p> <p>Agriculture Horticulture Industry</p> <p>□ Allied sectors Tourism etc.</p>	<p>Multi sectoral assessment</p> <p>Assess direct and indirect losses.</p> <p>□ Develop sectoral strategies the sectors that affected the most poor. the sectors which are most critical for district's economy</p> <p>Risk sensitive development will be ensured</p> <p>Owner driven approach will be preferred</p> <p>□ Provision of single window insurance claim system</p> <p>Promote insurance facility for all sectors through government and private institutions</p>	<p><b>-Detailed damages and needs assessment:</b> Multi sectoral/ multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</p> <p><b>-Develop a detailed recovery plan through multi departmental participation:</b> Specific recovery plan through consultative process of different line department are to be made.</p> <p><b>-Arrange for funds from Central government, state government, multi lateral (World Bank or ADB)”</b></p> <p><b>-Multi sectoral Project Management Unit to be made.</b></p> <p><b>-Monitoring and evaluation:</b> The process of monitoring and manipulation is to be done by SDMA.</p>
<p>Livelihood restoration</p>	<p>□ Nature, number and types of livelihoods affected</p> <p>Interim and long term strategies</p> <p>Focus on livelihood diversification</p> <p>Issues related to most poor, women, and marginalized sections</p> <p>□ Livelihoods of people without assets (labor)</p> <p>Role of NGOs</p>	<p>Detailed damages and needs assessment: Multi sectoral/ multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</p> <p>Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made.</p> <p>Arrange for funds from Central government, state government, multi lateral (World Bank or ADB)”</p> <p>Multi sectoral Project Management Unit to be made.</p> <p>Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</p>

<p>Psychosocial restoration</p>	<p>Provisions like trainings from institute like NIMHANS, Mental hospitals and other specialized institutes</p> <p><input type="checkbox"/> Spiritual leaders can help the community to cope up from the trauma</p>	<p>Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)”</p>
---------------------------------	---	--



## CHAPTER 11

### FINANCIAL RESOURCES FOR IMPLEMENTATION OF DDMP

#### 11.1 Existing sources of Funds for Disaster Management in the District:

##### 11.1.1 State Disaster Response Fund (SDRF):

SDRF is a fund constituted under section 48(1) (a) of the Disaster Management Act, 2005 (53 of 2005), these guidelines are being issued under section 62 of the DM Act, 2005.

##### 11.1.1.1 Calamities Covered under SDRF:

The SDRF shall be used only for meeting the expenditure for providing immediate relief to the victims of cyclones, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanches, cloud burst and pest attack.

##### 11.1.2. National Disaster Response Fund (NDRF):

NDRF is a fund constituted under section 46 of the Disaster Management Act 2005. These Guidelines are issued under section 46 (2) of the Disaster Management Act, 2005 (hereinafter DM Act, 2005), to supplement funds from the State Disaster Response Fund (SDRF) of a State, to facilitate immediate relief in case of calamities of a severe nature.

##### 11.4.2.1 Calamities Covered under NDRF:

Natural Calamities of Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, avalanches, Cloud burst and pest attack considered being of severe nature by Government of India and requiring expenditure by a State Government in excess of the balances available in its own State Disaster Response Fund (SDRF), will qualify for immediate relief assistance from NDRF.

##### 11.1.3 Flexi-funds under Centrally Sponsored Schemes:

NITI Aayog has issued instructions for Rationalization of CSS, vide OM No. O-11013/02/2015- CSS & CMC dated 17th August, 2016. These instructions are applicable for Centrally Sponsored Schemes with one of the key objective "To undertake mitigation/restoration activities in case of natural calamities, or to satisfy local requirements in areas affected by internal security disturbances. Therefore the CSS mentioned in Chapter 4 of this plan are one potential source of funding for mitigation/restoration activities.

##### 11.1.4 Funds to be created under DM Act 2005

##### 11.1.4.1 District Disaster Response Funds (DDRF)

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

#### **11.1.4.2 District Disaster Mitigation Funds (DDMF)**

District Disaster Mitigation funds would be created at the District Level as mandated under Section 48 of the DM Act 2005.

#### **11.1.5 Responsibilities of the State Departments and Agencies**

All State Government Departments, Boards, Corporations, PRED and ULBs have to prepare their DM plans under Section 40 of The DM Act 2005. These Departmental DM Plans are already under preparation at the State Level including the financial projections to support these plans. The necessary financial allocations will be made as part of their annual budgetary allocations, and ongoing programmes. They will also identify mitigation projects and project them for funding in consultation with the SDMA/DDMA to the appropriate funding agency.

#### **11.1.6 Techno-Financial Regime**

Considering that the assistance provided by the Government for rescue, relief, rehabilitation and reconstruction needs cannot compensate for massive losses on account of disasters, new financial tools such as catastrophe risk financing, risk insurance, catastrophe bonds, micro-finance and insurance etc., will be promoted with innovative fiscal incentives to cover such losses of individuals, communities and the corporate sector. In this regard, the Environmental Relief Fund under the Public Liability Insurance Act, 1991, enacted for providing relief to chemical accident victims is worth mentioning. Some financial practices such as disaster risk insurance, micro-finance and micro-insurance, warranty on newly constructed houses and structures and linking safe construction with home loans will be considered for adoption.

#### **11.1.7 Other Financing Options**

DDMA in coordination with the departments will identify other financing options for restoration of infrastructure/livelihoods, like utilization of flexi fund within Centrally Sponsored Scheme for mitigation/restoration activities in the event of natural calamities in accordance with the broad objective of the Central Sector Scheme.

Opportunities of Corporate Social Responsibility (CSR) & Public-Private Sectors funds investments would also be explored and elaborated by the DDMA for increasing disaster resilience.

## **CHAPTER 12**

### **PROCEDURE AND METHODOLOGY FOR MONITORING, EVALUATION, UPDATION AND MAINTENANCE OF DDMP**

#### **12.1 Introduction**

The District Disaster Management Plan is the sum and substance of the Horizontal and the Vertical disaster management plans in the district. District Disaster Management Plan of Gadag District is a public document which 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.

#### **12.2 Authority for maintaining & reviewing the DDMP**

The District Disaster Management Authority (DDMA), Gadag will update the DDMP annually and circulate approved copies to the entire stakeholder in Gadag District. DDMA, Gadag District will ensure the planning, coordination, monitoring and implementation of DDMP with regards to the mentioned below clauses of the DM Act, 2005:

- Section 31, Clause (4) of DM Act 2005, mentions that the District Plan shall be reviewed and updated annually.
- As per sub-section (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.

#### **12.3 Proper monitoring & evaluation of the DDMP**

Half-yearly meeting will be organized by the DDMA under the chairmanship of the Chairman, DDMA, and Gadag District to review disaster management activities in the state and updating the DDMP accordingly. All concerned departments and agencies have to participate and give recommendations on specific issues on Disaster Management and submit their updated reports quarterly.

#### **12.4 Post-disaster evaluation mechanism for DDMP**

The DDMA 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 professions, experts and researchers and the collected data shall be thoroughly cross checked and documented in the EOC for further reference. The DDMA will evaluate the DDMP by conducting meetings and consultation with all stakeholders.

#### **12.5 Schedule for updation of DDMP:**

Besides the above (2 and 3) procedure of updating the DDMP shall be updated by:

1. Regular data collection system from the district Emergency Operations Centre (EOC)
2. Analysis of data
3. Review by Chairperson, DDMA
4. Updating and disseminating the updated plan

The updated data of DDMP will also be maintained at the DEOC website, ready for use in any situation under the supervision of DDMA, Gadag District.

The Chairman, DDMA will ensure regular updation of the DDMP by consulting the nodal officers of the frontline departments will update it on a biannual basis taking into consideration:-

- Inventory of equipment in the district (DDMRI),
- Human Resources, their addresses and contact details (DDMRI),
- Valuable inputs from actual disasters and updating Matrix of past disasters and HVCRA within the District
- Major change in the operational activities and location through SOPs & Checklists
- Lessons learnt from training, near-missed incidents
- Inputs from mock drills/ simulation exercises

- Changes in disaster profile
- Technological developments/ innovations in identifying potential hazards
- Updation of databases using new technologies like GIS
- Change in demography of surrounding population
- Changes in geo-political environment

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

District Disaster Management Plan of the district is a public document & should be uploaded at the DDMA/SDMA websites under the supervision of the District Information Officer after each updation with prior approval of the Chairman DDMA.

## **12.7 Conducting of Mock Drills:**

Section 30 (2) (x) of DM Act 2005, states that “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”. Similarly, Section 30 (2) (xi) of DM Act 2005, also states that “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”. Mock-drills help in evaluating disaster preparedness measures, identify gaps and improving coordination within different government departments, non-government agencies and communities. They help in identifying the extent to which the disaster plan, ESF’s, and SOPs are effective and help in revising the plan through lessons learnt and gaps identified. These drills enhance the ability to respond faster, better and in an organized manner during the response and recovery phase.

### **12.7.1 The Responsible parties for organizing district drills**

Mock Drills will be conducted within District Gadag at various levels:

#### **Level 1: District Level**

Conducting of District level Mock drills will be the responsibility of the Deputy Commissioner Gadag, along with Additional Deputy Commissioner Gadag, in association with *Key Participants Involved in Conducting a Mock drill* as the incident of disaster may be

- DDMA Gadag comprising of DC, ADC, SP, CEO, President Zila Panchayath.

- Revenue Department
- Assistant Commissioner
- Tehsildar, Block Officer
- MCC
- Elected representatives of Panchayath
- DD Factories and Boilers
- Chief Fire Officer
- District Health Officer
- Home Guards, Volunteers.
- District Information Officer
- Transport Department
- Food and Civil Supply Department
- NDRF, SDRF as the situation of the incident may demand
- Rest as per the IRS framework.

### **Level 2: Sub Divisional Level**

The Sub Divisional Magistrate (Civil) will be the concerned authority to conduct mock exercise at the Sub-Division level.

#### **12.7.2 Schedule for organizing drills**

District administration shall hold mandatory mock drill **twice annually** for the monitoring, evaluation, updation and maintenance of DDMP. First Mock drill will be held before the beginning of the tourist season in the Month of March or April as the case may for checking the efficiency of the departments for any unforeseen incidence from taking place.

All the above mentioned levels will conduct mock drills at least **once in every six months** to evaluate their disaster management plans.

#### **12.8 Monitoring & gap evaluation:**

##### **12.8.1 Check on Personnel's involved in Execution of DDMP are trained with latest skills**

The District Authority shall check whether all the personnel involved in execution of DDMP are trained & updated on the skills necessary in line with the updated SOPs. 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. Half yearly meeting for DDMP updation shall be organized by DDMA, under the chairmanship of Deputy Commissioner Gadag. DC should ensure for maintenance of DDMP and analysis and the Identified gaps. All concerned departments and agencies have to participate and give recommendations on specific issues of District Disaster Management Plan, and submit their plans.

### **12.8.2 Check on-site / off site Plans of Major Accidental Hazard Units**

All industrial units within Gadag district will submit their on-site/ off-site plans, after regular updation and maintenance to the DDMA for review and evaluation. They will regularly conduct on-site / off- site mock exercises annually or biannually as the case may be, to review, evaluate, and update their plans.

## **CHAPTER 13**

### **COORDINATION MECHANISM FOR IMPLEMENTATION OF DDMP**

#### **13.1 Introduction**

The Coordination between District and Local governments is vital for the proper disaster management. It requires both inter departmental and intra departmental coordination with all the stakeholder line departments and local bodies like, PWD, Health and Family Welfare, fire and home guards, police, BSNL, Food and Civil Supply, forest, Revenue, Education, Agriculture, Horticulture, KSRTC , Municipalities, NGO's. Community Based Organisation and other local authorities. These partnerships recognize that each level of the disaster management arrangements must work collaboratively to ensure the effective coordination of planning, services, information and resources necessary for comprehensive disaster management.

The DDMP of the district is a three tier disaster management coordination based on bottom to top approaches i.e. taluk level, Sub-Division level and District level. This system enables a progressive escalation of support and assistance. The arrangements comprises of several key management and coordination structures. The principal structures that make up the Arrangements are:

(A) Disaster management committees are operational at taluk, Sub-Division and district level. The above committees are responsible for planning, organizing, coordinating and implementing all measures required to mitigate, prevent, prepare, respond and recover from disasters the affected area under their jurisdiction.

(B) Emergency Operation Centers at taluk, Sub-Division and district level supports disaster management groups while coordinating information, resources, and services necessary for disaster operations.

(C) Functional agencies of district administration, DDMA are responsible to coordinate and manage specific threats and provide support to other agencies on and as require

### **13.2 Intra-Departmental Coordination:-**

Each stake holder department i.e., PWD, Irrigation, Health and Family Welfare, fire and home guards, police, BSNL, Food and Civil Supply, forest, Education, Agriculture horticulture, KSRTC, Red Cross will constitute departmental level disaster management committee headed by a gazetted officer pertaining to that department. The committees will organise quarterly meetings of the committee members to analyses the preparedness level of the department in regard to disaster management. The committee will also decide the measures to be taken for reducing the gaps in their capacities and keep the proper record of the same.

### **13.3 Sub division level coordination mechanism**

As per the institutional mechanism, sub divisional officer (Civil) will call for the quarterly meeting the sub division level disaster management committee to review the preparedness level and plan to reduce the gaps identified. The chairperson will further report the situation to the DDMA and send the requisition of resources if required.

#### **13.3.1 Taluk level coordination mechanism**

As per the institutional mechanism, tahasildar will call for the quarterly meeting at the taluk level disaster management committee to review the preparedness level and plan to reduce the gaps identified at Taluk level.

#### **13.3.2 Arrangements at local level**

It is the local level that manages disasters within their own communities. Taluk, sub division and district levels are to provide additional resources, support, assistance and expertise as required. Local government is the key management agency for disaster events at local level. Local



government achieves coordinated disaster management approach through Local Disaster Management committees.

### **13.3.3 Coordination system with inter departments and at district level**

The District Magistrate/DC is the head of the District administrative set up and chairperson of the DDMA as per the DM Act, 2005. She / He have been designated as the responsible officer in the District. The heads of different departments in the District will have separate roles to play depending on the nature and kind of disaster. The roles and responsibilities of the members of the DDMA will be decided in advance in consultation with the concerned members.

#### **Pre Disaster coordination:**

Minimum Annual meetings for review of preparedness and discussing the roles and responsibilities of the line departments, taluks and Sub Divisions. The meeting agenda would be discussing the capacity of each department in terms of SAR equipment's and manpower and regular updation of the same.

#### **Disaster phase coordination:**

Coordination through phone or any other mode of communication in a disaster phase is not possible hence all the line departments and training institutes in the district should report to the DEOC as soon as the disaster strikes. After loss/damage assessment at the DEOC, the RO (D.C) would direct various stake holders to deploy their resources and task forces in the affected areas. Relief camps would be setup at a pre-defined location.

#### **Post disaster coordination:**

In the post disaster phase, the RO would take updates on the conditions of basic amenities like water, food, roads, law and order etc. from the respective departments. An assessment of relief given and need of rehabilitation would also be taken in the post disaster phase.

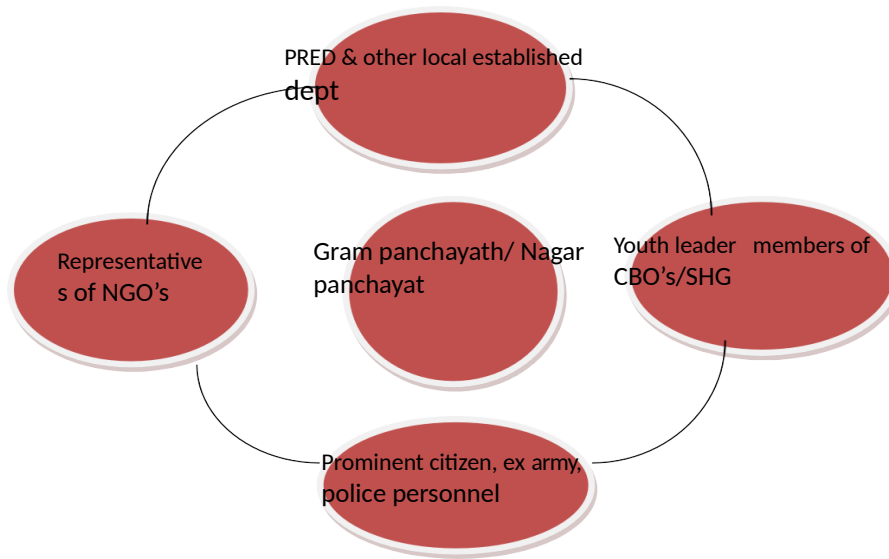
### **13.4 Coordination mechanism with community:**

The community will be coordinated through the village disaster management committees. The mentioned committees generally comprises of

#### **Frequency of local Committee meetings**

Local Committee meetings must be held at least once in every six months at particular time and place decided by the chairperson of the group. In addition, the chairperson of a Local Committee must call a meeting if asked, in writing, to do so by:

- a) The District Authority for the Disaster district in which the Local Committee is situated; or
- b) At least one-half plus one of the members of the Local Committee.
- c) To help the Local government to prepare a local disaster management plan for its area;
- d) To identify, and provide advice to the relevant District Authority about support services required by the Local Committee to facilitate disaster management and disaster operations in the area;
- e) To ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for responding to and recovering from a disaster;
- f) To manage disaster operations in the area under policies and procedures decided by the district Authority;
- g) To provide reports and make recommendations to the relevant District Authority about matters relating to disaster operations;
- h) To identify, and coordinate the use of resources that may be used for disaster operations in the area;
- i) To establish and review communication systems in the Local Committee, and with the relevant District Authority and other Local Committees in the situation of disaster.
- j) To ensure that information about a disaster in the area is promptly given to the relevant District Authority, and
- k) To ensure risk management and contingency arrangements of essential services within the Local government area. Further information about the functions of the Local Authority may be found under sections 41 of the DM Act 2005



**Figure 13.1: Coordination mechanism with community**

### **13.5 Coordination mechanism with NGOs, CBOs, Self Help Groups (SHGs),**

The strong linkages which NGOs CBOs have with grassroots communities can be effectively harnessed for creating greater public awareness on disaster risk and vulnerability, initiating appropriate strategies for strengthening the capacity of stakeholder groups to improve disaster preparedness, mitigation and improving the emergency response capacities of the stakeholders. In addressing the emerging concerns of climate change adaptation and mitigation, NGOs can play a very significant role in working with local communities and introducing innovative approaches based on the good practices followed in other countries. NGOs can bring in the financial resources from bi-lateral and multilateral donors for implementing pragmatic and innovative approaches to deal with disaster risk and vulnerability, by effectively integrating and converging the various government programs, schemes and projects to create the required synergy in transforming the lives of at-risk communities. The DDMA will maintain a proper record of the NGO's and CBO's working in the district and also map the available resources for them. The DDMA will appoint a Nodal officer for coordination with NGO's, CBO's and SHG's. The DDMA will call annual meeting of NGO's, CBO's & SHG's for mapping their resources. The meeting will be coordinated by the designated Nodal officer.

### **13.6 Coordination with other districts and state:**

The DDMA will call annual meeting with neighboring district authorities pertaining to Disaster risk reduction and capacity building by reducing the existing gaps through regular coordination. The DDMA will participate in the meetings called by SDMA or other State level authorities to promote coordination with other districts and state authorities.

## Chapter 14

### STANDARD OPERATING PROCEDURES (SOPs) AND CHECK LIST

The following SOPs are designed to guide and initiate immediate action. The DDMA and the district administration will initiate action and build and expand the scope of these actions based on unfolding situation.

#### 14.1. Early Warning Management

<b>Actions</b>	<b>Responsibility</b>
Obtain early warning inputs from IMD, CWC, MHA / NDMA / SDMA control rooms, GSI	In charge – DEOC
Notify the early warning to Chairman and the members of the DDMA, Nodal officers of the line departments, ADCs, ACs, Dy SPs	In charge - DEOC
Disseminate early warning to divisions, blocks and Panchayats	ACs/ Tahsildars
Flash warning signals on all television and radio networks	District Information Officer
Establish disaster dash board on the official district website	District Information Officer
Inform communities / public / villagers about the disaster warning using vehicles mounted with loudspeakers	Tahasildars
Use PA systems facilities at Temples, Mosques and Churches to announce about the impending disasters	Tahasildars
Share early warning information with educational information and instruct closure of institutions if required	Tahasildars

#### 14.2 Evacuation when there is early warning

<b>Actions</b>	<b>Responsibility</b>
Obtain early warning inputs from IMD, CWC, MHA / NDMA / SDMA control rooms, GSI	In charge – DEOC

Notify the early warning to Chairman and the members of the DDMA, Nodal officers of the line departments, ADCs, ACs, Dy SPs	In charge - DEOC
Hold meeting to assess situation and make a decision whether to evacuate specific communities / population	Chairman DDMA
Communicate decision regarding evacuation to concerned Revenue and Police officers	Chairman DDMA
Evacuating people to safer places	Concerned ACs and Tahsildars
Deploy teams for law and order maintenance, traffic management as wells as cordoning specific areas	Superintendent of Police
Establish routes, shelters and other logistics arrangements	Revenue department
Establish information desk	Revenue department
Establish helpline numbers	BSNL

### 14.3 Evacuation when there no early warning

<b>Actions</b>	<b>Responsibility</b>
Activation of the DEOC	In charge DEOC
Notify about the disaster event to Chairman and the members of the DDMA, Nodal officers of the line departments, ADCs, ACs, Dy SPs	In charge - DEOC
Hold a meeting to assess situation and make a decision whether to evacuate specific communities / population	Chairman DDMA
Communicate decision regarding evacuation to concerned Revenue and Police officers	Chairman DDMA
Evacuating people to safer places	Concerned ACs and Tahsildars
Deploy teams for law and order maintenance, traffic management as wells as cordoning specific areas	District Superintendent of Police
Establish routes, shelters and other logistics arrangements	Revenue department
Establish information desk, helpline etc	BSNL

### 14.4 Search and Rescue

<b>Actions</b>	<b>Responsibility</b>
Activation of the DEOC	In charge DEOC

DDMA to review disaster situation and make a decision to deploy search and rescue teams in anticipation of a disaster	Chairman DDMA
Deploy district level search and rescue teams in identified locations	Chairman DDMA
Deploy Fire & Emergency Service teams for search and rescue	District Fire Officer
Deploy Home Guards rescue teams	District Commandant – Home Guards
Requisition of NDRF	Chairman DDMA
Establish on site coordination mechanism	ADCs / ACs
Assign area of search and rescue responsibility for different teams deployed on site	ADCs / ACs
Establish Staging Area for search and rescue resources	ADCs / ACs
Establish Camps for the responders with adequate food, water, sanitation facilities	ADCs/ ACs
Deploy teams for law and order maintenance, traffic management as well as cordoning specific areas	District Superintendent of Police
Identify nearest helipad and ensure it is in operating condition	ADCs ACs
Establish triage	DHO/MO
Transport critically injured	DMO/MO / 108 Ambulance service / Red Cross
Establish onsite medical camps or mobile camps for first aid	CMO/MO
Establish information desk and dead body identification	ADCs / ACs
Evacuating people to safer places	Concerned ACs and Tahsildars
Deploy volunteers for supporting auxiliary functions such as crowd management, route management, first aid, information management	ADCs /ACs
Rescue animals in confined spaces	Assistant Director – Animal Husbandry

## 14.5 Relief Operations

Actions	Responsibility
---------	----------------

Undertake sub division wise / block wise / taluk wise relief needs assessment in terms of food, water, shelter, sanitation, clothing, utensils, medical and other critical items	ADCs /ACs
Identify suitable and safe facilities and establish relief camps	ADCs /ACs /Tahsildar
Establish adequate lighting arrangement at the relief camps	BESCOM
Ensure adequate security arrangement at the relief camps and for the affected communities	District Superintendent of Police
Ensure adequate water and sanitation facilities in relief camps and other affected communities	EE – Irrigation
Set up RO plants / water purification plants or other suitable facilities for immediate water supply	EE-Irrigation
Supply, procure and provide food to the affected communities	EE-Irrigation
Airdrop dry and un-perishable food to inaccessible location safe drinking water	DCs/ ADCs /ACs
Provide essential items lost due to disasters such as utensils	ADCs /ACs
Supply, procure and provide water to the affected communities	EE – Irrigation
Make required shelter arrangements including temporary camps	ADCs /ACs /Tahsildar
Establish medical facilities at relief camps and at communities	DHO/MO / Red Cross / 108 Ambulance
Ensure suitable vaccination to prevent disease outbreak	DHO/MO
Arrange for psychosocial support for victims at the camps	DHO/MO
Ensure child friendly food for the children in the camps	DD Food
Ensure nutritious food for pregnant and lactating mothers in the camps	DD Food
Ensure medical care facility for pregnant women for safe delivery	DHO/MO
Involve and coordinate NGO participation	ACs / Tahsildar
Put in place grievance handling mechanism to prevent discrimination	ACs /Tahsildar

Ensure adequate availability of daily need items such as food, medicine, consumables etc to ensure their access to affected communities	ACs / DD Food
Provide adequate and weather, gender, culture appropriate clothing to the affected communities and especially address	ACs /Tahsildar
the needs of women, children, aged and physically challenged	
Ensure adequate transportation facility to transport relief items	District RTO
Maintain proper records of and documents of beneficiaries and relief distribution	ACs /Tahsildar
Ensure adequate and appropriate heating facilities depending on the weather situation	DFO
Supply fire wood, cooking gas, POL for the kitchen	DD Food
Record and maintain documents of ex-gratia payments	ACs /Tahsildar
Provide first aid and medical treatment to the injured animals	Veterinary Officer
Establish animal shelters wherever required	DD Animal Husbandry
Arrange fodder for animals	DD Animal Husbandry
Wherever required involve Animal Welfare Board and the Civil Society Organisations	DD Animal Husbandry
Establish banking facilities for people to withdraw cash	District Lead Bank

#### **14.6 Guidelines for setting and running the Relief Camps:**

- On receipt of report from Revenue officials, the DC/ACs will order to set up a relief camp at pre-decided location as per District/ Sub-divisional disaster management plan
- In case new location is to be selected for the camp due to Man dividable circumstances, following points should be considered for arriving at a decision.
- Camp should preferably be set up in an existing built up accommodation like a community hall.
- It should be located at a safe place which are not vulnerable to landslides, flood etc.
- It should be accessible by motor vehicles, if possible.
- Adequate space for roads, parking's, drainage, should also be there.
- The area should not be prone to endemic disease like malaria.



- Wide publicity should be given about the location of the camp and affected people should be evacuated and brought to the camp directly.
- Emergency relief materials which include drinking water, food, bedding (mattress, sheets & blankets), baby food, mosquito repellents etc. should be arranged as early as possible.
- Control room/ help desk should be setup in the relief camp immediately.

## **Shelter**

- The shelter should be such that people have sufficient space for protection from adverse effects of the climate.
- Ensure sufficient warmth, fresh air, security and privacy for their health and wellbeing.
- Tents should not be constructed too closely together and reasonable distance should be kept between the camps to provide some form of privacy.
- Priority should be given to widows and women headed households, disabled and elderly people in tent/room distribution.

## **General Administration of the Camp**

- One responsible officer preferably Chief Officer/ASO should be designated as Camp Officer by the DC/ACs who will ultimately be responsible for general management of the Relief Camp. She/he will co-ordinate & supervise the works of other officers in the camp. Administrative structure of the camp should be as follows:  
One help desk/ control room/ officer room should be designated where inhabitants can register their complaints

## **Basic Facilities**

### **Lighting Arrangement and Generator Set**

- A technical person, preferably from electricity or PWD department should be detailed to supervise the proper lighting arrangement in and around the camp and operation and maintenance of the generator set.
- One big candle and one match box should be provided in every room/tent.
- Petromax or emergency light should be arranged in sufficient numbers in the camp.
- Approach to toilet and water source should properly be illuminated

### **Water Facilities**

- Total requirement of drinking water, water for toilets, bath & washing of clothes and Utensils should be assessed and proper arrangement should be made accordingly
- One Sr. Officer of Irrigation Dept. should be detailed for maintaining water supply in the camp.
- Separate bathing units must be constructed for male & female

### **Sanitation, Food- Storage & Distribution, Clothing**

- Toilet should be minimum 10 m and maximum 50 m away from shelter/tent/room sufficient stock of bleaching powder, Harpic and others item should be maintained

### **Food- Storage & Distribution**

- As far as practicable and as per available space cooked food may be served in hall or at one place for convenience of cleaning, hygiene, disposal of waste and smooth arrangement.
- Food should be culture specific and as per food habits of the community. People of rural area may not like bread & butter
- Packed food like biscuit, tinned food, ready to eat meals, noodles etc. should be properly checked that they are not expired before distribution.
- Separate queue may be allowed for women infirm & elderly people to collect relief aid.

### **Clothing**

- People in the camp should be provided sufficient clothing to protect themselves from the adverse effects of the climate
- Culturally appropriate clothing should be made available.
- Women and girls should be provided necessary sanitary protection

### **Medical Facilities & Psycho-social Support**

- One Doctor along with team of paramedical staff should be detailed on roster system around the clock in the camp
- A separate room or tent should be made available for the medical team.
- A rapid health assessment of all the inhabitants in the camp should be done

on weekly basis

- Cases of snake bites are also reported from relief camp. Necessary arrangement should be made in nearest health institution for adequate stock of anti-venom injection.
- Psychological support is best obtained from the family. Therefore, even in abnormal conditions, family should be kept together

### **Special Arrangement for women, Children, and Physically Challenged and Elderly persons**

- Since women are more vulnerable during disaster, their specific needs must be identified and taken care of.
- Female gynecologist and obstetrician should be available at hand to take care of maternity and child related health concern.
- Ensure that children inoculated against childhood disease within the stipulated time period.
- For safety and security of the women and children vigilance committees should be formed consisting of women.
- Women Police Officer should be stationed within the camp to record and redress any complaints made by women.
- Security measures should be taken in the camps to prevent abduction of women, girls and children.

### **Vermin control**

- Insect and rodents are the Man dividable pests in the relief camp. They spread diseases, spoil foods and other material
- Fogging may be arranged to prevent mosquitoes and other flying insects.
- Waste segregation should be promoted and collected on daily basis

### **Security**

- Security, peace and order must be maintained in the relief camp. The youths in the camp may be involved for providing better security environment.
- Police personnel should be detailed on roster basis.
- Adequate employment of force should be ensured on the boundary and gate of the camp.

### **Entertainment, Recreation & Information Education Communication Programme**

- Literary clubs/ Organizations may be promoted to arrange books &

magazines for camp populations.

- Camp population may be kept engaged by providing entertainment & recreational facilities to them.
- Temporary Anganwadi centers may be opened in the camp with the help of ICDS project officers for small children.
- Temporary schools may be setup in the camp involving volunteers from the campaign habitants. SSA may provide free textbook, stationary, Siksha-Mitra etc.
- Reputed NGOs may also be allowed to run temporary schools in the camp.

### 14.7 Restoration of essential services

<b>Actions</b>	<b>Responsibility</b>
Assess, priorities and develop work plan for debris removal and road clearance	SE / EE –PWD
Constitute teams with equipment for debris removal and road clearance	SE / EE PWD
Assess and priorities and develop work plan for restoration of power supply	SE/ EE BESCO
Constitute teams / crew to undertake restoration of power supply	SE / EE BESCO
Assess, priorities and develop work plan for restoration of water supply	SE/EE - Irrigation / Concerned ULB
Constitute teams / crew to undertake restoration of water supply	SE/EE - Irrigation
Assess, priorities and develop work plan for restoration of telecommunication services	SE/EE - BSNL
Constitute teams / crew to undertake restoration telecommunication services	SE/EE - BSNL
Deploy temporary / portable exchanges in critical locations for immediate restoration of telecommunication services	SE/EE – BSNL
Assess, priorities and develop work plan for restoration of road network	SE/EE – PWD
Constitute teams / crew to undertake restoration of road	SE/EE - PWD

Network	
Constitute teams / crew to undertake restoration of road network in rural areas	SE / EE Rural Development
Coordinate with Army / SDMA for erection of bailey bridges / temporary road links where bridges are washed out	DC/ADC

#### 14.8. Dead Body Disposal

<b>Actions</b>	<b>Responsibility</b>
Establish village / ward level committee for identification of dead bodies	AC/ ULB
Prepare a record of details of the bodies retrieved in the Dead Body Inventory Record Register, allocate individual Identification Number, photograph, and prepare Dead Body Identification Form	Tahsildar / AC
Identification of the dead bodies and handing over to the next of kin	Village level / ward level committee
Transport unidentified dead bodies to the nearest hospital or mortuary at district / sub division / block level	ADCs /ACs
Make public announcement for establishing identity	ADCs /ACs
Handover the identified dead bodies to the next of kin	ADCs /ACs /Tahsildar
In case of unidentified dead bodies – prepare inventory, allocate individual identification number, photograph, finger print, obtain DNA sample if possible and fill Dead Body Identification Form	ADCs /ACs Tahsildar
Preserve the information recorded as forensic information	ADCs /ACs /Tahsildar
Undertake last rights of unclaimed / unidentified dead bodies as per established religious practices	ADCs /ACs /Tahsildar
Coordinate with NGOs and obtain their support	ADCs /ACs /Tahsildar
Preserve the bodies of foreign nationals (if any) by embalming or chemical methods and then placed in body bags or in coffins with proper labeling for handing over and transportation of such bodies to Ministry of Extern Affairs, or to the Consular offices of the concerned countries and other actors such as International Committee of the Red Cross	ADCs /ACs /Tahsildar

## **CONCLUSION**

When Disaster strikes, power goes out and all most communication (telephone etc) becomes in operable, lifts stop functioning drinking water becomes contaminated, roads and bridges collapse, thereby normal modes of transportation suddenly becomes impossible and casualties start coming in groups. That is not the time for planning but is the time for acting. This fact makes it imperative for community disaster preparedness and disaster reduction. There is need for amending, enacting and affectively enforcing the relief operations in providing immediate relief by disbursing cash and kind to officers designated for relief measures. Constructing new buildings safe from the disasters and retrofitting existing buildings for improving disaster resistance. Community shelters near by the river bed at a higher level have to be constructed as a standby to enable to shift the people affected by flood.

Need for change of strategy from post-disaster reactive approach to pre-disaster pro-active approach to reduce the damage, loses to the property and human suffering along with prevention of human lives on one hand and reduce the cost of relief, rehabilitation and reconstruction on the other hand.

No master plan can be evolved to fit every emergency situation but a general schedule of emergency activity could prove extremely helpful in times of disaster, if executed in a coordinated and disciplined fashion. The better awareness for disaster preparedness and mitigation is expected to result in coordinated extensive efforts to ensure better disaster management.