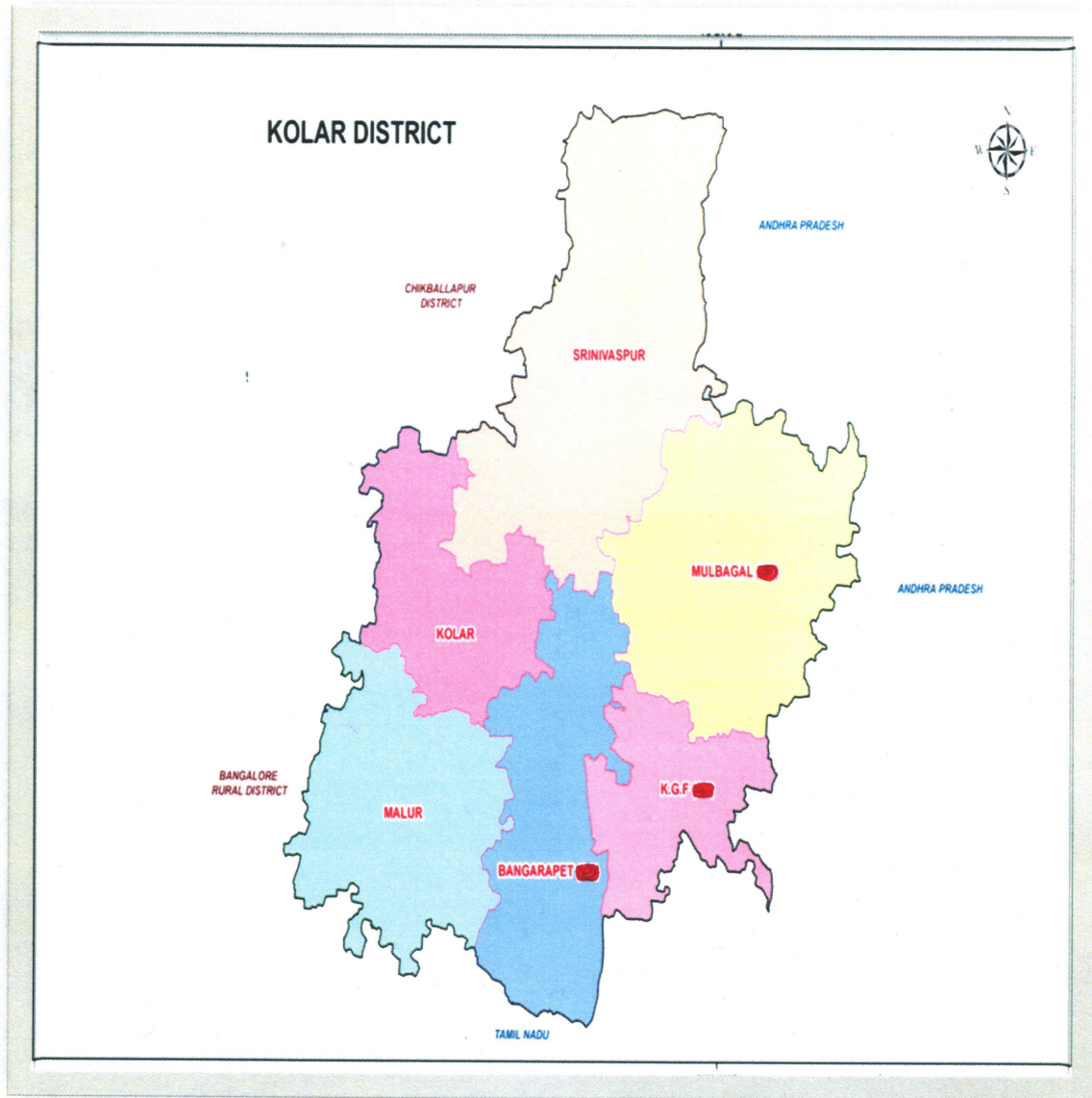


DISTRICT DISASTER MANAGEMENT PLAN 2019-20

KOLAR DISTRICT



**DISTRICT DISASTER MANAGEMENT AUTHORITY, KOLAR
DISTRICT, KOLAR**

Executive Summary



The District Disaster Management Plan (DDMP) is a key part of emergency management. It will play a significant role to effectively address the unexpected disasters that may occur in the district. The information available in DDMP is valuable in terms of its use during disaster. Based on the history of various disasters that occur in the district, the plan has been so designed as an action plan rather than a resource book. Utmost attention has been paid to make it handy and precise. This plan has been prepared based on the guidelines provided by the National Disaster Management Authority (NDMA).

During the time of disaster TO MOBILISE THE COMMUNITY BEFORE OUTSIDE HELP arrives, efforts are made to spread awareness regarding disaster management in the community through various mediums. We are moving from culture of reactive approach (relief centric) to proactive approach (prevention and mitigation). We have made a conscious effort to make DDMP more relevant, more applicable, and simple.

Integrating disaster management into development planning: Disaster prevention and preparedness should be an integral part of every development policy. Therefore, the district's development strategies in future shall explicitly address disaster management as an integral part of medium and long-term planning, especially for ground water conservation in the district.

Kolar being a district close to Bengaluru is well connected in terms of access by road, railways and airport being nearby. Being a parched district, the key challenge is in drought mitigation, arresting depletion of ground water table, undertake ground water conservation measures and ensure availability of safe drinking water. Several measures and projects are under implementation to effectively address these issues and towards drought proofing of the district. The innovative KC Valley tank filling project in which secondary treated domestic waste water from Bengaluru is being transferred to fill in 126 lakes in Kolar in phase-1 and further 233 tanks in phase-2 to rejuvenate depleted ground water and is a "game changer". Over 1000 Multi-Arch check dams at vantage points are being built across the district to further improve ground water table. The Yargol and Yettinahole drinking water projects will augment drinking water and mitigate water crisis in coming days. Besides rejuvenation of traditional water bodies, kalyanis, bore well recharge structures, Gully Plugs, Kere Kunte, percolation ponds/tanks to improve surface water under the JAL SHAKTI ABHIYAN and JALAMRUTHA Schemes.

Over 40 tanks are filled already under the KC Valley Project and in order to mitigate problems which may arise during heavy rains due to cyclonic depression etc and address any flood related issue, all the encroachments on rajakaluves are being cleared restoring the original drain network. Besides a rubberized motor boat has also been procured and positioned to meet any such eventuality.

I am happy to note that through "Kolar Clean City" campaign, created awareness at the community level regarding waste management using innovative methods. This has yielded encouraging results. As there is a clear inter-linkage between communicable disease and unplanned waste disposal, we are able to mitigate/prevent spread of the same by

providing land fill sites, door-to door collection and segregation of waste adhering to MSW Management Rules 2000 and scientific disposal of biomedical waste.

Special focus is also laid out in the plan for the big industrial hubs in Malur, Vemgal and Narsapura. Besides a New Fire Station at Narsapura, a 100 bedded ESI Hospital is planned for the region. The District Hospital now has a new 100 Bedded Mother and Child Hospital substantially increasing the available Health Care in the district.

We have also initiated consultation with NIRM (National Institute of Rock Mechanics) Geological Survey of India, and technical experts to study the stability of now defunct BGML. Discussions are on to prepare seismic hazard zonation map along with contingency and mitigation plan for the same.

Details of inventory of resources used in disaster management are being updated in IDRN. IDRN (Indian Disaster Resource Network) is a nation-wide electronic inventory of resources that enlists equipment and human resources, collated from district, state and national level Government line departments.

This plan also provides list of important websites related to meteorology, earthquake, flood, fire, disaster related training institutions, etc.

This is a dynamic plan which will evolve as an effective plan over a period of time, hence, feedback/suggestions, and comments from general public, experts, and officials will be greatly appreciated.

I hope the DDMP will be of immense value to all the stakeholders and community as a whole to tackle disaster effectively and to make informed decisions when disaster strikes.

Date: 22/11/2019

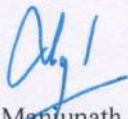

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GLOSSARY

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 1

Introduction

1.1 Rationale/Justification for DDMP

Disaster causes sudden disruption to normal life of a society and causes damages to property and lives to such an extent that normal social and economic mechanisms in the society get disrupted and community will not be able to cope up with the situation without external aid. In most of the cases, response to disasters is arbitrary leading to overemphasis of some actions and absence of other actions which could be critical. The objectives of any disaster management plan should be to localize a disaster and to the maximum extent possible contain it so as to minimize the impact on life, the environment and property. A formal plan for managing disasters is therefore necessary. This would include:

- a. Pre-planning a proper sequence of response actions.
- b. Allocation of responsibilities to the participating agencies.
- c. Developing codes and standard operating procedures for various departments and relief agencies involved.
- d. Inventory of existing facilities and resources.
- e. Mechanisms for effective management of resources.
- f. Co-ordination of all relief activities including those of NGOs to ensure a coordinated and effective response.
- g. Co-ordination with the State response machinery for appropriate support.
- h. Monitoring and evaluation of actions taken during relief and rehabilitation.

The district plan contains the objective of the plan, profile of the district, resource inventory equipment and human resource, preparedness and mitigation strategy and the standard operating procedures for the District Disaster Management Committee and the Disaster Management Plan.

1.2 Aims

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, Kolar 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 Objectives

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

1. To prevent loss of human life and property damage
2. To study, analyze and evaluate the disasters
3. To identify the vulnerable locations and do the vulnerability and risk analysis
4. To ascertain the status of existing resources and facilities available
5. To recommend appropriate strategies and responses to deal with future disasters
6. To plan and implement **Risk Reduction Activities** in the district.
7. To have effective disaster preparedness, and effective emergency response for saving of lives.
8. To enable faster recovery through comprehensive reconstruction and rehabilitation.
9. To conduct trainings and capacity building for effective prevention, mitigation and response for disasters.
10. To undertake information, education and communication activities to create awareness among the communities and the general public.
11. To improve preparedness at the district level, through risk and vulnerability analysis , to disasters and to minimise the impact of disasters in terms of human, physical and material loss.
12. To ascertain the status of existing resources and facilities available with the various agencies involved in the management of disasters in the district and make it an exercise in capability building of district administration. This enables the district to face a disaster in a more effective way and builds confidence across different segments of society. It will be a positive factor for long term development of the district.
13. To utilise different aspects of disaster mitigation for development planning as a tool for location and area specific planning for development in the district.
14. To use scientific and technological advances in Remote Sensing, GIS etc. in preparation of this plan with a view to ensure their continuous use for development planning.
15. To develop a framework for proper documentation of future disasters in the district, to have an update on critical information essential to a plan, to critically analyse and appraise responses and to recommend appropriate strategies.
16. To evolve DDMP as an effective managerial tool within the overall policy framework of Government of Karnataka.

1.4 Role of District Administration and organizations

The District Disaster Management Authority (DDMA), headed by the District Commissioner, with the elected president of the local authority (ZP) as the Co-Chairperson shall act as the planning, coordinating and implementing body for DM at District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It shall, inter alia prepare the District DM plan for the district and monitor the implementation of the State policy, the State Plan and the District Plan. DDMA shall also ensure that the guidelines for prevention, mitigation, preparedness and response measures lay down by the NDMA and the SDMA are followed by all Departments of the State Government at the District level and the local authorities in the district. It may set up the following for effective management of natural and man-made disasters in every district.

- Advisory Groups
- Expert Committees/Task Forces.

1.5 Mandate under chapter IV of the Disaster management plan

As per Section 31 of DDM Act, 2005

District Plan:

1. There shall be a plan for disaster management for every district of the state.
2. The District Plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National Plan and the State Plan, to be approved by the State Authority.
3. The District Plan shall include-
 - (a) The area in the district vulnerable to different forms of disaster
 - (b) The measures to be taken, for prevention and mitigation of disaster, by the Department of the Government at the district level and local authorities in the district.
 - (c) the capacity-building and preparedness measures required to be taken by the Department of the Government at the district level and the local authorities in the district to respond to any threatening disaster situation or disaster;
 - (d) the response plans and procedures, in the event of a disaster, providing for-
 - (i) allocation of responsibilities to the Department of the Government at the district level and the local authorities in the district;
 - (ii) prompt response to disaster and relief thereof;
 - (iii) procurement of essential resources;
 - (iv) establishment of communication links; and
 - (v) The dissemination of information to the public.
 - (e) such other matters as may be required by the State Authority
4. The District Plan shall be reviewed and updated annually.
5. The copies of the District Plan referred to in sub-sections (2) and (4) shall be made available to the Department of the Government in the District.
6. The District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government

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. Briefly refers to the name of all line departments and their role and responsibilities in perspective to disaster risk reduction in Kolar district.

Sl.No	Department Nodal Officers	Contact No.	Responsibilities
1	DDMA	08152-243666	<p>The emergency responsibilities of key persons in the district are listed below. These duties and responsibilities are generic in nature and will be tailored to suit specific disasters. The DDMA will prepare, maintain and be guided by these during any major disaster in the district. It may be noted that depending on the type of emergency and also availability of staff and resources, functions of various agencies may vary. At times, each person may be required to assume additional responsibilities in addition to their normal duties. This would be the prerogative of Deputy Commissioner to assign the additional responsibilities to the members of the emergency organization.</p> <p>It may be necessary to develop agreements with neighboring districts or other organizations if resources are not available within the district for some of these functions.</p> <p>Following are the duties and responsibilities of the members of the Emergency Organization. These are general in nature and applicable to all types of emergencies.</p>

2	DEOC	08152-243506(1077)	<ul style="list-style-type: none"> ◆ Receive and process disaster alerts and warnings from nodal agencies and other sources and communicates the same to all designated authorities. ◆ Monitor emergency operations. ◆ Facilitate coordination among primary and secondary ESFs/Departments/Agencies ◆ Requisitioning additional resources during the disaster phase. ◆ Issuing disaster/incident specific information and instructions specific to all concerned. ◆ Consolidation, analysis, and dissemination of damage, loss and needs assessment data. ◆ Forwarding of consolidated reports to all designated authorities.
3	SDMA/SEOC	080-22253707/ 22340676/1070	<ul style="list-style-type: none"> ◆ Coordinating DRR activities and implementation thereof. ◆ Facilitating resources on demands raised by administration. ◆ To approve DDMP ◆ Monitor and implementation of the plan. ◆ Provide guidance to DDMP for various facets of this plan. ◆ Providing necessary assistance to the district in an event of disaster. ◆ Recommend provision of funds for mitigation and preparedness measures.
4	Disaster Management Department	08152-243506	Prompt and effective response to a major emergency or disaster, and emergency relief and recovery, in consonance with the District Disaster Management Plan.
5	NDRF	Bangalore-9482978715/08632293050	<ul style="list-style-type: none"> ◆ Carrying out search and rescue on requisition by District as well as state administration. ◆ Strengthening the response mechanism through trainings and awareness. ◆ Coordinate with administration in response as well as capacity building. ◆ Facilitate administration with the key resources in disaster.
6	Police	08152-243066/ 246173	<ul style="list-style-type: none"> ◆ Assess preparedness level ◆ Establish radio communications and assist in precautionary evacuation activities with DEOC ◆ Provide safety and security to citizens and their

			<p>property during disaster</p> <ul style="list-style-type: none"> ◆ Establish command and control in coordination with fire and medical teams ◆ Organise training on hazardous chemicals for police officers for facilitating handling of hazardous materials
7	Fire and Emergency Department	08152-243222/ 9916888870	<p>The Divisional fire Officer/Station Officer will place himself in the main Emergency Control centre and maintain continuous contact on VHF with the Station Officer at the site. Depending on the need, the Divisional Fire Officer will place himself at the site and maintain contact with the Deputy Commissioner in the Main Emergency Control Centre. The Station Officer/ Sub-Officer/Asst. Sub-Officer of the fire station closest to the scene of disaster will direct fire-fighting operations at the site and keep the Divisional fire officer/station officer informed of the developments at the site.</p> <p>Main functions:</p> <ul style="list-style-type: none"> • Initiate rescue and fire fighting operation with available means. Ensure that all fire fighters use proper personnel protective equipment while fighting a fire or controlling gas leak. • Help the District Administration in evacuation of people from affected zones using escape routes decided in advance depending on the wind direction. • Continuously evaluate the situation and decide the necessity to call in additional Fire Engines from neighboring taluks/district. • Mobilize the services of the home guards for firefighting through the police. • He will advise the Deputy Commissioner on the extent of evacuation necessary. • Preserve valuable evidences, which may be useful for investigation later on. • Ensure availability of water and make arrangement for private water tanker carriers. • When the emergency is over, carry out joint inspection of affected areas along with site controller and Technical experts to ensure the

			<p>emergency is under control. Send the message of “SAFE” to DC/SP etc to enable him to officially call off the emergency.</p>
8	Civil Defense	080-25576851	<p>District Commandant/Dy. Commandant will position themselves in the Emergency Control Room and assist the District Administration in mitigating the emergency. They would be in contact with the field officer/units.</p> <p>Main functions:</p> <ul style="list-style-type: none"> • Assist the Police or Fire personnel in carrying out their duties. • Carry out rescue and evacuation operation in close association with other emergency agencies. • Evacuated areas would need to be guarded against looting.
9	Home Guards	08152-243149	<ol style="list-style-type: none"> 1 Serve as an auxiliary to the police and assist in maintaining internal security. 2 Assist the community in any kind of emergency - in air raid, a fire, a flood, an epidemic and so on. 3 Organize functional units to provide essential services, such as, motor transport, pioneer and engineer groups, fire brigades, nursing and first aid, operation of water and power supply installations. 4 Promote communal harmony and give assistance to the administration in protecting weaker sections of the Society 5 Participate in socio-economic and welfare activities, such as, adult education, health and hygiene, development schemes and such other tasks as are deemed useful.
10	Health Department	08152-210764/ 9449843057	<ul style="list-style-type: none"> ◆ Coordinate assistance and response related to disaster within the District ◆ Prepare and implement hospital preparedness plan. ◆ Training of health workers on emergency preparedness and response. ◆ Providing efficient and quick treatment of the affected people during the disaster ◆ Prepare, keep and check ready Mobile

			Hospitals, stocks of equipment and drugs
11	PWD	08152-222022	<p><u>Public Works/Highway function: Superintendent Engineer</u></p> <p>Alternate: - Executive Engineer</p> <p>Depending on type and location of the disaster, the in-charge of the PWD/Highway or Irrigation department representatives would make them available at the ECR and maintain close contact with their engineers who would be at the scene of the disaster.</p> <p>Main functions: -</p> <ul style="list-style-type: none"> • Help the police to divert traffic away from the scene of accident along the entire major roads. • Ensure diversion routes are in good condition and traffic does not get jammed. • Exhibit proper diversion signs conspicuously at suitable places. <p>Provide the mobile crane/heavy earthmoving equipment for the purpose of salvage operation.</p> <ul style="list-style-type: none"> • Provide necessary assistance as required and directed by Deputy Commissioner/Superintendent of Police.
12	Dy. Director of Factories and Boilers	080-29753051	<p>Factory Inspectorate plays an important role during any industrial and transportation disaster in which there is large-scale release of hazardous chemicals. In case of such disaster, the DDFB or ADFB would position themselves in the ECR and help the District Administration by providing expert advice for minimizing the effect of such a disaster.</p> <p>Main functions:</p> <ul style="list-style-type: none"> • Ensure the on-site emergency management plan of the affected industry (in case of an industrial disaster) has been activated and the mitigate measures are taken to safeguard the people present in the premises. • Visit the site of accident to ensure proper measures are taken to control the situation. • Speed up help from mutual aid members, if required to contain the emergency. • Communicate with district crisis group (DCG)

			<p>and mobilize the technical experts for advice if required.</p> <ul style="list-style-type: none"> • Inspect the area along with the tech. Co-coordinators and report to Deputy Commissioner.
13	Irrigation	08152-222482/ 9482751782	<ul style="list-style-type: none"> ◆ Preparedness and implementation of preparedness plan of the department ◆ Monitor and protect irrigation infrastructure in pre and post disaster situation ◆ Restoration of water supply to the affected area ◆ Arrange adequate material and manpower to maintain cleanliness and hygiene
14	BESCOM	08152-220642/ 08153-274293	<ul style="list-style-type: none"> ◆ Restore the power supply and ensure uninterrupted power to all vital installation, facilities and site. ◆ Identify requirements of external equipment required such as DG sets, generators etc; ◆ Damage Assessment
15	RTO	08152-222039	<p>The transportation department plays an important role during any type of disaster as it would involve large-scale evacuation of people in the affected area. RTO/ARTO would be based at ECR and assist the District Administration in mitigating the emergency.</p> <p>Main functions:</p> <ul style="list-style-type: none"> • Deploy required number of buses with drivers to evacuate people to safe shelters. • Mobilize various earth moving equipment and other heavy machinery from different sources required for rescue operation. • Provide mobile workshop if required for urgent repairs/breakdown. • Provide assistance as required and directed by Superintendent of Police/Deputy Commissioner.
16	Food and Civil Supplies	08152-222121	<ul style="list-style-type: none"> ◆ Identify requirement of food and clothing for affected population; ◆ Control the quality and quantity of food, clothing and basic medicines ◆ Ensure the timely distribution of food and clothing to the people; ◆ Ensure that all food that is distributed is fit for human consumption

17	Information officer	08152-222077	<p>The District Information Officer would be based in the Emergency Control Room during any disaster and assist the district authorities in smooth operation.</p> <p>Main functions: -</p> <ul style="list-style-type: none"> • Upon receiving the information from District Administration, the information officer should co-ordinate with media for giving information regarding emergency. • Co-ordinate with the affected victims' families for giving information of their dear ones if missing/dead/injured.
18	Animal Husbandry	08152-240397	<ul style="list-style-type: none"> ◆ Establish procedures for coordination among local government agencies, volunteer, organizations ◆ Assistance during emergency with regards to medical care, temporary ◆ confinement, shelter, food and water ◆ Disposal of dead and unclaimed animals
19	Forest	08152-290070/222176	<ul style="list-style-type: none"> ◆ Imparting special skills required during emergency operations to the officials ◆ Check available stocks of equipments and materials likely to be most needed after disaster. ◆ Assess the extent of damage to forests, nurseries and storage facilities ◆ A pests and disease monitoring system should be developed ◆ Training of the workers in disaster management
20	Municipal Council		<p>The municipality is responsible for the residents' immediate welfare. Municipal services will assist in other practical ways, such as providing food and temporary shelter; they may also offer psychological care. In addition, the municipality will register the victims and may help them attend to uninsured damage.</p>
21	PRED	08152-221666	<ul style="list-style-type: none"> ◆ Strengthening the community based response by awareness and ◆ implementation of DM policy and guidelines

			<ul style="list-style-type: none"> ◆ Preparing the Community as first responder and local authorities as per Village Disaster Management Plan.
22	Education	08152-222020/225680	<ul style="list-style-type: none"> ◆ Building capacity at school level through various competitions and awareness campaign. ◆ To train the volunteers through NCC/ NSS etc. in Firefighting, First aid, and other disciplinary & volunteering
23	NDMA	011-26701728/1078	<p>Responsibilities of Operation Division:</p> <ol style="list-style-type: none"> 1. Efficient functioning of the NDMA Control Room. 2. Monitoring disasters at Nationals, Regional and International levels. 3. Liaisoning and coordinating with early warning agencies like IMD, CWC, INCOIS, and SASE etc for disaster specific information and disseminating the information for coordinating with the state Govt and Facilitating the deployment of NDRF in the disaster affected states during disaster. 4. Carrying out coordination of support to other countries affected by major disasters as may be determined by the Central Government. <p>Responsibilities of Communication and IT Division:</p> <ol style="list-style-type: none"> 1. Formulation and Implementation of National Disaster Management Services (NDMS) Pilot Project and Decision Support System for Handling Offsite Nuclear Emergences(DSSNOE) 2. Establishment of LAN and WAN at NDMA. 3. Interaction with Nodal Ministers, Forecasting and Early Warning Agencies 4. Interaction with Central and state Govts. And related departments on IT and communication matters. 5. Advice NDRF Bns on IT and Communication matters. 6. Interaction with service providers.

			<p>Additional Responsibilities:</p> <ol style="list-style-type: none"> 1. Coordination and conduct of Mock Exercise in the States /UTs on Incident Response System. 2. Training on Disaster Management for Associated NCC Officers, Civil Defence Volunteers and Nehru Yuva Kendra Sangthan at NDRF Bn locations. 3. Coordinating SDRF Training of Trainers at various Disaster Management Training Institutions. 4. Coordinating DM Training of Home Guards Platoons at State ATIs with the help of NDRF, CD and Fire department. <p>Conduct of weekly review monsoon meetings involving IMD, CWC, NDRF and Resident Commissioner of affected states.</p>
24	KSPCB		<ol style="list-style-type: none"> 1. On receiving information from CEC, the Environmental Officer will mobilize all possible resources at his disposal and keep the laboratory functioning for analysis of pollutants, emissions, etc. 2. Rush to the site, collect the samples, analyze the pollutants and the likely effect on human life/environment and inform the CEC about the same and the corrective actions to be taken to prevent further damage. 3. Act as an expert and advice the CEC about the kind of message to be disseminated to the public and press, etc, on pollution matters.
25	Fisheries Department	08152-222095	<ul style="list-style-type: none"> ◆ The fisheries development officer shall check the functioning of life saving appliances and provide and render services of such equipment. ◆ List to be prepared active fishermen, families with Livelihood activities and complete address for identification in case of emergency. ◆ 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.

			<ul style="list-style-type: none"> ◆ Ensure that boats and other equipments of fishermen are moved to safer places and secured. And ensure positioning the relief boats and expert swimmers, life saving appliances at vulnerable points for preventive and rescue activities. ◆ Mobilize expert swimmers to the cyclone /
26	Sr. Environment	08152-243199	<p>The representative of the Pollution Control Board would be based in the Emergency Control Room during any disaster and ensure the environmental damage is kept minimum.</p> <p>Main functions: -</p> <p>Mobilize all possible resources at his disposal and keep the laboratory functioning for analysis of pollutants and emissions. Rush the team to the affected area for collection of samples and analyze the same.</p> <p>Keep the Emergency Control Room informed about the possible effect on human life as well as environment and corrective actions taken to minimize the same.</p>
27	Army/ Air Force		<ul style="list-style-type: none"> ◆ Coordinating DRR activities and administration in response. ◆ Receive and process disaster alerts and warnings from nodal agencies.

1.7 How to implement the plan

1. Section 31 of DM Act 2005 makes it mandatory for every district to prepare a disaster management plan, for the protection of life and property from the effects of hazardous events within the district.
2. In significant emergencies or disasters, District Magistrate or the chairperson of DDMA will have the powers of overall supervision direction and control as may be specified under State Government Rules / State Disaster Management Plan guidelines.
3. The district EOC will be staffed and operated as the situation dictates. When activated, operations will be supported by senior officers from line departments and central government agencies; private sector and volunteer organizations may be used to provide information, data and resources to cope with the situation.
4. The DDMA may recommend for action under Sec 30 of DM Act.
5. Facilities that have been identified as vital to operation of the district government functions have been identified.
6. The DM or his designee will coordinate and control resources of the District.

7. Emergency public information will be disseminated by all available media outlets through the designated media and information officer.
8. Prior planning and training of personnel are prerequisites to effective emergency operations and must be considered as integral parts of disaster preparations.
9. Coordination with surrounding districts is essential, when an event occurs, that impacts beyond district boundaries. Procedure should be established and exercised for inter district collaboration.
10. Departments, agencies and organizations assigned either primary or supporting responsibilities in this document must develop implementation documents in order to support this plan.
11. When local resources prove to be inadequate during emergency operations, request for assistance will be made to the State or higher levels of government and other agencies in accordance with set rules and procedures.
12. District authority will use normal channel for requesting assistance and/or resources, i.e., through the District Emergency Operations Center (DEOC) to the State EOC. If state resources have been exhausted, the state will arrange to provide the needed resources through central assistance.
13. The District EOC will coordinate with the State EOC, Agencies of the Govt. of India like IMD / CWC to maintain upto-date information concerning potential flooding, cyclones etc. As appropriate, such information will be provided to the citizens of the affected areas in the district.
14. Upon receipt of potential problems in these areas, DEOC / designated officials will appropriately issue alert and notify action to be taken by the residents.
15. Disaster occurrence could result in disruption of government functions and, therefore, all levels of local government and their departments should develop and maintain procedures to ensure continuity of Government action.

1.8 Approval Mechanism of the plan: Authority for implementation at District level

As per Section 31(2) of the Disaster Management Act 2005, there shall be a plan for disaster management for every district of the state. The DDMP has been prepared by the district disaster management authority. Also, as per section 31(6) of the disaster management act 2005, the district authority shall send a copy of the district plan to the state authority which shall forward it to the state government. The approved draft plan has been sent to Karnataka state disaster management authority for final approval.

1.9 Plan Review and Updation

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 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.

1.11 List of emergency /control room phone numbers

Name	Phone Number
District Emergency Operation Centre	08152-243506(1077)
State Emergency Operation Centre	1070/22253707/22340676
State Disaster Response Force	080-242405278
National Disaster Response Force	0863-2293050
Civildefence	080-25576851
Fire & Emergency(Kolar)	08152-243222/9916888870/08022971500
Fire & Emergency(KGF)	08153-266000/08022971500
Fire & Emergency(Bangarpet)	08153-257101/08022971500
Fire & Emergency(Mulbagal)	9480466389/08022971500
Fire & Emergency(Srinivasapur)	08157-245070/08022971500
Fire & Emergency(Srinivasapur)	08022971500
Police(Kolar and KGF)	243060/222004/9480802601,9449045100

Chapter 2: District Profile

2.1 Overview of the District:

Kolar district is located in the southern region of the Karnataka State and happens to be the eastern-most district of the Karnataka State. The district is surrounded by the districts of Bangalore Rural and Tumkur on the west; on the north, by Chikballapur District; on the east by Chittoor District of Andhra Pradesh; and on the south by Krishnagiri and Vellore of Tamil Nadu. The district comes under the Eastern Dry Zone (Zone-5) of the Agro climatic Zones of the state, with a total geographical area of 374916 ha which has hills, ridges and mounds, rolling lands, pediments, undulating and gently sloping lands and valleys.

Formerly, Kolar was known variously as Kolahala, Kuvalala and Kolala. Kolar was called Kolahalapura during the middle Ages, but later came to be known as Kolar. It was the battlefield for the warring kingdoms of Chalukyas in the north and Cholas to the south. It was the capital of the Gangas until 4th century AD when they shifted the capital to Talakad in Mysore. In 1004 AD, the Cholas annexed Kolar until 1116 AD,. Vishnuvardhana (1108-1142 AD) freed Gangavadi from the Cholas, and in commemoration of his victory, built the celebrated Vijayanarayana Temple (Chennakesava Temple) at Belur.

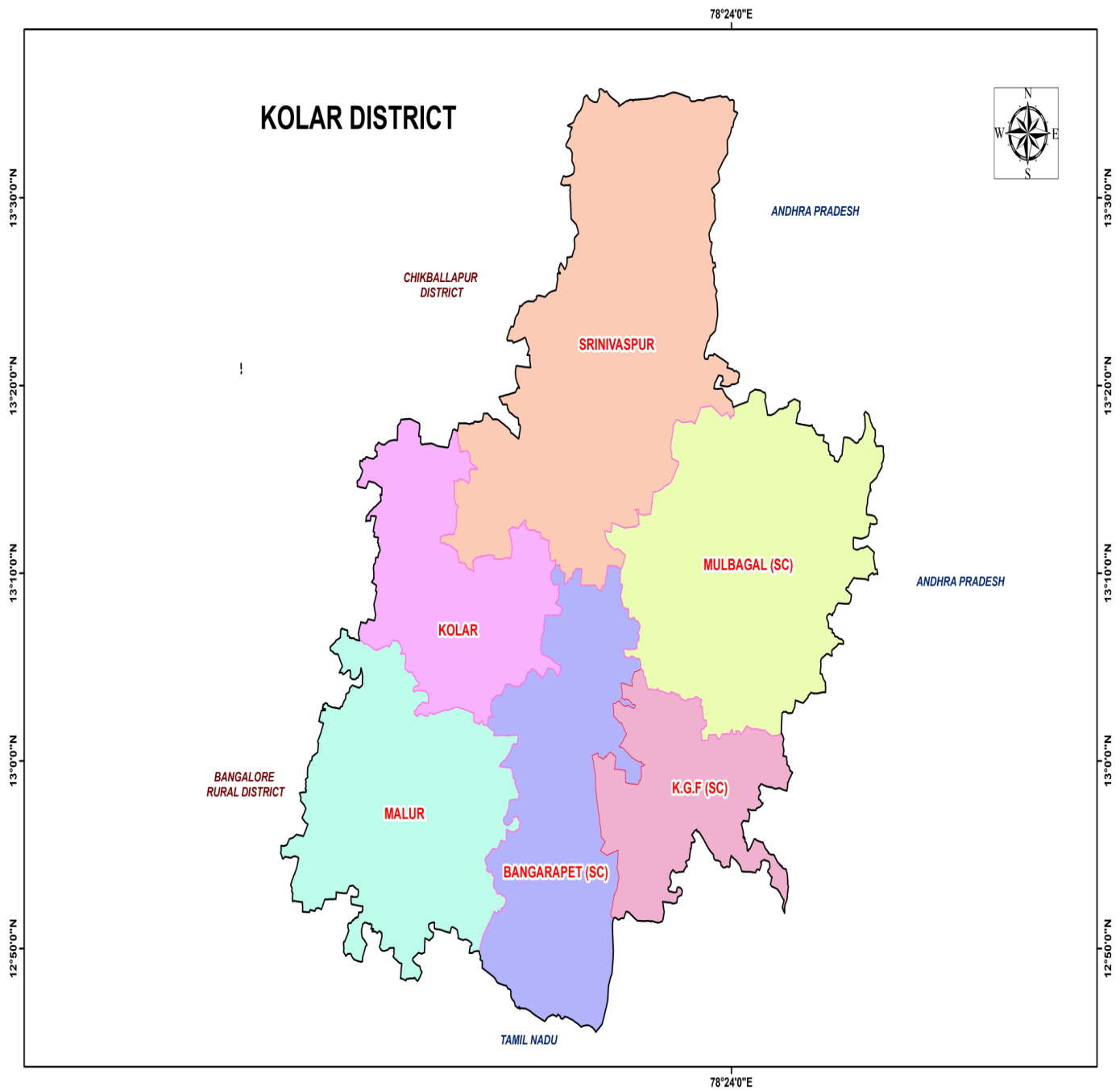
The district is predominantly dependent on agriculture, with total cultivatable area of 170591.00 ha out which 86951.00 ha area is under dry land farming system. Since there is no perennial source of irrigation, the cropping mainly confined to Kharif season with Ragi, Ground Nut, Red Gram, field bean and Horse Gram as major crops. In addition to agriculture, Horticulture also assumes an important role in farming system covering area of 110000.00 ha, with major horticulture crops mango, Sapota, Guava and Vegetable crops. Sericulture is one of important subsidiary occupations of the district with mulberry area of 15447.00 ha. Dairy production activities is yet another major subsidiary occupation of the farmers with 229036 number of milching animal population.

2.1.2 Kolar District Map and Talukas Details:

Taluks: Kolar district has one sub division and six taluks. Kolar sub - division comprises of Kolar, Bangarpet, Robertsonpet (KGF), Malur, Srinivaspura and Mulbagal taluks.

Kolar: Kolar is the taluk and district headquarters. Kolar is at a distance of 66 kms from Bangalore. The taluk is bound by Sidlaghatta, Chintamani, Srinivasapur, Mulbagal, Bangarpet and Hoskote taluk of Bangalore Rural District. This taluk is further divided into seven hobbilies, viz. Kolar, Vokkaleri, Vemaagal, Narasapur, Sugatoor, Holur and Huthur.

Bangarpet: The Taluk headquarters is at a distance of 18 kms from the district headquarters and 82 kms from Bangalore. The taluk is bound by Malur, Kolar and KGF taluks of Kolar district; Salem and Dharmapuri districts of Tamilnadu. This Taluk is further divided into three hobbilies, viz. Bangarpet, and Kaamasamudra, Budikote. All the Taluk level Departments are located in Bangarpet.



KGF: The Taluk headquarters is at a distance of 30 kms from the district headquarters and 98 kms from Bangalore. The taluk is bound by Malur, Bangarpet and Mulbagal taluks of Kolar district; Chittoor district of Andhra Pradesh and Salem and Dharmapuri districts of Tamilnadu. This Taluk is further divided into four hoblies, viz. Robertsonpet, Kyasamballi, Bethamangala, and Kammasandsra. All the Taluk level Departments are located in Bethamangala and K.G.F. towns. KGF has one of the world's **deepest mine, BGML**, but defunct since 2001.

Malur: The taluk headquarters is at a distance of 32 kms from the district headquarters and 47 kms from Bangalore. The taluk is bound by Malur and Bangarpet taluks of Malur district, Hoskote taluk of

Bangalore Rural district, and Salem district of Tamilnadu. This taluk is further divided into four hobbilies, viz. Malur, Lakkur, Masthi and Tekal.

Srinivasapura: The taluk headquarters is at a distance of 24 kms from the district headquarters and 90 kms from Bangalore. The taluk is bound by Kolar, Mulbagal, and Chintamani taluks of Kolar district and Cuddapah district of Andhra Pradesh. The taluk is further divided into five hobbilies, viz. Srinivasapura, Ronur, Nelavanki, Rayalpad & Yeldur.

Mulbagal: The taluk headquarters is at a distance of 32 kms from the district headquarters and 87 kms from Bangalore. The taluk is bound by Bangarpet, Srinivasapur and Kolar taluks of Kolar district and Hindupur taluk of Andhra Pradesh. This taluk is further divided into five hobbilies, viz. Mulbagal, Duggasandra, Byrakoor, Tayalor and Avani.

District Glance:

Demographic Area	3,74,916 Hecteres
Talukas in the District	6
Hoblis in the District	27
Total Revenue Villages	1,812
Households	1972
GramaPanchyaths	156
Urban local Bodies	6
Wards	166
Total Tanks	2466
Minor Irigation Tanks	138
Zilla Panchyath	2328
Total Population	1536408
Mens	776396
Womens	760005
Litresay Rate	74.39

Taluks wise GPs:

Sl. No	Name of the Sub- Division	Name of the Taluk	Numbers of GPs
1	Kolar	Kolar	36
2	Kolar	Bangarpet	21
3	Kolar	Kgf	17
4	Kolar	Malur	28
5	Kolar	Mulbagal	30
6	Kolar	Srinivasapura	25

2.1.3 District Disaster Management Authority

SL. No	Name/ Address with Contact Numbers (Members)	Role in DDMA and Responsibilities
1	Deputy Commissioner, Chairman,	Ref. Chapter 1
2	President Zilla Panchayath, Co-Chairman	Ref. Chapter 1
3	Chief Executive Officer, ZP, Member	Ref. Chapter 1
4	Superintendent Of Police, Member	Ref. Chapter 1
5	District Health Officer, Member	Ref. Chapter 1
6	Executive Engineer, ZP, Member	Ref. Chapter 1
7	Joint Director, Agriculture Dept, Member	Ref. Chapter 1
8	Addl. Deputy Commissioner, Chief Executive Officer of DDMA	Ref. Chapter 1

2.1.4 District Crisis Management Committee

Sl.No	SEC Members Name	Designation	Affiliation/Address/ Contact No.
1	Deputy Commissioner Chairman	Chairman	222001/222002/9480031010
2	Head Quarters Assistant to Deputy Commissioner	Emergency Officer	222001/222002
3	Superintendent of Police	Member	243060/222004/9480802601,9449045100
4	District Commandant, Home guards and Civil Defense	Member	08152-243149, Civil Defense 080-25576851
5	Divisional Fire Officer	Member	9449313187/243222
6	District Health Officer	Member	210764/9449843057
7	Deputy Chief Controller of Explosives	Member	
8	Regional Environmental Officer	Member	243199/9845367378
9	Commissioner, CMC	Member	220001/270606/232238/255221/242044/245 160

10	Regional Transport Officer	Member	222039/9632587477
11	Executive Engineer, Public Health Engg. Dept	Member	
12	Information and Publicity Officer	Member	222077/9480841219
13	Joint Director of Agriculture	Member	222246/8722413493
14	Trade Union Leader	Member	
15	Deputy Director, Animal Husbandry & Veterinary Services	Member	240397/7760630097

2.2 Demographic Details:

2.2.1 Household Details:

Sl.No.	Name of the Taluk	No. of APL HH			No. of BPL HH		
		Urban	Rural	Total	Urban	Rural	Total
1	Kolar	9763	1512	11275	22148	54674	76822
2	Bangarpet	8560	3539	12189	28229	37392	65621
3	KGF						
4	Malur	911	1408	2139	6417	35188	41605
5	Mulbagal	2040	832	2872	11544	38271	49815
6	Srinivasapura	316	1005	1321	4919	26054	30973
	Total	21680	8296	29976	73257	191579	264836

2.2.2 Population, Type of Workers, Demographic Data based on 2011 Census:

Sl. No.	Name of the Taluk	Geographical Area (Sq. KM)	Total	Male	Female	%Share to Total Population
1	Kolar	792	385410	195129	190281	25.80
2	Bangarpet	860	452832	227621	225211	29.47
3	KGF					

4	Malur	643	236920	121083	115837	15.42
5	Mulbagal	821	258935	130488	128447	16.85
6	Srinivasapura	863	202304	102075	100229	13.16

Based on 2011 census data. Total Number of Household: 3, 33, 348

Population	Persons	Males	Females
Total	1,536,401	776,396	760,005
In the age group 0-6 years	170,423	86,845	83,578
Scheduled Castes (SC)	465,867	232,546	233,321
Scheduled Tribes (ST)	78,875	39,997	38,878
Total Worker	717,872	454,048	263,824
Main Worker	584,590	394,176	190,414
Main Worker – Cultivator	165,468	114,098	51,370
Main Worker - Agricultural Labourers	142,049	74,178	67,871
Main Worker - Household Industries	16,761	8,310	8,451
Main Worker – Other	260,312	197,590	62,722
Marginal Worker	133,282	59,872	73,410
Marginal Worker – Cultivator	17,589	6,651	10,938
Marginal Worker - Agriculture Labourers	59,184	22,147	37,037
Marginal Worker - Household Industries	7,417	2,924	4,493
Marginal Workers – Other	49,092	28,150	20,942
Marginal Worker (3-6 Months)	116,776	52,434	64,342
Marginal Worker - Cultivator (3-6 Months)	15,237	5,655	9,582
Marginal Worker - Agriculture Labourers (3-6 Months)	53,749	20,260	33,489
Marginal Worker - Household Industries (3-6 Months)	6,126	2,427	3,699
Marginal Worker - Other (3-6 Months)	41,664	24,092	17,572
Marginal Worker (0-3 Months)	16,506	7,438	9,068
Marginal Worker - Cultivator (0-3 Months)	2,352	996	1,356
Marginal Worker - Agriculture Labourers (0-3 Months)	5,435	1,887	3,548
Marginal Worker - Household Industries (0-3 Months)	1,291	497	794
Marginal Worker - Other Workers (0-3 Months)	7,428	4,058	3,370
Non Worker	818,529	322,348	496,181

Kolar Taluk Demographic Data

Total Household: 83,136

Population	Persons	Males	Females
Total	385,410	195,129	190,281
In the age group 0-6 years	43,761	22,245	21,516
Scheduled Castes (SC)	90,989	45,690	45,299
Scheduled Tribes (ST)	15,410	7,831	7,579
Total Worker	176,758	113,960	62,798
Main Worker	144,408	97,945	46,463
Main Worker – Cultivator	34,676	24,940	9,736
Main Worker - Agricultural Laborers	30,206	16,225	13,981
Main Worker - Household Industries	6,605	3,562	3,043
Main Worker – Other	72,921	53,218	19,703
Marginal Worker	32,350	16,015	16,335
Marginal Worker – Cultivator	3,630	1,398	2,232
Marginal Worker - Agriculture Laborers	11,719	4,988	6,731
Marginal Worker - Household Industries	2,665	1,253	1,412
Marginal Workers – Other	14,336	8,376	5,960
Marginal Worker (3-6 Months)	28,793	14,299	14,494
Marginal Worker - Cultivator (3-6 Months)	3,206	1,237	1,969
Marginal Worker - Agriculture Laborers (3-6 Months)	10,755	4,663	6,092
Marginal Worker - Household Industries (3-6 Months)	2,259	1,111	1,148
Marginal Worker - Other (3-6 Months)	12,573	7,288	5,285
Marginal Worker (0-3 Months)	3,557	1,716	1,841
Marginal Worker - Cultivator (0-3 Months)	424	161	263
Marginal Worker - Agriculture Laborers (0-3 Months)	964	325	639
Marginal Worker - Household Industries (0-3 Months)	406	142	264
Marginal Worker - Other Workers (0-3 Months)	1,763	1,088	675
Non Worker	208,652	81,169	127,483

Malur Taluk Demographic Data

Total Household: 52,443

Population	Persons	Males	Females
Total	236,920	121,083	115,837
In the age group 0-6 years	26,140	13,282	12,858
Scheduled Castes (SC)	60,184	30,210	29,974
Scheduled Tribes (ST)	22,375	11,400	10,975
Total Worker	112,342	72,513	39,829
Main Worker	83,596	59,293	24,303
Main Worker – Cultivator	22,492	17,572	4,920
Main Worker - Agricultural Laborers	21,285	11,999	9,286
Main Worker - Household Industries	1,206	831	375
Main Worker – Other	38,613	28,891	9,722
Marginal Worker	28,746	13,220	15,526
Marginal Worker – Cultivator	3,018	1,333	1,685
Marginal Worker - Agriculture Labourers	14,731	5,693	9,038
Marginal Worker - Household Industries	898	430	468
Marginal Workers – Other	10,099	5,764	4,335
Marginal Worker (3-6 Months)	25,586	11,844	13,742
Marginal Worker - Cultivator (3-6 Months)	2,652	1,151	1,501
Marginal Worker - Agriculture Laborers (3-6 Months)	13,862	5,311	8,551
Marginal Worker - Household Industries (3-6 Months)	764	384	380
Marginal Worker - Other (3-6 Months)	8,308	4,998	3,310
Marginal Worker (0-3 Months)	3,160	1,376	1,784
Marginal Worker - Cultivator (0-3 Months)	366	182	184
Marginal Worker - Agriculture Laborers (0-3 Months)	869	382	487
Marginal Worker - Household Industries (0-3 Months)	134	46	88
Marginal Worker - Other Workers (0-3 Months)	1,791	766	1,025
Non Worker	124,578	48,570	76,008

Bangarpet Taluk Demographic Data**Total Household: 99,691**

Population	Persons	Males	Females
Total	452,832	227,621	225,211
In the age group 0-6 years	49,284	25,130	24,154
Scheduled Castes (SC)	181,961	90,117	91,844
Scheduled Tribes (ST)	10,905	5,488	5,417
Total Worker	186,731	128,382	58,349
Main Worker	154,987	112,960	42,027
Main Worker – Cultivator	31,851	23,145	8,706
Main Worker - Agricultural Laborers	30,253	15,752	14,501
Main Worker - Household Industries	2,347	1,373	974
Main Worker – Other	90,536	72,690	17,846
Marginal Worker	31,744	15,422	16,322
Marginal Worker – Cultivator	3,655	1,374	2,281
Marginal Worker - Agriculture Laborers	12,992	4,830	8,162
Marginal Worker - Household Industries	983	345	638
Marginal Workers – Other	14,114	8,873	5,241
Marginal Worker (3-6 Months)	26,790	13,006	13,784
Marginal Worker - Cultivator (3-6 Months)	3,167	1,165	2,002
Marginal Worker - Agriculture Laborers (3-6 Months)	11,142	4,177	6,965
Marginal Worker - Household Industries (3-6 Months)	789	257	532
Marginal Worker - Other (3-6 Months)	11,692	7,407	4,285
Marginal Worker (0-3 Months)	4,954	2,416	2,538
Marginal Worker - Cultivator (0-3 Months)	488	209	279
Marginal Worker - Agriculture Laborers (0-3 Months)	1,850	653	1,197
Marginal Worker - Household Industries (0-3 Months)	194	88	106
Marginal Worker - Other Workers (0-3 Months)	2,422	1,466	956
Non Worker	266,101	99,239	166,862

Mulbagal Taluk Demographic Data**Total Household: 54,664**

Population	Persons	Males	Females
Total	258,935	130,488	128,447
In the age group 0-6 years	30,488	15,536	14,952
Scheduled Castes (SC)	74,901	37,471	37,430
Scheduled Tribes (ST)	8,648	4,416	4,232
Total Worker	135,559	77,547	58,012
Main Worker	112,369	68,700	43,669
Main Worker – Cultivator	38,439	24,083	14,356
Main Worker - Agricultural Laborers	35,161	17,657	17,504
Main Worker - Household Industries	4,945	1,527	3,418
Main Worker – Other	33,824	25,433	8,391
Marginal Worker	23,190	8,847	14,343
Marginal Worker – Cultivator	4,410	1,549	2,861
Marginal Worker - Agriculture Laborers	11,506	4,057	7,449
Marginal Worker - Household Industries	1,743	518	1,225
Marginal Workers – Other	5,531	2,723	2,808
Marginal Worker (3-6 Months)	20,638	7,762	12,876
Marginal Worker - Cultivator (3-6 Months)	3,848	1,316	2,532
Marginal Worker - Agriculture Laborers (3-6 Months)	10,545	3,702	6,843
Marginal Worker - Household Industries (3-6 Months)	1,455	412	1,043
Marginal Worker - Other (3-6 Months)	4,790	2,332	2,458
Marginal Worker (0-3 Months)	2,552	1,085	1,467
Marginal Worker - Cultivator (0-3 Months)	562	233	329
Marginal Worker - Agriculture Laborers (0-3 Months)	961	355	606
Marginal Worker - Household Industries (0-3 Months)	288	106	182
Marginal Worker - Other Workers (0-3 Months)	741	391	350
Non Worker	123,376	52,941	70,435

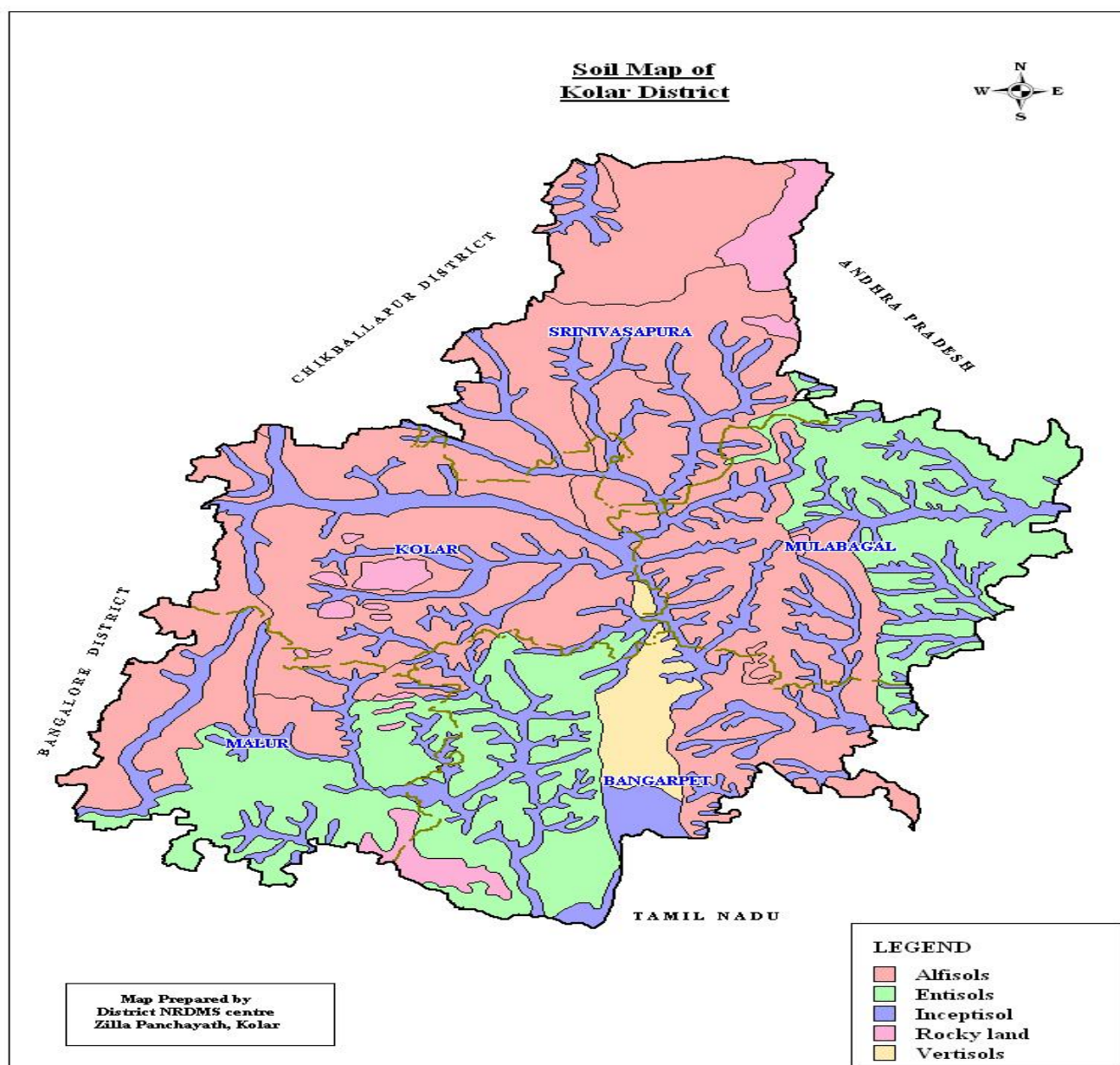
Srinivasapura Taluk Demographic Data**Total Household: 99,691**

Population	Persons	Males	Females
Total	202,304	102,075	100,229
In the age group 0-6 years	20,750	10,652	10,098
Scheduled Castes (SC)	57,832	29,058	28,774
Scheduled Tribes (ST)	21,537	10,862	10,675
Total Worker	106,482	61,646	44,836
Main Worker	89,230	55,278	33,952
Main Worker – Cultivator	38,010	24,358	13,652
Main Worker - Agricultural Laborers	25,144	12,545	12,599
Main Worker - Household Industries	1,658	1,017	641
Main Worker – Other	24,418	17,358	7,060
Marginal Worker	17,252	6,368	10,884
Marginal Worker – Cultivator	2,876	997	1,879
Marginal Worker - Agriculture Laborers	8,236	2,579	5,657
Marginal Worker - Household Industries	1,128	378	750
Marginal Workers – Other	5,012	2,414	2,598
Marginal Worker (3-6 Months)	14,969	5,523	9,446
Marginal Worker - Cultivator (3-6 Months)	2,364	786	1,578
Marginal Worker - Agriculture Laborers (3-6 Months)	7,445	2,407	5,038
Marginal Worker - Household Industries (3-6 Months)	859	263	596
Marginal Worker - Other (3-6 Months)	4,301	2,067	2,234
Marginal Worker (0-3 Months)	2,283	845	1,438
Marginal Worker - Cultivator (0-3 Months)	512	211	301
Marginal Worker - Agriculture Laborers (0-3 Months)	791	172	619
Marginal Worker - Household Industries (0-3 Months)	269	115	154
Marginal Worker - Other Workers (0-3 Months)	711	347	364
Non Worker	95,822	40,429	55,393

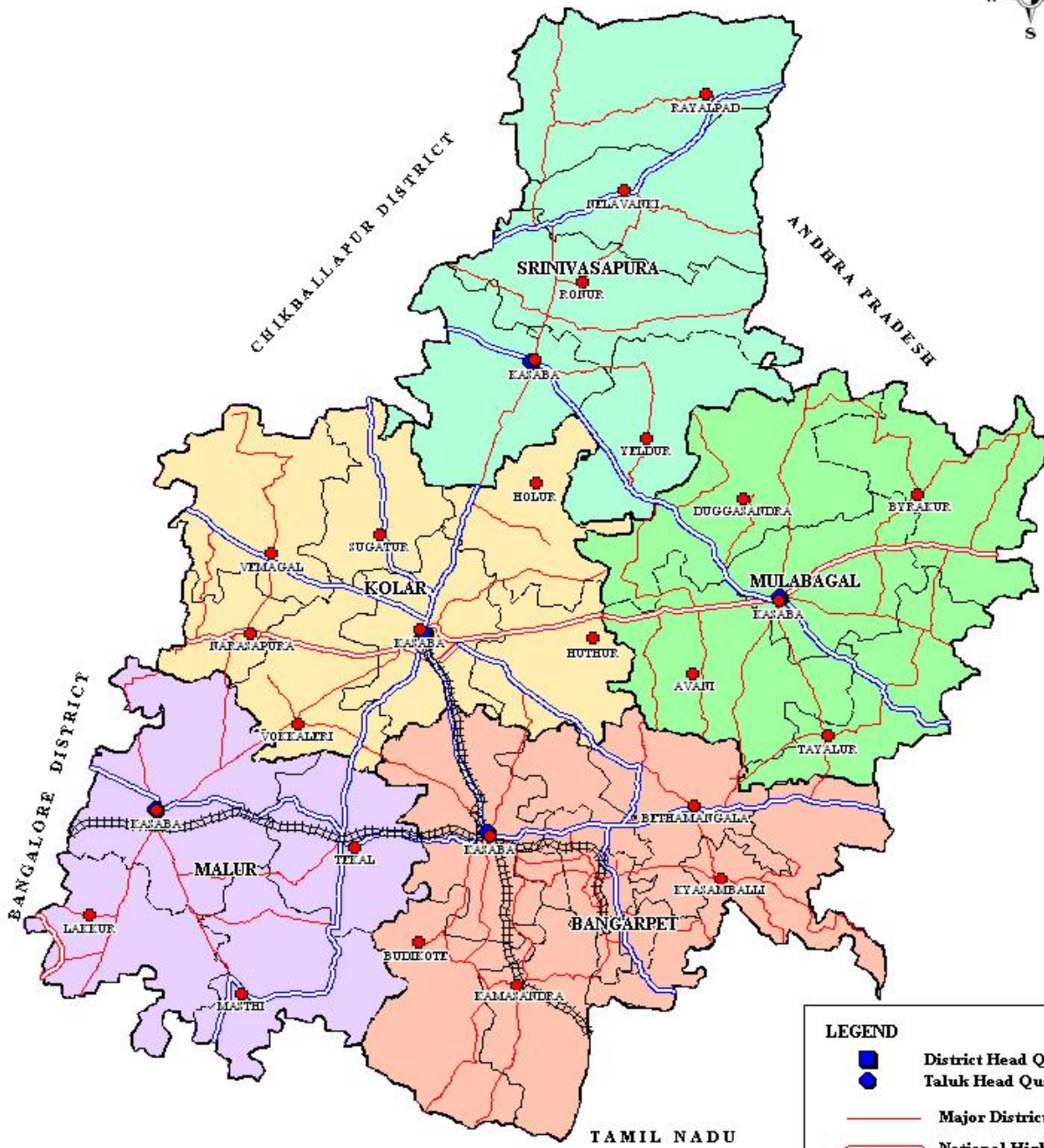
2.2.3 Literacy Rate in Percentage:

Name of the District	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Kolar	78.11	59.82	69.08	90.05	82.18	86.13	81.8	66.84	74.39

2.3 Topographic Map with main features:



Map showing Kolar District Transport Network



Map Prepared by
District NRDMS centre
Zilla Panchayath, Kolar

LEGEND

- District Head Quarter
- Taluk Head Quarter
- Major District Road
- National Highway
- State Highway
- Railway Line
- Hobli Head Quarter
- Hobli Boundary
- Taluk Boundary
- District Boundary

2.4 Rainfall Details of the District:

Karnataka State Natural Disaster Monitoring Centre (KSNDMC)

Rainfall Pattern in KOLAR District

E: Excess (=>20%) N: Normal (-19 to +19%) D: Deficient (-59 to -20%) S: Scanty (-99 to -60 %) NR: No Rainfall (-100 %)

Taluk wise Rainfall data obtained for Telemetric Ranguage Network of KSNDMC (Weighted average rainfall is computed using Thiessen Polygon method)

1st January to 31st December- 2012

Name of The Taluk	Pre-Monsoon-2012			South West Monsoon-2012 (1st June to 30th September)			North East Monsoon Rainfall Pattern (1st October'12 to 31st December' 12)			Annual Rainfall Pattern 2012 (1st Jan'12 to 31st December' 12)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolar Dist.	123.3	170.1	38	386.8	292.3	-24	236.3	279.2	18	746.4	741.6	-1
Bangarapet	140.8	140.8	0	380.1	319.0	-16	236.5	306.2	29	757.4	766.0	1
Kolar	126.0	182.8	45	407.6	259.7	-36	241.6	264.0	9	775.2	706.5	-9
Malur	134.5	213.4	59	371.3	188.6	-49	232.2	246.1	6	738.0	648.1	-12
Mulabagal	118.1	165.7	40	395.9	361.1	-9	260.4	288.3	11	774.4	815.1	5
S'pura	99.6	160.8	61	376.9	303.5	-19	208.3	281.4	35	684.8	745.7	9

1st January to 31st December- 2013

Name of the Taluk	Pre-Monsoon-2013			South West Monsoon-2013 (1st June to 30th September)			North East Monsoon Rainfall Pattern (1st October'13 to 31st December' 13)			Annual Rainfall Pattern 2013 (1st Jan'13 to 31st December' 13)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% D	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolar Dist.	123.3	129.9	5	386.8	357.7	-8	236.3	161.6	-32	746.4	649.1	-13
Bangarapet	140.8	130.1	-8	380.1	289.4	-24	236.5	142.3	-40	757.4	561.8	-26
Kolar	126.0	112.6	-11	407.6	412.4	1	241.6	189.7	-21	775.2	714.7	-8
Malur	134.5	182.0	35	371.3	380.3	2	232.2	173.1	-25	738.0	735.4	0
Mulabagal	118.1	104.7	-11	395.9	314.5	-21	260.4	152.3	-42	774.4	571.5	-26
Srinivasapur	99.6	131.4	32	376.9	402.7	7	208.3	155.1	-26	684.8	689.1	1

1st January to 31st December- 2014

Name of The Taluk	Pre-Monsoon-2014 (1st January to May 31st)			South West Monsoon-2014 (1st June to 30th September)			North East Monsoon Rainfall Pattern (1st October'14 to 31st December' 14)			Annual Rainfall Pattern 2014 (1st Jan'14 to 31st December' 14)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolar dist.	123.3	97.8	-21	386.8	262.8	-32	236.3	181.5	-23	746.4	542.1	-27
B'pet	140.8	71.7	-49	380.1	288.6	-24	236.5	213.6	-10	757.4	573.9	-24
Kolar	126.0	107.0	-15	407.6	307.3	-25	241.6	175.3	-27	775.2	589.6	-24
Malur	134.5	118.5	-12	371.3	267.7	-28	232.2	253.9	9	738.0	640.2	-13
Mulabagal	118.1	98.6	-17	395.9	259.6	-34	260.4	145.0	-44	774.4	503.1	-35
S'pur	99.6	100.1	1	376.9	195.4	-48	208.3	136.3	-35	684.8	431.8	-37

1st January to 31st December- 2015

Name of The Taluk	Pre-Monsoon 2015 (1st Jan' to 31st May)			South-West Monsoon- 2015 (1st June to 30th September)			North East Monsoon 2015 (1st October to 31st December)			Annual Rainfall Pattern 2015 (1st Jan'13 to 31st December' 15)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolar Dist.	123.3	233.5	89	386.8	373.9	-3	236.3	441.4	87	746.4	1048.8	41
Bangarapet	140.8	264.5	88	380.1	375.4	-1	236.5	433.0	83	757.4	1072.9	42
Kolar	126.0	223.3	77	407.6	358.1	-12	241.6	395.1	64	775.2	976.5	26
Malur	134.5	277.0	106	371.3	369.8	0	232.2	366.2	58	738.0	1012.9	37
Mulabagal	118.1	183.2	55	395.9	379.0	-4	260.4	477.9	84	774.4	1040.1	34
Srinivasapur	99.6	227.5	128	376.9	385.6	2	208.3	513.6	147	684.8	1126.7	65

1st January to 31st December- 2016

Name of The Taluk	Pre-Monsoon Rainfall Pattern 2016 (1st Jan to 31st May)			South -West Monsoon- 2016 (1st June to 30th September)			North East Monsoon -2016 (1st October to 31st December)			Annual Rainfall Pattern 2016 (1st January to 31st December)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% DEP
Kolar Dist.	123.3	150.8	22	386.8	345.1	-11	236.3	107.1	-55	746.4	602.9	-19
Bangarapet	140.8	132.4	-6	380.1	293.3	-23	236.5	115.4	-51	757.4	541.1	-29
Kolar	126.0	148.7	18	407.6	337.2	-17	241.6	91.6	-62	775.2	577.5	-26
Malur	134.5	166.7	24	371.3	341.1	-8	232.2	135.5	-42	738.0	643.3	-13
Mulabagal	118.1	165.4	40	395.9	359.7	-9	260.4	105.7	-59	774.4	630.8	-19
Srinivasapur	99.6	145.2	46	376.9	393.1	4	208.3	92.9	-55	684.8	631.1	-8

1st January to 31st December- 2017

Name of the Taluk	Pre-Monsoon Rainfall Pattern 2017 (1st January to 31st May)			South West Monsoon Rainfall Pattern 2017 (1st June to 30th September)			North East Monsoon 2017 (1st October to 31st December)			Annual Rainfall Pattern 2017 (1st January to 31st December)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolara Dist.	123	227	84	387	478	24	236	374	58	746	1079	45
Bangarapet	141	270	92	380	518	36	237	357	51	757	1146	51
Kolara	126	212	68	408	441	8	242	449	86	775	1101	42
Malur	135	299	122	371	476	28	232	300	29	738	1075	46
Mulabagal	118	197	67	396	480	21	260	424	63	774	1101	42
Srinivasapur	100	172	73	377	472	25	208	330	58	685	974	42

1st January to 31st December- 2018

Name of the Taluk	Pre Monsoon 2018 (1st January to 31st May)			South West Monsoon 2018 (1st June to 30th September)			North East Monsoon 2018 Rainfall pattern (1st October to 31st December)			Annual Rainfall pattern 2018 (1st January to 31st December)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolara Dist.	123	202	64	387	274	-29	236	88	-63	746	564	-24
Bangarapet	141	176	25	380	251	-34	237	94	-60	757	521	-31
Kolara	126	221	75	408	287	-30	242	91	-63	775	598	-23
Malur	135	270	101	371	291	-22	232	109	-53	738	671	-9
Mulabagal	118	142	20	396	272	-31	260	84	-68	774	498	-36
Srinivasapur	100	216	117	377	274	-27	208	67	-68	685	557	-19

1st January to 23rd September- 2019

Name of the Taluka and Hoblies	Pre Monsoon Rainfall Pattern (1st March to 31st May - 2019)			Cumulative Rainfall Pattern (1st Jan To 31st May - 2019)			South West Monsoon Rainfall 2019 (1st June to 23rd Sept'19)			Cumulative Rainfall Pattern (1st Jan to 23rd September 2019)		
	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep	Normal (mm)	Actual (mm)	% Dep
Kolara District	116	128	11	123	148	20	346	308	-11	469	456	-3
Bangarapet Taluk	133	156	18	141	169	20	340	234	-31	481	403	-16
<i>Bangarapet Hobli</i>	133	192	44	141	197	40	345	216	-37	485	412	-15
<i>Betmangala Hobli</i>	134	137	3	142	145	2	339	212	-37	481	358	-26
<i>Budikote Hobli</i>	138	173	26	146	190	30	337	230	-32	482	420	-13
<i>Kamsandra Hobli</i>	138	137	0	146	151	4	337	262	-22	482	413	-14
<i>Kyasamballi Hobli</i>	119	144	21	128	165	29	345	273	-21	473	439	-7
<i>Robertsonpet Hobli</i>	137	140	2	145	151	4	338	207	-39	484	358	-26
Kolar Taluk	118	134	14	126	150	19	367	314	-14	493	463	-6
<i>Kolar Hobli</i>	120	173	45	128	190	48	371	296	-20	499	486	-3
<i>Holuru Hobli</i>	114	128	12	122	158	30	361	475	32	483	633	31
<i>Huttur Hobli</i>	120	124	4	128	137	7	371	238	-36	499	375	-25
<i>Narasapura Hobli</i>	120	99	-18	128	121	-5	371	256	-31	499	378	-24
<i>Sugaturu Hobli</i>	119	156	31	127	172	35	364	349	-4	492	521	6

<i>Vakkaleri Hobli</i>	120	141	18	128	151	18	371	256	-31	499	406	-19
<i>R. Vemagal Hobli</i>	119	107	-10	128	115	-10	360	308	-14	488	424	-13
Malur Taluk	127	169	33	135	194	44	336	238	-29	471	431	-8
<i>Malur Hobli</i>	124	152	22	131	198	51	342	284	-17	473	482	2
<i>Lakkur Hobli</i>	125	175	40	132	189	44	330	195	-41	461	384	-17
<i>Masathi Hobli</i>	127	162	28	135	177	31	331	213	-36	466	389	-16
<i>Tyakal Hobli</i>	135	201	49	143	211	48	339	230	-32	482	441	-8
Mulabagal Taluk	109	97	-11	118	116	-2	351	353	1	469	470	0
<i>Mulabagal Hobli</i>	108	112	3	117	139	19	349	297	-15	467	436	-7
<i>Avani Hobli</i>	109	100	-9	119	111	-7	351	285	-19	469	396	-16
<i>Bairakur Hobli</i>	108	97	-10	117	111	-6	349	420	20	467	531	14
<i>Duggasandra Hobli</i>	109	82	-25	118	106	-10	352	439	25	469	545	16
<i>Tayilur Hobli</i>	108	103	-5	118	126	7	350	288	-18	467	414	-11
Srinivasapura Taluk	94	95	1	100	120	21	336	386	15	435	506	16
<i>Srinivaspur Hobli</i>	112	130	16	120	144	20	353	443	26	473	586	24
<i>Nelavanki Hobli</i>	78	101	30	82	125	53	317	375	18	399	500	25
<i>Ronuru Hobli</i>	101	108	6	108	136	26	344	362	5	451	498	10
<i>Rayalpadu Hobli</i>	75	61	-18	79	95	21	315	358	13	394	453	15
<i>Yelldur Hobli</i>	109	82	-24	115	107	-7	353	400	13	469	508	8

2.4.1 Rain Recording and Weather Watch Stations :(Telemetric Rain Gauge-TRG) (Telemetric Weather Watch Stations)

Sl.No	Name of The Taluk	Telemetric Rain Gauge Stations	Telemetric Weather Watch Stations
1	Kolar	37	07
2	Bangarpet	35	06
3	KGF		
4	Malur	29	04
5	Mulbagal	30	05
6	Srinivasapura	26	05

2.5 Year wise Highest and Lowest Temperature recorded in the District (in Centigrade): (mn- minimum, mx- maximum)

Name of the Taluk	2011		2012		2013		2014	2015		2016		2017		2018	
	mn	mx	Mi	mx	mn	mx	-	mn	mx	mn	mx	mn	mx	mn	mx
Kolar	19.2	31.2	17.7	31.7	20.1	31.9	-	19.1	30.8	19.9	32.3	20.0	32.8	19.0	31.9
Bangarpet	19.2	31.2	17.7	31.7	31.9	20.1	-	19.8	32.3	19.4	32.4	19.2	32.3	19.2	31.8
KGF															
Malur	19.2	31.2	17.7	31.7	20.1	31.9	-	19.9	31.3	20.1	32.4	20.7	33.3	19.4	31.9
Mulbagal	19.2	31.2	17.7	31.7	20.1	31.9	-	20.3	32.0	21.1	32.9	20.4	33.0	18.8	31.3
S'pura	19.2	31.2	17.7	31.7	20.1	31.9	-	19.1	31.0	19.3	31.7	20.6	33.1	18.9	31.8

2.6 Land use pattern: (No. of HH) -Unit: Farmers in Numbers, Area in Hectares

Sl. No	Name of the Taluk	Big Farmers		Marginal farmers		Small farmers		Semi mid farmers		Medium farmers	
		No	Area	No	Area	No	Area	No	Area	No	Area
1	Kolar	57	906	61004	21435	10314	14079	3425	8966	674	3645
2	Bangarpet	58	881	53094	20281	11665	15911	3563	9356	679	3723
3	KGF										
4	Malur	91	1317	38096	14923	8722	12043	3327	8885	905	4929
5	Mulbagal	65	1015	44636	17551	11510	15874	3927	10403	836	4514
6	Srinivasapura	77	1053	32253	12785	9739	13340	4074	10880	975	5385
Total		348	5173	229083	86975	51950	71247	18316	48491	4069	22195

2.7 Forest Details:

S. No	Name of the Taluk	Reserved Forests	Protected Forests	Unclassified Forests	Village Forests	Section 04-Forests	Total
1	Kolar	4619.91	983.84	707.68	66.00	676.5	7053.93
2	Bangarpet	6128.24	142.94	2130.80	348.00	172.5	8922.48
3	KGF						
4	Malur	5721.81	966.36	549.15	131.58	-	7368.90
5	Mulabagal	5349.61	-	3676.40	-	188.00	9214.01
6	Srinivasapura	15706.40	848.52	1701.80	-	18.25	18274.97
Total		37525.97	2941.26	8765.83	545.58	1055.25	50834.29

2.8 Drinking Water Sources (2018-19):

Name of the Taluk	Bore Wells	Piped Water Supply Schemes	Mini Water Supply Scheme
Kolar	119	2	0
Bangarpet	137	11	0
KGF			
Mulbagal	49	0	0
Malur	67	0	0
Srinivasapura	31	1	1

2.9 Crop Pattern:

Sl.No	Name of the Taluk	Type of Crops	Area Cultivated in (Hect.)	Area under Crop insurance (Hect.)	No. Of Farmers Enrolled			
1	Kolar	Ragi, Red gram, Avare, Cowpea, Ground nut.	17022	Ragi-10145.44 Ground Nut-505.312 Red Gram-39.304 Horse Gram-16.916 Paddy -8.928 Tomato-318.9	4029			
2	Bangarpet	Ragi, Red gram, Avare, Cowpea, Ground nut.	18073		Ragi-10145.44 Ground Nut-505.312 Red Gram-39.304 Horse Gram-16.916 Paddy -8.928 Tomato-318.9	2663		
3	KGF							
4	Malur	Ragi, Red gram, Avare, Cowpea, Ground nut.	13679			Ragi-10145.44 Ground Nut-505.312 Red Gram-39.304 Horse Gram-16.916 Paddy -8.928 Tomato-318.9	2208	
5	Mulbagal	Ragi, Red gram, Avare, Cowpea, Ground nut.	15429				Ragi-10145.44 Ground Nut-505.312 Red Gram-39.304 Horse Gram-16.916 Paddy -8.928 Tomato-318.9	1625
6	S.pura	Ragi, Red gram, Avare, Cowpea, Ground nut.	14063					Ragi-10145.44 Ground Nut-505.312 Red Gram-39.304 Horse Gram-16.916 Paddy -8.928 Tomato-318.9
Total			78266	11043.8				

2.10 Minor Irrigation Projects:

Sl. No	Name of the Taluk	Year	Check dams	Percolation Tanks	Others
1	Kolar	2009-2019	110	1	-
2	Bangarpet	2009-2019	182	0	-
3	KGF				
4	Malur	2009-2019	57	4	-
5	Mulbagal	2009-2019	79	0	-
6	Srinivasapura	2009-2019	113	0	-

2.11 Educational Information:

Sl. No	Name of the Taluk	Schools		Number of Students			PU Colleges		Number of Students		DM Plan Prepared Yes/No
		Govt	Pvt	Boys	Girls	Total	Govt	Pvt	Govt	Pvt	
1	Kolar	437	152	30601	28766	59367	06	33	2454	7893	No
2	Bangarpet	357	81	18998	17508	36506	04	07	1556	1213	No
3	KGF	157	57	14730	14170	28900	03	14	962	2320	No
4	Malur	356	59	18130	16985	35115	07	15	2209	2182	No
5	Mulbagal	444	62	18730	17984	36714	06	10	1129	2645	No
6	S.pura	338	67	15123	13736	28859	06	15	1005	2380	No
Total		2089	478	116312	109149	225461	32	94	9317	27950	

Sl. No	Name of the Taluk	Degree Colleges		Number of Students			Medical colleges(Allopathy/ Dental)		Engineering and Polytechnic colleges		DM Plan Prepared Yes/No
		govt	Pvt	Boys	Girls	Total	Govt	pvt	Govt	pvt	
1	Kolar	03	00	1485	3355	2692	-	03	02	07	No
2	Bangarpet	03	01	1330	1332	4840	-	-	-	03	No
3	KGF										
4	Malur	01	00	815	926	1741	-	-	-	01	No
5	Mulbagal	01	00	640	402	1042	-	-	01	01	No
6	S.pura	01	00	361	332	693	-	-	-	01	No
Total		09	01	4631	6377	11008	-	03	03	13	

2.12 Health Information :(Contact Details of the Hospital Ref: Chapter No: 14)

1. Health and Family Welfare Services (Taluk, District, Autonomous Teaching and Other Hospitals):

Sl. No	Name of the Taluk	Taluka Hq Hospitals		District Hospitals		Other Hospitals		Autonomous & Teaching Hospital		Others		Total	
		Nos	Beds	Nos	Beds	Nos	Beds	Nos	Beds	Nos	Beds	Nos	Beds
1	Kolar	-	-	1	400	2	305	-	-			3	705
2	Bangarpet	1	100	-	-	-	-	-	-	1	30	1	130
3	KGF												
4	Malur	1	100	-	-	-	-	-	-			1	100
5	Mulbagal	1	100	-	-	-	-	-	-			1	100
6	S'pura	1	100	-	-	-	-	-	-	1	30	2	130

2. Number of Hospitals, Doctors and Beds:

Sl.No	Name of the Taluk	Taluka Hq Hospitals			No. Govt. Doctors	No. of Beds in Govt Hospitals	Medical Shops	Blood Banks
		Govt	Pvt. Nursing Home/Hospitals/Clinics	Total				
1	Kolar	21	38	59	43	817	230	03
2	Bangarpet	14	11	25	18	206	183	02
3	KGF							
4	Malur	11	14	25	19	170	99	-
5	Mulbagal	19	08	27	28	218	95	-
6	S'pura	17	06	23	22	242	72	
Total		82	77	159	130	1653	679	05

3. Allopathy Hospitals, Indian System of Medicine Hospitals, Pvt. Hospitals Including Nursing Homes/Clinics, PHC and CHC's:

Sl.No	Name of the Taluk	Allopathy Hospitals		Indian System of Medicine Hospitals		Govt. Hospitals Indian System of Medicine Hospitals	No of Pvt. Hospitals Including Nursing Homes/Clinics		Primary Health Centers		Community Health Centers	
		Nos	Beds	Nos	Beds		Nos	Beds	Nos	Beds	Nos	Beds
1	Kolar	19	793	02	30	02	38	-	16	102		
2	Bangarpet	14	178	-	-	-	11	-	12	76	01	30
3	KGF											
4	Malur	10	154	01	-	02	14	-	09	60	-	-
5	Mulbagal	19	208	-	-	01	08	-	18	118	-	-
6	S'pura	16	214	01	-	01	06	-	14	102	01	30
Total		78	1547	04	30	06	77	00	69	458	02	60

2.13 Industries:

Sl.No	Industries	Government/Private	Units	Employment	Investments (Rs. Crores)
1	Mega Industries	Govt and Private	3	12788	2586.98
2	Large Industries	Private	24	8601	2277.92
3	Medium Industries	Private	33	5658	452.13
4	Micro and Small Industries	Private	18313	126446	1098.78
Total			18373	153493	6415.81

2.13.1 MAH Factories Details:

Sn	Name of the Taluk	Name of the Industries	Govt./ Pvt.	Type of Industry	Employment	Infrastructure available	D M Plan Prepared(Y/N)
1	KGF	BEML	Govt.	Earth Moving equipments(45 MT LPG)	10000	AMBULANCE Van Ambulance room, Doctors, Nurses, Water facility, Crane Facility	Yes
2	Kolar	Honda Motors Cycle and Scooter India Pvt Ltd.,	Pvt.	Motors Cycle and Scooter	8750	AMBULANCE Van Ambulance room, Doctors, Nurses, Water facility, Crane Facility	Yes
3	Kolar	Bando India Pvt. Ltd.,	Pvt.	Transmission Belt	250	AMBULANCE Van, Doctors, Nurses, Water facility.	Yes
4	Kolar	Execdy Clutch Pvt. Ltd.,	Pvt.	Clutches	1350	AMBULANCE Van Ambulance room, Doctors, Nurses, Water facility, Crane Facility	Yes
5	Malur	SHV Energy Pvt Ltd.,	Pvt.	LPG Cylinder Bottling	40	AMBULANCE Van, OHC, Doctors, Nurses, Water facility, Crane Facility.	Yes
6	Kolar	GSK Pvt.Ltd	Pvt	Pharmaceutical Tablet Manufacturing Factory		AMBULANCE Van Ambulance room, Doctors, Nurses, Water facility, Crane Facility	Yes

2.13.2 Potential Hazardous Factories Details:

SN	Name of the Taluk	Name of the Industries	Govt./Pvt.	Type of Industry	Employment	Infrastructure available	D M Plan Prepared(Y/N)
1	Malur	Associate Decor Ltd.,	Pvt	Particle board High pressure laminates boards	750	AMBULANCE Van Ambulance room, Doctors, Nurses, Water facility.	Yes
2	Malur	ASK Automotive Pvt Ltd.,	Pvt	Die casting	900	AMBULANCE Van, OHC, Doctors, Nurses, Water facility.	Yes
3	Kolar	Indo Auto Tech Ltd.,	Pvt	Sheet metal Components	1980	AMBULANCE Van, OHC, Doctors, Nurses, Water facility.	Yes
4	Kolar	Nahars Ltd.,	Pvt	Sheet metal Components	1500	AMBULANCE Van, OHC, Doctors, Nurses, Water facility	Yes
5	Kolar	Badve Engineering Ltd.,	Pvt	Automobile Components	1000	AMBULANCE Van, OHC, Doctors, Nurses, Water facility	Yes

2.13.4 Leading Industries in the District:

SN	Name of the Taluk	Name of the Industries	Govt./Pvt.	Type of Industry	Employment	Infrastructure available	D M Plan Prepared(y/n)
1	Kolar	ITC Foods	Pvt	Noodles	398	AMBULANCE Van, OHC, Doctors, Nurses, Water facility	Yes
2	Kolar	Asian NTTF Pvt Ltd.,	Pvt	Automobile Parts	211	AMBULANCE Van, OHC, Doctors, Nurses, Water facility	Yes
3	Kolar	Scania Commercial Vehicles India Pvt Ltd.,	Pvt.	Trucks	649	AMBULANCE Van, OHC, Doctors, Nurses, Water facility	Yes
4	Kolar	NPR India Ltd.,	Pvt.	Automobile Parts	150	AMBULANCE Van, OHC, Doctors, Nurses, Water facility	Yes

5	Kolar	Shivam Auto Tech Ltd.,	Pvt.	Automobile Parts	93	AMBULANCE Van, OHC, Doctors, Nurses, Water facility.	Yes
6	Kolar	Fowler Westrup Pvt Ltd.,	Pvt.	Rice Mill Machineries	263	AMBULANCE Van, OHC, Doctors, Nurses, Water facility.	Yes
7	Kolar	Mahindra Aero Space	Pvt.	Aero Space Components	290	AMBULANCE Van, OHC, Doctors, Nurses, Water facility.	Yes
8	Kolar	Mitsubishi Elevators India Pvt Ltd.,	Pvt.	Elevators	166	AMBULANCE Van, OHC, Doctors, Nurses, Water facility.	Yes

2.14 Financial Institutions:

Sl.No	Name of the Taluk	Regional Rural Banks	Public Sector Banks	Private Sector Banks	DCC Banks	PLD Banks	Credit Co-Operative Societies	Non Credit Co-Operative Societies
1	Kolar	14	27	6	1	1	26	393
2	B.Pet	9	28	9	2	1	32	357
3	KGF							
4	Mulbagal	8	15	1	1	1	36	291
5	Malur	7	20	1	1	1	21	222
6	Srinivasapura	5	16	2	1	1	16	245

2.15 Rivers and Dams:

There are no perennial rivers and major Dams in the district; the Palar and Pennar river basin are completely dried up. The farmers invariably depend upon groundwater for growing irrigated crops, resulting in overexploitation of ground water

2.16 Power stations and Electric installations:

Sl.No	Name of the Taluk	Hydro-Power	Solar Energy Milian Units(MU)	Wind Mills	Electric installations	Thermal Power	Nuclear Power	DM plan Prepared Y/N
1	Kolar	-	0.862	-	1,32,984.00	-	-	No
2	Srinivasapura	-	0.49	-	55,672.00	-	-	No

2.17 Road Connectivity:

Sl. No	Name of the Taluk	National Highway	State Highway	Dist. Roads	Major Bridges
1	Kolar	31.00	98.88	213.83	0
2	B.Pet	0.00	44.59	119.89	1
3	KGF				
4	Mulbagal	68.50	0.00	94.43	0
5	Malur	8.00	65.55	434.80	1
6	Srinivasapura	29.90	92.00	422.70	0

2.18 Transportation (Water/ Railway/Air)

Sl. No	Name of the Taluk/Municipality	Waterways	Railways	Air ports	Helipad
1	Kolar	NIL	130 BG 05 Stations	NIL	01

2.19 Resources:

Resource Type	Details	Number	Government/ Private	Contacts/Owner's name with Telephone No.
Transport and communication	Tractor	8263	Private	RTO office
	Trucks	1132	Private	RTO office
	Trolley, Rickshaw	6324	Private	RTO office
	Four wheeler	15386	Govt: 719	RTO office

			Pvt: 14667	
	Boats	1	Government	9449313187/1077
	Telephone			
Containers , Cleaning and Cutting Equipments	Tankers	316	Private	RTO office
	JCB's	204	Private	RTO office
	Others	162032	Private	RTO office

2.20 Police Stations:

Name of the taluk	Police Station	Staff Available	Telephone Number	Control Room Numbers	Available Vehicles	
					Jeep	Two Wheelers
Kolar	Kolar Town PS	55	08152-222024	08152-243066/ 246173	02	07
	Traffic PS	48	08152-222025		02	02
	Gulpet PS	40	08152-240596		02	02
	Women PS	14	-		0	01
	Kolar rural PS	50	08152-222616		02	06
	Vemagal PS	41	08152-246421		01	02
	CEN Crime PS	12	-		02	03
Bangarpet	Bangarpet	62	08153-255228		1	4
	Kamasamudra		08153-259028		1	2
KGF	Andersonpet	34	08153-274282	08153-274743 /274740	1	2
	BEML Nagar	38	08153-263179		1	3
	Bethamangala	44	08153-277623		1	2
	Champion Reefs	34	08153-274284		1	2
	Marikuppam	30	08153-274296		1	3
	Oorgaum	32	08153-260283		1	2
	Robertsonpet	62	08153-260224		1	7
	CEN Crime PS	13	08153-260331		1	6
Malur	Malur PS	49	08151-232220	08152-243066/ 246173	02	03
	Masthi PS	35	08151-236222		01	03
Mulbagal	Mulbagal Town PS	35	08159-242040	08152-243066/ 246173	02	03

	Mulbagal Rural PS	40		246173	01	01
	Nangali PS	29			01	03
Srinivasapura	Srinivasapur PS	40	08157-246234	08152-	02	04
	Rayalpad PS	22	08157-240006	243066/	01	01
	Gownipalli PS	23	08157-	246173	01	01

2.21 Post Offices and Telephone Exchanges:

Sl.No	Name of the Taluk	Post Offices	Telephone Exchanges	Telephones
1	Kolar	38	19	2735
2	Bangarpet	63	15	5131
3	KGF			
4	Malur	35	10	1114
5	Mulbagal	39	14	715
6	Srinivasapura	45	15	748
Total		220	73	10443

2.22 Fire Station Information:

S.N	Name of the taluk	No. of the fire station	Telephone and Control Room Number	Available Equipments	Man Power available	Control Room Numbers
1	Kolar	01	08152 243222/243101	Water tender 02 no. Adv Water tender 2 no Water Boozer 01 no. QRV 01 no. Agni mist 01 no.	20 no. Including with officer	08152- 243222/08022 971500
2	KGF	01	08153- 266000/101	Water tender 02 no Agni mist 01 no	09 no. Including with officer	08153- 266000/08022 971500
3	Bangarpet	01	08153- 257101/101	Water tender 02 no. Agni mist 01 no.	12 no. Including with officer	08153- 257101/08022 971500
4	Mulbagal	01	9480466389/101	Water tender 02 no. Agni mist 01 no.	08 no. Including with officer	9480466389/0 8022971500
5	Srinivasapura	01	08157-245070	Water tender 02 no. Agni mist 01 no.	10 no. Including with officer	08157- 245070/08022 971500
6	Malur	01	08151-234111	Water tender 02 no. Agni mist 01 no.	11 no. Including with officer	08151-234111

2.23 NGO's and Volunteers Profile:

Sl. No.	Name of NGOs and CBOs/ Voluntary Organization	Contact Person	Phone no.	No. of Volunteers Trained
1	The Bharath Scouts And Guides District Association, Kolar	Babu.V	7019862922	60
		Vishwanath. V	9902890534	
2	Sevadala, Kolar	Rajkumar.M	9945851737	40
		Shashikumar.R	9986527165	
3	NCC, Kolar	-	-	118
4	Vasavi Club, Kolar	B.S.Badrinath, President,	9900157315	-
		D.J.Manohar, Secretary,	9845294115	
6	Rotary Club, Kolar East	V.S.Nagendraprasad, President,	9448226419	-
		V.P.Somashekar, Secretary	9448431811	
7	Sri Sathya Sai Seva Organizations	Prasadh Babu K.N	9900877118	30

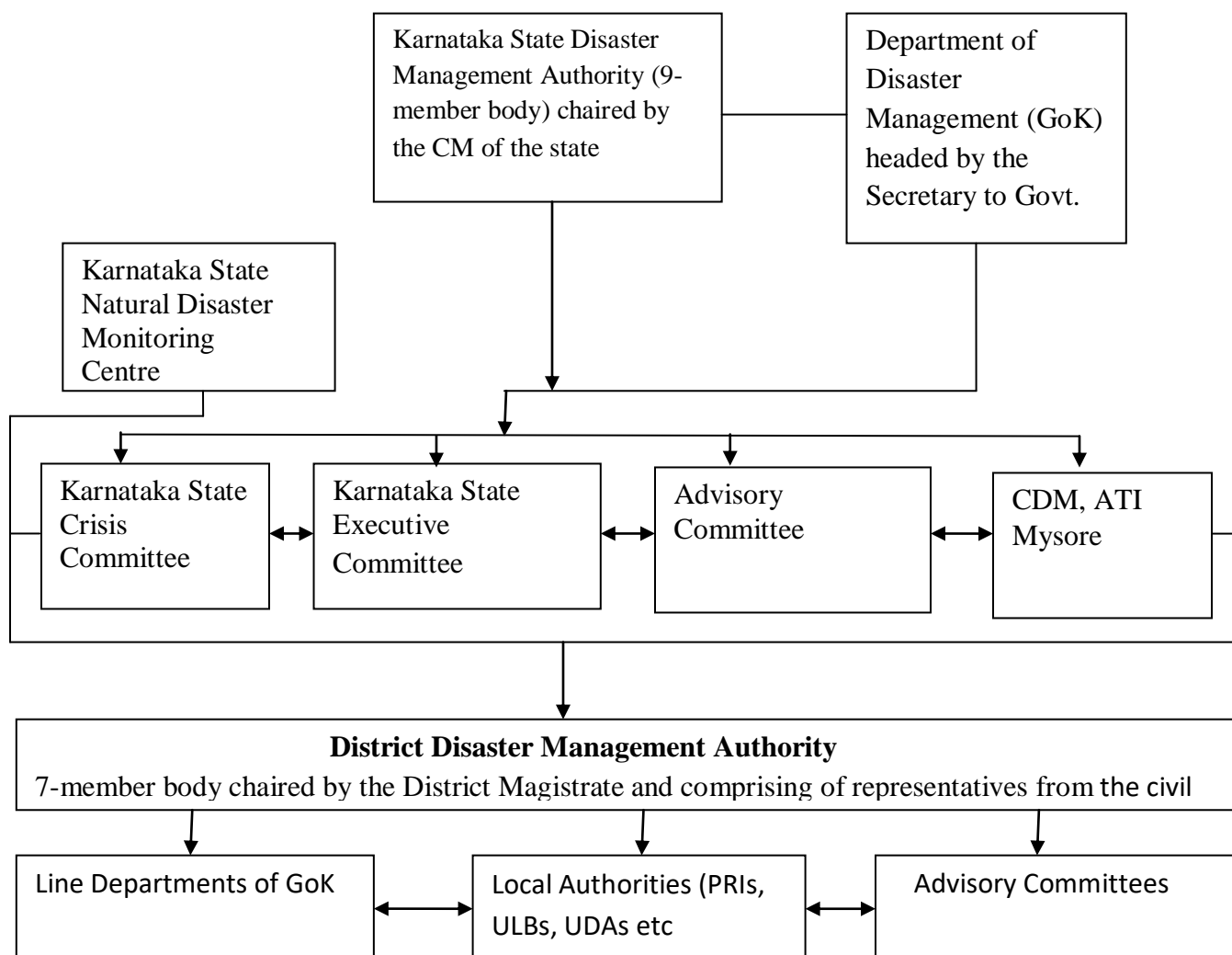
2.24 Communication Network

Sl. No	Name of the district	VHF	Satellite Phones	HAM Radio Operators	Radio Stations	Community radio stations	Mobile phones and Towers	Tele phones	Wireless Communication
1	Kolar	50	-	-	-	-	M-294157	10443	3478

Chapter 3 Institutional Mechanisms

3.1 Organizational structure of Disaster Management in Karnataka

Hierarchy of organization from state to district level



3.3 Karnataka State Disaster Management Authority (KSDMA)

- The institutional structure for disaster management in India is in a state of transition after enactment of GOI's Disaster Management (DM) Act 2005 on December 23, 2005. The National Disaster Management Authority (NDMA) has been established at the Government of India level and the State Disaster Management Authority (SDMA) at State level and District Disaster Management Authority (DDMA) at the District level and is formalized.

- In pursuant with section 14(1) of DM Act 2005, the State has established Karnataka State Disaster Management Authority (KSDMA). The Hon'ble Chief Minister of Karnataka is the Ex-officio Chairperson of the KSDMA and 8 Cabinet Ministers are members to the Authority.
- State Executive Committee (SEC) has been constituted under the chairmanship of Chief Secretary as per Section 20 of DM Act 2005. 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. Addl. Chief Secretary/Principal Secretaries/Secretaries of Agriculture, Home, Rural Development and Panchayat Raj and Director General of Fire & Emergency Services (permanent invitee) are members of the SEC. Principal Secretary/Secretary of Revenue Department (DM) is the Member Secretary of SEC
- As per Section 25 of the DM Act 2005, District Disaster Management Authority (DDMA) has been constituted in all 30 districts of Karnataka with Deputy Commissioners of respective districts being the Chairman of DDMA.
- State Crisis Management Committee has been constituted under the Chairmanship of Chief Secretary to Government of Karnataka.
- The Disaster Management is under the Revenue Department and is being headed by the Secretary to Government, Revenue Department (Disaster Management) and is ably assisted by Deputy Secretary, Consultant, Liaison Officer and Under Secretary with supporting staff.
- KSDMA has formulated Policies, Standard Operating Procedures for 11 key departments, State Disaster Management Plan and Guidelines for Minimum Standard of relief during

3.4 Structure of Karnataka State Disaster Management Authority (KSDMA)

3.4.1 State Disaster Management Authority:

State Disaster Management Authority (SDMA) has been constituted by the state Govt. under the chairmanship of Hon'ble Chief Minister and Hon'ble Revenue Minister as Vice Chair person. Composition of Karnataka SDMA is as follows:

S.No	SDMA Members	Designation
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 Panchyatraj	Member

7	Minister for Public works	Members
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

Functions of KSDMA:

- Implementation of national Policy/Plan and State plan.
- Vulnerability profile of state and measures.
- Lay down guidelines for DM Plans for all the state depts and district authorities.
- Evaluate preparedness measures.
- Co-ordinate response in the event of disaster.
- Give directions to depts., any statutory bodies etc., regarding actions to be taken in the event of disaster.
- Promote general education, awareness and training.
- Implementation of bye-laws for disaster safety by the local bodies/any agency/public.
- Preparation and review of state and district plans periodically.

3.4.2 Cabinet Sub-Committee on Disaster Management:

Cabinet Sub-Committee on Disaster Management has been constituted under the chairmanship of Hon'ble 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:

S.No	Cabinet Sub- Committee Members	Designation
1	Minister for Revenue	Chairman
2	Minister for Law and Parliamentary Affairs	Member
3	Minister for Rural Development and Panchyatraj	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 Civil supplies and consumer Affairs	Members
8	Minister for Minor irrigation	Member

3.4.3 Karnataka State Executive Committee (KSEC):

The SEC assists the KSDMA. The State Executive Committee established under Section 20 of the DM Act, is headed by the Chief Secretary of the state Government with other Principal Secretaries of such departments. The Principal Secretary Revenue Department (DM) is the Member Secretary. It 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. It has the following structure

Structure of Karnataka State Executive Committee for DM

SL No	SEC Members	Designation
1	Chief Secretary to the Government of Karnataka	Chairperson, Ex-Officio
2	Addl. Chief Secretary/Development Commissioner	Member
3	Principal Secretary, Finance	Member
4	Principal Secretary, Energy	Member
5	Principal Secretary, Agriculture	Member
6	Principal Secretary, RDPR	Member
7	Principal Secretary/ Secretary, Home	Member
8	Secretary Revenue (DM)	Member Secretary

The State Executive Committee has been reconstituted vide Govt. Notification RD 22 TSY 2012 dated 19.04.2013

Powers and Functions of Karnataka State Executive Committee:

- Control and Restrict Vehicular traffic in the affected area
- Remove debris, search and rescue operations
- Provide shelter, food and all the services as per standards prescribed in the national authority and State authority
- Give directions to the concerned department and district authority or other authority to take steps for rescue, evacuation, or providing immediate relief saving lives or property
- Direction to departments makes available resources for emergency response, rescue and relief.
- Require consultants and experts.
- Construct temporary structures or bridges or demolish unsafe structures which are hazardous to public.
- Ensure NGO activities
- Disseminate information to public

3.5 Karnataka State Natural Disaster Monitoring Center:

Disaster Management heavily depends on inputs from Science and Technology. KSNDMC has been serving as a common platform to the various response players in the field of Natural Disaster Management by providing timely proactive Science and Technology inputs.

Karnataka has been experiencing weather related natural hazards consecutively every year since 2001. The total estimated loss due to these natural hazards, as per the CRF headlines is about 29,000 Cores. The management of weather related natural hazards requires Forecasting, Monitoring, Early Warning, Early Recognition and providing Advisories to the response players-Governance & Community towards preparedness and mitigation measures.

Karnataka State has the distinction of being first in the country to establish a Drought Monitoring Cell (DMC) in 1988 as an institutional mechanism affiliated to Department of Science and Technology, Govt. of Karnataka.

Subsequently in 2007, the DMC was renamed as Karnataka State Natural Disaster Monitoring Centre (KSNDMC) and the activities were broadened to also include monitoring of other natural disasters viz., Floods, Hailstorms, Gale-Winds, Storm-surges, Earthquakes, Landslide, Tsunamis etc..

KSNDMC has established Master Control Facilities in its own land of 10 acres for which activities are taken up in providing Alerts/Early Warnings/Forecast/Advisories to the farmers, fishermen, Governance and others in the State along with information dissemination for real time data towards providing Near Real Time Alerts/Early Warning/Advisories to the Community.

KSNDMC has been a “Nodal Agency” identified by the Government for taking up monitoring activities pertaining to all Natural Disasters in the State.

Governing Body of KSNDMC is headed by the Chief Secretary, GoK and Principal Secretary to Govt., Dept of Revenue (DM) is also one of the Vice Presidents – Members comprising the Secretary to Govt., Dept of Revenue (Disaster Management) and other line departments and scientific organizations.

Executive Committee of KSNDMC is Chaired by Principal Secretary to Govt., Dept., of Revenue (DM) – Members from line Depts., and Scientific Organizations.

KSNDMC provides inputs to line departments like Dept. of Revenue, Agriculture, Horticulture, Water Resources, Watershed Development Department, Fisheries, RDPR and Department of Energy, GoK.

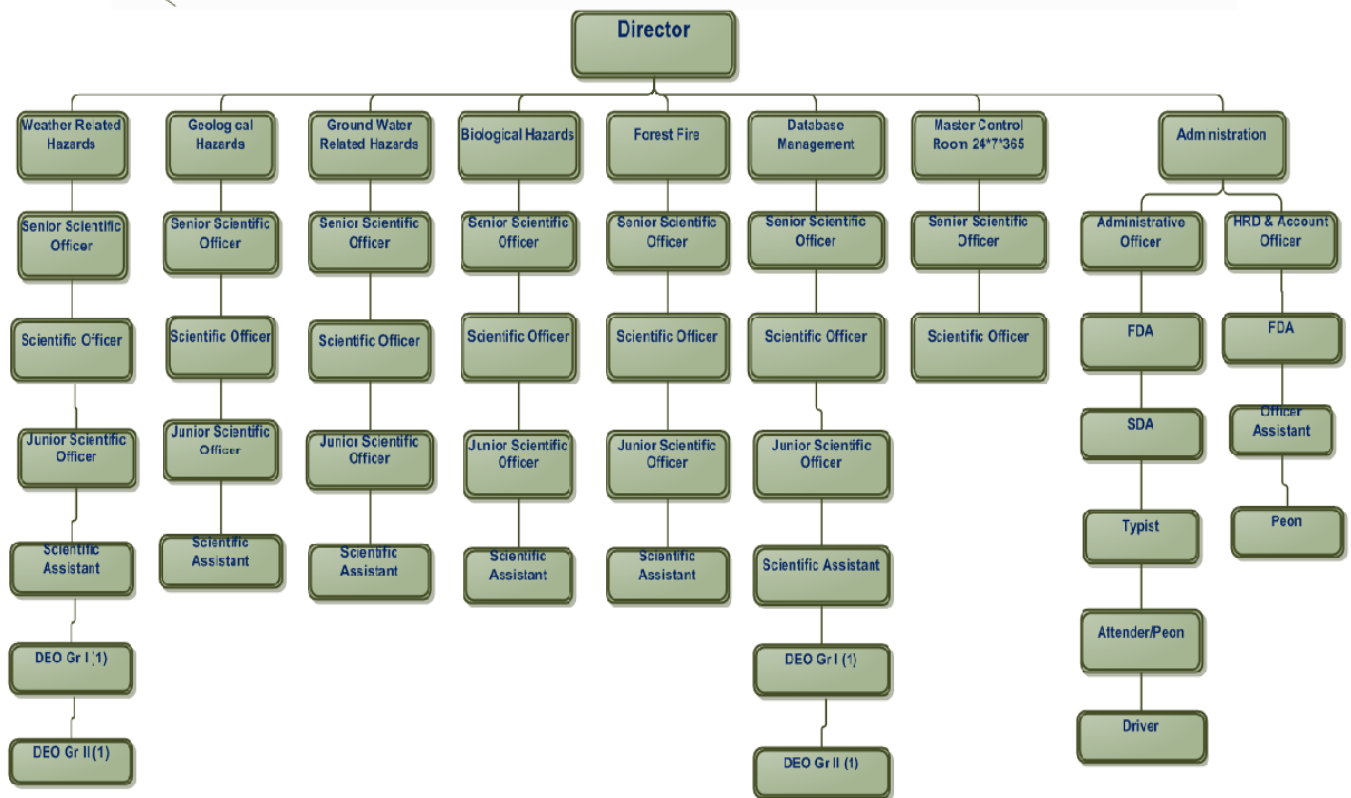
KSNDMC provides inputs to the Farming Community, Agriculture and Horticulture based sector, Fisherman, Transport sector, Power and Electricity sector, State and District level Disaster Management Authorities in Karnataka. Besides, the information is being shared with the knowledge centers like State Universities, Research Centers and National Institutes like ISRO, IMD, and CMMACS etc.

KSNDMC uses the state-of-the-art technology, software, web-enabled application in the Master Control Facility for monitoring the Natural Disasters and is unique in the Country. The Centre has been providing meso-scale weather forecast at Hobli level, early warning, alerts and scientific reports for management of Natural Disasters in Karnataka.

KSNDMC Prepares and disseminates Reports on Daily/Weekly/Monthly/Seasonal and annual at Hobli level and also provides Rainfall and Weather information at Gramapanchyath level. The customized information is disseminated through SMS, email, Web Portal, Social Network and Social media. The reports and information in the form of advisories are provided to the community in general and to the formers in particular through the **24X7 Help Desk named VARUNA MITHRA**.

KSNDMC has been set up under the Science and Technology Department since Secretary Revenue Department (DM) is the nodal Officer with reference to the any disaster, calamities etc, and decision is taken to attach the KSNMDC to the Revenue Department (DM) during 2014-15. This was set up for the following objectives:

- KSNDMC provides with regular monitoring of rainfall data
- Provides early warning during floods to the stake holders
- Under take a detailed study on remote sensing data and ground water status.
- KSNMDC is actively involved in the preparation of memorandum of loss and damages.
- Hazard mapping and vulnerability studies. Strengthening of Information Technology for Natural Disasters Management. Monitoring and impact assessment of Natural Hazards.



3.6 Karnataka State Remote Sensing Applications Centre:

The Karnataka State Remote Sensing Applications Centre (KSRSAC) was established in the year 1986 and designated as the Nodal Agency for implementation of Remote Sensing (including Photogrammetric) and GIS programmes in the State vide Government Order No. ITD 28 MIS 2002,

Bangalore dated 06.08.2002. The KRSAC will be the repository of the information/data/maps collected by the Centre or by any Government Department, Statutory Board or any Undertaking through GIS and Remote Sensing. The nodal agency will create GIS on base maps and general/common features and provide full services on Remote Sensing and GIS to all the Line Departments. The Line Departments shall consult the KRSAC before taking up work of updating the GIS data and customization of GIS applications. The updated data is to be transferred to the custody of the Nodal Agency as and when such work is taken up. The nodal agency will work out the planning/architecture of Remote Sensing and GIS implementation/feasibility for new proposals/coding/standardization/training as well as to organize periodic workshops to bring more interaction and co-ordination among the Line Departments. Since then, the KRSAC has been co-coordinating with and providing required GIS information/maps and training to the Line Departments.

The Executive Committee of KRSAC is chaired by the Principal Secretary to the Government, Department of Information Technology and Biotechnology and Science and Technology for guidance and monitoring of the activities. The Principal Secretaries/Secretaries of various Line Departments and subject experts of reputed institutions/ organizations of Central Govt. are members of the Executive Committee with Director, KRSAC as Member Secretary.

3.7 State Disaster Response Force:

The State Disaster Response Force As per the State Disaster Management Act 2005, National Disaster Response Force (NDRF) has been set up. 9 battalions are placed at different states depending on vulnerability. The State of Karnataka is being served by Guntur Company based at Vishakhapatnam and Pune Team based on Pune. These response companies are in touch with the State Government. 2 acres of land has been granted at Yelahanka for positioning one battalion of NDRF at Bangalore. NDRF is in possession of the land, civil work is under progress. In addition, As per Disaster Management Act 2005, the State Disaster Response Force (SDRF) in lines with NDRF is being raised in the State. As per the G.O No. OE/183/KA.A.SE/2012 dated: 18-9-2013. 4 companies of SDRF are being raised sharing personnel from KSRP/KSISF and Fire and Emergency Services.

The process of raising these companies is under progress and the training to these companies is provided by the NDRF and equipment will be provided under the SDRF funds. Inter-action with the Armed Forces The services of Armed Forces is necessary for the purpose of search, rescue, and evacuation operations during the major disasters which cannot be handled by the district / state administration. The Revenue Department (DM) has attended the meeting called by Armed Forces for Civil Administration to ensure co-operation between civil administration and army. Action is being taken on the front.

Line Departments of the GoK Following departments of GoK are identified for taking up the activities of preparedness, mitigation, response and rehabilitation.

- Department of Revenue (DM) & Department of Food and Civil Supplies
- Department of Rural Development and Panchayat raj and Urban Development
- Department of Education (Primary, Secondary and Technical Education)
- Department of Health & Family Welfare and Animal Husbandry and Veterinary Services
- Department of Home (including Fire and Emergency Services, Home Guard, Civil defense)

- Department of Industries and Commerce and Factories and Boilers
- Public Works Department and Irrigation Department
- Department of Animal Husbandry, Fisheries
- Departments of Port and Harbor
- Department of Social Welfare, Department of Backward Classes & Minorities, Department of Women and Child Development
- Department of Agriculture and Department of Horticulture
- Department of Forest, Ecology and Environment
- Department of Information and Publicity these departments not only play the role at the department related disaster management but also at the district level.

3.8 Structure of District Disaster Management Authority

District Disaster Management Authority (DDMA) Section 25 of the DM Act provides for constitution of DDMA for every district of a state. The District Magistrate/ District Collector/Deputy Commissioner heads the Authority as Chairperson besides an elected representative of the local authority as Co-Chairperson except in the tribal areas where the Chief Executive Member of the District Council of Autonomous District is designated as Co-chairperson. Further in district, where Zila Parishad exists, its Chairperson shall be the Co-Chairperson of DDMA. Other members of this authority include the CEO of the District Authority, Superintendent of Police, Chief Medical Officer of the District and other two district level officers are designated by the state Government.

The District Disaster Management Authority (DDMA):

SL.No	DDMA Members	Designation
1	Deputy Commissioner	Chairman
2	President Zilla Panchayath	Co-Chairman
3	Chief Executive Officer, ZP	Member
4	Superintendent Of Police	Member
5	District Health Officer	Member
6	Executive Engineer, ZP	Member
7	Joint Director, Agriculture Dept	Member
8	Addl. Deputy Commissioner	Chief Executive Officer of DDMA

Hierarchical Structure of Authority and Committee

In this structure, National Disaster Management Authority is the authority for formulation of Policy and guidelines for all disaster management work in the country. The state authorities further lay

down the guidelines for departments of the state and the districts falling in their respective jurisdictions. Similarly, district authorities direct the civil administration, departments and local authorities such as the municipalities, police department and civil administration. The State Executive Committees are responsible for execution of the tasks envisaged by the 12 authorities.

3.8.1 Powers and Functions of DDMA:

- Prepare Disaster Management Plan including Response plan
- Implementation of national/state policy and district plans
- Ensure prevention, mitigation and preparedness measures undertaken by the departments and bodies
- Give directions different authorities at district level to take measures for prevention of disasters
- Lay down guidelines
- Monitor and implement disaster management plans prepared by the departments at district level.
- Lay down guidelines for departments for integration of measures in the development plans and projects
- Review of capacity building plans and training
- Community training
- Update the district disaster and response plan
- Set up early warning systems
- Provide technical assistance
- Ensure building bye-laws for safety
- Provide information to state authority
- Encourage NGOs
- Establish stockpiles of rescue materials at shorter notice.

3.9 District Crisis Management Committee

The members of District Crisis Management Group are as follows:

Sl.No	SEC Members Name	Designation
1	Deputy Commissioner Chairman	Chairman
2	Head Quarters Assistant to Deputy Commissioner	Emergency Officer
3	Superintendent of Police	Member
4	District Commandant, Home guards and Civil Defense	Member
5	Divisional Fire Officer	Member
6	District Health Officer	Member
7	Deputy Chief Controller of Explosives	Member

8	Regional Environmental Officer	Member
9	Commissioner, CMC	Member
10	Regional transport Officer	Member
11	Executive Engineer, Public Health Engg. Dept	Member
12	Information and Publicity Officer	Member
13	Joint Director of Agriculture	Member
14	Trade Union Leader	Member
15	Deputy Director, Animal Husbandry & Veterinary Services	Member

3.9.1 Role and Responsibilities:

- Give directions different authorities at district level to take measures for prevention of disasters
- Lay down guidelines
- Monitor and implement disaster management plans prepared by the departments at district level.
- Lay down guidelines for departments for integration of measures in the development plans and projects
- Review of capacity building plans and training
- Community training
- Update the district disaster and response plan
- Set up early warning systems
- Provide technical assistance
- Ensure building bye-laws for safety
- Provide information to state authority
- Encourage NGOs

3.10 Local Authorities (PRIs, ULBs, and Development Authorities etc)

Local authorities are assigned an important role at every stage of Disaster Management at the local level. For the purpose of DM Act, local authorities would include Panchayat Raj Institutions (PRI), Municipalities, District and Cantonment Boards and Town Planning Authorities which control and manage civic services. These bodies shall ensure capacity building of their officers and employees for managing disasters, carrying out relief, rehabilitation and reconstruction activities in the affected areas and shall prepare DM Plans in consonance with guidelines of the NDMA, SDMAs and DDMA. Specific institutional framework for dealing with disaster management issues in mega cities will be put in place. These include Municipalities, PRIs and all other local Development authorities and Functions of the local authority.-

3.10.1 Functions of Local Authorities under DM Act 2005

- (1) Subject to the directions of the District Authority, a local authority shall
 - (a) Ensure that its officers and employees are trained for disaster management;
 - (b) Ensure that resources relating to disaster management are so maintained as to be readily available for use in the event of any threatening disaster situation or disaster;
 - (c) Ensure all construction projects under it or within its jurisdiction conform to the standards and specifications laid down for prevention of disasters and mitigation by the National Authority, State Authority and the District Authority;
 - (d) Carry out relief, rehabilitation and reconstruction activities in the affected area in accordance with the State Plan and the District Plan

- (2) The local authority may take such other measures as may be necessary for the Disaster management.

3.11 Incident Response System (IRS)

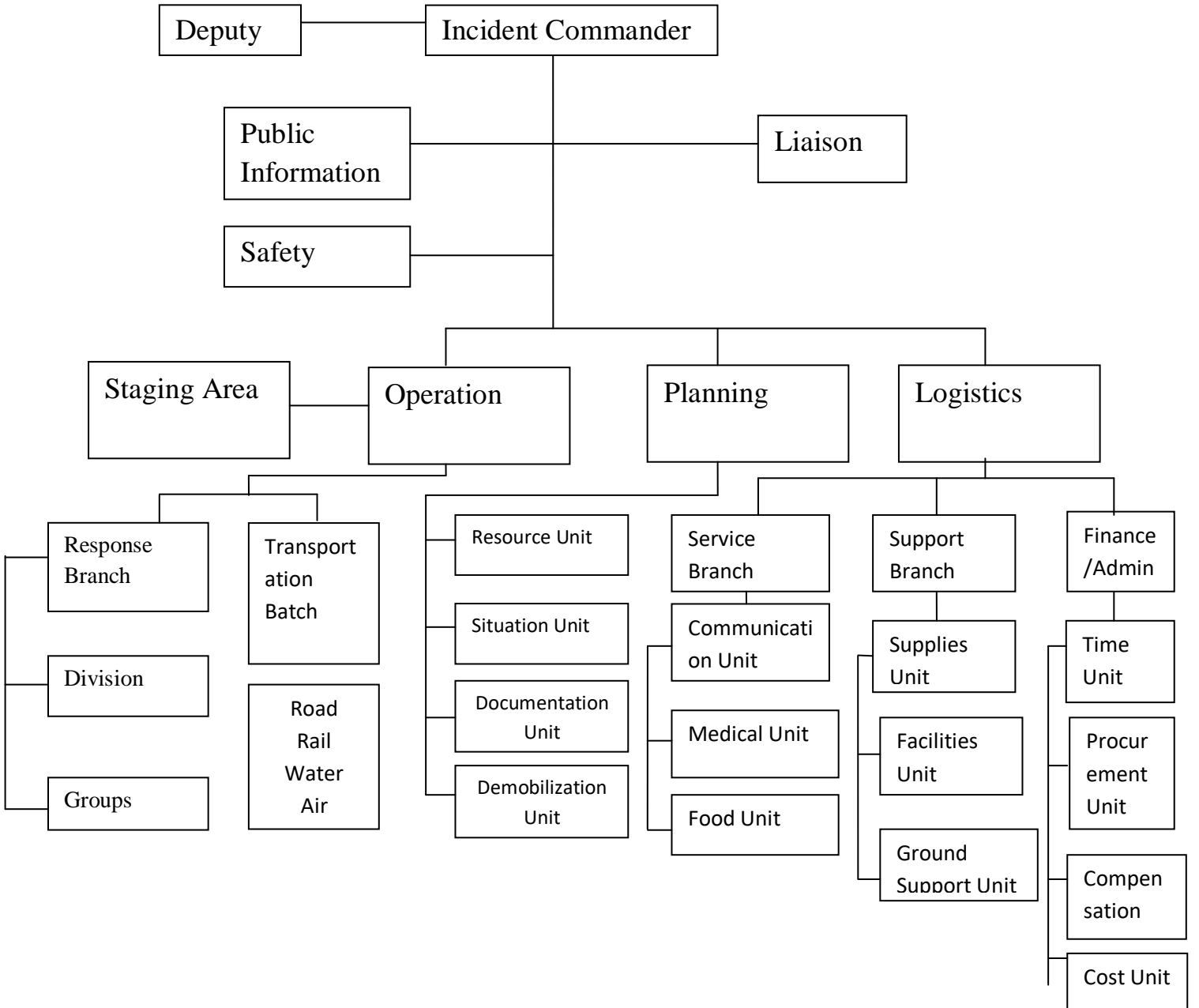
Incident Commander The Incident Commander is the focal point in the command and control for disaster response at each level. Depending on the nature of disaster and response he will be the Incident Commander himself or delegate the responsibility to some other Officer.

Level	Incident Commander	All the Departments/Agencies of the Central and State Governments in the District/City involved in response and relief will work in accordance with the directions of the incident commander
District	Deputy Commissioner	

3.11.1 Role and Responsibilities

- a) Provide overall leadership for incident response
- b) Establish incident objectives
- c) Assess need for staff
- d) Direct and support staff to develop the Incident Action Plan
- e) Delegate authority to others
- f) Establish and maintain liaison with other agencies participating in the incident

Incident Response System



Responsible Officer	Major responsibilities	Primarily responsible for effective response
Incident commander	Overall In-charge of the Incident Response Team & its Effective Functioning.	<ul style="list-style-type: none"> ◆ To create and integrate communication flow during emergency period ◆ To manage incident scene, and report through integrated and coordinated command ◆ To facilitate procedures and protocols according to ESF Departments within District as well as State and Central Government. ◆ To put the communication system in place to receive, record, acknowledge incoming and outgoing information of any form during the disaster ◆ To manage resources as per their availability such as distribution of relief material with ESF agencies required during emergency etc. ◆ Monitoring functional areas during and post disaster phase
Operations Sections	Direct & supervise all tactical actions.	<ul style="list-style-type: none"> ◆ Activates and supervises organization elements in accordance with the Incident Action Plan and directs its execution ◆ Determine need and request additional resources ◆ Review suggested list of resources to be rebased and initiate recommendation for release of resources ◆ Report Information about special activities, events or occurrences to Incident Commander ◆ Maintain Unit / Activity details
Planning Sections	Collect/Analyse data, Workout need of required resources and prepare action plan for incident/Disaster of the district.	<ul style="list-style-type: none"> ◆ Prepare alternative strategies and control of operations, ◆ Supervise preparation of Immediate Action Plan (IAP) ◆ Provide input to IC and Operation in preparation of IAP. ◆ Reassign of service personnel already on site to other positions as appropriate ◆ Determine need for any specialized resources in support of the incident
Logistics Section	Provide logistic support, procurement & cost accounting	<ul style="list-style-type: none"> ◆ Compile and display incident status information ◆ Oversee preparation and implementation of Incident Demobilization Plan. ◆ Incorporate Plans (e.g. Traffic, Medical, Site Safety, and Communication) into IAP. ◆ 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

		<p>and reporting locations – plot on map and placing resource and personnel order.</p> <ul style="list-style-type: none"> ◆ Assign work locations and tasks to section personnel. ◆ Identify service and support requirements for planned and expected operations ◆ Coordinate and process requests for additional resources. ◆ Provide input to / review communication plan, traffic plan, medical plan etc ◆ Recommend release of unit resource
Finance Section	The Finance section is basically of the administration and managing finance.	<ul style="list-style-type: none"> ◆ The major roles of this section include managing (1) Incident Command Post, (2) Staging Areas, (3) Base, and (4) Camps. The major functions are: ◆ Minimize excessive communication of resources calling for assignment ◆ Allow 1C/OPS to properly plan for resources use and allow for contingencies.

3.12 District Emergency Operation Centre (DEOC):

The district shall have an exclusive Emergency Operation Centre (EOC) at District Head Quarter. This shall be round the clock set up with sufficient manpower and most modern equipments. Considering the unique responsibility of the district Emergency Operation Centre, the equipments provided to it shall not be taken for any purpose other than disaster management. This center is intended to coordinate all disaster related activities in the district starting from preparedness to rehabilitation and reconstruction.

There shall be a permanent sitting place for each Emergency Support Functions (ESFs) in the EOC and they shall be provided with sufficient telephone connections. Only the Nodal ESFs are to sit in the EOC and coordinate the disaster management activities in the district with their support agencies. There shall be dedicated telephone lines and other communication facilities.

3.12.1 Role and Responsibility

On the basis of the message received from the forecasting agencies, warning has to be issued to the general public and the departments, which play a vital role in during emergencies. Issuing correct and timely warning would be one of the prime responsibilities of the DEOC. For effective dissemination of warning EOC should have a well-planned line of communication.

The DC shall be the competent authority to disseminate a disaster warning. The warning on the occurrence of a disaster will also be communicated to:

- ◆ All Emergency Support Function
- ◆ Members of DDMC
- ◆ Hospitals in the disaster area etc.
- ◆ Office of District Commissioner
- ◆ Emergency Operation Centre in the neighboring districts
- ◆ National/State Emergency Operation Centre
- ◆ People’s representatives from the district

Apart from this the District Emergency Operation Centre must arrange desks for the Emergency Support Function in its complex for better coordination and help. Simultaneously the on-site EOCs are to be set up with the help of the District EOC. Constant communication between the State EOC, District EOC and On-site EOC is mandatory for updates on the disaster, which happened.

3.13 On Site Operation Centre (OSOC) and Role and Responsibilities

On-site Emergency Operation Centers (OEOC) is complimentary units to the District Emergency Operation Center in the district (EOC), which will operate close to the disaster Sites and will be linked directly with the District Emergency Operations Centre. The strategic locations will help to cover operations in a calamity in the district in maximum five minutes time.

The concerned SDM will be the Commander-in-chief at this level and would be responsible for coordinating its functions as per the direction of the Incident Commander with the help of the Incident Management Teams (IMT) with him/her. The OEOCs are physically activated only in time of a disaster. The concerned SDM of the OEOC unit would be responsible to execute activities at disaster site; however the tasks would be controlled and coordinated from EOC through nodal desk officers.

3.14 Center for Disaster Management, ATI

The Centre for Disaster Management has been established at ATI Mysore in the year 2000-01 under the guidance of ministry of Home Affairs, Government of India. The Centre is funded by the Ministry of Home affairs GoI, National Institute of Disaster Management, New Delhi and Government of Karnataka. The centre shares the infrastructure facilities of ATI Mysore.

The Centre for Disaster Management aims at building the capacities of the functionaries working in the Government, Local Bodies and Non-Government organizations who are responsible for the management of the Natural and Manmade disasters in the state.

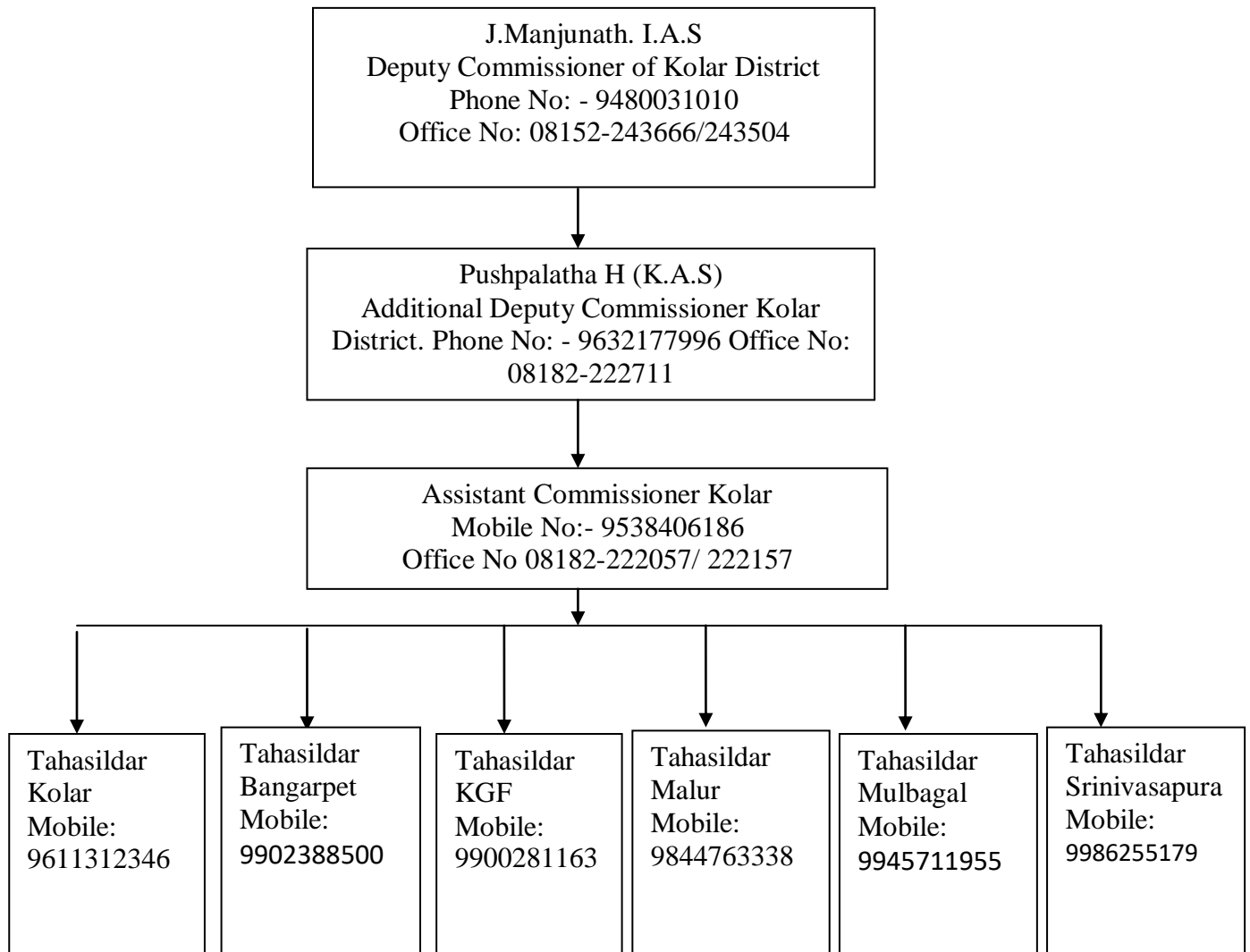
3.14.1 Role and Responsibilities

- To conduct training programmes and workshops on various issues of disaster management.
- To undertake action research, documentation and case studies on disaster management.
- To support the district administrations to formulate District Disaster Management Plan.
- To organize mock drills on disaster management in coordination with concerned departments.
- To prepare and disseminate the information, education and communication materials on disaster management.
- To bring awareness among the community through different media such as TV/ Radio/ News paper *etc.*

3.15 National Cadet Corps, National Service Scheme, Nehru Yuva, Kendra Sanghatana

Among the community, the youth are best placed in the community to be involved in disaster management initiatives. Youth based organizations such as Nehru Yuva Kendra Sangathan (NYKS), the National Cadet Corps (NCC), the National Service Scheme (NSS) and other local youth clubs will be involved in community based disaster initiatives. GoK will support initiatives to build capacities of the youth to manage disasters in the communities

3.16 Organizational Chart of Deputy Commissioner Office



3.17 Non- Government Organization (NGO) and Role and Responsibilities:

NGOs including HAM Radio Network, Indian Red Cross Society, CARE, Home guards, Scouts and Guides, Sri Swamy Vivekanand Youth Movement, Rotary Club, Trusts, Community Based Organisations including Community Structures set up under the Schemes such as SJSRY, SGSY, Resident Associations, Self-help Groups etc.

- ◆ To provide assistance to the District Collector in disaster management activities.
- ◆ To ensure training of its officers and employees and maintenance of resources so as to be readily available for use, in the event of a disaster.
- ◆ To undertake capacity building measures and awareness and sensitization of the community.
- ◆ To ensure that all construction projects under it conform to the standards and specifications laid down.

- ◆ Each department of the Government in a district shall prepare a disaster management plan for the district. The local authorities need to ensure that relief, rehabilitation and reconstruction activities in the affected area, within the district, are carried out.
- ◆ Trust / Organisations managing Places of Worships & Congregation
 - a. Each establishment / organisation identified as —critical infrastructure and key resource
 - b. Including places of congregation in a district shall prepare —on-site and —off-site.
 - c. Disaster management plan. Carry out mitigation, response, relief, rehabilitation and
 - d. Reconstruction activities.

3.18 Community Based Organization and Role and Responsibilities:

Community Groups and Volunteer Agencies:

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

Private Sector:

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

Citizens:

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

3.19 Services and facilities to be provided by EOC

The EOC will have to monitor continuously the preparedness and the response capacity of each district as per the details given in the DDMP. A constant review of the district situation will imply making provisions of such services and facilities, under the government as well as the private sponsorship, at the district level so that these can be mobilized at a very short notice.

It will be difficult for the EOC to maintain an inventory of all the resources at the state level. Therefore, identification of agencies and institutions, for locating inventory items for specialized services becomes an important function of the EOC. EOC will also ensure the availability of the inventory items as and when required.

3.20 Coordination between SEOC and District Control Room

The need for coordination in disaster management between different levels of government is based on the necessity for having a unified command, and coordinated action by all the agencies. The objective is to ensure that District action is organized in a disaster situation to:

1. Effectively and efficiently meet needs
2. Avoid waste and-duplication of effort
3. Ensure that resources are distributed equitably and to areas of need. Priorities must be clearly defined and understood by all agencies. This is mainly done at the District level, while preparing the standard operating procedures for each department, during the disaster cycle. Effective coordination is largely dependent upon an effective data collection, processing and reporting machinery.

The link of the District Control Room with the SEOC will be through:

- Hotlines, VSAT, Telephones, fax, NICNET. The flow of information between EOC and DCR may be described under two scenarios viz., During Disaster and under Normal Conditions. Flow of Information between EOC, DCR during normal conditions
 - Emergency Operations Centre (EOC)
 - Regional Commissioner
 - District Control Room (DCR)

Operations Room: The room where all DM operations are planned managed and executed. The Ops room should be equipped with the following facilities:

Analysis Room and Data Centre: Analyses information received from other EOCs by the GIS experts, statisticians and data analysts to consistently revise the DM plan as more information arrives from the disaster site and the needs and ground situation changes. The Planning Chief manages the analysis of data.

Emergency Information Centre (EIC): Collects and disseminates disaster related information to the media and general public. It is equipped with a few computers and display systems. The EIC updates the Call Centre Staff manning the help lines.

Facility Centre: Has equipment for documentation, photocopy, scanning, faxing

Communication Area: Has radio communication on UHF, VHF, Low Band, HF and Amateur radio frequencies and all other communication equipment. Hotlines to NEOC, CM Office, Chief Secretary Office Help lines operate from this area.

Reference Library: Research material to support staff and personnel at EOC

Coordination Area: For contact with various centers of distribution of relief material such as back up transport, food and other material, shelters, medical aid centers, and list of hospitals and doctors At the Back end there are static/mobile communication access platforms to use the communication and IT equipment for inter/intra network connectivity Currently in many districts:

- The DEOCs are set up and function only during the disasters.
- Communication facilities are available The SEC will ensure the set-up and functioning of the DEOCs 24X7 in each district. This will include:

1. Identifying and filling the gaps in equipment/technology in each district DEOC
2. Staffing all the positions
3. Capacity building of key staff

3.21 Minimum Facilities in the DEOC

SL No	Facility	Required	Available
1	Multiple screen wall mounted display	1	no
2	Computer terminal	2	yes
3	Laptop with encoding/streaming card	1	no
4	IP Phone	4	yes
5	Hotline : VOIP (voice over IP) connected via satellite as CUG	1	no
6	Server (10 GB capacity)	1	no
7	LAN switch	1	yes
8	Router	1	yes
9	VSAT with equipment	1	no
10	INMARSAT SAT Phone	1	no
11	State/district maps All	1	yes
12	Bulletin and white boards	2	no

Chapter 4

Hazard Vulnerability, Capacity and Risk Assessment (HVCRA)

Risk has always been part of daily life for humans. Life without risk is neither possible nor conceivable. An understanding of risk has become necessary as a result of the new demands posed by the increasing number of disasters and the resulting complexities in the disaster risk management. One of the most important tools for effective disaster risk management is risk analysis.

During the last decade risk analysis has emerged as an effective and comprehensive procedure to guide the overall societal response to, and management of disasters. Risk analysis is carried out to reduce

- (a) Casualties from potential disasters,
- (b) Disruption to the economic and social activities, and to mainstream
- (c) The culture of safety in all activities undertaken by the governments. It has become part of decision making in sectors such as health care, environment, physical infrastructure systems, etc.

Past history reveals that Kolar district is less prone to most of the natural disasters except drought. There are instances of many man-made disasters such as incidents of fire, road and rail accidents, and communal riots.

Hazard Vulnerability, Capacity and Risk assessment is carried out by using various Participatory Risk Appraisal Tools such as Resource mapping, Seasonality chart, vulnerability mapping etc. Following is the minimum information required.

4.1 History of Disaster in the District

Disasters	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Earthquake	-	-	-	-	-	-	-	-	-	-	-	-
Floods	-	-	-	-	-	-	-	-	-	-	-	-
Cyclones	-	-	-	-	-						-	
Droughts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Epidemics	-	-	-	-	-	-	-	-	-	-	-	-
Industrial accidents	-	-	-	-	-	-	-	-	-	-	-	-
Fire	-	-	-	-	-	-	-	-	-	-	-	-
Road/rail accidents	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-		
Boat capsize	-	-	-	-	-	-	-	-	-	-	-	-

Mine accidents	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat/cold wave	-	-	-	-	-	-	-	-	-	-	-	-	-
Building collapse	-	-	-	-	-	-	-	-	-	-	-	-	-
Bomb blasts	-	-	-	-	-	-	-	-	-	-	-	-	-
Pests	-	-	-	-	-	-	-	-	-	-	-	-	-
River bank erosion	-	-	-	-	-	-	-	-	-	-	-	-	-

4.2 Seasonality Hazards

4.2.1 Water and Climate related Disasters

Sl. No	Name of Hazards	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Cyclone						■	■	■	■	■		
3	Drought			■	■	■			■	■	■		
4	Sunstroke/Heat Wave				■	■	■	■					
6	Thunder and Lightning				■	■	■	■	■	■	■		
8	Flood						■	■	■	■	■		

4.2.2 Geological Related Disasters

Sl. No	Name of Hazards	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Earthquake	■	■	■	■	■	■	■	■	■	■	■	■
2	Mining Fire	■	■	■	■	■	■	■	■	■	■	■	■
3	Tsunami	■	■	■	■	■	■	■	■	■	■	■	■
4	Land Slide						■	■	■	■	■		

4.2.3 Industrial, Chemical and Nuclear related disaster

Sl. No	Name of Hazards	Jan	Feb	Mar	April	May	Jun	July	Aug	Sep	Oct	Nov	Dec
1	Pipeline Failure												
2	Oil Spill												
3	Toxic Release												
4	Chemical Accidents												

4.2.4 Accident and Other related disaster

Sl. No	Name of Hazards	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Building Collapse												
2	Bomb Treat												
3	Air Craft Crash												
4	Road Tanker Accident												
5	Rail Accident												
6	Road Accident												
7	Boat capsized												

4.2.5 Biological related Disaster

Sl. No	Type of Hazards	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Cattle disease												
2	H1N1												
3	Foot and Mouth												
4	KFD												
5	Dengue												
6	Epidemic												

4.3 Risk Assessment

Sl. No	Type of Hazards	Time of Occurrence	Potential Impact	Vulnerable areas
1	Cyclone	June- October	Heavy rainfall, Loss of lives.	Entire district
2	Flood	June-October	Loss of Crops, Damage infrastructure.	Along the lake beds, slums, and along encroached drains.
3	Drought	Mar-June August-October	Crop loss, scarcity of drinking water, fodder, etc. Depletion and contamination of ground water with fluoride and nitrate ions.	Entire district
4	Earthquake	Any Time	Damage Infrastructure and Loss of life	Entire district
5	Sunstroke	March-May	Loss of life's.	Entire district/urban area etc
6	Fire	Any Time	Damage Infrastructure and loss of life's etc.	Entire district especially during festivals.
7	Chemical Accidents	Any Time	Damage Infrastructure and loss of life's etc.	Chemical industries and Petroleum tanks.
8	Epidemic	Any Time	Loss of Human and	Entire District

			Cattle life	
9	Accident	Any Time	Loss of Human life	Entire District
10	Lightening	April-October	Loss of Human life	Entaire District
11	Tsunami	-	-	-
12	Land Slide	-	-	-
13	Oil Spill	Any Times	Damage Infrastructure and Loss of life's	Narasapura, Malur and Vemagal Industrial areas
14	Food Poisoning	Any Time	Loss of Human life	Entire District
15	Road Tanker Accident	Any Time	Loss of Human life	Entire District
16	Rail Accident	Any Time	Loss of Human life	Bangarpet and Kolar and Malur Taluks
17	Air Craft Crash	-	-	-
18	Pipeline Failure	Any time	Loss of Human life	Area surrounded by the pipe line in the District
19	Building Collapse	Any Time	Damage Infrastructure and Loss of life's	Entire District
20	Cattle disease	Any Time	Loss of Cattle life	Entire District
21	Bomb Treat	Any Time	Damage Infrastructure and Loss of life's	Entire District
22	Communal Violence	Any time of the year (especially during festival season)	Injury, death, loss of business, and destruction of property.	Entire District
23	Uncovered bore well /abandoned bore well (fall risk)	Any time of the year	Death/injury	Entire District

4.5 Impact v/s Frequency Mapping Hazards

Sl. No	Type of Hazards	Low Impact Low Frequency	Low Impact High Frequency	High Impact Low frequency	High Impact High frequency
1	Cyclone				
2	Flood				
3	Drought				
4	Earthquake				
5	Sunstroke				
6	Fire/ Forest Fire				
7	Boat capsize				
8	Epidemic				
9	Accident				
10	Lightening				
11	Sea Erosion				
12	Tsunami				
13	Land Slide				
14	Toxic Release				
15	Oil Spill				
16	Food Poisoning				
17	Road Tanker Accident				
18	Rail Accident				
19	Air Craft Crash				
20	Pipeline Failure				
21	Building				

	Collapse				
22	Stampede				
23	Cattle disease				
24	Bomb Treat				

4.6 Road Accidents

Year	No. of accident	No. of Injured	No. of Deaths
2012	1057	1084	297
2013	1061	1163	320
2014	1003	993	312
2015	895	963	277
2016	894	974	326
2017	859	1008	320
2018	880	872	297
2019(Up to October)	637	668	191

4.7 Industrial Accidents

Year	No. of accident	No. of Minor Injuries	No. of Serious accident	No. of Deaths
2010	8	4	3	1
2011	3	2	0	1
2012	5	2	2	1
2013	7	4	1	2
2014	7	7	0	0
2015	5	4	0	1
2016	7	6	0	1
2017	8	5	1	2
2018	4	1	0	3
2019	7	4	3	0
Total	61	39	10	12

4.8 Epidemic disease

Epidemic Disease Status of Kolar District from 2014 to 2019 (OCT)

Sl. No	Disease	2015		2016		2017		2018		2019 (OCT)	
		A	D	A	D	A	D	A	D	A	D
1	G.E	27415	3	28305	2	36457	0	35073	0	29715	0
2	Cholera	0	0	2	0	0	0	0	0	0	0
3	Typiod	3699	0	3425	0	6094	0	4640	0	3381	0
4	Hepatitis	89	0	84	0	123	0	61	0	56	0
5	Pneumonia	895	0	1145	0	2267	0	1676	0	1118	0
6	H1N1	32	7	0	0	23	3	21	0	13	0
7	Leptospirosis	21	0	6	0	7	0	0	0	11	0
8	Malaria	36	0	19	0	11	0	06	0	01	0
9	Dengue	227	0	49	0	225	0	15	0	207	02
10	Chikungunya	198	0	40	0	112	0	29	0	169	0
11	Japanese Encephalitis	0	0	0	0	0	0	0	0	0	0
12	Rabies	0	0	0	0	0	0	0	0	2	2
13	Dog Bite	6624	0	9560	0	10178	0	10133	0	6182	0
14	Snake Bite	346	0	430	0	409	0	388	0	180	0

Note: Data includes cases from Private and Government Hospitals of Kolar District

4.9 Man- Animal conflicts

Year	No. of conflicts	No. of people affected	No. of animals dead	No. of people dead	Crop damaged(aceras)
2014	573	0	2	4	567
2015	87	2	4	0	81
2016	122	0	11	2	109
2017	74	0	24	3	47
2018	567	0	55	3	509
2019	454	0	95	2	357

4.10. Disaster Wise Risk Analysis:

4.10.1. Risk Analysis of Drought:

Karnataka, one of the southern states of India, has an area of 192 204 km²; of this nearly one third is constantly affected by drought. Based on various factors responsible for causing drought conditions, the Kolar district has been identified as one of the **chronically drought prone areas**.

Drought is a normal, recurring feature of climate. In contrast to aridity, which is a permanent feature of climate, drought is a temporary occurrence and is a direct consequence of a reduction in the amount of precipitation received over an extended period of time, usually a season or more. It results in a water shortage for some activities, groups or environmental sectors (Wilhite and Svoboda, 2000).

Meteorological drought is defined by a precipitation deficiency over a pre-determined period of time, while agricultural drought is defined more commonly by the lack of availability of soil moisture to support crop and forage production. Hydrological drought is defined by deficiencies in surface and subsurface water supplies relative to average conditions. Socio-economic drought reflects the relationship between the supply and demand for some commodity or economic good that is dependent on precipitation (UN-ISDR, 2009).

Drought may occur due to want of rain at proper time or sometimes heavy rainfall may damage the crops. Cyclonic effect in the eastern coast and Bay of Bengal may cause excessive rainfall which would result in crop damage and other loss.

4.10.2 Economic risk analysis of drought

	Direct Impact	Indirect Impacts
Costs and losses to agricultural producers	<ul style="list-style-type: none">• Annual and perennial crop losses.• Damage to crop quality• Reduced productivity of cropland.• Insect infestations• Plant disease• Wildlife damage to crops	<ul style="list-style-type: none">• Income loss to farmers because of reduced crop yields.• Increased irrigation costs• Cost of new or supplemental water resource development, e.g., tankers, wells, and pipelines• Long-term loss of organic matter• Loss to industries directly dependent on agricultural production, e.g., food processors• Increased commodity prices
Costs and losses to livestock producers	<ul style="list-style-type: none">• Reduced productivity of range land, animal carrying capacity• Increased travel time for grazing• Decreased stock weights and	<ul style="list-style-type: none">• Forced reduction of foundation stock (seeds)• High cost/unavailability of feed or water for livestock• Reductions in livestock market prices• Increased feed transportation costs

	<p>reduced milk production</p> <ul style="list-style-type: none"> • Increased livestock diseases • Closure/limitation of public lands to grazing • Range fires 	<ul style="list-style-type: none"> • Disruption of reproduction cycles (delayed breeding, more miscarriages) • Increased predation and pouching
Costs and losses to industry and urban activities	<ul style="list-style-type: none"> • Higher cost of water and sanitation • Decrease in public water supplies • Impacts on transportation • Higher cost/lower availability of hydro-electric power 	<ul style="list-style-type: none"> • Higher cost or unavailability of water for horticulture, agri-food processing and value added manufacturing • Impaired productivity of forest land and reduced timber production • Increased pollution, e.g., dust • Increased diseases • Reduction in tourism revenue, e.g., wildlife • Strain on financial institutions, e.g., greater credit risks
Reduced quality of life	<ul style="list-style-type: none"> • Increased workload for women in collecting fuel-wood and water • Reduced levels and variety of food sources • Increased government expenditure on relief 	<ul style="list-style-type: none"> • Increased poverty • Migrations (rural to urban areas) • Reduction or modification of recreational activities • Disruption of cultural practices and belief/ value system • Loss of cultural sites and aesthetic values
Increased conflicts		<ul style="list-style-type: none"> • Water user conflicts • Political conflicts • Management conflicts • Other social conflicts, e.g., scientific and media-based
Health	Physical and emotional stress., anxiety, depression and loss of security	<ul style="list-style-type: none"> • Depletion of ground water will increase fluoride and nitrate ions resulting in fluorosis and lower absorption of proteins which leads to mal-nutrition. • Loss of human life • Increased respiratory ailments. • Increased disease caused by wildlife concentrations

4.10.3 Risk of Desertification:

Drought is a complex, slow-onset phenomenon of ecological challenge that affects people more than any other natural hazards by causing serious economic, social and environmental losses. A drought is an extended period where water availability falls below the statistical requirements for the region. The annual water requirement for whole Kolar District is around 56,000 Hectare Meter but water available through rainfall and groundwater recharge is 30,000 Hectare Meter. There is a clear negative 53% mismatch between demand and supply. If the same trend continues without any external source of supply, **in a span of 10 years desertification will set in**. Drought is not a purely physical phenomenon, but instead is interplay between natural water availability and human demands for water supply.

4.10.4 Risk of Sand Mining:

There are no sand blocks in the district, but filter sand is illegally mined and transported. The district is facing drastic depletion of underground water and acute shortage of quality drinking water because of exploitation of underground water and destroying hypodermic zone which facilitates lateral and vertical flow of water to the underground aquifers.

The sand bed stores huge quantity of water in its source and gravel zone and releases slowly which supplies quality drinking water from the wells even during summer season. Added to above this zone provides habitat for invertebrate fauna, micro-organisms etc which forms live microbial bio-film and helps to oxygenate the water etc.

4.10.5 Risk of Ground water Contamination:

GROUND WATER ISSUES AND PROBLEMS:

Ground water plays an important role in the economy of the farmers of the Kolar district. This district is popularly known as land of Silk and Milk. Agriculture was mainly dependent on irrigation facility by numerable widely distributed tanks during earlier days. Due to drought situations farmers are now mainly depending upon bore wells for their agriculture needs. There are about more than 28,000 bore wells in the district, which reflects on the dependency of farmers on ground water Taluk-wise ground water resources, drafts, balance resources available and the category as on March 2009 **show no scope for further ground water development**. All the taluks are over exploited. On an average over draft of 23,491 ham per year is occurring in the district which results in continuous lowering of water table. Even though Kolar district stands first in having the maximum number of irrigation tanks in Karnataka, their dependability for irrigation again depends upon rainfall conditions. Hence, ground water has a special significance for the all-round development of this water-starved district and plays a vital role in the development of this drought-prone area.

Fluoride concentration of more than 1.5 mg/l. is reported from many parts in the district. However, some of the exploratory bore wells also have recorded fluoride concentration of 2mg/l. and above. Nitrate concentration of more than 100 ppm is reported from parts of Mulbagal, Bangarpet and Malur taluks.

Implication of high fluoride Content: Natural contamination of groundwater by fluoride causes irreparable damage to plant and human health. High oral intake of fluoride results in **physiological disorders, skeletal and dental fluorosis, thyroxin changes and kidney damage in humans.** High fluoride levels inhibit germination, cause ultra structural malformations, reduce photosynthetic capacities, alter membrane permeability, reduce productivity and biomass and inflict other physiological and biochemical disorders in plants.

4.10.6 Impact of Eucalyptus Plantation on Ground Water (depletion):

Eucalyptus is a controversial trees globally, due to its merits and as well as notoriety. Its merits like fast growing habit, quick adaptations to wide ranging ecological situations, several industrial applications and as means of livelihood for unprivileged have elevated it to one of the most desirable tree species to be introduced in afforestation, farm forestry and social forestry programmes. Nevertheless, Eucalyptus is also known to cause a number of environmental hazards like depletion of groundwater, dominance over other species by allelopathic effects, loss of soil fertility and negative impacts on local food security issues. Kolar district has large tract of Eucalyptus plantation which in turn will accentuate ground water depletion.



Eucalyptus Plantation in Kolar

According to the study “IMPACT OF EUCALYPTUS PLANTATIONS ON GROUND WATER AVAILABILITY IN SOUTH KARNATAKA” by Mukund Joshi and K. Palanisami, Karnataka government promoted fast growing Eucalyptus plantation to cover the denuded areas, as a part of afforestation programme since 1960s, even finding a buying partner in corporate sector to purchase its wood for industrial purposes (coverage 70,000 ha). Later, as a sequel to modified Indian forest Act during 1988, Eucalyptus was promoted as a profitable, no maintenance low investment crop in cultivated lands, in the style of farm forestry (1, 40,000 ha). However, the major spread of Eucalyptus

was restricted to two districts namely, Bangalore (rural) and Kolar, replacing 70,000 ha ragi, a staple food. Almost 90 percent of existing Eucalyptus area in Karnataka is in these two districts. The farmers have continued to grow this easy crop, requiring low capital and attention. **But, in these twenty years of Eucalyptus plantation, the ground water level in these districts has dwindled alarmingly as compared to other districts.** This is evidenced by the report of Central Ground Water Board classifying these districts as most critically over- exploited areas. The study is annexed in the annexure.

4.10.7 DETAILS OF TALUK WISE GROUND WATER LEVELS

Sl. no	Name of the taluk	Average depth of water table in (m)									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	Up to Oct-2019
1	Kolar	28.69	32.33	40.59	47.88	54.09	61.83	69.72	77.93	83.49	85.89
2	Malur	18.60	33.19	38.69	53.68	60.32	67.15	71.00	82.07	87.46	87.64
3	Mulbagal	10.88	14.20	16.94	30.83	35.53	43.52	54.09	69.10	64.12	67.41
4	Bangarpet	24.18	24.73	25.43	41.91	46.52	53.20	57.79	59.93	68.91	71.37
5	Srinivaspura	23.39	23.66	31.04	40.10	46.27	54.66	61.28	71.25	71.50	76.23

The status of ground water is over exploited in all taluks, where there is no scope for further tapping of Groundwater. As per Groundwater assessment 2016 Taluk wise category, percentage of Groundwater utilization is as follows:

Sl. No	Name of the taluk	Percentage Ground Water Development (2004)	Percentage Ground Water Development (2009)	CATEGORY
1	Srinivaspura	183	215	over exploited
2	Bangarpet	210	212	over exploited
3	Mulbagal	210	207	over exploited
4	Kolar	180	214	over exploited
5	Malur	189	198	over exploited

Due to over exploitation of groundwater and drilling of bore wells up to the depth of 365-375 m, the quality and quantity of groundwater is also deteriorating.

GROUNDWATER TABLE AND STATUS IN KOLAR DISTRICT

- NET ANNUAL GROUNDWATER AVAILABILITY :- **32,746 ham**

- EXISTING GROSS GROUNDWATER DRAFT: - **62360 ham (185.4%)**
- GROUNDWATER STATUS:- **Over Exploited In All 5 Taluks**
- AVERAGE DEPTH TO WATER TABLE – **51.24 mm**
- AVERAGE DEPTH OF BOREWELLS - **365-375 m**
- NO. OF OBSERVATION BOREWELLS – **89 no'**

4.10.8. Rock Burst/Earthquake Risk Analysis:

4.10.9 KGF, a Tinderbox: Special focus of Earthquake Risk in KGF Area(Information per National Insitute of Rock Mechanics):

Now defunct BGML is located in KGF. BGML comprised of three mines namely Champion reef mines, Mysore mines, and Nandidurg mines. Each mine has numerous shafts. The Gold mines are spread over an aerial extent of over 8 km x 2 km and up to a depth of 3.2 km at the deepest point in the Champion Reefs mine. There are records of about 98 shafts (including underground shafts) most of whom are closed. There are around 20-25 shafts with head-gears which were in operation at the time of mine closure. Some of the closed shafts got opened due to caving in of the surface around them during incessant rains. Though the exact number of such shafts could not be ascertained for want of authentic information from BGML, they should not exceed 10 in number.





Dilapidated Head shaft of BGML

Stability of BGML Mines with respect to Earthquake Implication / Danger of Water Logging in the Mines:

Ever since the inundation of the KGF mines, passive seismic activity has increased with a spurt during rainy season. Round the clock monitoring of the mining area with a **dedicated micro-seismic network has stopped since the closure of the mining activity in the year 2000**. Today NIRM operates a seismic station which is one arm (station) of the 8-station network established under funding from DST for assessing the stability of the southern shield (India) following the incidence of later earthquake.

Mines in BGML had worked up to a depth of 3.2 km, with a spread of 112 levels having a vertical difference of around 80 ft (25 m) each. With 6 km x 2 km span of these mines, **it is expected that the total length of unpacked underground excavation post closure of mines should be over 1500 km**. All these excavations were supported by robust systems including steel arches for the openings and granite filling for the voids, which were thoroughly maintained during the operation of mines. With the closure of the mines, various levels started getting inundated from bottom, and today water stands at almost 100-400 ft depth in various shafts. Due to this water-logging and continuous inundation, the support system (iron rails, steel arches and with wooden lagging and props) started corroding / rotting, resulting in sudden failure leading to violent rock bursts at the upper level of water front. Today, the leftover excavations are under the influence of confined pressure of the water front. It is possible that, if the water-table recedes, they may start failing one by one resulting in repetition of violent series of rock bursts once again.

Mysore North Fault (MNF) is a dormant underground fault which separates two active gold bearing zones in the vertical plane. As with all other faults of this area, gold veins were located close to

this fault. Hence they were actively mined out. Due to the presence of this fault, the stress accumulating due to mining activity close to the fault plane could not spread across resulting in violent rock bursts close to the fault plane. As is with the very nature of a fault as a source to channelize the energy distribution, scores of sympathetic rock bursts were observed close to the fault plane after every violent rock burst leading to the impression that the MNF is active. But per NIRM, the strike of MNF is too large (over 10 km long) to be disturbed by petty rock bursts to create any regional disturbance. However, with the inundation of mines, the active part MNF (which was exposed within the mining area) too got immersed in water. This inundation might trigger stick-slip failure (movement) along the fault plane in the wake of any large scale rock bursts. This might lead to a regional catastrophe. But for want of any monitoring data post-inundation of mines, we do not have any scientific basis to allay the fears, nor can we support the stick-slip failure along inundated fault planes.

As regards to stability in the wake of an earthquake, it remains anybody's guess because the subsurface condition is **too fragile to withstand any external shaking due to earthquake**. Fortunately, the south India is a relatively stable shield (plateau) from earthquake point of view, chance of occurrence of a major earthquake is remote. But if it does occur, it may trigger a series of rock burst like events and the extent of damage might be on a large scale depending upon the local intensity of the earthquake.

Present Status of Seismic Activity Monitoring in BGML:

BGML had a seismic observatory since 1955 to monitor the seismic activity due to rock bursts. Later, during the early eighties, a dedicated seismic network was established by BARC to monitor and locate the seismic events (rock bursts). With the formation of NIRM in 1988, this monitoring network was transferred to NIRM. **With the closure of mining activity in 2001, this network died down due to lack of maintenance and support.** Since then there is no separate network to monitor and record the seismic activities within the mining areas of KGF.

However, in 2002, the Institute established a seismic observatory to record the seismic activity of the southern peninsular India. This observatory is a part of the eight-station network under the administrative control of AMD with NGRI, Hyderabad as the Project Leader. AMD collects and analyses data from all the eight observatories spread across south India to locate the regional seismic events. This mono station picks up the local rock burst event also but we cannot locate it (place and depth). Hence, in effect, there is no monitoring station for the seismic activities of the mining districts of KGF.

Post closure of mines, the NIRM broad band se station has picked up on an average 150-200 events per year, a few of which were major ones (magnitude around 2.0-2.5 G on Richter Scale). Most of these events are caused due to collapse of support system in the underground excavations. With rising water levels in the mines, the support system gets corroded, rots and collapses leading to a violent seismic event.

4.10.10. Abridged version of “A report on Geo-technical evaluation of rock burst hazard in BGML area, KGF, Kolar District, Karnataka(FS 2005-2007)” prepared by Engineering Geology Division, Geological Survey of India, Government of India.”

Abstract: Geotechnical studies on recent recurrence of rock bursts in closed and water logged KGF mines, their effects/manifestations on ground including damages caused to buildings and other civil structures were carried out on the instance of Ministry of Mines, Government of India, for evaluating risk associated with the recurrence of such events and preparation of rock burst hazard zonation map for further up action from competent authorities. Low intensity rock bursts are still persisting in rainy season in KGF area even though mining has been stopped and the subsurface cavities are filled with water.

Subsidence and sinking of old shallow level shafts filled with dump material followed by minor rock burst occurred in KGF mining area in 2005 in continuity with heavy rainfall. These events created panic in the mind of local residences thus warranting BGML and NIRM authorities to discuss this matter in detail involving GSI, Directorate of Mines Safety, IBM, CMRI, and Karnataka State Geology Department with Director NIRM as chairman.

Scope and Objective: Rock burst occurrences have been reported at KGF since 1998 and same were systematically monitored from 1956 to 1989 by BARC in association with BGML and thereafter 1989 by NIRM. The rock burst during mining for gold was mainly concentrated in stressed dominated fault/fracture zones and rocks with high E-modulus like gneisses, granites and massive dykes, which behave as brittle media causing violent rupture/spalling and rock bursts. Surface manifestations of these events are noticed in the form of sink holes/opening of plugged old shafts, cracks on the walls of the buildings, etc. This phenomenon has caused serious public concern recently as the same are recurring even after the mining activities are at stand still and the deeper levels are filled with water. Hence the scope of evaluating the hazard and risk in the area became necessary which ultimately would help in mitigating the rock burst hazard in the region for the benefit of the large resident population.

The main objective of the present study was to conduct Geotechnical studies on possible causes of the recent recurrence of rock bursts in KGF, their effects on surface, damages caused to buildings, preparation of rock burst hazard zonation/evaluation map, followed by MEQ studies if desired/warranted.

Conclusion and Recommendations: The recurrence of rock bursts in the water filled underground mine has been continuing till recent times. Though the intensity of recurrence of these events is not very significant in recent days, this phenomenon has caused a serious concern for the public residing over the places of recurrence of the events. In order to ascertain the possible causes of the rock bursts and also to assess the hazards related with them, an integrated Geotechnical studies were carried out in the affected area.

Through this study rock burst intensity assessment map is prepared, geological and geotechnical map depicting exposures/types of bedrock, mine dumps, soil type, habitation, etc., structural map and ground water table studies, Rock mass classification of the area, focal depth and epicenter correlation of earlier rock burst events; and finally the rock burst hazard Zonation map.

On the basis of rock burst surface impact assessment studies, the zones affected by rock burst hazards has been identified in the KGF mine area and the same is divided into three zones, viz, Zone 1 (high hazard zone), Zone 2 (moderate hazard zone) and Zone 3 (low hazard zone).

Zone I, central mining area (Mysore Mine area, PO block 1 and 2; Victory block, Crackers Model House; Corammandel mine area, Kennedy Andhra Block, Champion Reef and Nandidurg mining Quarters) : The areas coming in this high hazardous zone lies above the actual mining area. The damage to the civil structures with maximum number of rock burst epicenter fall with in this area. Future constructions or developmental activities in this zone including for residential purposes are to be avoided. This zone also includes the present sink hole locations. These sinks are found to have developed above the shallow cover old/abandoned shafts due to roof collapses/caving. The residential areas where such old, shallow cover and abandoned shafts are to be surveyed and demarked on the ground. These areas occupied by such old underground workings should be kept away for any further civil utilities, especially in Andersonpet area and Uncock mine Colony. The underground supporting systems (mainly by wooden logs) in the water filled old mines are possibly getting weakened with time and collapsing, hence causing tremors. A comprehensive mine closure planning is essentially be considered to avoid any further loss of property in this area due to rock bursts.

Zone II (South of Marikuppam and North of BEML area, between Andersonpet and Robertsonpet area in N-S direction): The areas lying in this zone have experienced little to moderate damages as they are slightly away from the mining area. Any major damages in this area are not expected within this zone. Hence, any construction activities in this zone are to be allowed with incorporation of proper seismic resistance component.

Zone III (Outskirt of KGF namely Oorigampet, Pradhanhalli, Krishnarajpura, BEML quarters etc(Plate II): This zone is devoid of any damage related with rock bursts as the areas falling in this zone are far away from the centre of mining activities. Relocation of Major establishments inside Zone 1 if necessary can be shifted to this area.

MEQ Studies: Many of the rock burst events of all magnitudes, **of recent days, in the KGF area are not fully recorded.** Monitoring of all the rock burst events/seismic activity in this area even up to micro level is essential to build up a future planning with regards to the safety of the area. It is therefore **recommended to establish closer MEQ stations in this area as a long term measure** to evaluate the ground realities and their responses to possible rock burst events in future.

4.10.11 Risk Analysis of Biological Disasters:

Kolar is known as land of Silk and Milk. There are more than 300,000 cattle's and buffaloes in Kolar district. Poultry farm is also a major source of livelihood. Pigs, goat, sheep, are also reared. Spread of epidemic like FMD, virus attack would lead to loss of business and livelihood. Foot and mouth disease is contagious disease which affects the cloven footed animals like cattle, buffaloes, sheep, goat, pig and also wild animals like deer, bison and elephant. '0'- Zero type viruses causes the disease outbreak in the state during the month of August to November 2013.

Acute respiratory tract infection/Influenza like illness, acute diarrheal disease, dengue Chikungunya, bacillary dysentery, enteric fever, pneumonia are diseases prevalent in the district. There is also past history of outbreak of plague in Kolar district. Economically weaker section with poor sanitation facility with unsafe drinking water is vulnerable to disease mentioned above.

4.10.12 Risk Analysis of Unplanned Waste Disposal:

Municipal solid waste (MSW) normally termed as "garbage" or "trash" is an inevitable by-product of human activity. Population growth and economic development lead to enormous amounts of solid waste generation by the dwellers of the urban areas (Krishnamurthy and Naidu, 2003). Urban MSW is usually generated from human settlements, small industries and commercial activities (Singh et al.,

2011). An additional source of waste that finds its way to MSW is the waste from hospitals and clinics. When these wastes are mixed with MSW, they pose a threat for health and also they may have long term effect on environment (Pattnaik and Reddy, 2009).

The biodegradable portion dominates the bulk of Municipal Solid Waste. Generally the biodegradable portion is mainly due to food and yard waste. With rising urbanization and change in lifestyle and food habits, the amount of municipal solid waste has been increasing rapidly and its composition changing. There are different categories of waste generated, each take their own time to degenerate.

Main Sources of Municipal Waste

- House hold waste
- Commercials:
- Street sweeping
- Hotels and restaurants
- Clinics and dispensaries
- Construction and demolition
- Horticulture
- Sludge



Open solid waste dump

Adverse Effect of open dump: An open dumping is defined as a land disposal site at which solid wastes are disposed of in a manner that does not protect the environment, are susceptible to open burning, and are exposed to the elements, vectors, and scavengers. Open dumping can include solid waste disposal facilities or practices that pose a reasonable probability of adverse effects on health or the environment.

Health Effects

- The health risks associated with illegal dumping are significant. Areas used for open dumping may be easily accessible to people, especially children, who are vulnerable to the physical (protruding nails or sharp edges) and chemical (harmful fluids or dust) hazards posed by wastes.
- Rodents, insects, and other vermin attracted to open dump sites may also pose health risks. Dump sites with scrap tires provide an ideal breeding ground for mosquitoes, which can multiply 100 times faster than normal in the warm stagnant water standing in scrap tire causing several illnesses.
- Poisoning and chemical burns resulting from contact with small amounts of hazardous, chemical waste mixed with general waste during collection & transportation.
- Burns and other injuries can occur resulting from occupational accidents and methane gas exposure at waste disposal sites.

Environment Impact of open dump:

- Air pollution: Dust generated from on-site vehicle movements and placement of waste and materials.
- Water Pollution: Runoff from open dump sites containing chemicals may contaminate wells and surface water used as sources of drinking water open dumping can also impact proper drainage of runoff, making areas more susceptible to flooding when wastes block ravines, creeks, culverts, and drainage basins & also contamination of groundwater resources and surface water from leachate emissions.
- Soil Contamination: Permanent or temporary loss of productive land.
- Global Warming and climate change: In most of the cities & towns the municipal solid waste is being dumped & burnt in open spaces without understanding the adverse impacts on the environment. The waste in the dumping ground undergoes various anaerobic reactions produces offensive Green House gases such as CO₂, CH₄ etc. These gases are contributing potentially to Global Warming & Climate Change phenomenon.

4.10.13 Risk of Electrical Accidents in Power Grid Corporation of India:

The Power grid corporation of India Ltd., at Kolar was established on March 2003 by covering the Area of 145 Acres of Land at Arahalli Village, Kasaba Hobli, Kolar.

1. It Carries 2000 M.W. from National Thermal Power Station at Kaniha of Orissa State to Kolar in Karnataka.
2. The Power Transmission import from Orissa is distribute to five southern States such as Karnataka, Andhra Pradesh, Tamilnadu, Kerala & Pondicherry through High Voltage Direct Current (HVDC) Transmission line.
3. It supplies 220 K.W. to Kolar and Chintamani Power Stations and other Parts of Karnataka and other Talcher Stations.

The Power grid comes under the Control of Public Sector Unit, Govt. of India with 27 Officials working in the Unit. **Transmission related accident can affect the population in the vicinity of HVDC transmission line. There are adequate safety measures taken by the concerned authority to prevent any accidents.**

4.10.14 Risk of Level Crossings and its Vulnerability:

The Road Traffic crosses the Railway Track either on “Grade Separated Crossing” (Road and rail at different Levels) or at “Level Crossing” (Road and rail at same levels). The level crossings are made to facilitate the smooth running of traffic in a regulated manner governed by specific rules and conditions.

The primary causes of accidents at unmanned level crossings include haste of the driver to cross the level crossing before train arrives, mis-adventure to cross level crossings in the face of an approaching train, road vehicles getting stalled at the locations, rash driving of un-licensed drivers etc. Accidents at level crossings happen primarily because the road users do not respect the **right of way of railways.**

It is observed that most of the time road vehicle driver’s error in judgment of the speed of train leads to accident. It is a fact that human reaction time is 2.5 seconds which is just enough to coordinate the reflexes against speed of 60-70 kmph; however, most of the trains on Indian railways are plying at about 100-120 kmph for which the reaction time is inadequate. Road users continue to cross the tracks even if the train is visible and approaching causing leading to level crossing accidents. People walking along the railway track plugging their ears with earphone, listening to music, are oblivious of the approaching train are knocked over by the train. There is an increased trend of this off-late.

4.10.15 Risk of Industrial Accidents:

Kolar houses 4 major accident hazard industries (MAH) and numerous other hazardous industries. Out four MAHs only two are functional i.e., **BEML and Honda Motorcycle & Scooter India Pvt Ltd.** Offsite plans are being updated. The people staying within the vicinity of the industries are vulnerable to impact of industrial accidents.

An overview of Industries and factories in Kolar District:

Factories registered under the purview of the factories Act, 1948

Total no. of registered factories in Kolar district: 18,373

No of workers: 1, 53, 493

Classification of industries hazard wise:

- MAH units: 5
- Potential Hazardous industries: 5
- Others:

Necessary safety measures are in place in all the factories and industries and all of them comply with the statutory requirements. Regular drills and safety audit are conducted in most of hazardous industries.

Brief description of Major Accident Hazard units (MAH) in Kolar:

As per records there are 5 MAH units in Kolar, BEML and Honda Motorcycle & Scooter India Pvt Ltd., Bando India Pvt Ltd., SHV Energy Pvt Ltd., Execdy Cluth Pvt Ltd.,

(i) BEML:

Bharat Earth Movers Limited (BEML) is a leading defense public sector enterprise under ministry of defense. KGF complex manufactures heavy moving equipment like Dozers, Excavators, front end loaders, rope shovels, etc. BEML factory stores several hazardous chemicals for manufacturing purpose, thus it is categorized as major accident hazard. It is obligatory for BEML to comply with relevant provisions connected with hazardous processes factories as enumerated in the special chapter IVA of the factories act, 1948.

Hazardous Chemicals/substance stored and used in the factory are:

Serial No.	Name of the Chemical	Storage Capacity
1.	LPG for use in heat treatment shop	3 bullets x 10 MT (EMD) 1 bullet x 10 MT 1 bullet x 5 MT (H&P)
2.	Acetylene cylinders for use in flame cutting machines	2 banks x 40 cylinders each
3.	Diesel storage tanks for DG sets	3 x 50 KL each
4.	Diesel underground tanks for company vehicles and Earth moving equipments	2 x 15 KL each
5.	Liquid oxygen storage tanks for use in flame cutting machines	1 x 5 KL 1 x 1.4 KL
6.	Liquid carbon dioxide for CO2 welding, used as inert gas	20,000 L

7.	Petrol storage in underground tank for use in company vehicles	1 x 15 KL
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Hazards involved:

- Fire hazard.
- Explosion hazard.

Population affected in case of emergency (probable)

Shift	Zone	Radius(m)	Direct	Cumulative
Shift I	A	130	437	437
	B	250	1698	2135
	C	500	955	3090
Shift II	A	130	291	291
	B	250	1078	1369
	C	500	637	2006

(ii) Honda Motorcycle & Scooter India Pvt Ltd.

Name and address of the Factory: Honda Motorcycle & Scooter India Pvt Ltd. Plot # 109-142, KIADB Industrial Area, Narsapura, Kasaba Hobli, Malur taluk, Dist. Kolar, Karnataka-563130

Products manufactured in the factory: **Manufacturing of Two wheelers.**

1. Number of people employed
 - a. Number of employees: **8130**
 - b. Average number of visitors per day: **230**
2. Information of important officials of the factory (MD, Plant Manager, Safety Officer, etc)

Name and Designation	Contact number
Mr. Vinay Dhingra, Factory Manager	08152-280001
Mr. Satayaprakash Patil, Sr. Manager – GA	08152-280001
J Leo Rozario, Safety Officer	08152-280001

3. Brief description of hazardous material stored/handled

Product name	Propane	Gasoline	HSD	Paint Storage
Storage Capacity	50 MT(3 No's)	20KL	70KL(3	24.5 KL

	14.5 MT		No's)	
Type of storages	Mounded Bullets	Underground Tanks	Underground Tanks	Barrels
State of matter (solid/liquid/gas)	Gas	Liquid	Liquid	Liquid
Hazard Involved (fire/explosion/both/ corrosion)	Fire/Explosion Hazard	Fire Hazard	Fire Hazard	Fire/Explosion Hazard

4.11 Capacity Analysis

India Disaster Resource Network (IDRN) is an online inventory designed as a decision making tool for the Government administrators and crisis managers to coordinate effective emergency response operations in the shortest possible time. The Ministry of Home Affairs, Government of India has developed a web-based database of resource named India Disaster Resource Network (IRDN). This database contains information about **equipments** (such as boats, bulldozers, chain saw, etc), **manpower** (divers, swimmers, etc) and **critical supplies** (oxygen cylinder, fire fighting foams, etc) required during response. IDRN can be accessed by anyone and its direct link is **idrn.gov.in**. IDRN for Kolar district is being updated.

The resources available in the district with both private and Government are being complied and are being updated in IDRN.

4.11.1 Important social schemes/acts which will make the community more resilient towards adversity of drought and other disasters.

- THE KARNATAKA GUARANTEE OF SERVICES TO CITIZENS Act, 2011(Sakala): A Bill has been passed by the Karnataka State Legislature to provide guarantee of services to citizens in the State of Karnataka within the stipulated time limit and for matters connected therewith and incidental thereto. This Act is called the Karnataka Guarantee of Services to Citizens Act, 2011. According to this Act, the designated officers who fails to provide citizen related services (services coming under the GSC Act) to the citizens within the stipulated time as mentioned in this Act shall be liable to pay the compensatory cost to the citizen in accordance with the provisions of this Act.

Services pertaining to disaster management under the ambit of Sakala Act.

1. Natural calamity relief claims for crop damage.
 2. Natural calamity relief claims for house damage.
 3. Natural calamity relief claims for animal loss.
 4. Natural calamity relief claims for loss of life.
- **ANNA BHAGYA YOJANA:** Per this program government will supply 6 kg/person of food grains at Rs. 1/- per kg to below poverty line (BPL) families across the state. BPL cardholders will be eligible to receive subsidized food grains through a network of fair price shops across the district. While a single-member family is eligible for 6 kg food grains. Anna Bhagya Yojana will mitigate hunger and mal-nutrition to a certain extent in vulnerable population.
 - **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS):** The primary objective of the act is to enhance livelihood security in rural areas by providing at least 100 days of guarantee wage employment in every financial year to every house hold whose adult members volunteer to do unskilled manual work. If the work is not provided within 15 days of the demand of work by the applicant, then un-employment allowance has to be paid. Works under the MGNREGS can be taken up on both community and private lands. Small and marginal farmers, SC/ST and Indira Awaas Yojana beneficiaries are eligible for taking up works on their own lands. This scheme will financially empower vulnerable population during drought.

The vital installations such as transformers, telecommunication centers, wireless relay stations etc., have been provided with protection and security and the same will be intensified during disaster.

4.11.2 Sevadala:

Sevadala and other NGOs like **Sri Sathya Sai Seva Organizations** have considerable experience and expertise in emergency management. These organizations, apart from their resources and expertise, have a network of NGOs whom they can harness during emergencies. They could also play a vital role in information dissemination because of their existing global network.

They are also conduct the DM Trainings and Disaster Awareness Programs in the District.

Details of the DM Volunteers Team:

Sl.No	Name Of the Volunteers	Contact Number
1	Rajkumar M	9945851737
2	Shashikumar R	9986527165
3	Prasad Babu K N	9900877118
4	Somashekar	7406606115
5	Ajay C	9663963973

6	Suhas K S	9916216257
7	Abhilash K V	8088457418
8	Ramesh V	8951566947
9	Nandish M	7338003319
10	Sarvesh V Krishna	9880790143
11	Pavan Kumar K V	9008210893
12	Prashanth S	7026748273
13	Kushal K	7411783054

4.11.3 Bharath Scouts and Guides, Kolar:

Disaster Management trained Rescue Team Details of the Bharat Scouts and Guides:

Sl. No	Name	Contact Number	Designation	Sl.No	Name	Contact Number	Designation
1	Babu. V	7019862922	Staf	31	Sindhushree.K	7259691609	Student
2	Vishwanath V	9902890534	Staf	32	Deepa	9902890534	Staf
3	Venkategowda	8971815430	Staf	33	Suman	6364357990	Student
4	RajKumar K		Staf	34	Narayanaswamy	9900722298	Student
5	VinayKumar	9008519400	Staf	35	Purushotham	6363379911	Student
6	Chowdappa	9844119757	Staf	36	Sreenath	7259762091	Student
7	Niranjan v	9743258711	Staf	37	Gangaraju V	7996359408	Student
8	Madhu.R	9480506829	Staf	38	Tejaswini.N	9972789182	Student
9	K R Suresh	9341666136	Staf	39	Sudha C R	7022484108	Student
10	Chetan Sakpal	9731583886	Staf	40	Manjunath V	9066363522	Student
11	Sridhar K V	6364709873	Staf	41	Pooja T	8971222847	Student
12	Sumanth	9731203014	Staf	42	Subhashini	9606754716	Student
13	Govindh K	8152052066	Staf	43	Naveen D K	8147404071	Student
14	Niranjan B N	7996044908	Staf	44	KupendraGowda	9886829908	Student
15	Bhargavireddy M	7760873244	Staf	45	Madhan C J	7353990376	Student
16	Mamatha M	9148155193	Staf	46	Nagaraju	9740558494	Student
17	Umadevi N	9141437773	Staf	47	Mahesh N	9980584861	Student
18	Subhramani	9741192415	Student	48	Vaseem	8095363123	Student
19	BharathKumar V	9739036351	Student	49	Pavithra	7275477940	Student
20	Dhanush	8861534341	Student	50	Poornima	8147966592	Student
21	Dhilip H	7019317448	Student	51	Radhika	9901882157	Student
22	Gajendra	7349126524	Student	52	Ramya S N	9449227567	Student
23	Ganesh	9113587804	Student	53	Renuka	8553951734	Student
24	Kishore H V	9611197395	Student	54	Mahesh H	8710022459	Student

25	Jayachandra	9902241487	Student	55	Nandhini	9743627233	Student
26	Gangadhara	7353884802	Student	56	Vinay	7619117158	Student
27	Reddy karthick	8497055626	Student	57	Raju	7353902781	Student
28	Lakshmappa	8892556350	Student	58	Mallika	9108137882	Student
29	Gangadara K N	7337767369	Student	59	Mahalakshmi	9900859642	Student
30	Shwetha R	7337767369	Student	60	Gangaraju	9972395028	Student

4.11.4 N.C.C.:

20th Karnataka Battalion NCC unit is functioning covering Kolar District with the Sub-units and Cadets strength as below:

Sl. No	Place	Associate NCC Officers	Cadets Strength
1	Kolar	01	118

During emergencies NCC will be pressed in for service.

4.11.5 HOME GUARDS

KOLAR District has 10 units of home guards for the district. The District Commandant heads the Home Guards Department and is supported by Deputy Commandant, instructors (two) and about 1200 home guards, some of whom are specially trained in rescue and various other emergency fields of civil defense.

The number of home guards in the Kolar District is as follows: -

Contact Details of Home Guard Department:

Sl.No	Designation	Office	Residence
1	Commandant	08152 - 243149	-
2	Deputy Commandant	08152 - 243149	-

Number of Home Guards in the Kolar District: (Taluk wise):

Sl.No	Taluk Name	Men Home Guards	Women Home Guards	Total Number
1	Kolar	204	30	234
2	Malur	60	08	68
3	Srinivasapur	75	02	77
4	Mulbagal	77	12	89
5	Bangarapet	153	35	188
6	KGF	160	30	190
	Total	729	117	846

Basic and Advance Fire fighting trained HG Details:

Sl.No	Name of the Home Guard	Date		Unit Name	Mobile No
		From	To		
1	V.M. Manjunath	01-10-12	12-10-12	Kolar	9886510782
2	N. Venkatesh	01-10-12	12-10-12	Mulbagal	9742211378
3	H.M. Krishnachari	30-03-13	10-04-13	Sundarapalya	9538825565
4	H.K. Lakshminaranaya	30-03-13	10-04-13	Sundarapalya	8729772474
5	S. Pradeep	06-11-13	19-11-13	Bangarapet	8197838793
6	M.V. Lokesh	06-11-13	19-11-13	Bangarapet	8971994445
7	Shivappa T.G	01-04-14	11-04-14	Bangarapet	9591053059
8	Nataraja G	01-04-14	11-04-14	KGF	
9	Harish	03-11-14	15-11-14	Kolar	9141040552
10	K.S. Srinivasa shetty	03-11-14	15-11-14	Kolar	8553905771
11	K.V. Chandra	02-03-15	12-03-15	Malur	9591290725
12	Navaz	02-03-15	12-03-15	Malur	9980980515
13	Syed Rahamathulla	02-03-16	15-03-16	Kolar	9535971696
14	Santhosh	02-03-16	15-03-16	Kolar	9738005263
15	Nagaraja	03-02-17	15-02-17	Srinivasapur	9845296370
16	Somu V	03-02-17	15-02-17	Budikote	8405488245
17	Chetanrao V	23-02-19	06-03-19	KGF	9448432324
18	Sheshadri P	23-02-19	06-03-19	KGF	9886279870
19	Mohammed Nayaz Pasha	19-11-12	26-12-12	Mulbagal	7353906328
20	Muneer Pasha	19-11-12	26-12-12	Mulbagal	9141362055
21	K. Harish	21-11-13	27-12-13	Malur	9008295808
22	A.V. Nagaraja	21-11-13	27-12-13	Malur	9916654592
23	M.V. Venkatachalapathi	18-11-14	23-12-14	Srinivasapur	8884545708
24	Venkatesh M.V.	18-11-14	23-12-14	Srinivasapur	8971778709
25	K. Venkatesh	16-11-15	22-12-15	Kolar	9901278856
26	R. Pradeepkumar	16-11-15	22-12-15	Kolar	8970773014
27	Krishnamurthy C.	22-11-16	24-12-16	Bethamangala	9980490218
28	Gowtham B.R.	22-11-16	24-12-16	Bethamangala	8970671855
26	S. Manjunath	15-11-17	21-12-17	Mulbagal	9141832244
27	V.N. Nageshbabu	15-11-17	21-12-17	Mulbagal	

First aid trained HG Details:

Sl.No	Name of the Home Guard	Date		Unit Name	Mobile No
		From	From		
1	S.M. Ramesh	08-03-12	20-03-12	Srinivasapur	9740769685
2	B. Rajan	02-11-12	16-11-12	KGF	9916654592
3	S. Kumar	15-03-13	26-03-13	KGF	9591212032
4	M. Jayamma	15-07-13	25-07-13	Bangarapet	8711960209
5	G. Vijaya	15-07-13	25-07-13	Bangarapet	9632489129
6	G. Jagadish	07-10-13	22-10-13	Bethamagala	9141759917
7	G. Harikumar	07-10-13	22-10-13	Bethamagala	9591723318

8	K.H. Anandkumar	17-03-14	27-03-14	Malur	9844681812
9	T.C. Manjunatha	17-03-14	27-03-14	Malur	8711063987
10	M. Narayanamma	01-07-14	11-07-14	Bangarapet	8861254728
11	Venkatachalapathi M.V.	06-10-14	18-10-14	Srinivasapur	8884545708
12	Bhavya S	18-02-15	28-02-15	Kamasamudram	9036103304
13	Parvathamma	06-07-15	17-07-15	Kolar	8105036783
14	Reddamma	06-07-15	17-07-15	Kolar	8970816053
15	K.V. Chandra	05-10-15	17-10-15	Malur	9591290725
16	N. Manjula	16-02-16	26-02-16	Malur	9740326350
17	P.V. Ambika	16-02-16	26-02-16	Malur	7795371917
18	B. Gopalakrishna	16-02-16	26-02-16	Malur	9141337210
19	Ganesh R.V.	16-02-16	26-02-16	Malur	9632030826
20	Anita M	24-10-17	04-11-17	Bangarapet	9880346893
21	B.M. Manjula	24-10-17	04-11-17	Bangarapet	
22	N. Venkatesh	16-07-18	26-07-18	Mulbagal	9742211378
23	Ravindrakumar	16-07-18	26-07-18	Bangarapet	8884585572
24	Pavithra M	03-10-18	16-10-18	Kolar	7996199636
25	Venkatarathnamma	03-10-18	16-10-18	Kolar	8746902287
26	P. Srinath	25-05-19	04-06-19	KGF	9900131587
27	Anilkumar M	25-05-19	04-06-19	KGF	9743932734
28	Shyam P	25-05-19	04-06-19	KGF	8892763480
29	G. Venkatesh	15-07-19	25-07-19	Bangarapet	9591069491
30	Manjunathareddy V	15-07-19	25-07-19	Bangarapet	8660525230
31	Nandini K	10-10-19	22-10-19	Kolar	9591942206
32	V.C. Shilpa	10-10-19	22-10-19	Kolar	8147804091

Rescue trained HG Details:

Sl.No	Name of the Home Guard	Date		Unit Name	Mobile No
		From	From		
1	H.E. Ramachandra Reddy	02-02-13	14-02-13	Srinivasapur	9902914565
2	K. Hanumanthappa	17-06-13	09-07-13	Malur	7259831307
3	A.V. Nagaraja	17-06-13	09-07-13	Malur	9916654592
4	J.N. Shivalingaiah	03-02-14	14-02-14	Kolar	9741182442
5	M.V. Chandrashekar	03-02-14	14-02-14	Kolar	8553591958
6	H.V. Sathish	02-06-14	25-06-14	Kolar	8197152973
7	S.V. Subramanyam	02-02-15	12-02-15	Srinivasapur	9611289379
8	Sanaullakhan	02-02-15	12-02-15	Srinivasapur	9663740320
9	Anilkumar C	03-06-15	26-06-15	Bangarapet	8971715666
10	Manjappa C	03-06-15	26-06-15	Bangarapet	8710858728
11	Maresh S	02-02-16	12-02-16	Kolar	9538811274
12	Pradeep NR	02-02-16	12-02-16	Kolar	7090254424
13	Chalapathi	20-10-16	16-11-16	Budikote	9663613215
14	Somu V	20-10-16	16-11-16	Budikote	8405488245
15	KN. Raghunatha	20-02-17	03-03-17	Bethamangala	9535340906
16	SunilKumar B.S.	20-02-17	03-03-17	Bethamangala	7259621407
17	Chandrashekar	24-07-17	18-08-17	Kolar	8892192594
18	P. Gopal	24-07-17	18-08-17	Kolar	9632668993
19	Srinatha H.A.	24-07-17	18-08-17	Kolar	9739923847
20	Munikrishna M.V	26-03-19	04-04-19	Kolar	9686843171
21	Rajesh K.	26-03-19	04-04-19	Kolar	9611212729

22	Murali B.N.	29-07-19	23-08-19	Kolar	9620004318
23	Balakrishna T	29-07-19	23-08-19	Budikote	7022720125

Communication:

The Home Guards depend on Police for communication and transportation requirements.

Roles and duties:

District Commandant and Deputy Commandant will position themselves in the Control room and keep themselves in continuous contact with the field officer /units.

Any additional help required would be mobilized from the Control Room. This help could be mobilized from the neighboring districts depending on their proximity to the site of emergency.

4.11.6 NDRF (National Disaster Response Force)

Objective:

- To maintain 24 hours National & State level mobilization centers round the year.
- To make available emergency relief teams at short notice for search and rescue operations.
- To develop effective strategies and procedures to save more lives and reduce loss of life and property.
- To promote activities aimed at search and rescue operations in disaster prone areas.

NDRF Charter: The DM Act 2005 (**SEC 44**) has made the statutory provisions for the constitution of the **National Disaster Response Force (NDRF)** for the **purpose of specialized response** to natural and man-made disasters.

AOR of 5th battalion NDRF are MAHARASHTRA, GOA, and AND 16 DISTRICTS OF KARNATAKA.

Each Battalion has 6 Coys (3 Teams each): Total 18 teams.

Each Team comprises of 45 personnel.

A team of 50 personnel are stationed in Bangalore.

Capabilities of NDRF

- Earthquake and Collapsed Structure Response.
- Flood and Water Rescue.
- Cyclone, Landslide and other Natural Disasters.
- Medical First Aid.
- Chemical, Biological, Radiological and Nuclear emergencies (CBRN).
- Response to all Man Made Disasters.

- Train Accidents.



Rescue Operation by NDRF personnel



Equipments with NDRF

Victim Location Unit



4.11.7 Civil Defense:

Civil Defense is an Organization of the people who fight to mitigate the effect of disasters both man-made and natural disasters on civilian life. The organization strives to save life, to minimize damage to property, and restore normalcy as soon as possible. It consists of highly skilled professional who render their service without any monetary benefits. They are expanding their bases in most of the districts. Dr. P.S.R. Chethan is the Chief Warden of civil defense for Bangalore Region. Phone number is annexed with this plan.

4.11.8 Disaster Management Support from ISRO

Department of Space (DOS) has embarked upon the Disaster Management Support (DMS) Programme as a prime application activity, to reach the benefits of the aerospace technology for the resolves of disaster management in the country. Various centres of ISRO/DOS are involved in implementing different components of DMS Programme, which is centrally coordinated by DMS Programme office at ISRO HQ. The Decision Support Centre (DSC) established at National Remote Sensing Agency (NRSA) is the single window delivery point for aerial and space enabled inputs together with other important data layers for its use in disaster management of pre-disaster, during-disaster and post-disaster phases. For online transfer of space enabled inputs to the State and Central government user departments, a VSAT based satellite communication network has been put in place. At present, DSC is addressing five natural disasters viz., Flood, Cyclone, Agricultural Drought, Forest Fire, Earthquake and Landslide. The operations are Disaster information collection, Data Acquisition, processing, and transfer to DSC, Data analysis, Output Generation & Dissemination to user via VSAT, FTP, Web page, E-mail etc.

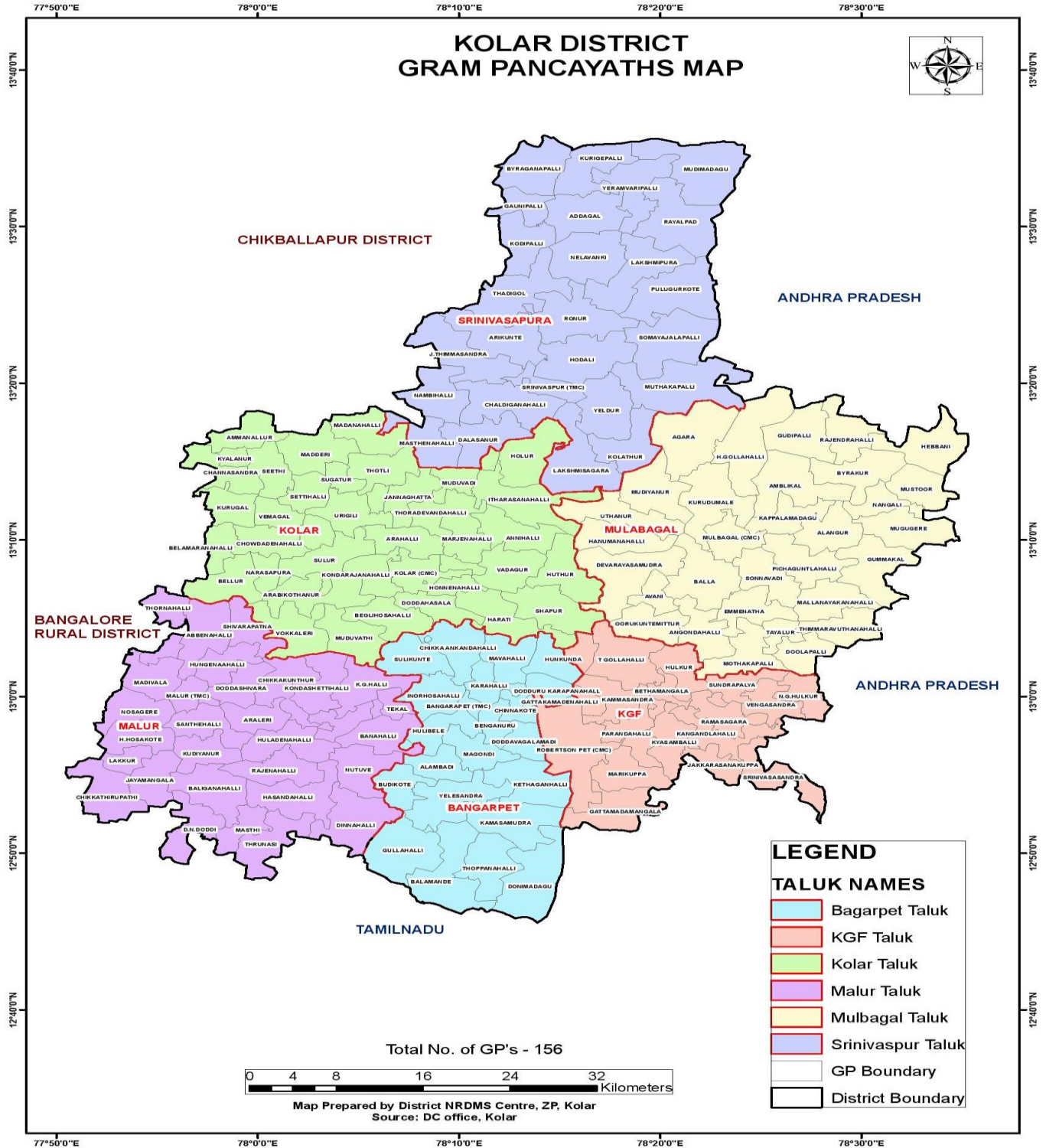
On receiving information from the identified nodal forecasting organization or Ministry of Home Affairs (MHA), action for acquisition of space and airborne data is initiated. Depending upon the satellite pass, cameras are tilted and data is acquired and analyzed. First level information thus derived from space data is made available to MHA and Central & State user agencies. The information is monitored on a regular basis for damage assessment. DSC has provision to mobilize aircraft equipped with Synthetic Aperture Radar (SAR), Air-borne Laser Terrain Mapping unit (ALTM) and High Resolution Digital Camera for obtaining aerial data. DSC aims to build a comprehensive geo-spatial database for the disaster vulnerable regions in the country. Using the available geospatial data sets in centralized data server, DSC is capable to develop support tools for decision making. Besides web hosting, satellite based connectivity with the National and State Emergency Operation Centers is established for fast

dissemination of space enabled services. DSC is working on preparation of maps showing hazard zones. DSC is working on space inputs for long-term disaster mitigation and rehabilitation. DSC provides support to the International Charter on Space and Major Disasters. Bhuvan portal developed by ISRO gives 2D and 3D images of disaster prone areas.

Chapter 5 GIS and Preparation of Basic Maps

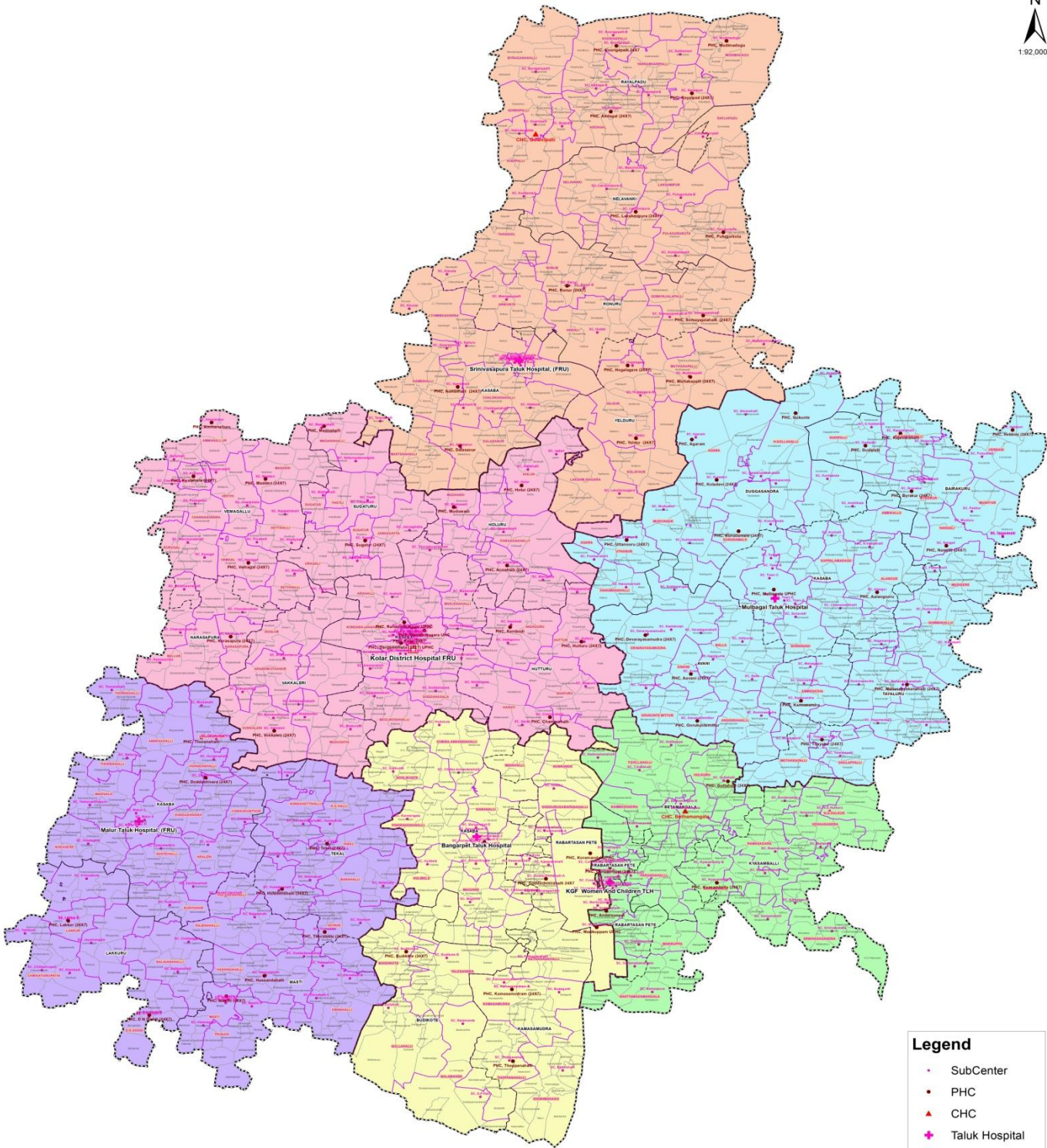
5.1 Use the GIS, RS and GPS technology for preparing the following;

5.1.1 Maps showing boundaries of Taluks, GPs in the District etc.,



5.1.2 Maps showing Health Institutes in the District: Public Infrastructure, etc.

MAP SHOWING HEALTH INSTITUTES OF KOLAR DISTRICT



Legend

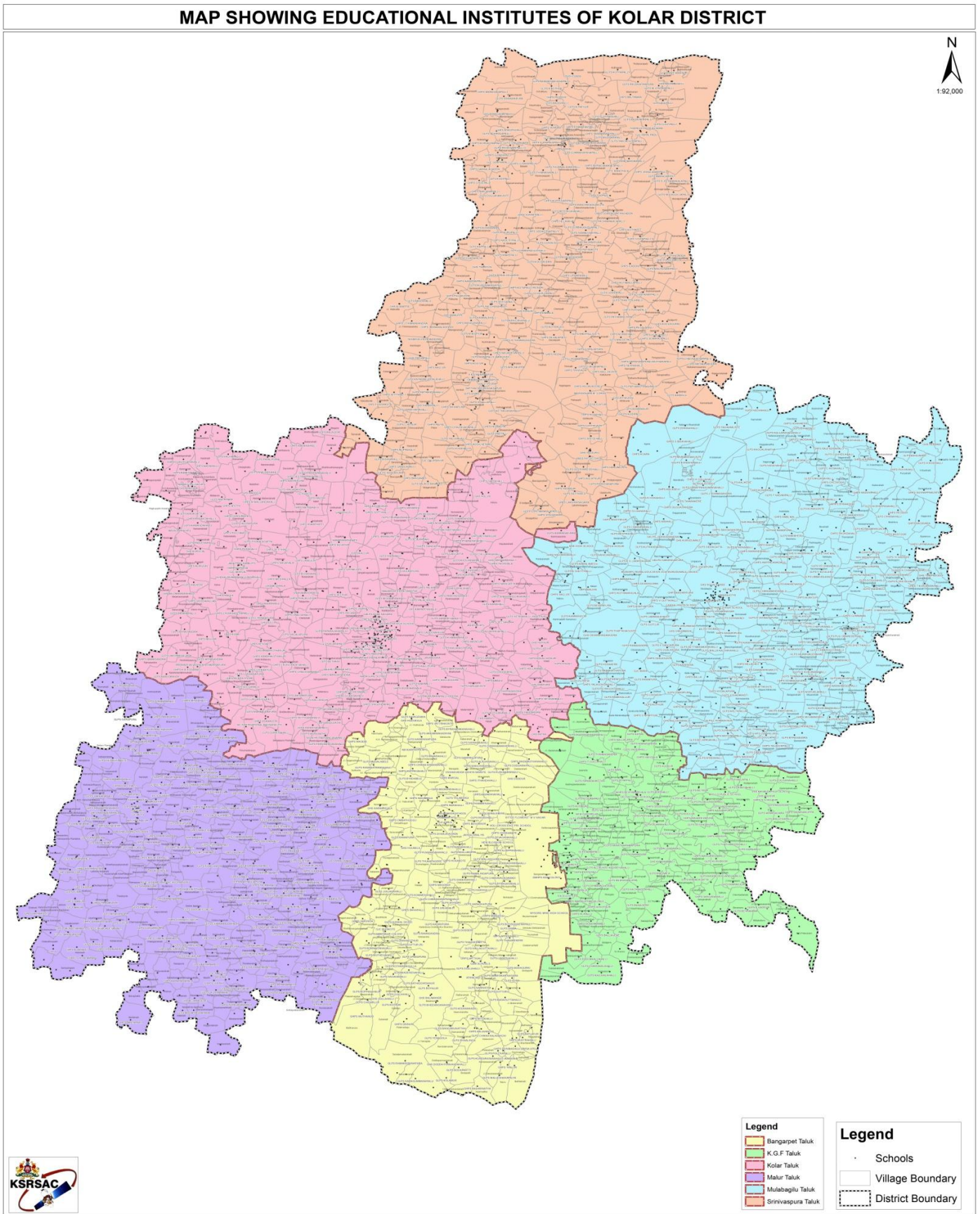
- SubCenter
- PHC
- ▲ CHC
- ✦ Taluk Hospital
- ▣ District Hospital
- ▭ Village Boundary
- ▭ GP Boundary
- ▭ Hobli Boundary
- ▭ District Boundary

Legend

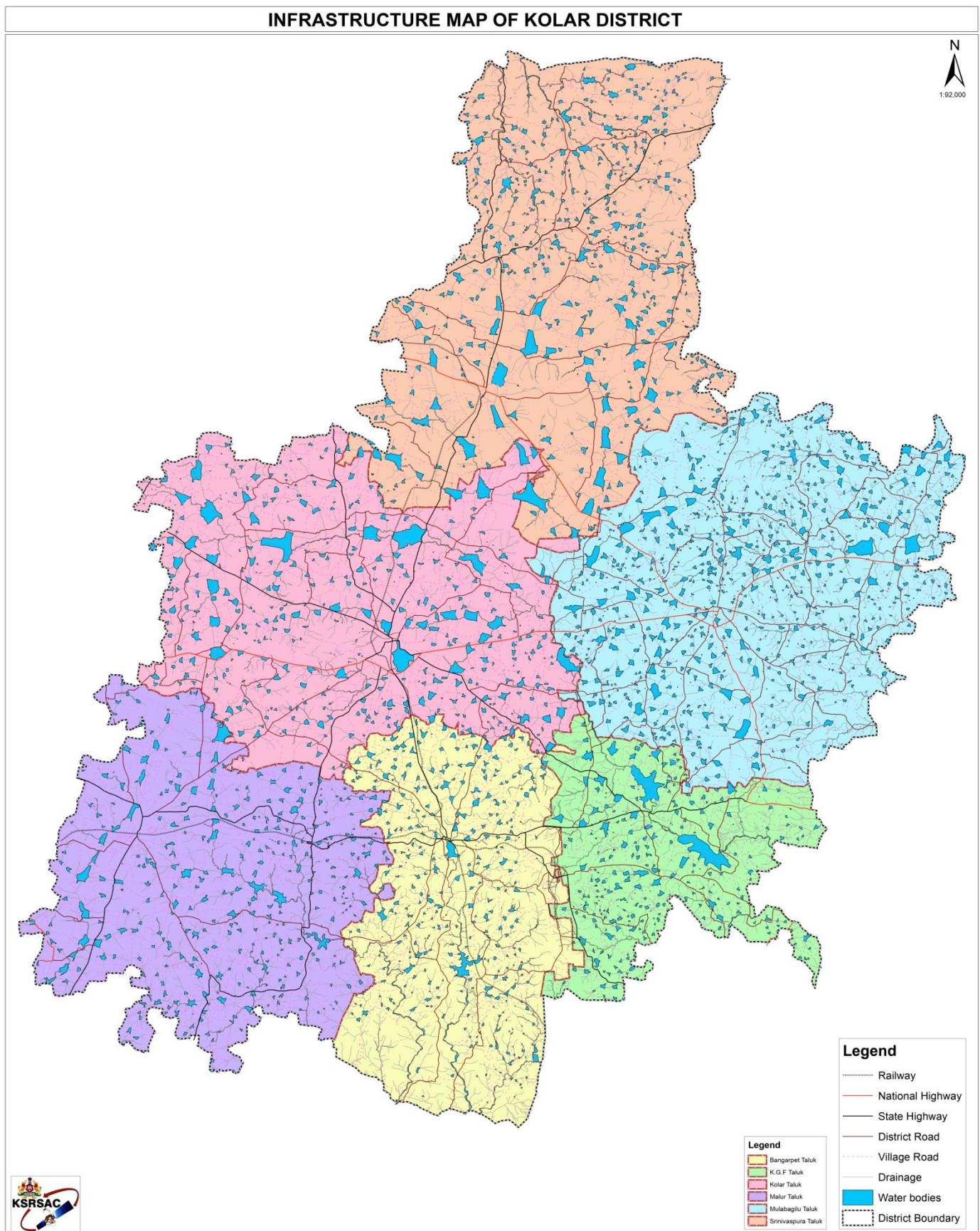
- Bangarpet Taluk
- K.G.F Taluk
- Kolar Taluk
- Malur Taluk
- Malabagilu Taluk
- Srinivasapura Taluk



5.1.3 Maps showing Educational Institutes in the District:



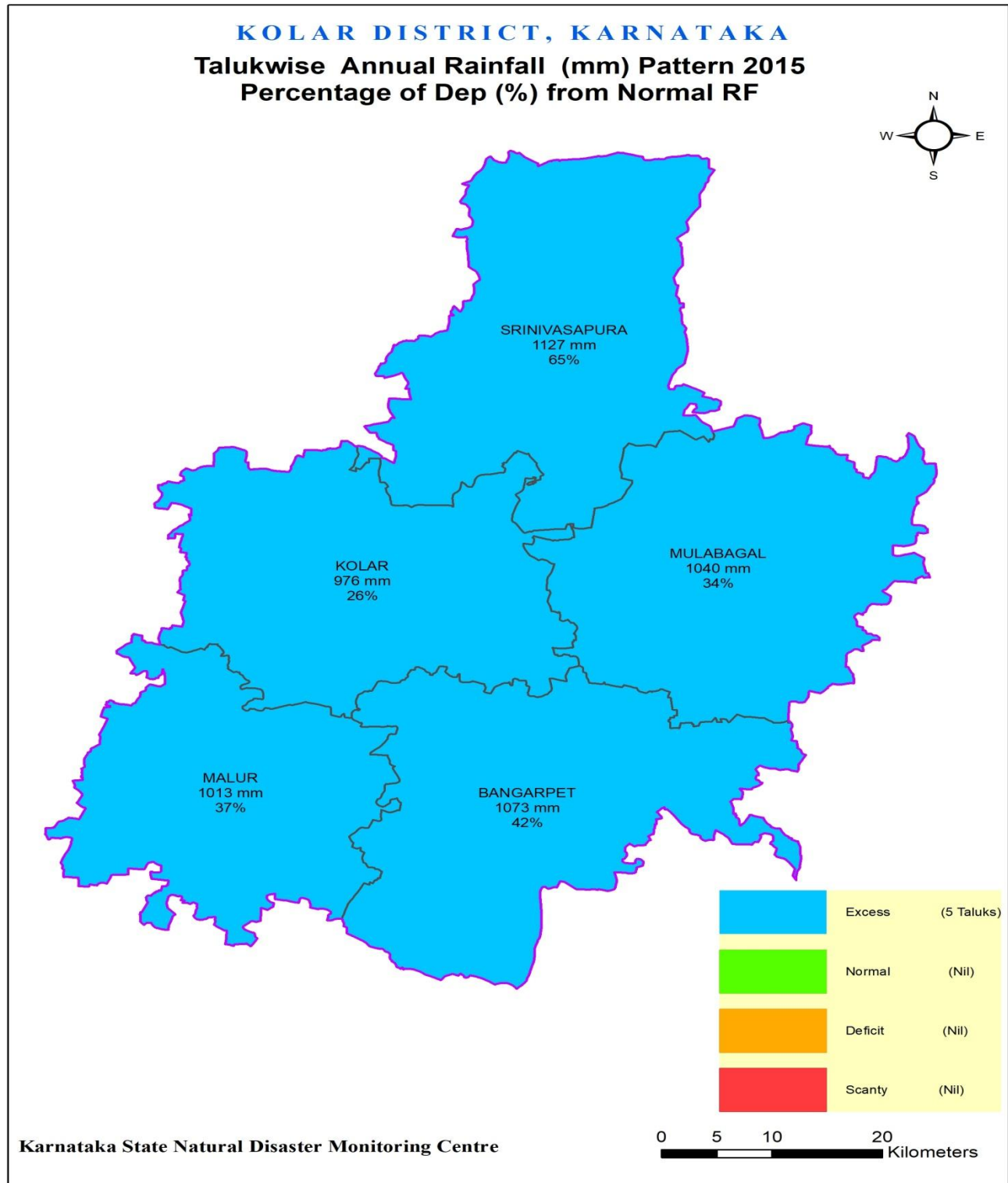
5.1.2 Maps showing Health Institutes in the District: Public Infrastructure, etc.



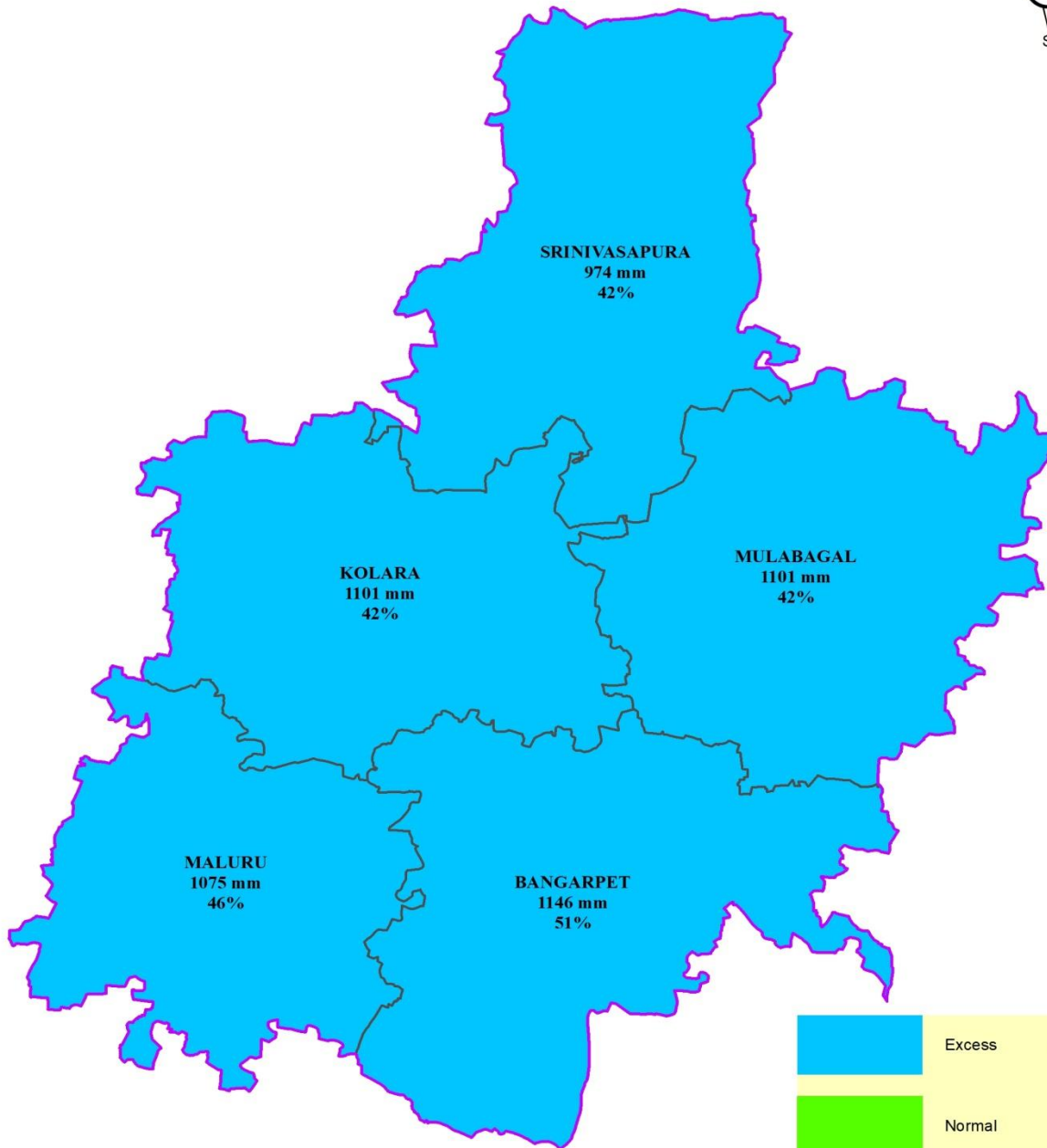
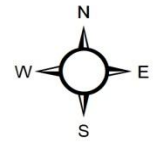
5.2. Map showing hazard

5.2. Maps Showing Vulnerable Areas to different disasters such as Heavy rainfall, floods, landslides, drought, fire, industrial accidents, chemical accidents/mishaps, road accidents etc.

5.2.1 Maps Showing Talukwise Annual rainfall pattern and Percentage of Dep (%) from Normal Rainfall-2015-2018



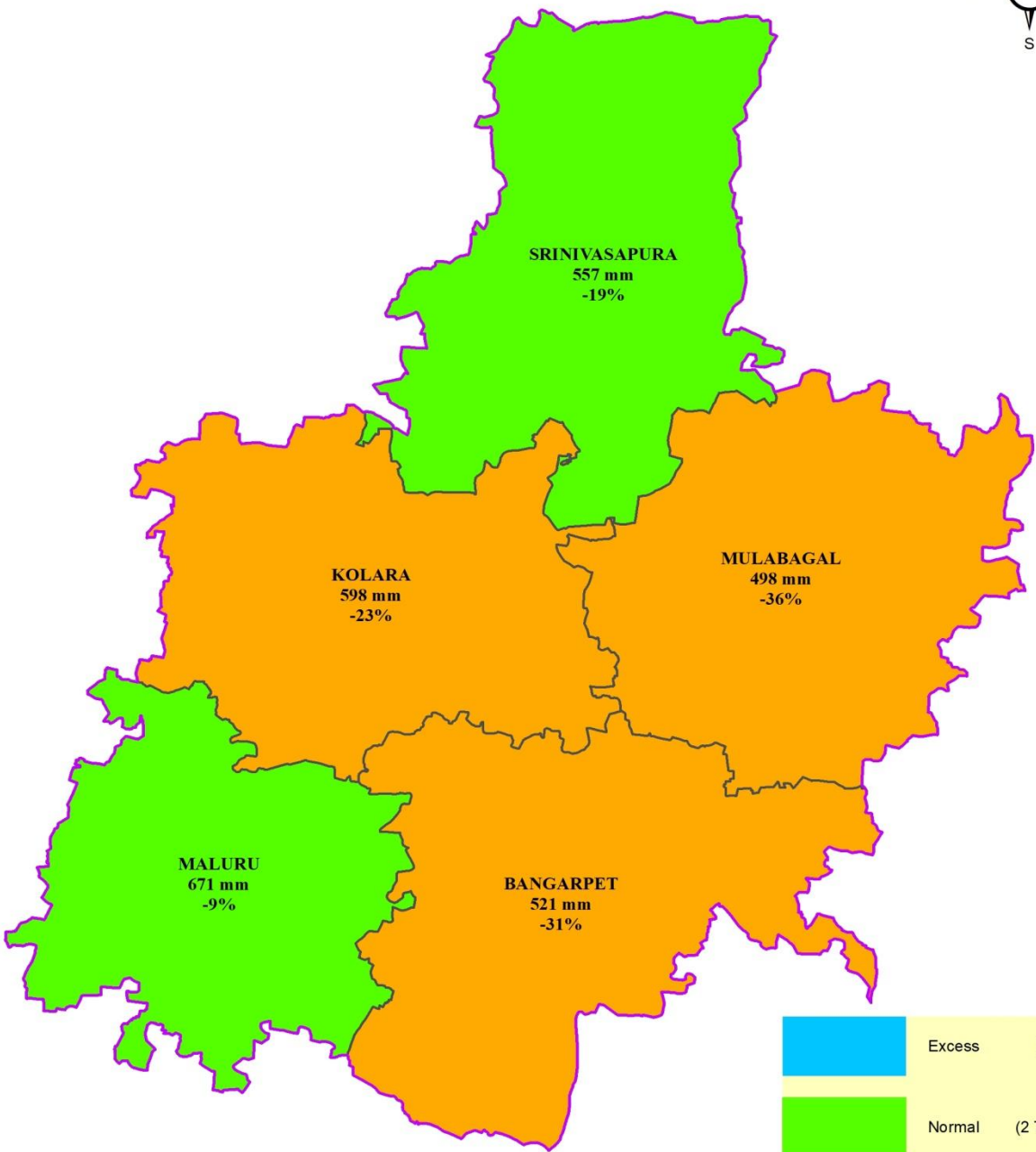
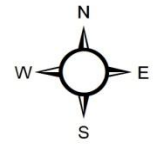
KOLAR DISTRICT, KARNATAKA
Talukwise Annual Rainfall (mm) Pattern 2017
Percentage of Dep (%) from Normal RF



Karnataka State Natural Disaster Monitoring Centre



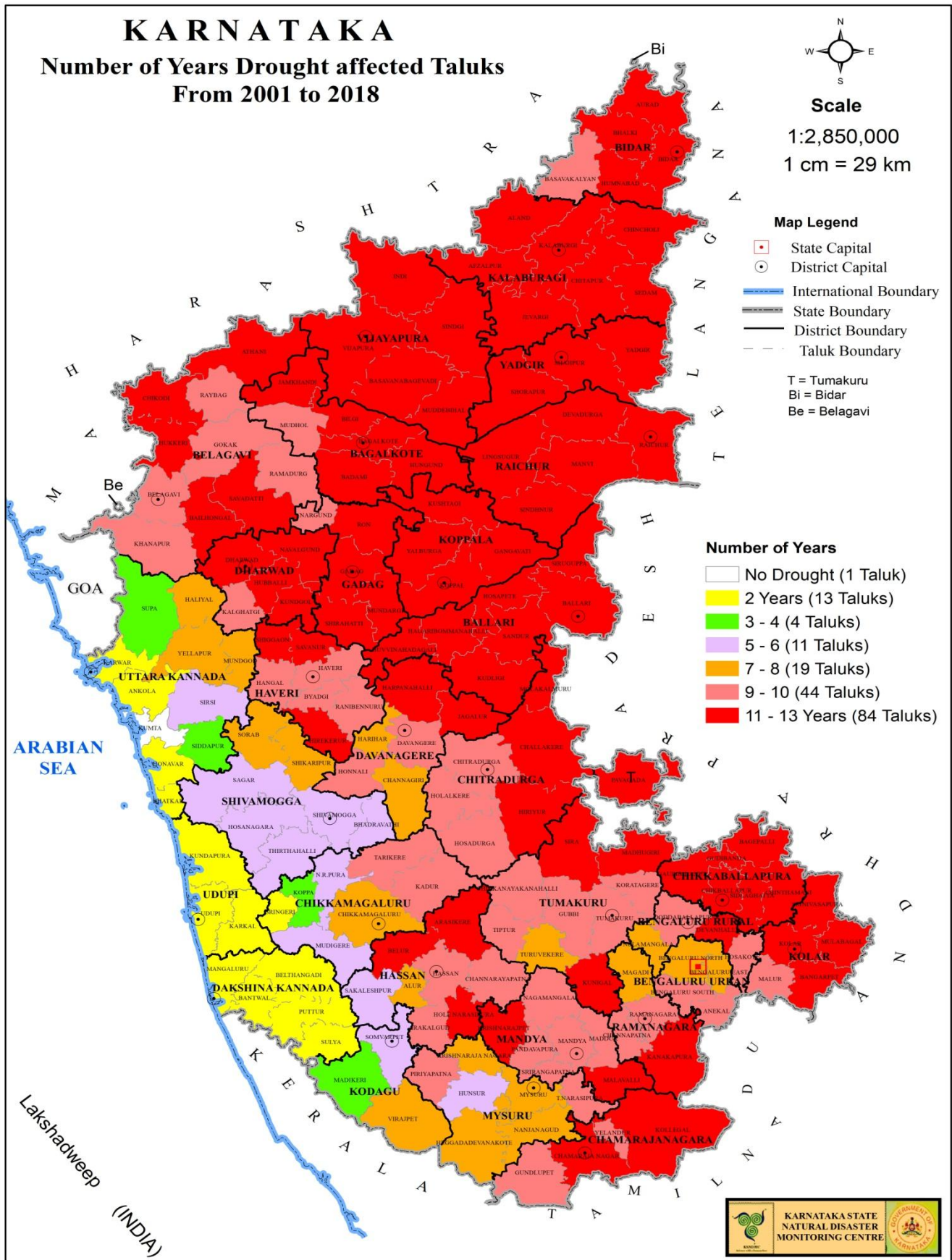
KOLAR DISTRICT, KARNATAKA
Talukwise Annual Rainfall (mm) Pattern 2018
Percentage of Dep (%) from Normal RF



Karnataka State Natural Disaster Monitoring Centre



5.2.2 Maps Showing Vulnerable Areas such as drought etc.



Chapter 6

PREPAREDNESS AND MITIGATION PLAN

6.1 Preparedness:

This protective process embraces measures which enable governments, communities and individuals to respond rapidly to disaster situations to cope with them effectively. Preparedness includes the formulation of viable emergency plans, the development of warning systems, the maintenance of inventories and the training of personnel. It may also embrace search and rescue measures as well as evacuation plans for areas that may be at risk from a recurring disaster. Preparedness therefore encompasses.

6.2 Mitigation:

Mitigation and Prevention are used as synonyms. Some prefer to drop the term Mitigation and use only Prevention. The term Mitigation can be comprised in the term Prevention. Mitigation means to reduce the severity of the human and material damage caused by the disaster. Prevention is to ensure that human action or natural phenomena do not result in disaster or emergency. Primary prevention is to reduce -avert- avoid the risk of the event occurring, by getting rid of the hazard or vulnerability, e.g. to avoid overcrowding, deforestation and to provide services. Healthier people in a healthy environment will be less vulnerable to most hazards. E.g. immunizing people against smallpox made them less vulnerable to the virus, and slowly eradicated the disease. Secondary prevention means to recognize promptly the event and to reduce its effects, e.g. by staying alert to possible displacements of population; by being ready to provide immunization, food, clean water, sanitation and health care to refugees. Healthier people in a healthy environment will also be more capable to overcome the emergency.

6.3 Preparedness And mitigation measures:

Preparedness and mitigation measures towards various disasters certainly help to reduce the risk as well as loss and damage of the life and properties caused by different disasters. Let's discuss them in general as well as event wise

6.4. General Preparedness Measures

1. Establishment of the Control Rooms: The district administration should ensure the operation of control rooms. The control rooms are presently run by major line **departments of revenue, police, BESCO, Hospital, etc.**, at taluk and district level should be functional.

2. Plan Updation: Disaster Management Plan needs updating at every interval. It includes the skilled manpower, their addresses and contact numbers, necessary equipments, medicinal stock, daily necessities, list of flood prone villages etc. All these things have to be updated after a certain interval of time.

3. Communication System: Training is given for search and rescue teams, first aid teams disaster management teams at the village, Taluka and district level. These teams will provide timely help during any type of disaster. Provision of wireless sets at all Subdivisions and Taluka Offices for effective communication of cyclone/heavy rainfall/flood warning. Fire Brigades at all the Municipal Offices. Setting up of a special Highway Safety Patrol along the Mumbai-Goa highway. Effective and stricter implementation of flood zone regulations disallowing construction within 200 m of river banks. Widespread community awareness programmes in flood prone villages so that villages are sensitized about the flood hazard and there are no problems when there is a need for evacuation.

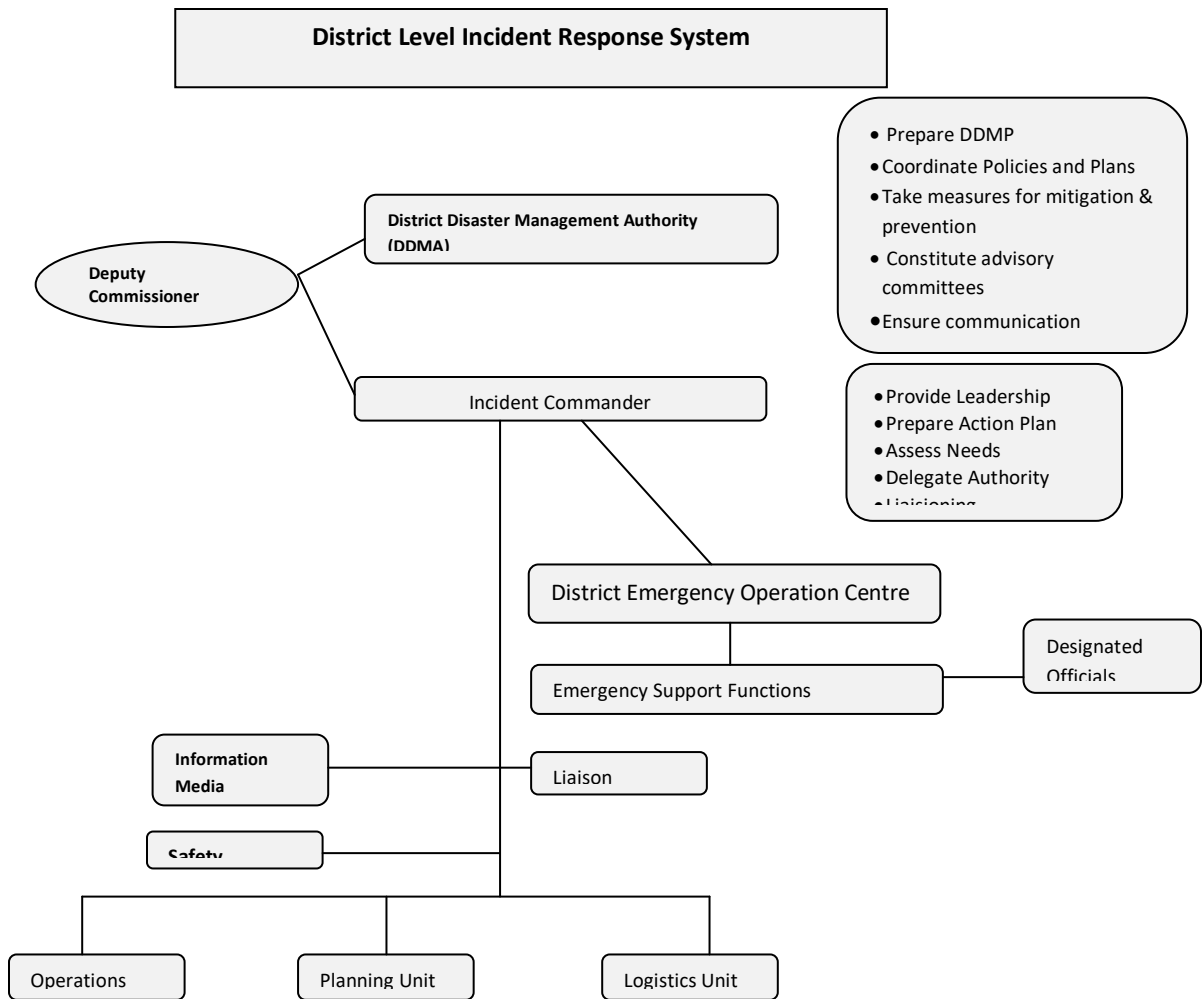
4. Training for Disaster Management Team Members: Each of the DMTs comprises groups of women and men volunteers and are assigned to a special task. The Search and Rescue Teams, First Aid Teams formed at the three levels should be provided training from time to time so that their timely help can be used during a disaster.

5. Organization of Mock Drills: Mock drill is an integral part of the Community based disaster management plan, as it is a preparedness drill to keep the community alert. Mock drills are organized in all the villages of the district to activate the DMTs and modification of the DM plan. Mock drill is organized once in six months as per the seasonality calendar of natural disaster events that is likely to occur.

6. Community Awareness on Various Disasters:

1. Construction of Earthquake Resistant Structures
2. Retrofitting the weak structures
3. House insurance
4. Construction of embankments for flood control
5. Rehabilitation of people in safe lands
6. Development of plans for shifting people from the vulnerable area to safer areas

6.5 District Level IRS:



6.6 Principal Objectives of Mitigation

- Save lives
 - Reduce economic disruption
 - Decrease vulnerability/increase capacity
 - Decrease chance/level of conflict
- } RISK REDUCTION

6.7 Mitigative measures to be taken in case of natural Disaster

- Slowing down the spreading of mine, industrial and forest fires and their mitigation
- Damage due to earthquake, landslides and other mass movements can be minimized through early warning systems and timely evacuation of population. Drainage, sub surface drainage, embankments, strengthening of slopes, raising vegetation on sloppy surfaces, constructing of culverts etc. helps mitigating the damage.
- In case of earth quakes emergency evacuation, scratch resume and relief from important action plan in disaster management
- Programs of disaster management/ mitigation encompass a wide range of options ranging from issuance flood warnings to reduction of flooding to actual evacuation.

6.8 Synopsis of Mitigation plan: -

Phase	Activities	Officials involved
Pre Disaster Plan	Identification of disaster prone major accident hazard units and industries involving hazardous processes periodically and update.	Dept. of Factories
	Hazard, risk and vulnerability (HRV) analysis has to be identified and reviewed periodically.	Management, CDC
	All the identified major accident hazard units and industries involving hazardous process are required to develop a comprehensive on site.	Management, Dept. of Factories and Boilers
	emergency plan co-ordinating the resources available at the site against the HRV	
	Mock rehearsals shall be schemed to assess the strength and weaknesses in the mitigation procedure.	Management Dept., District Crisis Group
	Hording showing the Do's and don'ts in the event of emergency shall be displayed at all	Management of Industries

	strategic location around the plant to sensitize the public around the plant.	
	Periodical training on first aid fire fighting and casualty handling during emergencies shall be programmed.	Management Police, Fire Services, Dist. Commandant
	Identification of resources against the HRV	Management
	The vulnerability area shall be periodically checked for its integrity and safe working conditions.	Management, Directorate Fire Services, Factories
	Preparation of Resource directory showing the resources available in and around the industry.	Directorate of Factories, DCG
	Community awareness programmed shall be designed by distributing pamphlets, classes highlighting about the hazards and do's and don'ts in the event of emergency.	Management Police, Fire Services, Dist. Commandant
	Duties and responsibilities of 1 st responders' viz., Fire Services, Police, Health, Home guards, shall be clearly defined and shall be informed.	CDC, Police, Fire, Revenue
	Periodical evaluation of resources at the control room	CDC, Fire Services
	Identification of shelters, temporary shelter camps with accessibility and infrastructures	Revenue department
	Identification of routes, rallying posts, parking places	Police, Fire Services
	Listing and documenting the home guards required for law order, assistance to the police assistance at the temporary shelters	Dist. Commandant, Home guards

	Preparation of list of experts to seek their opinion during emergency mitigation	CDC, Dept. of Factories
	Ensuring proper functioning of warning and communication system. Updating of telephone numbers at the control room.	CDC, Revenue
	Identification and listing of hospital - infrastructure facilities	DHO
	Identification and listing of blood banks, medical shops, stockiest	DHO
	Identification and listing of vehicles required for immediate requisition	RTO
	Identification of listing of earth moving equipment, vehicles for transportation and documenting	RTO
	Identifying resources for temporary electricity and lighting arrangement, identification and listing of personnel and support system for immediate action	KPTCL
	Identifying NGOs for deployment to work at the rehabilitation centers and to derive resources	Revenue, CDC
	Identification of any pollution effects due from the disasters and to advice CDC on the next course of action	KSPCB
	Identification and supply of availability of potable water sources, water purification tablets, construction of temporary shelters and maintenance	PHE, Commissioner
	Identification of safe shelters for animals	Veterinary Dept.

6.9 Administrative preparedness

All the 6 Tahsildars have been inspired and instructed to form groups of **Village Accountants, Revenue Inspectors, Deputy Tahsildars**, wherever nodal officers are available and to identify the vulnerable areas and also to plan for the local publicity at the time of such incidents. **The taluk level officers like Executive Officer, Asst. Executive Engineers, Block Educational Officers** and all other departments are also asked to be in our team to provide necessary help to provide shelter, food, repairs of roads, culverts, etc., wherever required.

Karnataka Power Transmission Corporation Ltd., BESCO, Medical Staff and Municipality or Panchayath Staff has been asked to extend their services, within their limits. Almost all the social workers, NGOs and the likeminded people have been asked to provide their services in times of need.

All the officers were kept in touch with the DDM Heads, both in taluk and district level. Police, Home guards were kept in red alert especially in project areas and on river banks. And also to identify the places where rehabilitation camps are to be opened, facilities to provide drinking water, food providing facility and areas available resources are to be identified. Medical facilities, NGO assistance, maintenance of cattle, open space for all their activities are also to be kept in mind in identifying the mitigation plan. The slum areas, the people living in low line areas, backwater level areas were kept in mind, and high alert and wide publicity arrangements were also made.

6.10 Drought Mitigation

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.

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.

6.10.1 Structural Mitigation Measures for Drought

- ◆ 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;
- ◆ Programme for reconstruction and preservation of traditional water structures, construction of canals for transportation of water from surplus to non-surplus areas, establishment of cost-effective drip /sprinkle irrigation practices etc.
- ◆ 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.
- ◆ Construction of "Community Ponds" through Panchayati Raj Institutions (PRI) and maintenance by levying user charges.
- ◆ Augmentation of agro-based food processing industries in rural areas for sustenance of employment,
- ◆ 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;
- ◆ Construction of shelters for cattle and development of infrastructure for storage and transportation of dry and green fodder etc.;
- ◆ Ensuring provision of medicines and critical health care in the risk prone areas during drought for humans and animals;
- ◆ Ensuring efficient functioning of the PDS in drought affected areas;

- ◆ Provision of adequate infrastructure for dissemination of weather based advisories to the farming community on real-time basis in regional languages through extension machineries;
- ◆ Providing credit promptly in the drought affected areas and extending marketing and price support to farmers;
- ◆ 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;
- ◆ 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.

6.11 Structural Mitigation measures for Drinking Water during 2019-20 Crises:

At present drinking water is supplied through govt and private tankers. Desilting of tanks, construction of percolation tanks, rainwater harvesting are encouraged to increase the surface water.

There are few projects envisaged to provide drinking water to Kolar districts.

6.11.1 Yettinahole Diversion Project:

Karnataka has been mulling over diverting waters of the west flowing rivers to the east for many years. Karnataka appointed a committee under Dr. G. S. Paramshivaiah which worked on a plan to divert waters from west-flowing rivers including Netravathi to 7 districts of Bayaleseeme region including **Kolar**, Bangalore, Tumkur, Ramanagara, Chikmagalore, Chikkaballapur, etc. But currently, the Karnataka Government is seriously considering Yettinahole Diversion Project which plans to divert head waters of the Gundia River (a tributary of the Kumardhara, which is a tributary of the Netravathi) in the west and transfer this water to the other end of the state, in the east. It has been reported that tenders for this project have been floated already. It's Project Report (June 2012) is titled as Scheme for diversion of flood water from Sakleshpura (West) to Kolar/ Chikkaballapra Districts (East) “. The purpose of this project is to supply drinking water to parched districts of Kolar and Chikkaballapur.

6.11.2 Declaring Antharagange forest area as a water supply catchment area for Kolar:

Antharagange forest area has been declared as water supply catchment area for Kolar and a proposal has been submitted to government through forest department for Rs. 17 crores towards its conservation and development. Laksha Vruksha Abhiyan (a movement to plant one lakh saplings) has been taken up in Antharagange area.

6.12 Ground Water Conservation Mittigation Measures:

6.12.1 Water Conservation plans under JALSHAKTI ABHIYAN of Kolar District Such as rainwater harvesting, pits and trenches, percolation tanks, point recharge system, dug wells/injection wells, ooranies/village ponds/traditional water bodies, and micro irrigation ponds are taken up and encouraged.

2019-20 Water Conservation plan under Jalshakti Abhiyan of Kolar District Phase -1

SL NO	Name of the objective	Scheme	Name of activity	Unit	No. of works	expenditure (in Lakh)
1	2	3	4	5	6	8
1	Water Conservation and Water Harvesting	MGNREGA	Check dam	No	255	495.58
		MGNREGA	Pond	No	193	278.63
		MGNREGA	other water conservation activities	No	208	187.36
		MGNREGA	other rain water harvesting	No	62	121.45
		MGNREGA	Trench	No	73	152.14
Total					791	1235.16
2	Renovation of traditional water bodies and other water bodies/tanks	other renovation of water bodies	Desilting	–	24	124.52
Total					24	124.52
3	watershed development	MGNREGA	other watershed construction activities	NO	425	471.87
Total					121	471.87
4	Reuse and Recharge structures	MGNREGA	Other stuctures	–	12	18.75
Total					12	18.75
5	Intensive afforestation	MGNREGA	Block plantation	Ha	1718	1348.59
Total					1718	1348.59
Grand total					2970	3198.89

2019-20 Water Conservation plan under Jalshakti Abhiyan of Kolar District Phase-2

SL NO	Name of the objective	Scheme	Name of activity	Unit	No. of works
1	2	3	4	5	6
1	Water Conservation and Water Harvesting	MGNREGA	Check dam	No	0
		MGNREGA	Pond	No	42
		MGNREGA	other water conservation activities	No	7
		MGNREGA	other rain water harvesting	No	8

		MGNREGA	Trench	No	10
	Total				67
2	Renovation of traditional water bodies and other water bodies/tanks	other renovation of water bodies	Desilting	–	7
	Total				7
3	watershed development	MGNREGA	other watershed construction activities	NO	59
	Total				59
4	Reuse and Recharge structures	MGNREGA	Other structures	–	3
	Total				3
5	Intensive afforestation	MGNREGA	Block plantation	Ha	252
	Total				252
	Grand total				388

6.12.2 Koramangala-Chellaghatta Valley Project:

Koramangala - Challaghatta Valley (KC Valley) project is deemed to be a unique project in the country. An irrigation project, considered a rare one, is a first of its kind in the entire country. The project turns out to be a panacea to the ever growing problem of Bangalore city's drain and sewerage on one hand and on the other rejuvenating the minor irrigation system in rural areas which is facing a slow death. Under this project treated sewage water is used to fill irrigation tanks in Kolar district.

Phase I: 126 planned 35 tanks are filled so far.

The KC Valley project comes up as an ever lasting solution to the sewage water problem of Bangalore city. The quantum of city's sewage multiplies with rapid growth of population posing a serious threat to the urban eco system. Bangalore Metropolitan and Karnataka state government authorities have been grappling with the ever growing sewage problem for a long time and a permanent solution was not in sight until KC Valley project takes shape.

On the other hand the neighbouring Kolar district has been in the grip of drought for decades forcing people and farmers live in misery. The KC Valley project thus has been designed to attain double benefits. Sewage water in Bangalore city is being treated and supplied to fill tanks in Kolar district to

strengthen and irrigate parched farms even during a drought. So rejuvenation of bore wells and wells have helped the farmer to save from the clutches of drought.

6.13 Non-structural Mitigation Measures for Mitigating Economic Risk (rural employment and livelihood) of Drought:

Mahathma Gandhi National Rural Employment Guarantee Scheme (MGNREGS): The primary objective of the act is to enhance livelihood security in rural areas by providing at least 100 days of guarantee wage employment in every financial year to every house hold whose adult members volunteer to do unskilled manual work. If the work is not provided within 15 days of the demand of work by the applicant, then un-employment allowance has to be paid. Under the scheme, related objectives such as generation of capital assets, **environmental protection (social forestry), drought mitigation measures**, empowerment of rural women, reduction of urban migration, etc are sought to be achieved.

AAJEEVIKA-NRLM: Ministry of Rural Development has restructured SGSY (Swarna Jayanthi Grama Swarojgar Yojana) as AAJEEVIKA-NRLM(National Rural Livelihood Mission). The aim of the program is to alleviate the poverty among the rural poor. It is a holistic programme covering all aspect of self-employment like organization of the poor into self-help groups, training, credit linkage, technology, infrastructure and marketing facilities.

Mahila Kisen Sashaktikarana Pariyojane (MKSP): This is a central govt. scheme. The objective of the scheme is to train the poorest women of rural area in agriculture to make them financially empowered.

Modified National Agriculture Insurance Scheme (MNAIS): All farmers irrespective of the size of their holdings, both loanee and non-loanee will be insured against any loss of yield due to natural calamities in the scheme. The scheme is compulsory for loanee farmers and subsidised to the extent of 10%.

Weather Based Crop Insurance Scheme(WBCIS): The scheme compensates the insured farmers against the likelihood of financial loss of account of anticipated loss of crop yield resulting from incidence of adverse weather conditions and will cover the risk of weather conditions and will cover the risk of weather parameters like rainfall, relative humidity, temperature, wind velocity, etc.

Bhoochetana:

Bhoochetana is a mission mode project of Govt of Karnataka implement to unlock the potential of rain-fed agriculture in the state which has the second largest rain-fed area amongst the states in India after Rajasthan. It is a science-leg development approach launched by the GoK to improve livelihood of farmers in the state. The overall goal of the Bhoochetana mission project was to increase average productivity of selected crops in the selected districts by 20% in four years.

Agriculture subsidy in form of fertilizer distribution, seed distribution and also through other schemes like Rashtriya Krishi Vikas Yojana (RKVY), Karnataka Farm Mechanization, Farm Machinery Custom Hire Service Centers.

National Mission on Micro-Irrigation: Under this mission, emphasis is given to promote the proven cost-reducing micro-irrigation technology which helps conserve water, reduce fertilizer inputs and ensures higher productivity. The scheme provides 75% subsidy to the farmers for adoption of Micro Irrigation systems. The main objective is to achieve economic and judicious use of water.

6.14 Flood Mitigation

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.

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.

Before the Disaster:

- ◆ Learn warning signs and community alert systems
- ◆ Stockpile emergency building materials
- ◆ Install check valves in sewer traps to prevent flood waters from backing up in sewer drains
- ◆ Plan and practice an evacuation route
- ◆ Have disaster supplies on hand
- ◆ Develop an emergency communication plan in case of separation
- ◆ Ask an out-of-state relative to serve as the "family contact"
- ◆ Teach family members how and when to turn off the gas, electricity, and water and teach children how and when to call 9- 1-1
- ◆ Ask your insurance agent about flood insurance

During the Disaster

During a flood watch:

If indoors:

- ◆ Turn on battery operated radio to get latest emergency information
- ◆ Get pre-assembled emergency supplies
- ◆ If told to leave, do so immediately.

If outdoors:

- ◆ Climb to high ground and stay there
- ◆ Avoid walking through any floodwaters.
- ◆ If in a car, turn around and go another way; if your car stalls, abandon it immediately and climb to higher ground.

During an evacuation:

- ◆ 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

After the Disaster:

- ◆ Don't return home until authorities express it is safe to do so
- ◆ Help neighbors whom may need assistance
- ◆ Use extreme caution when entering buildings
- ◆ 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
- ◆ Watch out for animals, especially poisonous snakes, that may have come into your home with flood waters
- ◆ Watch for loose plaster and ceilings that could fall
- ◆ Take pictures of damage for insurance claims
- ◆ Look for fire hazards
- ◆ Throw away all food (including canned) that has come in contact with flood waters

6.15 Earthquake Mitigation

The recent devastation in Gujarat has been an eye-opener as regards the magnitude of loss to human life and property. Hence, the District Administration has geared up the various Departments to effectively meet the challenge of an earthquake.

Since, earthquakes strike without forewarning and generally any measurement on the Rector scale is usually a post operative measure, prevention in respect of earthquakes is imperative.

The main hurdles as regards planning are as follows:

- Structural planning of individual buildings.
- Communication lines.
- Electricity and water supply.
- Health hazards.
- Loss of life, property and employment.

Preventive steps are required in the following areas:

- Public structures.
- Dams.
- Roads.
- Maintenance of health and prevention of epidemic diseases.

Since, earthquakes are natural calamities dissemination of proper information, awareness, stocking of proper machinery and equipment are the prerequisites to tackle such a situation.

Before the Disaster	During the Disaster	After the Disaster
<ul style="list-style-type: none"> • Check for hazards in the home • Identify safe places in each room • Locate safe places outdoors • Ensure all family members know how to respond after an earthquake • Teach children when and how to call Emergency • Have disaster supplies on • Develop an emergency communications plan in case of separation during the earthquake 	<p>If indoors: Take cover under a piece of heavy furniture or against an inside wall and stay inside</p> <p>If outdoors: Move into the open, away from buildings, street lights, and utility wires and remain there until shaking stops</p> <p>If in a moving vehicle: Stop quickly, stay in vehicle, move to a clear area away from buildings, trees, overpasses, or utility wires</p>	<ul style="list-style-type: none"> • Be prepared for after shocks • Help injured or trapped persons and give first aid where appropriate • Listen to a battery operated radio for emergency information <p>Stay out of damaged buildings and return home only when authorities say it is safe</p>

6.16 Epidemic Mitigation

District has a District Surveillance Officer who keeps track of communicable diseases in the district and advises DHO and Deputy Commissioner to take appropriate action. Stockages of medicines for communicable disease (prophylactic and curative) are maintained by DSO.

Epidemic Infrastructure at District Level:

District has strong epidemic infrastructure having:

- Nodal Officer of District** : District Collector.
- Nodal Officer of Health** : D.H.O.
- Nodal Officer for Medical** : District Surgeon.

At Taluka Level:

Nodal Officer of Taluk : Tahashildar
For Panchayath : Taluka Development Officer
For Medical : Administrative Medical Officer
For Health : Taluka Health Officer

Prevention of water borne disease: Regular check of water quality is done. Water is chlorinated when required.

Prevention of Vector borne disease: During raining season larval survey is conducted. Larval control campaign using ASHA workers, paramedics are conducted in vulnerabale areas. Awariness is created using IEC (information education communication) materials. Door to door campaign is also planned in extremely vulnerable areas.

Terracing and turfing of cyanide dumps in BGML area: Dust emanating from cyanide dumps is causing recurrent respiratory infections and allergy leading to asthma. Action has been initiated for terracing and turfing these dumps. Efforts are made to plant pongemia, neem and other creepers besides the grasses through horticulture and forestry departments. The turfing and planting on experimental basis have yielded good results.

Strict Adherence to COTPA Act: Kolar has emerged as the second best district in the State in enforcing the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act. With collective efforts from revenue, Police, Health and all the concerned officials, the district was able to achieve COTPA compliance target within a short span of time. A fine amount totalling Rs. 2.14 lakh was collected from those violating the provisions of the Act.

Most people know that smoking is bad for health. Smoking, more than any other factor reduces people's life expectancy. Smoking is the prime cause of cancer, heart disease, emphysema and many other chronic diseases. **People who smoke regularly lose an average 16 years from their life expectancy compared to non-smokers** and half of all smokers who continue to smoke for most of their lives die of the habit.

6.17 Fire Mitigation

Montoring compliance of fire safety measures through issuing NOC for building and apartments. Conducting regular fire drills in vital locations and schools under capacity building measures. Upgrading technology and equipments. Karnataka Fire and Emergency Services has in its discretion recently introduced three fire safety measures apart from NBC 2005 code for high rise building taller than 60 meters which are:

1. Water curtains in the basement.

2. Smoke screens in lobbies, staircases and other common areas.
3. Chutes on every two floors from the terrace to the ground.

6.18 Land slide Mitigation:

Mitigation/Prevention Measure for Preventing Sand Mining:

Strict implementation of Karnataka (Prevention of Illegal Mining, Transportation and Storage of Minerals) Rules, 2011. Fines have been levied and criminal cases booked against illegal sand transport and quarrying.

6.19 Industrial and Chemical Accidents

Before the Disaster	During the Disaster	After the Disaster
<p>Trained manpower is a Prerequisite for medical management of traumatic injuries.</p> <p>The training for providing basic first aid and trauma care should be given to both health and non health service providers.</p>	<p>In case of Chemical, Biological, Radiological and Nuclear (CBRN) Disaster Management;</p> <p>Contamination further aggravates the status of victims as open wound sites provides entering site for all the contaminants.</p> <p>Thus, contamination needs to be removed effectively so that in spite of physical injury, management, any Significant effect of the toxic agents might not lead to death. In addition, the burns of the first to three degree during bomb explosions add to further casualties.</p> <p>Use appropriate deacon's solution for hazardous chemicals to wipe it from the body or specific deacon systems for radioactive materials.</p>	<p>Resuscitation and decontamination should go hand in hand.</p> <p>Medical stabilization is priority over Decontamination.</p> <p>Decontamination needs to be done only in safe zones.</p> <p>Detectors are used to detect the type of chemical agent causing contamination or radioactive materials (in case of industrial accidents, it is already known)</p> <p>Removal of clothes and all the accessory items reduce maximum contamination burden.</p> <p>Use water only in case where you are sure that chemical doesn't produce any exothermic reaction with water.</p> <p>Mass decontamination is done by water or other solvents only by fire and emergency services special CBRN trained responders.</p> <p>Provide new uncontaminated clothes and evacuate them to hospital in an ambulance under care of trained nurse or doctor.</p>

6.20 Lightning Mitigation

Preparedness and Mitigation Measures The lessons learnt from various thunderstorm and squall events in India, particular regarding rescue and relief works and the shortcomings experienced in the process should be carefully and honestly. Lack of communication and transportation, undue delays in clearing the roads and or streets blocked due to the falling of trees, electricity poles and hoardings that further delays in the immediate transportation of the injured to the nearby hospital. The hierarchical structure for execution needs to be formalized so that all efforts are properly coordinated. Coordination of all relief distribution is as important as its quantity and timely delivery; otherwise some places may receive it in duplicate and triplicate and some places remain completely starved.

- ◆ Vulnerability assessment of buildings, structure/infrastructure, lifelines, economy and people should be undertaken.
- ◆ Hazard Resistant Construction: UNDP and National Disaster Management Authority (NDMA), Ministry of Home Affairs, Government of India has released a “Manual on Hazard Resistant Construction in India” for the non-engineered buildings in July 2008.
- ◆ Installation of modern state of the art thunderstorm forecasting devices: detailed plan to install the modern state of the art thunderstorm forecasting devices in the areas which according to IMD records are worst hit by thunderstorm during the past years.
- ◆ Underground electricity cables: Underground electricity cables and telephone lines are best suited particularly for the congested townships where squall and or thunderstorm may cause falling of electricity and telephone poles and snapping of cables.
- ◆ Emergency Communication Systems planning, updation and mobilization of existing radio communication resources in emergency and acquisition of satellite phones to make them available at the Tehsil level to ensure prompt response not only in the event of an earthquake but for other disaster as well including thunderstorm and squall.
- ◆ Integrating Development schemes with Disaster Management Schemes

Technical, Social, Organizational and administrative preparedness: The most urgent need of the hour is to develop a DSS for thunderstorm nowcast with the existing network of Observations, Radar, Satellite and lightning data. To accomplish this, the DWR and lightning network could be expanded over all thunderstorm prone areas of the country and this information could be merged with satellite observation to generate meaningful products over different region with lead time of 1-2 hour. The nowcast should be accompanied with do's and don't's and potential impacts (expected damages). The synergised observational and forecast and warning products in text cum visual graphics format should be generated by IMD with direct CAP-feed facility so as to reach the last mile with no loss of time. State Disaster Management Authority (SDMAs) at state level, **District Disaster Management Authority (DDMAs) at the district level**, Tehsil level Disaster Management Group (TMG) at sub-division/ tehsil level should be formed with representatives of various line departments including Agriculture, Forest, BSNL, Electricity Board, Revenue, P.W.D, Health, Police and Fire Brigade. Village Disaster Management Committees (VDMCs) should also be formed at the village level comprising local

villagers. This would certainly strength the local response to natural disaster including thunderstorm and squall.

- ◆ Emergency Plan for Hospitals and Health Centers.
- ◆ Establishing a Research and Forecasting Centre for Thunderstorm and Squall to carry out the hazard zonation and vulnerability analysis for thunderstorm and squall.
- ◆ Included in the school and college curriculum.

Structural Mitigation Measures:

The most effective structural measures against thunderstorms, lightning, squalls and Strong wind are to protect against the high winds and against the electric charge due to a lightning.

Protection against Lightning:

Lightning Shields Lightning shields are the most commonly employed structural protection measures for buildings and other structures. The lightning shield consists of installation of a lightning conductor at a suitably high location at the top of the structure. The conductor is grounded using a metal strip of suitable conductance. Very tall buildings may require lightning conductors at intermediate levels of the building in addition to the ones at its roof. Internationally, lightning shields are not used for protection of open areas such as agricultural fields due to their very high cost and reliability issues. However, they are found to be very effective for the protection of individual structures or groups of structures in an area.

Before Thunderstorm and Lightning:

To prepare for a thunderstorm, you should do the following:

- ◆ Do remember that vivid and frequent lightning indicates the probability of a strong thunderstorm.
- ◆ To begin preparing, you should build an emergency kit and make a family communications plan.
- ◆ Remove dead or rotting trees and branches that could fall and cause injury or damage during a severe thunderstorm.
- ◆ Postpone outdoor activities.
- ◆ Remember the 30/30 Lightning Safety Rule: Go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.
- ◆ Secure outdoor objects that could blow away or cause damage.
- ◆ Get inside a home, building, or hard top automobile (not a convertible). Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.
- ◆ Remember, rubber-soled shoes and rubber tires provide NO protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.
- ◆ Shutter windows and secure outside doors. If shutters are not available, close window blinds, shades or curtains.
- ◆ Unplug any electronic equipment well before the storm arrives.

During Thunderstorms and Lightning:

If thunderstorm and lightning are occurring in your area, you should:

- ◆ Use your battery-operated NOAA Weather Radio for updates from local officials.
- ◆ Avoid contact with corded phones and devices including those plugged into electric for recharging. Cordless and wireless phones not connected to wall outlets are OK to use.
- ◆ Avoid contact with electrical equipment or cords. Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
- ◆ Avoid contact with plumbing. Do not wash your hands, do not take a shower, do not wash dishes, and do not do laundry. Plumbing and bathroom fixtures can conduct electricity.
- ◆ Stay away from windows and doors, and stay off porches.
- ◆ Do not lie on concrete floors and do not lean against concrete walls.
- ◆ Avoid natural lightning rods such as a tall, isolated tree in an open area.
- ◆ Avoid hilltops, open fields, the beach or a boat on the water.
- ◆ Take shelter in a sturdy building. Avoid isolated sheds or other small structures in open areas.
- ◆ Avoid contact with anything metal-tractors, farm equipment, motorcycles, golf carts, golf clubs, and bicycles.
- ◆ If you are driving, try to safely exit the roadway and park. Stay in the vehicle and turn on the emergency flashers until the Strong rain ends. Avoid touching metal or other surfaces that conduct electricity in and outside the vehicle.

After a Thunderstorm or Lightning Strike:

If lightning strikes you or someone you know, call for medical assistance as soon as possible. The following are things you should check when you attempt to give aid to a victim of lightning:

- ◆ **Breathing** - if breathing has stopped, begin mouth-to-mouth resuscitation.
- ◆ **Heartbeat** - if the heart has stopped, administer CPR.
- ◆ **Pulse** - if the victim has a pulse and is breathing, look for other possible injuries. Check for burns where the lightning entered and left the body. Also be alert for nervous system damage, broken bones and loss of hearing and eyesight. After the storm passes remember to:
- ◆ Ever drive through a flooded roadway. Turn around, don't drown!
- ◆ Stay away from storm-damaged areas to keep from putting yourself at risk from the effects of severe thunderstorms.
- ◆ Continue to listen to a National Oceanic and Atmospheric Administration (NOAA) Weather Radio or to local radio and television stations for updated information or instructions, as access to roads or some parts of the community may be blocked.
- ◆ Help people who may require special assistance, such as infants, children and the elderly or those with access or functional needs.
- ◆ Stay away from downed power lines and report them immediately.
- ◆ Watch your animals closely. Keep them under your direct control.

6.21 Rail Accident Mitigation

The problems of mobility and accident prevention at level crossings can best be addressed by joint efforts of all concerned - Central Government, State Government, Municipalities, NGOs, educational institutions and private operators etc. Indian Railways has taken my steps in this regard to prevent/mitigate accidents.

SAFETY INFORMATION MANAGEMENT SYSTEM (SIMS) A web based system for overall Safety Management of Indian Railway has been developed in which one of the modules is over level crossing. This Level Crossing Management System monitors the data of level crossing by assigning a unique to every level crossing. The Unique ID further correlates to all the developments like pattern of Traffic, signage, condition, up gradation works, accident details linked with satellite imagery.

Policy on level crossings: Indian Railways have framed multi-pronged policy to minimise the accidents and fatalities at level crossings which is summarised below.

Elimination of the existing level crossings: Railways have decided to progressively eliminate unmanned level crossings by various means:

- Road over bridge (ROB).
- Road under bridge (RUB).
- Merger or diversion: Railways have planned construction of Diversion Roads from Unmanned crossing to nearby Manned Xing or ROB/RUB to divert road vehicles for safe passage and have permitted upto one km long Diversion Roads through Railway land or Railway Bridges.

OTHER PREVENTIVE MEASURES: Although the accidents at unmanned level crossings primarily and largely occurred due to negligence of road vehicle users is in clear violation of Section 131 of Motor Vehicle Act, Indian Railways have been taking steps to ensure additional safety at these locations. Some of these measures targeted at safety at unmanned and manned level crossing are as under:

EDUCATING THE PUBLIC: These primarily consist of educating the public en-mass so as to act as preventive measure. This is achieved by including chapters on safety at level crossings in the school syllabus of children.

SAFETY CAMPAIGNS: To educate road drivers about safety at unmanned level crossings, publicity campaigns are periodically launched through different media like quickies on TV, cinema slides, posters, radio, newspapers and street plays etc. Involvement of village Panchayats is also organized in railways' public awareness program.

SAFETY DRIVES and AMBUSH CHECKS: Joint Ambush Checks with civil authorities are conducted to nab errant road vehicle drivers under the provisions of the Motor Vehicles Act, 1988 and the Railways Act, 1989. Surprise checks and night inspections are regularly conducted to check the alertness of gatemen.

SIGNAGE: Proper signage along the track (Whistle Board) and road (Breaker & Stop Board) have been provided on approaches to level crossings so that road vehicle drivers become aware of the existence of a level crossing.

SPEED BREAKER: Speed breakers/rumble strips have been provided on approaches to level crossings so that road vehicle drivers are reminded to reduce their speed.

SPEED RESTRICTIONS: Where the visibility distance is inadequate, speed restrictions for trains are imposed to allow for longer time interval for road traffic to pass in the face of approaching trains.

COMMUNICATION: Telephones are also being provided at all manned level crossing gates.

6.22 Building Collapse Mitigation

Municipal authorities, Gram Panchayath, Town Panchayath Officials are asked to monitor life line buildings and undertake retrofitting work wherever possible. Authorities are asked to evacuate people unsafe dwelling and demolish the same if retrofitting is not possible. Important laws which regulates building construction:

- **The Karnataka Town Municipalities (Building) Model Bye-laws, 1981.**
- **National Building Code of India 2005 (NBC 2005):** The National Building Code of India (NBC), a comprehensive building Code, is a national instrument providing guidelines for regulating the building construction activities across the country. It serves as a Model Code for adoption by all agencies involved in building construction works is they Public Works Departments, other government construction departments, local bodies or private construction agencies. The Code mainly contains administrative regulations, development control rules and general building requirements; fire safety requirements; stipulations regarding materials, structural design and construction (including safety); and building and plumbing services.

6.24 Food Poising Mitigation:

- ◆ Food poisoning is a probable phenomenon in religious or social functions where there is mass feeding of people by setting up of temporary or make shift community kitchens. This problem is mainly due to use of sub-standard materials and the unhygienic conditions in which the food is prepared.
- ◆ On receipt of the information of the food poisoning in the district, the district administration should take following actions to instil confidence in the people.
- ◆ Rush the food inspectors to the place of food poisoning for collection of sample and sealing of the kitchen.
- ◆ Identify the source of food poisoning and destroy the remaining stock of the contaminated food.
- ◆ Rush the affected persons to nearest hospitals for first aid / medical treatment.

- ◆ Additional medical / Para-medical personnel and additional stock of essential medicines may be mobilised from various hospitals to meet the increased demand.
- ◆ Proper information should be passed on to general public using various means of communication to prevent spread of rumours, which may result in panic situation.
- ◆ Take preventive measures to avoid re-occurrence of such food poisoning in future.

There should be proper control over quality control (by way of sampling / analysis or by tasting) of food samples before they are fed to masses.

6.25 Bomb Threat Mitigation:

To-day industrial installations, sensitive sites, public gatherings are becoming targets of the terrorist groups. Therefore the possibility of receiving bomb threats cannot be ruled out. The golden rule is consider all bomb threats as genuine and act accordingly keeping in mind the safety of the people and the property. The objective is:

- ◆ To avoid/minimise any loss or damage to lives and property.
- ◆ To eliminate panic and build up confidence.
- ◆ To be prepared for proper handling of any critical situation.

Many of to-day's bombing incidents involve improvised explosive devices or home-made bombs.

IMMEDIATE ACTIONS:

- ◆ Bomb threats may be received in writing or may be received on phone.
- ◆ Keep the caller on the line as long as possible. Request him to repeat the message, listen carefully as every word spoken by the person has to be recorded mentally or penned down.
- ◆ If the caller does not indicate the location of the bomb or the time of possible detonation, it is advisable to try to ask him for this information.
- ◆ Inform the caller that the building is occupied and the detonation of a bomb would result in death or serious injury to many innocent persons.
- ◆ Pay particular attention to peculiar background noises such as motors running, background music, traffic, aircraft, voices and any other noise which may give a clue as to from where the call is being made.
- ◆ Listen closely to the voice (male, female), voice quality (calm, excited), accents and speech impediments. Immediately after the caller hangs up report should be made to the immediate senior manager or security officer on duty, nearest police station.
- ◆ Fill up the bomb threat call details in the format as given below.

BOMB THREAT REPORT

ACTIONS ON RECEIVING BOMB THREAT CALL

1. Do not put down receiver or cut off caller.
2. Put on tape-recorder, if available.
3. Alert nearest colleague.
4. Keep Form and pen ready to fill.
5. Note time and duration correctly.
6. Obtain as much information as possible.
7. Keep caller engaged in conversation as long as possible
(Apologise for bad line, ask him to speak up etc.)

6.26 Cattle Disease Mitigation

Animal Husbandary Mitigation Measures:

Livestock Insurance Scheme in Karnataka: It is a centrally sponsored livestock insurance scheme for insuring livestock.

Mass vaccination programmes: Against FMD and PPR in the state for livestock in pulse polio manner. Foot and mouth disease is contagious disease which affects the cloven footed animals like cattle, buffaloes, sheep, goat, pig and also wild animals like deer, bison and elephant. '0'- Zero type virus causes the disease outbreak in the state during the month of August to November 2013. As a preventive measure 2 times in a year mass vaccination program is being conducted since September 2011.

Strengthening of Polyclinics at village level and veterinary hospital at Taluk level. It proposed to establish one speciality hospital in each district.

6.27. Mitigation Measures to prevent illegal solid waste dump and Pollution:

Kolar administration has started **Kolar Clean City Campiagn** on July 2014. Throught this campaign administration are enforcing solid waste disposal per the MSW (management and Handling) rules 2000.

- Segregation of waste is taken up at house hold level.
- Door to door collection.
- Street sweeping.
- Transportation to de-centralized landfill sites.
- Plastics and other recyclable waste are sold to administration identified vendors.
- Wet waste and coverterted to manure through vermiposting and composting.





Vermicompost shed

Funds generated from the above activity is used for pourakarmikas' welfare.

IEC activities are conducted targeting all stakeholders to create awareness about solid waste management.



The Karnataka State Pollution Control Board (KSPB) is regulating the discharge of effluents and air emissions from industries through issue of consents under the Water and Air Pollution Control Acts. While issuing consents, conditions are being imposed regarding the effluent standards and also emission standards to which the industries have to comply with. Time limits will also be stipulated to install pollution control systems.

Conditions are stipulated in the consent order regarding proper maintenance of pollution control systems, periodical analysis of effluent samples and submission of analysis reports. These aspects will be closely monitored by the staff of the divisional and regional offices who also collect and analyze the samples for verification regarding compliance to consent conditions

The industries are being rigorously pursued to ensure that the pollution control systems are installed and commissioned within the stipulated time. In respect of new projects, the consent for establishment is being issued only after examining the suitability of the site and scrutiny of the pollution control proposals.

Action initiated by KSPCB for control of pollution in mining activity, water (prevention and Control of Pollution) act 1974 and Air(Prevention and Control of Pollution) act 1981. Pollution control status in stone crushers: Covering stone crushing activity under Air (Prevention and Control of Pollution) Act 1981. The state government has passed an Act “**The Karnataka Regulation of Stone Crusher Act 2011**” in January 2012.”

Following rules and schemes are strictly implemented:

- **Air pollution: National Ambient Air Quality Monitoring Programme (NAAQM):** According to the revised national ambient air quality standards, 12 parameters are to be monitored including respirable suspended particulate matter (RSPM), sulphur dioxide (SO₂) and nitrogen dioxide(NO₂).
- **Hazardous Waste Management:** The board has permitted totally 135 industries in the State to reprocess their hazardous waste, two industries to incinerate their waste.
- **Common Effluent treatment plant.**
- **Plastic Waste Management:** The board has identified 200 plastic carry bag and recycling units. Board is creating awareness by banning units manufacturing plastic bags of less than 40 micron thickness and conducting awareness programmes regularly on its effect on environment.
- **E-waste:** Board has issued CFE to 48 units for recycling/ dismantling of E-wastes of capacity 34, 948 MT/A.
- **Bio-medical Waste (Management and Handling) Rules, 1998.**
- **Municipal Solid Waste (Management and Handling) Rules, 2000**

6.2 Non Structural Mitigation Measures

6.2.1 Early Warning System:

Plan also envisages equipping community at Panchayat level by ensuring the provision of medical supply, communication such as radio, TVs, extrication equipment. Panchayat will be encouraged to establish local early warning systems in higher vulnerable areas and for holding

Community level disaster response drills. Development of response capacity at Panchayat level for first response would help in avoiding desperate situation. Creation of Sub-division level stock pile for relief and warehouses would be ensured.

Operational check-up of Warning Systems

Working with departments identified for early warning generation and dissemination, the DDMA will establish a mechanism for checking operational readiness of the early warning equipment and dissemination system. The early warning generation and dissemination will be tested at least once in a year through mock drill. Table top exercises will be carried out to keep latest contact information of agencies and department which play roles in providing and receiving early warning.

6.2.2 Emergency Operation Centre/ Control Room:

Pre- Disaster:

Preparation	Objectives	Action initiated by
Receipt of information	From IMD/SRC control room/DEOC	DEOC
Dissemination of information Immediate setting and operational of control room round the clock Rescue and evacuation	From DEOC to all Cos/BDOs/line depts. To evacuate vulnerable people to identified shelters and logistic arrangements To provide immediate feeding to the evacuated people To prevent epidemics and infections	DEOC, Head of line depts. CEOs, Tahsildars Civil defence unit, police personals, armed forces, all officers, red- cross team ready with rescue kits which are to be made available to them through the DEOC
Arrangement of free kitchen	To ensure that the relief materials reach in time to the affected people To prevent anti-social activities	BDOs/CDPOs/NGOs
Sanitation and medicines	To check the onset of epidemics	Executive engineer of PHED/Civil Surgeon
Ensuring transportation of relief materials to affected pockets Ensuring safety of life and belongings	Better co-ordination	DSO/SDM/BSOs/DTO SP/DSP/Inspector and SI of the affected block/NGOs
Ensuring availability of safe drinking water, provision of health facilities and minimum sanitation Meeting of field level officers in every 24 hours to review the situation		CS/Executive engineers of PWD DC, DDC at district level and SDMat sub- divisional level

During Disaster:

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

Post Disaster:

Preparation	Objective	Action Initiated by
Distribution of relief as per Provisions Assessment of Damage reporting to the govt.	To provide food and other essential commodities for survival	BDOs, Eos, NGOs

6.2.3 Role of Media in Mitigation

The media plays a critical role in information and knowledge dissemination in all phases of DM. The versatile potential of both electronic and print media needs to be fully utilized. Effective partnership with the media will be worked out in the field of community awareness, early warning and dissemination, and education regarding various disasters. The use of vernacular media would be harnessed for community education, awareness and preparedness at the local level. The District information officer in consultation with the DDMA would take appropriate steps in this direction.

6.3 Sector-Wise Mitigation plan

Type of Sector	Sub sector	Responsible Dept.	Time Frame
Infrastructure Development	IEC activities		2019-2020
	Road	Transport and Police	2019-2020
	Embankment	MI and PWD	2019-2020
	Bridges	PWD	2019-2020
	Safe Shelters	Disaster Management	2019-2020
	Communications		2019-2020
	Drinking water and sanitation	Rural Water Supply	2019-2020
	Power	BESCOM/KPTCL	2019-2020
	Technology dissemination	IT BT	2019-2020
Health and Animal Husbandry	IEC activities	Health and Animal Husbandry	2019-2020

	Vaccination	Health and Animal Husbandry	2019-2020
	Training	Health and Animal Husbandry	2019-2020
Livelihood Sector	Awareness		2019-2020
	Agriculture	Agriculture	2019-2020
	Fishing	Cost guard	2019-2020
	Fishery	Fishery dept	2019-2020
	Allied activities		2019-2020
	Horticulture	Horticulture	2019-2020
Insurance	IEC activities		2019-2020
	Infrastructure		2019-2020
	Livelihood		2019-2020
	Life		2019-2020

Instruction: This data on old and weak buildings, schools/colleges/life line buildings/vulnerable areas needs to be obtained from every village/GP and Urban areas (ULBs), Private, the departments and PRIs including community etc.

Training and Mock-Drill under District Disaster Risk Reduction Program:

Training is given for search and rescue teams, first aid team, and disaster management teams at the village, Circle, and district level. These teams will provide timely help during any type of disaster. The provision of wireless sets at all subdivision and circle Offices for effective communication of storm/heavy rainfall/flood warning. Fire Brigades at all the Municipal OFFICES. Widespread community awareness programmes in flood prone villages so that villages are sensitized about the flood hazard and there are no problems when there is a need for evacuation. Each of the DMTs comprises groups of women and men volunteers and are assigned to a special task. The Search and Rescue Teams, First Aid Teams formed at the three levels should be provided training from time to time so that their timely help can be used during a disaster.

Mock drill is an integral part of the Community based disaster management plan, as it is a preparedness drill to keep the community alert. Mock drills are organized in all the villages of the district to activate the DMTs and modification of the DM plan. Mock drill is organized once in six months as per the seasonality calendar of natural disaster events that is likely to occur.

Thematic trainings will be conducted by the district administration. Trainings will be attended by concerned stakeholders. The priority area for trainings that has been identified is mentioned as under.

The District Administration will conduct two kinds of Training cum mock drills:

- A. Planned Mock Drills and
- B. Random Mock Drills. Random Mock Drills will be conducted only after a series of planned mock drills have already been conducted. A security officer (grade ii) will be

appointed to ensure the safety of all stakeholders and to prevent any mishaps during the random mock drill.

Following methodology will be adopted while conducting planned mock drills:

- a. Advertisement: Mock Drills conducted to check the system and coordination mechanism will be advertised through proper media well in time.
- b. Training and Orientation: Mock Drills should be preceded by a training programme. It is intended that the stakeholders should have a proper training on their roles and responsibilities, coordination mechanism, the response system etc. Immediately before the mock drill an orientation programme should be organized to give a small briefing of the mock drill scenario.
- c. Discussions: There should be a discussion inviting quick suggestions from the participants.
- d. Resource mobilization: To check the availability of all the resources that would be required during a mock drill.
- e. Mock Drill
- f. Review Meeting/ Discussion on lessons learnt
- g. Documentation

Traing and Mock-Drill Images:



CHAPTER-7

RESPONSE PLAN

The response plan has been prepared with an aim of reducing to a great extent the response time to any disaster. This in turn will minimize the extent of damage and sufferings to human/animal life and infrastructure considerably. The plan enables all those involved in rescue and relief to know exactly their roles, about available resources, structure etc. and with whom they have to co-ordinate.

Inter departmental co-ordination weekly meetings are planned to reduce field level problems and to impart knowledge on standard operating procedures. Local engineers of PWD PRED, irrigation dept. have been asked to be in red alert to assess the damage and to immediately repair/ make alternate arrangements in their area without waiting for procedural aspects. Logistics arrangements for rescue operation has been put in place, including animal care and management of the deceased.

Relief and Rescue Operation

Rescue work will be taken up by the local police, home-guards, fire force along with local villagers and volunteers.

In case severe distress due to natural calamities like high flood or earthquake, emergent relief such as temporary shelter, rice, dal, potato, salt, kerosene, matchboxes, toothpaste soap, milk, clothing, blanket, etc., will be arranged from the identified traders and sources.

Immediate response acts

- ◆ Inform the core committee members to swing into action.
- ◆ Summon the fire brigade.
- ◆ Inform Road Transport Authorities to stop movement of vehicle.
- ◆ Mobilize volunteers, youth, sportsmen, social service workers, Ex-servicemen, Medical personal.
- ◆ Make shift arrangements for temporary shelters to displaced persons
- ◆ Providing water and food to the affected.

7.1 Synopsis of Response Plan: - At district level, before the occurrence of disaster and immediately after the disaster, the district administration will alert the district control room so that proper information will be provided to the concerned authorities.

Phase	Activities	Officials involved
During disaster	Disseminating information 1 st Responders.	CDC
	Keeping the control room active round the clock.	CDC
	Arrangement of vehicle and public address system for information dissemination.	Police

	Distributing of duties to the district level officials, field functionaries on need basis.	CDC
	Asking the people in the vulnerable areas to move to the shelters and to move their domesticated animals to shelter places and to co-operate with	Fire services, Police, Revenue, Veterinary
	the volunteers and other officials engaged in similar activities.	Dept.
	Informing the hospitals to be ready to receive the injured persons for immediate medical aid, and arrangement of special medical need if required.	Health Dept.
	Constituting of mobile health teams to visit shelters.	Health Dept.
	Arrangement and deployment of Fire Services, emergency response vehicles, first aid fire fighting personnel.	Fire services
	Arrangement and deployment vehicles for evacuation of persons.	RTO
	Arrangement and deployment of Home guards for law and order to work in association with Fire services and police.	Commandant Home guards
	Arrangement of specialized equipment for mitigation.	RTO Management
	Arrangement and deployment of Police for maintaining law and order.	Police
	Traffic management and patrolling to the disaster site.	Police
	Provision of security at the shelter.	Police
	Arrangement for evaluation of water and air pollution due to the disaster.	KSPCB
	Management of deceased.	Revenue, Health

7.2 Response Plan for different Disasters.

7.2.1 DROUGHT:

Task force for Disaster Management during Drought.

AEE, PWD	AEE, ZP	Tahasildar	Taluk Medical Officer	AEE, MI	Animal Husbandry & Veterinary Services
To generate employment to the needy victims	To provide drinking water to affected areas	To provide food, drinking water and milk	To co-ordinate with PHCs and provide medical relief and set up medical camps if necessary	To generate employment to the needy victims	To provide fodder and veterinary services for live stock.

Kolar, Bangarpet, KGF, Mulbagal, Malur and Srinivasapura taluk face drinking water problem in case of rainfall deficit. Panchayat and municipalities in the district are advised to repair the bore wells and pipelines which are not in good condition. New bore wells are drilled in such areas under Auxillirated drinking water supply scheme through ZP engineering department (Water Supply Board). Awareness should be created in the public not to waste the water and bore wells points to dig the new bore wells have been identified. Places to open the ghoshalas in hobli head quarters have been identified. Food grains are stored in the KSFC and FCI gowdons. The list of such gowdons in the district and storage capacity has been worked out already by the district administration. Usually the people from the district will leave the villages in search of employment at the time of drought. Hence the list of tanks which are to be desalted, the amount required, number of labors to be employed has been prepared. The Grama Panchayats are advised to get the list of the laborers that usually will go in search of employment.

Drought Monitoring

Since the District is prone to frequent droughts, emphasis is laid on monitoring the situation during droughts. Identification of drought-prone villages and taluks has been done and contingent plans have been worked out.

The following steps have been taken on a regular basis by the District Administration through Panchayat Offices to combat the menace of drought:

- ◆ Digging of bore wells.
- ◆ Providing hand pumps and motor pumps wherever required.
- ◆ Repair of existing motor pumps.
- ◆ Digging of wells.
- ◆ De-silting of wells, tank beds.

- ◆ Providing pipelines for supply of water.
- ◆ Providing water to problems areas through water tankers and other means.
- ◆ Providing water storage facilities at all block levels.

Since water contamination and water borne diseases can cause health hazards precautions are taken to ensure that drinking water is properly purified before consumption. The District Health officials and the ZP Department monitor supply of drinking water and ensure that there is no scope for water contamination.

PROVIDING FOOD AND FODDER DURING DROUGHT:

Since drought has a cyclic effect there is a drain on resources such as food, water, employment, etc., as there is inadequate soil moisture there is shortage of food and fodder.

The focus during drought would be on the following vital areas:

- ◆ Water conservation.
- ◆ Supply of essential commodities.
- ◆ Employment generation.
- ◆ Early warning systems.
- ◆ Health care.
- ◆ Water supply to remote areas by tankers etc.
- ◆ Emphasis on the poorer classes of society.
- ◆ Priority to drinking water over irrigation.
- ◆ Training to NGO's Volunteers and youth.

The following Action Plan has been formulated by the District Administration to deal with the situation of drought.

Contingency plan prepared in co-ordination with the Water Supply Department, ZP, TP, Municipal Corporations, Irrigation Department and Health Department to ensure availability of adequate quantity of drinking water.

Food: Department of Food and Civil Supplies is in readiness to face any situation of drought and has maintained stock register of availability of food grains.

Health: Department of Health has trained personnel on its rolls to deal with situation of drought and forms an important organ of the Core Committee.

Fodder: An adequate step taken to ensure that fodder for cattle is stored in case of impending drought.

Veterinary Facilities: Veterinary Department has been instructed to store adequate stock of medicines to save lives of cattle and live stock.

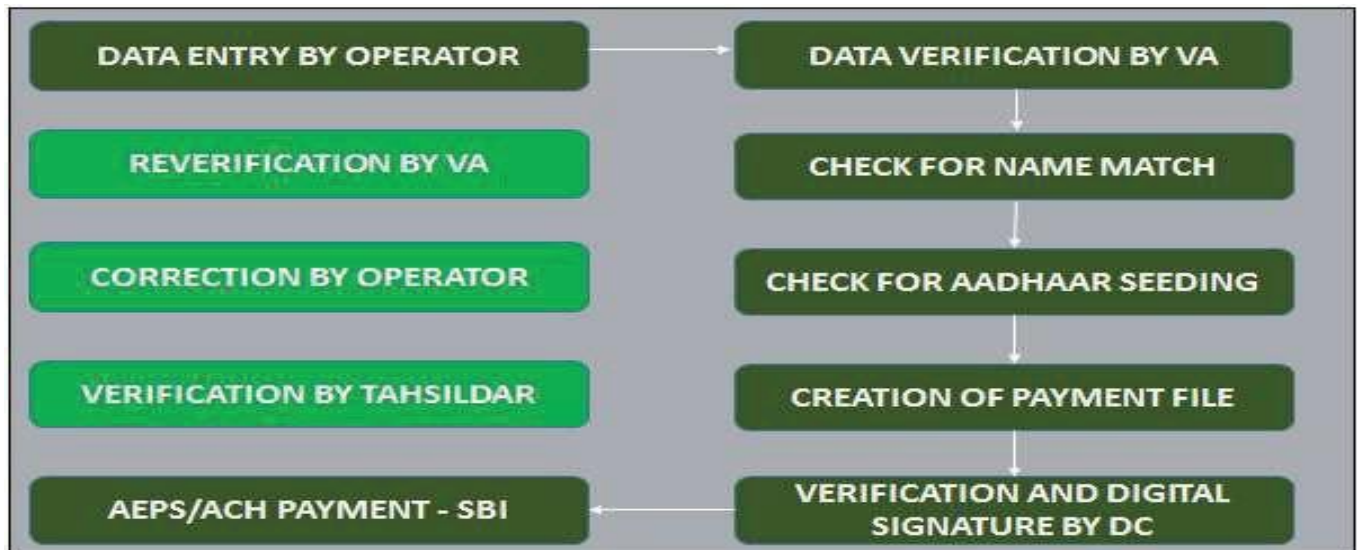
Parihara: (Input Subsidy):

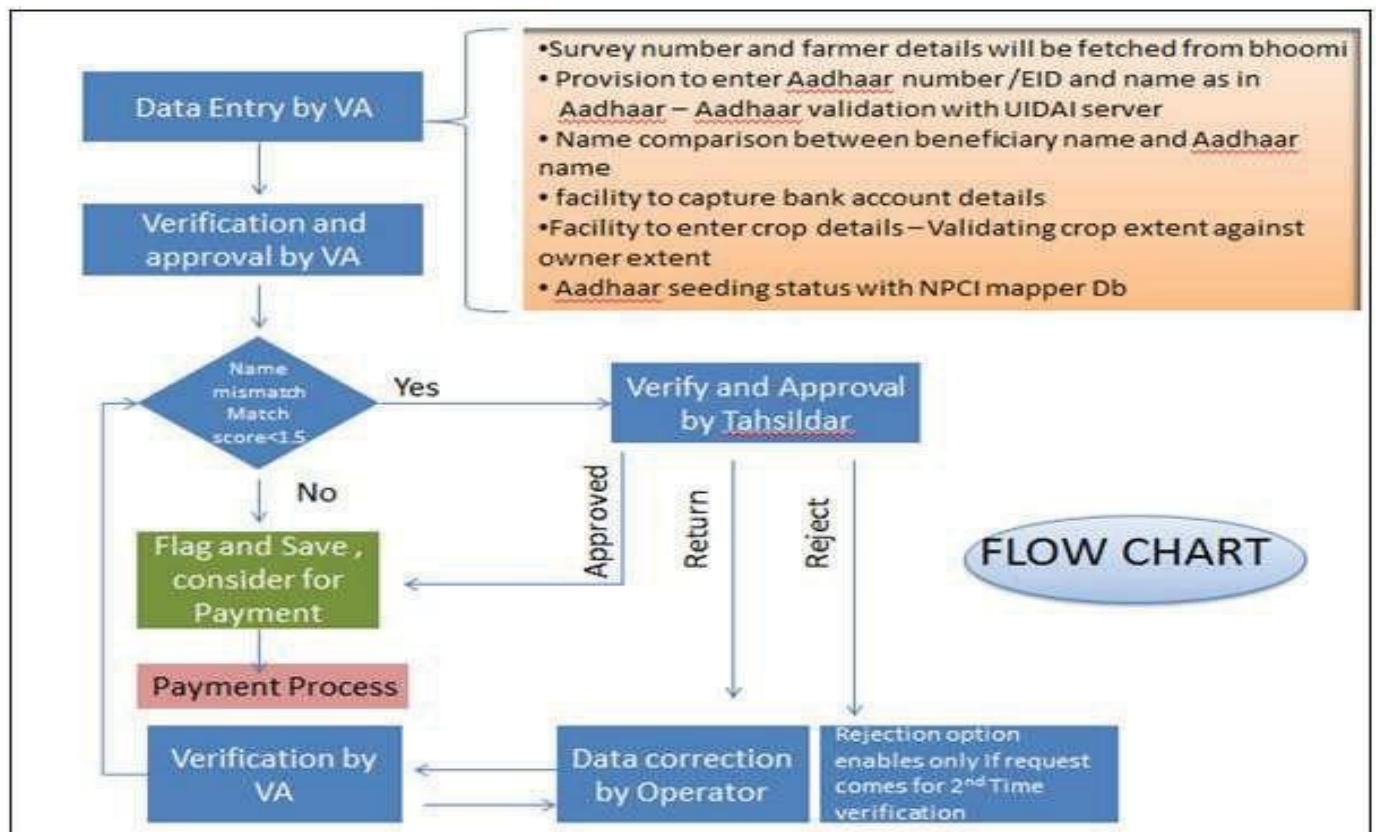
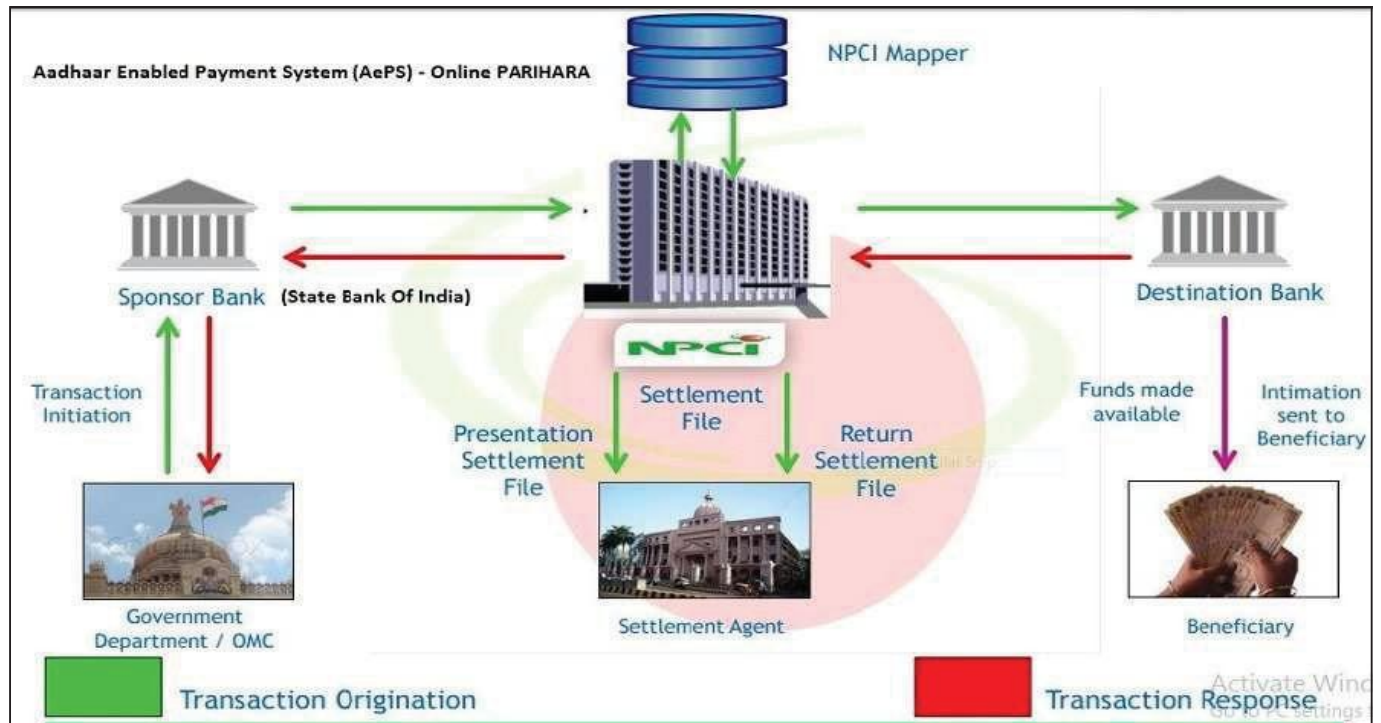
Drought declaration signifies the beginning of Government response to conditions representing a drought conditions. The drought is declared using Taluk as a unit guided by objective parameters prescribed by the Drought Manual of Government of India that is in vogue during that period. The relief operation such as supply of drinking water, supply and transportation of fodder and employment generation, etc, are mounted in drought declared taluks using funds available in State Disaster Response Fund (SDRF) and State Fund. In most of the cases the drought is wide spread and is beyond the coping capacity of the State and memorandum is submitted to the Government of India seeking financial assistance from National Disaster Response Fund (NDRF).

The Department of Agriculture, Cooperation and Farmers Welfare, Government of India will constitute and dispatch inter-ministerial central team (IMCT) to the drought affected area. The IMCT will visit drought affected areas in the State and interact with district and local officers, farmers and other concerned stakeholders. The IMCT will submit a report to sub-committee of National Executive Committee chaired by Union Agriculture Secretary. The sub-committee of National Executive Committee (NEC) after studying the report will place its recommendation before High Level Committee (HLC) chaired by Union Home Minister. HLC approves the quantum of financial assistance (as per the NDRF norms) to be released to the State.

Parihara Workflow:

The work flow is depicted in the below given flowchart. Data entry of land details, extent of damage, Aadhar number, bank details, etc, is made by the data entry operator. This is verified by Village Accountant and approved. In case there is mismatch between name in RTC and Name in Aadhar database, the record is escalated to Tashildar to verify and approve. Once approved, XML file is created and digitally signed by respective Deputy Commissioners and uploaded for payment.





Salient features of Parihara Application

- ◆ The Parihara application fetches land details (survey no, extent, etc.), owner details from Bhoomi database. Bhoomi Database forms the backbone of this application.
- ◆ Crop details and extent of damage is validated using Bhoomi database, which ensures payment to intent beneficiaries, i.e., to farmers who really owns the land. This feature will eliminate unintended beneficiaries.
- ◆ Aadhaar number /Enrolment ID and name as in Aadhaar of the affected farmers after taking due consent from the farmers. Yes or no Aadhaar validation with UIDAI server to ensure Aadhaar no entered is a valid Aadhaar no. Aadhaar seeding status is checked with NPCI mapper Database, which enables intimating the beneficiaries about the linking status and taking remedial measures. This shall facilitate Aadhaar Enabled Payment System (AEPS), most secured, transparent financial instrument for disbursing input subsidy.
- ◆ Beneficiary can check the payment status by keying his/her Aadhaar No or user ID (unique ID assigned to farmers during data entry). Details such as input subsidy amount paid, to which bank, account no, extent of crop loss and name of the crop will be displayed on keying in above numbers. This enables eligible small and marginal farmers to approach the designated authorities with a sense of entitlement in case of non-receipt of input subsidy.

Evolution of Parihara Application

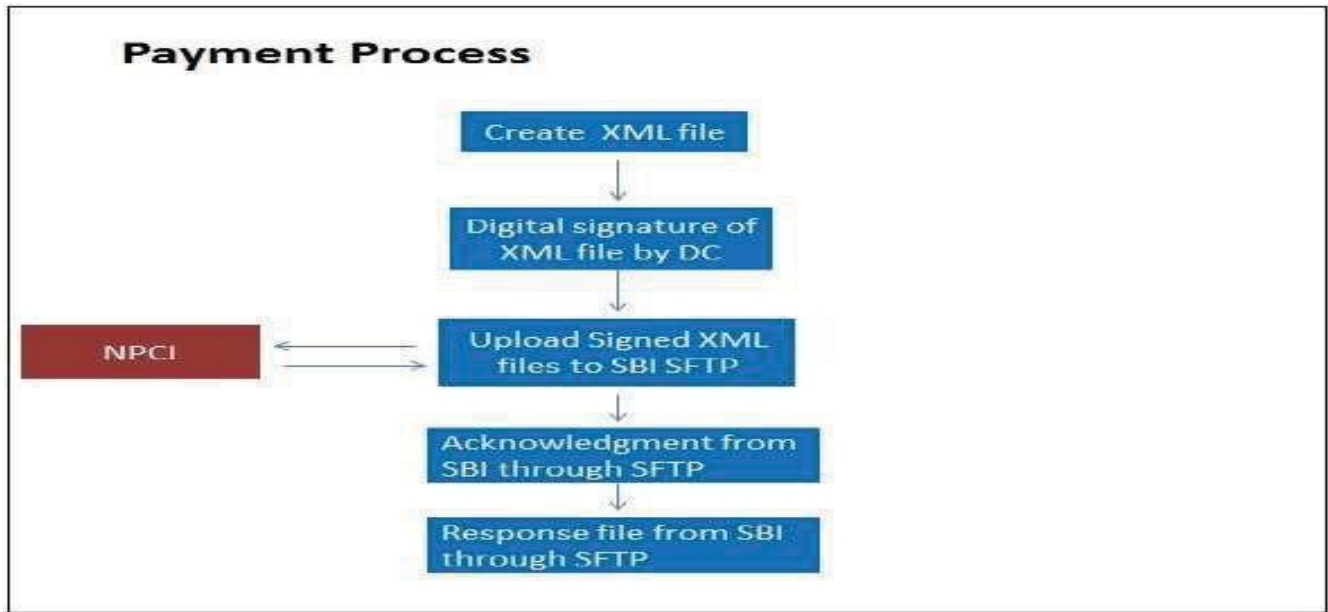
The above stated drawbacks were deliberated extensively with all stakeholders and decision was taken to direct transfer of input subsidy to beneficiaries' account which will eliminate intermediaries, weed out fictitious beneficiaries and discretion of government officials to stop, deny or delay the benefit to be passed.

What started as excel sheet format for data collection for crop damage evolved into a most sophisticated web application "Parihara" to ensure a better and timely delivery of financial assistance in terms of input subsidy directly into the accounts of beneficiaries thereby plugging leakages and enhancing financial inclusion.

Parihara is an innovative web based application was developed in house by Revenue Department (Bhoomi Monitoring Cell and Disaster Management), Govt. of Karnataka to enable direct benefit transfer (DBT) through Aadhaar Enabled Payment Service, i.e., transferring of input subsidy amount directly into the Aadhaar seeded bank accounts of intended beneficiaries.

Payment Process in Parihara

Robust mechanism has been developed to ensure transparency and integrity in payment process and flow chart is as follows:



Payment Sample Report-----

<http://landrecords.karnataka.gov.in/PariharaPayment/>

Search:
 ಪರಿಹಾರ ನಮೂದು ಸಂಖ್ಯೆ/Parihara ID ಅಧಾರ್ ಸಂಖ್ಯೆ/Aadhar Number
 Calamity Type: Drought Year: 2018-19

ಅಧಾರ್ ಸಂಖ್ಯೆ ನಮೂದಿಸಿ/Enter Aadhaar:
 ಕ್ಯಾಪ್ಚಾ/Captcha: JXX693

ಪರಿಹಾರ ನಮೂದಿನ ವಿವರಗಳು/Payment Details										
ಕ್ರಮ ಸಂಖ್ಯೆ/Sl No	ಜಿಲ್ಲೆಯ ಹೆಸರು/District Name	ಬ್ಯಾಂಕಿನ ಹೆಸರು/Bank Name	ವಿವರ/Amount (₹)	ಖಾತೆಹಾರನ ಹೆಸರು/A/c Holder Name	ಬ್ಯಾಂಕ್ ಅಕೌಂಟ್ ಸಂಖ್ಯೆ/Bank Account Number	ಪರಿಹಾರ ನಮೂದಿನ ಸ್ಥಿತಿ/Payment Status	ನಮೂದಿನ ದಿನಾಂಕ/Payment Date	ನಮೂದಿನ ವಿಧ/Calamity Type	ನಮೂದಿನ ಋತು/Season	ನಮೂದಿನ ವರ್ಷ/Year
1	Kolar	PRAGATHI KRISHNA GRAMIN BANK	1576.5	RAMAIAH CYALAVAGULI	XXXXXXXXXX418	00-Success	28/Jun/2019	DROUGHT	KHARIFF	2018-19

ಪರಿಹಾರ ನಮೂದಿನ ವಿವರಗಳು/Details Of Parihara Entries										
ಕ್ರಮ ಸಂಖ್ಯೆ/Sl No	ನಮೂದು ಸಂಖ್ಯೆ/Entry ID	ಅಧಾರ್ ಸಂಖ್ಯೆ/Aadhaar No	ಜಿಲ್ಲೆಯ ಹೆಸರು/District Name	ತಾಲ್ಲೂಕು/Taluk Name	ಹೋಬಳಿ/Hobli Name	ಗ್ರಾಮ/ವಿಲ್ಲೇಜ್/Village Name	ನಮೂದು ಸಂಖ್ಯೆ/Survey Number	ಬೆಳೆ ಹೆಸರು/Crop Name	ಬೆಳೆಯ ವಿಧ/ಬೆಳೆ ವಿಧ/Crop Category	ಬೆಳೆ ನಷ್ಟದ ವಿಸ್ತೀರ್ಣ (ಅಕರೆ-ಗುಂತಾ-ಫುಂತಾ) (ಅಕರೆ-ಗುಂತಾ-ಫುಂತಾ)/Crop Loss Extent (Acre-Gunta-Fgunta)
1	7404126	XXXXXXXXXX907	KOLAR	Mallur	ಬೆಚ್ಚರ್	ಯಜುಪುಳಿ	138 / * / 8	Ragi	Rainfed	0 - 29 - 12.00
2	7404021	XXXXXXXXXX907	KOLAR	Mallur	ಬೆಚ್ಚರ್	ಯಜುಪುಳಿ	53 / * / 5	Ragi	Rainfed	0 - 2 - 0.00

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Advantages of Aadhar enabled payment through Parihara

- ◆ Electronic transfer of fund directly to farmers account from the State which minimizes intermediaries and will ensure timely payment.
- ◆ Accurate targeting and curbing pilferage by validating entries at multiple levels. Thus Parihara

prevents malfeasance with input subsidy, which has been a biggest challenge for the governments.

- ◆ Robust MIS to monitor the progress and to provide quick and convenient method for grievance redressal.
- ◆ This is a onetime data entry; hence burden on district administration will reduce considerably for future disbursement of input subsidy. Thus there will not be disruption on developmental works.
- ◆ Pressure on banks, especially cooperative banks will reduce.

The Parihara has had positive spin-offs as well and these are as follows:

- ◆ Robust farmer-level data generated can be useful for planning purposes by all concerned agencies.
- ◆ Updating of crop details in the RTCs, which will facilitate accurate yield estimation.
- ◆ Success of Parihara has had cascading effect on other State Government schemes which involves disbursement of subsidies.

7.2.2 FLOOD:

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.

Preventive steps:

Certain advance measures are taken to prevent extensive damages caused by floods.

- ◆ Embankments
- ◆ Flood ways and diversions of rivers.
- ◆ Protection of river banks.
- ◆ Community-cum-shelter buildings.

Emergency measures to be taken

It is imperative that rescue and evaluation operations are taken up by the district administration without any loss of time. People living in low-lying areas are forewarned to evacuate the place and are shifted to a safe environment. Relief centers are to be set up to provide adequate food, clothing, shelter and water to the persons shifted. For shifting people and animals rafts and boats are to be kept ready and services of ex-service men and sports persons who are good swimmers are employed for relief measures.

Facilities available in case of floods

1. Wireless communication with revenue authorities.
2. Motorized **Boat of 12 members' capacity available at Fire and emergency services at Kolar**
3. Police Wireless system, Fax, Telephone Facilities.
4. Inspection Bungalows, School and College Buildings are mainly available for shifting the affected peoples at taluk head quarters.

Arrangements during and after floods:

- ◆ Organizing rescue operations.
- ◆ Relief measures by non-official and voluntary organization may be enlisted as far as possible.
- ◆ Organize relief camps.
- ◆ Provision of basic amenities like drinking water, sanitation and public health care and arrangements of cooked food in the relief camps.
- ◆ Organizing enough relief parties to the rescue of the marooned people within a reasonable time limit.
- ◆ Establish alternate communication links to have effective communication with marooned areas.
- ◆ Organizing controlled kitchens to supply foods initially at least for 3 days.
- ◆ Organizing cattle camps, if necessary and provide veterinary care, fodder and cattle feed to the affected animals.
- ◆ Grant of emergency relief to all the affected people.
- ◆ Submission of daily reports and dissemination correct information through mass media to avoid rumors.
- ◆ Rehabilitation of homeless.
- ◆ Commencement of agricultural activities desolation, resowing.
- ◆ Repairs and reconstructions of infrastructural facilities such as roads, embankments, resettlement of flood prone areas.
- ◆ Health measures.
- ◆ Relief for economic reconstruction.

Functions of chief emergency coordinator (cec) in case of floods

The following functions are delineated for the Chief Emergency Coordinator. He will take various emergency decisions by convening the immediate meeting/conferencing of Emergency Planning, Group together they are responsible for the following.

- ◆ Formulation and implementation of the plan.
- ◆ Guidance/decision on matters of basic policy.
- ◆ Activation of the emergency control center and convening the emergency meeting.
- ◆ Declaring the emergency zones with the help of technical personnel and experts.
- ◆ Control on emergency operations.
- ◆ Review of operational preparedness of emergency machinery.
- ◆ Holding periodic mock/training exercises to ensure optimum preparedness at operational level.
- ◆ Development and updating hazard scenarios and cascading effects from time to time.
- ◆ Mobilizing organizations, financial and human resources for the plan.
- ◆ Liaison with external/Govt. agencies and assessment of whether any public assistance is required.
- ◆ Furnishing information on the incident to District, State and National Level authorities and if needed competent bodies may be called for assistance.
- ◆ Liaison with press/media, to report the emergency.
- ◆ Declaring rehabilitation centers in case of evacuation if called for

- ◆ Monitoring post emergency situation in terms of health care, first aid, habilitation etc.,
- ◆ Declare all clear, once everything is normal.

The emergency control centre consists of the following;

1. At least two external telephones (one incoming and the others one out going fitted with simultaneous/selective boards casting systems) with a PABX.
2. Wireless/Radio equipment (VHF/mobile).
3. Inundation/vulnerability maps indicating risk zones, assembly points, alternate evacuation routes, safe areas, rehabilitation centers etc.,
4. Telephone directory of emergency response system.
5. List of all emergency equipment and personnel for evacuation, personnel protection, medical aid etc., under the plan as well as with Government agencies in the district.
6. List of ambulances, base medical facilities, hospitals, rehabilitation centers etc.,
7. Reference books/chemical dossiers.
8. Copies of Disaster Management Plan.

Control Room Operation:

Operational Timing			Personnel Deployment			Name of the record	Equipments
Normal	Warning	Post	Designation	Department	Time		
1	2	2	OPERATOR	DDMA	6.00AM	Govindharaju N	VHF, PHONE WIRELESS

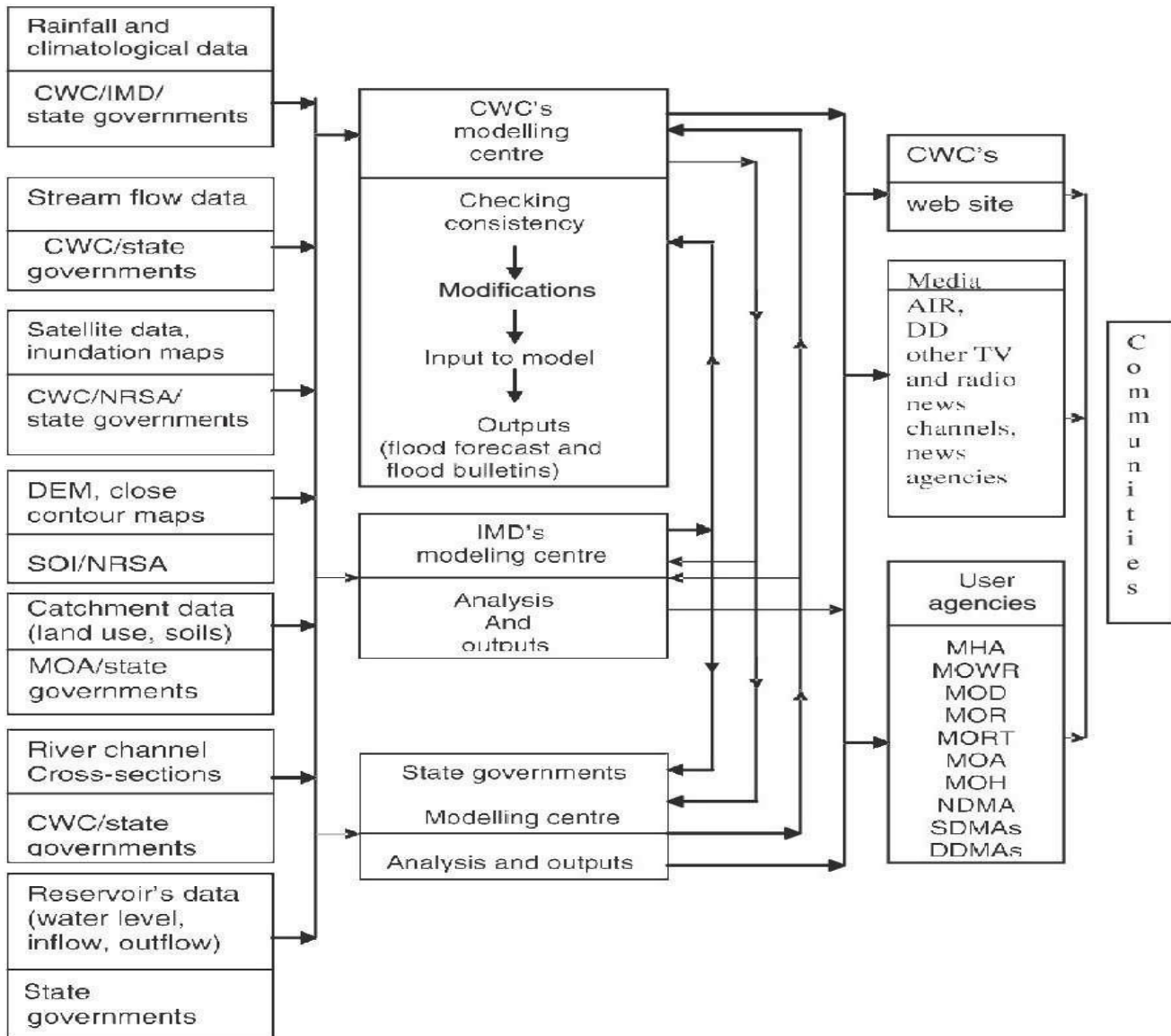
Personnel Deployment in Control Room: WEEK WISE:

Days	6AM to 6 PM (Day)	6PM to 6AM
Monday	Govindharaju N	Manjunath
Tuesday	Govindharaju N	Manjunath
Wednesday	Govindharaju N	Manjunath
Thursday	Govindharaju N	Manjunath
Friday	Govindharaju N	Manjunath
Saturday	Govindharaju N	Manjunath
Sunday	Govindharaju N	Manjunath

Alert all field Officers:

Sub: - Collectors, BDOs Tahasildars, DHO, etc...

Flowchart for Flood Forecasting and Early Warning



7.2.3 Forest Fire:

- ◆ Estimate burning / fire spread and evacuate people dwelling in the vicinity.
In an unlikely event of a forest fire in Kolar District, following broad guidelines is to be followed:
- ◆ On an intimation of forest fire, an aerial survey should be carried out.
- ◆ After aerial surveillance, identify the area for creating fire breaks. Spread of fire can be controlled by cutting /eliminating vegetation and spreading with mud/sand.
- ◆ Cool the fire break area with water.
- ◆ Take necessary assistance from home guard, Fire and Emergency services, Voluntary Disaster Response Teams and air force depending upon the intensity of the fire.

7.2.4 Cyclone / Storm:

Preliminary Actions on alert signal from meteorological department: -

Identification of likely affected areas: -

- ◆ Map of Kolar District showing areas that are likely to be affected by cyclone are identified
- ◆ Evacuation route by rail/road for the likely affected areas.
- ◆ After receiving alert from meteorological department, broadcast the information about cyclone strike on Radio, TV channels and loud speakers mounted on police jeeps.
- ◆ Contact Police department and instruct them to inform general public in their respective areas (beats).
- ◆ Move people from high risk areas to identified assembly points in lower risk areas preferably zone likely to be least affected.
- ◆ Arrange food, water and medicine at designated assembly points. - Contact NMPT and fishermen association and inform them about the possible cyclone strike.
- ◆ Ask port authorities to raise the appropriate signal in the port.

Monitoring action during cyclone

- ◆ Contact fire brigade control room and collect details of phone calls received during the cyclone. This will help in assessing the magnitude of damage.
- ◆ Contact electricity department and instruct them to cut-off electric supply wherever there are overhead wires to prevent short-circuiting and casualties due to electrocution.
- ◆ Contact state telecommunication department to assess any disruption in the network
- ◆ Contact Police to ensure that all roads in zone 1 & 2 are free from obstruction as far as possible.
- ◆ Contact NMPT to assess situation at the port.

Calling off emergency

- ◆ Contact Meteorological Department and confirm that cyclone risk is over.
- ◆ Have teleconferencing / meeting with Head of fire dept, Head of the District Electric Supply Board, and take stock of the situation.
- ◆ Instruct the Electric Supply Board to resume power supply safely region by region and give feedback. - Broadcast/telecast "all clear" on radio/ TV respectively.

7.2.5 Earthquake:

Earthquakes present unique problems as they upset the complete infrastructure necessary for rescue and restoration of normalcy. For example, it could prevent emergency personnel from reaching victims, it increases the risk of fire and electrical shock, could result in complete failure of the telephone and other communication systems, disruption of water supply for firefighting / other reasons, and increases the possibility of burst pipelines carrying petroleum oils. It could, in addition, prevent ambulances from evacuating victims, fire personnel from reaching the fire affected areas, result in major structural debris

causing secondary damage and most importantly, could affect the entire emergency organization that is geared up for handling emergencies.

The main actions for earthquake incidents include preventive (pre-incident), during incident and post incident actions. Each earthquake, depending upon its intensity (as measured on the Richter/ modified Mercalli Scale) would have different extent of damage.

Some of the pre-actions that are important include:

- ◆ Basic earthquake related training to staff (behavior during earthquake, how to recognize, dos and don'ts)
- ◆ As blackout is possible, a kit containing flashlights, portable radio, basic tools, should be available for emergency.
- ◆ Basic precautions such as sitting away from wall hanging items, bolting of almirahs to the wall rather than loosely lying cupboards, pasting tape to the glasses to avoid excessive shattering.

Actions immediately after tremors

Actions during an earthquake would depend upon the severity of the quake and the extent of damage however, the basic steps for safeguarding life safety (top most criterion) include:

- ◆ Activation of the fire orders, for fires is likely in case of major earthquakes. Pipelines would be expected to rupture as also storage tanks
- ◆ This would result in a large-scale spillage and possible fires. The fire fighting system is likely to be incapacitated. In addition, power supply may be (most likely) cut off

The main action would involve: -

- ◆ Stopping any pumping of oil from ship tankers say in NMPT, if in progress
- ◆ Stopping GAS supply through **the Chennai-Bangalore** pipeline from the main control room.
- ◆ Cutting off the power supply (if not cut off on its own already) to avoid electrical shocks, fires, etc.
- ◆ Halting any road / rail tanker filling operations, if in progress.
- ◆ Sending away road tankers to safe zones.
- ◆ Any major oil spillage could also overflow the dyke walls and spread around. Halting or minimizing this flow of oil may be attempted where practical and without endangering human life.
- ◆ Set up a call-receiving centre in addition to the DECR. - Flash the telephone number over the local cable TV as well as the Doordarshan Channel.
- ◆ Issue a warning over the Radio regarding the earthquake and the future possibility of aftershocks.
- ◆ Rush rescue team to affected area to retrieve entrapped persons with the means available.
- ◆ Rush the injured to hospitals
- ◆ Gets feedback from the Municipal Corporation regarding the affected areas and Colonies.
- ◆ Get a feedback from the District Education Officer on the conditions of the schools
- ◆ Call all the doctors and put them on Standby alert.
- ◆ Recall all the vehicle of the district and use them for reaching the various affected areas.
- ◆ Contact the DG set operators and ask them to be on Standby for supplying the generators.
- ◆ Dispatch the Police units to the worst affected areas.
- ◆ Request the Army to help in the relief operations.
- ◆ Get the searchlight operators to supply the searchlights.

- ◆ Tents and Plastic sheets suppliers should be contacted to keep the same ready.
- ◆ Medical Outpost should be set up near the affected area with
 - ❖ First Aid facility
 - ❖ Splints
 - ❖ Neck Collars
 - ❖ Immobilizing stretcher
- ◆ The Triage area should be marked clearly so as to enable the ambulance staging
- ◆ The fire tender approach area as well as the other relief material vehicle area should also be identified
- ◆ All the approach roads to the major collapsed structures should be kept / made free.
- ◆ Crack teams should be identified which have probe Cameras for locating the dead and the injured in the rubble
- ◆ Sniffer dogs should also be called from the neighboring district to locate the injured
- ◆ Concrete cutters should be brought for cutting through the concrete rubble to reach the injured in the collapsed building
- ◆ The highway should be sealed.
- ◆ The neighboring district administration should be told about the disaster
- ◆ The power supply should be immediately cut-off in the affected area
- ◆ The water mains should be blocked to ensure that the collapsed structures do not get flooded as a result of breakage of water pipeline.
- ◆ Information should be gathered from the Civil Hospital about whether it has suffered any structural damage or weakening.
- ◆ All the private clinics / hospitals should be asked to keep the beds empty so as to ensure that the patients can be received for medical treatment.

For general public, important instructions should include:

- Get under a heavy table or desk and hold on, or sit or stand against an inside wall if inside the building and if unable to come out. If possible to come out without difficulty, assemble outside the building to avoid fatality due to structural collapse.
- Keep away from windows as these may shatter/crack resulting in possible injury.
- If outdoors, stay away from tall objects (lighting poles, pipe racks, structural roofs) falling debris, trees and power lines.
- Tanker Trucks drivers should drive to a clear spot and stay in the vehicle.

Post-earthquake actions Post-earthquake actions are extremely important and these include: -

- ◆ Clean up of the debris and rescue of people who are alive
- ◆ Making arrangement for the Morgue - Sitting in the open area where the tents can be put up
- ◆ Expect aftershocks. They are just as serious as the main earthquake.
- ◆ Put on shoes to protect from broken glass, chapels are to be avoided at any cost.
- ◆ Check for casualties and fires (secondary fires could be raging).
- ◆ Use a flash light to inspect for damage.
- ◆ Do not go into damaged areas unless specifically trained to do so.
- ◆ Do not use telephones except in emergencies.
- ◆ Do not use vehicles except in emergencies.
- ◆ Use a portable radio for obtaining information
- ◆ Assist in rescue of co-workers and other persons who could be present at the installation as per the Fire Orders.

7.2.6 Land Slide:

Over the past few decades, an array of techniques and practices has evolved to reduce and cope with losses from landslide hazards. Careful development can reduce losses by avoiding the hazards or by reducing the damage potential. Following approaches can be used individually or in combination to reduce landslide risk or eliminate losses.

Restricting Development in Landslide Prone Areas – Land use planning is one of the most effective and economical ways to reduce landslide losses by avoiding the hazard and minimizing the risk. This is accomplished by removing or converting existing development or discouraging or regulating new development in unstable areas.

Excavation, Construction, and Grading Codes - Excavation, construction, and grading codes should be developed for construction in landslide-prone areas (National Building code).

Protecting Existing Development - Control of surface water and groundwater drainage is the most widely used and generally the most successful slope-stabilization method. Stability of a slope can be increased by removing all or part of a landslide mass, or by adding earth supports placed at the toes of potential slope failures. Restraining walls, piles or rock anchors are commonly used to prevent or control slope movement. In most cases, combinations of these measures are used.

Monitoring and Warning Systems - Monitoring and warning systems are utilized to protect lives and property, not to prevent landslides. However, these systems often provide warning of slope movement in time to allow the construction of physical measures that will reduce the immediate or long-term hazard. Site-specific monitoring techniques include field observation and the use of various ground motion instruments.

7.2.7 EMERGENCY RESPONSE PROCEDURE - INDUSTRIAL DISASTERS

In Kolar District most of MAH units are concentrated around the Tamaka, Narasapura near Kolar Town.

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, Chlorine, and H₂S. 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.

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 bunded 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 (4 kW/m² distances given in chapter 3).
- ◆ 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.

Oil Spill:

- ◆ Large quantity of petroleum products and other hazardous chemicals are transported through the district. Any spillage of these materials will result into large pool of chemical on land. This section addresses contingency plan for dealing with such potential large-scale oil spills.
- ◆ Establish type of oil spilled so that its fate can be predicted and the appropriate clean-up techniques employed. Data on the types of oil handled can enable predictions to be made regarding the lifetime of slicks and the quantity and nature of the residue, which may require a clean-up response. It will also assist in the selection of appropriate clean-up equipment to be held in readiness for spills.
- ◆ Having determined priorities for protection, attention can be given to designating appropriate clean-up measures. Assess employing various techniques for containing and cleaning of oil spills.
- ◆ The containment of floating oil for subsequent recovery or its diversion away from sensitive areas is most important task to reduce the impact.
- ◆ Floating booms can be made out of wood, bamboo, oil drums, hoses and rubber tires, and sorbent booms constructed from fishing nets or wire mesh filled with straw, coconut husks or other indigenous materials.
- ◆ In shallow waters, stakes may be driven into the bottom to support screens or mats made from sacking, reeds, straw bales, bamboo or other such material.
- ◆ On long sandy beaches bulldozers can be used to construct sand bunds out into shallow water to intercept oil moving along the shoreline. A similar approach can sometimes be used to block off narrow estuaries or lagoons to prevent the ingress of oil although the ecological consequences of such temporary measures should be considered carefully.
- ◆ The rapid recovery of contained oil is vital to prevent its escape and the contamination of other areas. Recovery can be achieved using skimmers, pumps, sorbents, manual techniques and non-specialized mechanical equipment, such as vacuum trucks.

Pipeline Failure

Kolar District has many pipelines for carrying various hazardous chemicals like LPG, Naphtha, POL products; Ammonia (Industrial areas) etc Most of the pipelines are laid underground in public domain and are protected against corrosion by cathodic protection system. The failures of the pipelines are possible if there is abnormal activity like sabotage or attempt to pilferage.

Any emergency involving pipeline results in an off-site emergency. It should be ensured by the district administration that the following actions are taken during any emergency involving a cross-country pipeline.

- ◆ First information is normally from the witness who informs the owner of the pipeline regarding the leakage. It is therefore essential to educate the general public regarding the routing of the pipeline and nature of chemicals that are being transported.
- ◆ It is therefore essential to keep the contact numbers of all the pipeline owners at key locations in each village like Panchayat offices, schools etc along the lines. This is in addition to the warning sign posts provided along the pipeline.
- ◆ It should be ensured that there are continuous monitoring / communication between both ends whenever there is transfer operation in progress. On detection of any abnormality, the pumping operation should be stopped immediately and valves on both sides should be closed immediately. In case of LPG pipeline, efforts may be made to depressurize the line safely before isolating the line.

7.2.8 EMERGENCY RESPONSE PROCEDURE - BIOLOGICAL DISASTERS

The District Health Officer is the overall in charge of prevention and control of outbreak of any epidemic in the district in addition to his normal duties. District Malaria Officer, District TB Officer (with additional charge of AIDS prevention and control) assists him in the above task.

Malaria, Filariasis, Leptospirosis, **Dengue fever** are the common diseases in the district which could assume epidemic levels if not controlled in time. However outbreak of Cholera and other water borne diseases cannot be ruled out especially in the aftermath of a major flood in the district.

On detection of outbreak of any epidemic in the district, the administration should investigate the root cause of the epidemic and initiate the action to mitigate the same as follows:

- ◆ The people affected should be immediately shifted to hospitals for medical attention and kept isolated to prevent spread of disease.
- ◆ Additional medical help/ medicines may be mobilized from neighboring districts.
- ◆ Vaccination should be given to all unaffected persons and the general public should be educated about the precautionary steps to be taken against the prevailing epidemic.
- ◆ Steps should be taken to decontaminate the source of epidemic like water bodies (lake, Tanks, wells etc.).
- ◆ There should be proper temporary morgue arrangement for safe preservation and disposal of corpses of persons died of epidemic.
- ◆ Clean up drive should be taken in the affected area as filth is the major source of contamination.
- ◆ Depending on prevailing situations, the administration should take action to close all the road side eateries/ food stalls and advise them to destroy all stale food. Strict control should be exercised on the licensed restaurants.
- ◆ Decision may be taken to close down all schools, colleges and other places of mass congregation like cinema halls etc.

Cattle Disease

Cattle epidemic like foot and mouth disease is highly contagious and may affect large cattle population. Hence effective emergency planning is required to control such an event.

- ◆ On getting intimation, send a team of veterinary doctors and experts to the affected area for investigation and assessment of the situation.
- ◆ Stop sale of milk and meat from all outlets. Instruct people to dispose of unused stock of milk & meat at home.
- ◆ On investigation by the expert team, following may be considered:
 - Quarantining of the affected animals.
 - Making arrangement for treating the affected animals.
 - Vaccinating them, if applicable to the disease.
 - Implementation of virus spread control program.
 - Elimination of affected livestock.
 - Disposal of carcasses.

Food Poisoning

Food poisoning is a probable phenomenon in religious or social functions where there is mass feeding of people by setting up of temporary or makes shift community kitchens. This problem is mainly due to use of sub-standard materials and the unhygienic conditions in which the food is prepared.

- ◆ On receipt of the information of the food poisoning in the district, the district administration should take following actions to instill confidence in the people
- ◆ Rush the food inspectors to the place of food poisoning for collection of sample and sealing of the kitchen.
- ◆ Identify the source of food poisoning and destroy the remaining stock of the contaminated food.
- ◆ Rush the affected persons to nearest hospitals for first aid / medical treatment.
- ◆ Additional medical / Para-medical personnel and additional stock of essential medicines may be mobilized from various hospitals to meet the increased demand.
- ◆ Proper information should be passed on to general public using various means of communication to prevent spread of rumors, which may result in panic situation.
- ◆ Take preventive measures to avoid re-occurrence of such food poisoning in future.
- ◆ There should be proper control over quality control (by way of sampling / analysis or by tasting) of food samples before they are fed to masses.

7.2.9 EMERGENCY RESPONSE PROCEDURE - MISCELLANEOUS DISASTERS

Building Collapse

Rescue guidelines for building collapse are as under:

- ◆ As one might expect, immediately after a collapse, the debris of the building is very unstable and prone to additional movement. Rescuers must assess the nature of the scene and the pattern of the collapse before entering onto a pile of rubble to ensure their own safety and that of those potentially buried in it. Shoring may be necessary to prevent movement, before attempting rescues.
- ◆ Gather as much information as is possible at the onset of the incident. ". Concentrate preliminary efforts on areas where people were last seen or known to be. It is suggested that a "Command" person be designated to interview those that may have escaped the collapse, were eyewitnesses, or were in the building and rescued early in the effort. Obtain a list of the people normally in the building, if one is available.
- ◆ After ensuring rescuer safety and minimal movement of the debris, send small organized teams to the top of the pile and systematically search the surface in specific grids. Use barricade tape and markers to visually demonstrate the areas that have been searched and those that could potentially contain victims. Concentrate efforts on those areas that are believed to be the last known locations of people, when the collapse occurred.
- ◆ Activate District Disaster Management Plan to have full-fledged rescue operation. This type of rescue is very manpower intensive and may require large numbers of extrication and medical personnel. The rescue operation may call for specialized equipment like cranes / earth moving equipment and gas cutting and concrete cutting equipment. The Rescue Vehicle available at Pandeshwar Fire Station in Mangalore comprises of some of these critical equipment.
- ◆ During rescue operations, sound detection devices can be used to "listen" for movement or sounds deep within the debris. Call for "Search Dogs" and handlers from nearest available source.
- ◆ Once it is confirmed there is nobody trapped below is alive, continue to remove debris carefully and vertically, searching each "void" or entrance to a "void" as it becomes available to the rescuer. People have continually and historically been found alive many hours and days into the rescue. Have command, media relations, and logistics officers plan for a multiple day operation when people are still suspected of being missing and their bodies have not been recovered.
- ◆ Help from external agencies like Army, NDRF or other professional bodies should be mobilized at shortest possible notice to ensure saving of human life.
- ◆ Great care must be taken when a person is located, either dead or alive, to ensure that additional collapse doesn't occur in the area of their entrapment. Rescuers should use their hands and small tools to remove the remaining debris surrounding a person. The victim's condition may dictate the speed with which rescue efforts progress. Consideration should be given to early application of Military Anti-Shock Trousers for viable persons that have "crushing" injuries.
- ◆ Be prepared for the emotional and psychological implications of the incident. Prepare early for Critical Incident Stress debriefing sessions for rescuers, victims and families. It is strongly suggested that mental health professionals and crisis intervention be made available to the families of those believed trapped, at the earliest opportunity. The stress of protracted digging, discovery of disfigured remains, odd smells and sights can affect even the most hardened of rescue professionals. Supervisory personnel may want to set aside a special place for families and psychological care near to, but, off of the rescue site. To do otherwise will invite charges of insensitively, and probably prompt the families to attempt to enter or stay in the rescue area.

- ◆ Relief for both supervisory and field rescue personnel must be forthcoming. Even though most rescuers will insist in continuing their efforts for many hours, they lose a large part of their effectiveness after 18-24 hours or less. Ensure that all rescuers eat and rest at frequent intervals, as circumstances permit. Prepare to (and do) call in off-duty or mutual aid personnel as they are needed. Stage all extraneous units in a planned way and avoid having more personnel on-site than can effectively work at one time.
- ◆ Anticipate the need for additional resources that you haven't thought of prior to this event. Be prepared to obtain architectural drawings of the building(s) affected. How about gas lines, water pipes, or electrical services that are disrupted? You may want an aerial perspective of the scene...do you know where and how to get overhead photos of the collapse? How are you going to feed "hundreds" of construction workers, rescue workers, families, and others, who may be there for days? Who's going to pay for what? Ensure that you have planning and logistics officers who can anticipate these needs and fulfill them within a moment's notice. Often... the difference between what is perceived as a completely successful rescue and a "disorganized" one is the quality of your planning and the careful execution of your contingency plans.
- ◆ Particularly in multi-story buildings, be prepared for the possibility and likelihood of underground or cave type rescue procedures. This type of specialized rescues requires those experienced with climbing (ascending and descending) man oeuvres and the use of technical rappelling methods. Each rescue team (minimum of two rescuers) going "underground" should have a safety rope attached and be in constant communications by radio with the surface. They should also possess a minimum of three viable light sources. Hose rollers and other types of "rope slip devices" must be used, as to avoid the sharp edges of concrete that will abrade normal rescue ropes.

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:

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 sight 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 normalization.
- ◆ 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.
- ◆ 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, bides, 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 neutralize the leak.

Bomb Emergency Management

To-day industrial installations, sensitive sites, public gatherings are becoming targets of the terrorist groups. Therefore the possibility of receiving bomb threats cannot be ruled out. The golden rule is consider all bomb threats as genuine and act accordingly keeping in mind the safety of the people and the property.

The objective is:

- ◆ To avoid/minimize any loss or damage to lives and property.
- ◆ To eliminate panic and build up confidence.
- ◆ To be prepared for proper handling of any critical situation.

Many of to-day's bombing incidents involve improvised explosive devices or home-made bombs.

BOMB THREAT REPORT

ACTIONS ON RECEIVING BOMB THREAT CALL

1. Do not put down receiver or cut off caller.
 2. Put on tape-recorder, if available.
 3. Alert nearest colleague.
 4. Keep Form and pen ready to fill.
 5. Note time and duration correctly.
 6. Obtain as much information as possible.
 7. Keep caller engaged in conversation as long as possible
- (Apologise for bad line, ask him to speak up etc.)

Time of call..... Date..... Exact words of caller..... Was any one called for by name or designation () Yes () No. If so, who?

QUESTIONS TO ASK THE CALLER

- 1) Who is calling, from where?
- 2) When is it set to go off?
- 3) Where is the bomb placed?
- 4) What kind of bomb is it?
- 5) How does it look like?
- 6) Why are you doing this?
- 7) Whom do you represent?
- 8) How do you know so much about the bomb?
- 9) How can we get rid of the bomb?
- 10) Do you know that the bomb will kill innocent people?

DETAILS OF CALLER

- ❖ Sex: Male Female Approximate age:years.
- ❖ Origin of call: inside plant, outside local, outside long distance.
- ❖ Voice characteristic: fast, slow, stutter, distinct, disguised, educated, uneducated, loud, soft.
- ❖ Language used, accent, manner: calm, angry, emotional, laughing, deliberate, normal, abnormal, other
- ❖ Is voice familiar? yes, no.
- ❖ Background sound: street, telephone booth, airport, railway stn, residence, cannot identify, others

Security Manager / Police station informed at.....Name of the person receiving call
signature.....

Keep this form with all Telephone Operators, Duty/ Security Managers, General Manager, Manager Operations, Shift In-

Charge and all those with a direct line.

h. Call all identified personnel (On-site / Off-site).

i. As soon as an emergency is envisaged /occurs the Emergency chief or his alternate shall promptly communicate the information by a telephone or any other quickest mode of communication to the Police, highest District administrative officer (DC) / fire brigade. The information should include the

location and the degree of emergency (anticipated, eminent or actual).

RESPONSIBILITY OF THE SECURITY OFFICER IN-CHARGE OF THE INDUSTRIAL INSTALLATION (IF THE CALL IS MADE TO ANY OF THE INDUSTRIES):

a. Advise the Emergency chief and keep him apprised of the actions being taken.

b. Immediately make elaborate preparations near the threatened area for

- ◆ Fire fighting
- ◆ Casualty handling
- ◆ Rescue operations
- ◆ Search operations

c. Prepare for partial/total evacuation if required. Also prepare for evacuation if required. Emergency

Chief or his alternate will authorize both these activities.

d. Designate the team for bomb search. Initiate search operations with safety/security officers / police if time is available.

ACTION PLAN

Two situations are possible.

- ◆ When no time limit is given.
- ◆ When bomb threat call has time limit specified.

As soon as the call is received the concerned area-in-charge will make fire fighting/first aid preparations immediately.

a. In the first case if there is no time limit specified for bomb explosion, as soon as the Emergency chief gives a clearance the following action should be initiated.

- ◆ Emergency shutdown of the plant sections likely to be affected.
- ◆ Evacuation of the employees and visitors to safer locations.
- ◆ Bomb search taking all the precautions.

b. Action plan when time limit is specified:

In such case the concerned officers should search the area along with safety and security officers.

c. Search procedures:

- ◆ Search must be conducted by persons who live or work in the involved area along with the police since they are familiar with the area and would be in a better position to notice a foreign object faster.
- ◆ Two teams could be formed to search various parts of the room/area. Stand quietly for some moments to listen for any clockwork device before starting the search.
- ◆ As far as practical do not cause any disturbance in the environment till the search is over.
- ◆ Do not go into dark rooms and turn on lights. Use a flash light instead.
- ◆ If any foreign or suspicious object is located, do not move or touch it. The removal/disarming of a bomb must be left to professionals. Report the location and description of the object immediately to the police.
- ◆ If possible place sand bags or mattresses around the bomb. Do not cover it.
- ◆ Identify the danger area and block it off with clear zone of at least 100 m.
- ◆ Check that all doors and windows are open.
- ◆ Evacuate the area.

Conducting a search (Industry / Police)

1. Rules to be followed

1. Never use Search more than Necessary.
2. Use maximum 2 men/room or an area up to 250 Sq.ft.
3. Use searches in alternative room.
4. Never assume only one device
5. Clearly Mark the area Searched.
6. Give rest every after 10 minutes.
7. Clearly mark and report area found.
8. Do not touch or handle suspicious object.
9. Trust nothing and assume nothing safe.

2. What to look for

1. Recently disturbed area.
2. Saw dust, Brick dust and wood chips.
3. Greasy paper wrapping.
4. Objects out of place.
5. Disturbed Carpets.
6. Tin Foils.
7. Pantry door, window, drawers.
8. Fresh Plaster/cement.
9. Loose electric fitting.
10. Fish line wire hooks.
11. Cut vegetation.
12. Dusty foot prints.
13. Scratches or new points.
14. Containers, fridge, dust bin.

3. What to search (outside the building)

1. All drainage pipes.
2. Mail boxes
3. Shrubs.
4. Trash cans.
5. Vehicles.
6. Gas connections.
7. Electricity boards.
8. DG sets.
9. Transformers.
10. Boiler rooms.

(In hotels & public places like halls)

1. Hallways.
2. Lobbies.
3. Rest rooms.
4. Trash containers.
5. Removable ceiling panels.
6. Under carpets, furniture.
7. Behind curtains.
8. Window ledges.

(In searching vehicles)

1. Look under fenders and under vehicles.
2. Trip wires to a hood, door or trunk.
3. Latches on car parts can be opened remotely by taping open the latches and using rope to Pull them open.

Points to Remember

1. Do not touch or remove the packet.
2. Do not touch or remove with hands.
3. Do not touches submerge in water the packet.
4. Do not accept identification mark at face value.
5. Do not bring suspicious bomb in the police station.
6. Evacuate the people to the safe area.
7. Do not use radio, mobile phone.
8. Open window and doors.
9. Do not tilt and roll the object.
10. Barricade to be made around the object.
11. Do not cut any wire/ strings.
12. Do not try to be dead hero.

4. Equipment for building search

- ◆ Extension mirror.
- ◆ Chalk piece.
- ◆ Torch (Periscope).
- ◆ Screw Driver Set.
- ◆ Explosive Detector.
- ◆ Metal detector.
- ◆ Audio check detector.
- ◆ Metallic and Non Metallic tools.
- ◆ Fishing hooks tied to fishing line to open doors and drawers remotely.

Leave bomb disposal to the bomb disposal squad.

In case of bomb explosion in industrial installations / general public area activate the District Disaster Management Plan.

The bomb explosion could cause building collapse, leak of toxic gas, fires, and injuries to persons including fatalities. The agencies on the scene would be:

- ◆ Police
- ◆ Fire brigade
- ◆ First aiders / Home guards.

The DC will be kept informed of all developments.

Chapter 9 Communication Plan

9.1 Identified Locations for Installation of Communication System

Sl. No.	Location for Installation of VHF/HAM systems, etc
1	Deputy Commissioners Officer ,Kolar

9.2 Check list for Control Room:

Activities	Page no. Reference	Yes/No
<ul style="list-style-type: none"> • Assessing of duty. 	(REGISTRAR MAINTAINED) 1. At least two external telephones (one incoming and the others one out going fitted with simultaneous/selective boards casting systems) with a PABX. 2. Wireless/Radio equipment (VHF/mobile). 3. Inundation/vulnerability maps indicating risk zones, assembly points, alternate evacuation routes, safe areas, rehabilitation centers etc., 4. Telephone directory of emergency response system. 5. List of all emergency equipment and personnel for evacuation, personnel protection, medical aid etc., under the plan as well as with Government agencies in the district. 6. List of ambulances, base medical facilities, hospitals, rehabilitation centers etc., 7. Reference books/chemical dossiers. 8. Copies of Disaster Management Plan.	Yes
<ul style="list-style-type: none"> • Maintain inventory of resources. 		Yes
<ul style="list-style-type: none"> • Service division and assign duties. 		Yes
<ul style="list-style-type: none"> • Receive information on a routine basis and record. 		Yes
<ul style="list-style-type: none"> • Receive preparedness report from various relevant dept. 		No
<ul style="list-style-type: none"> • Basing on the reports feedback to the district authority and others. 		Yes
<ul style="list-style-type: none"> • Vulnerable area map displayed. 		Yes
<ul style="list-style-type: none"> • Imp. Phone numbers. 		Yes

9.3 Evacuation, Search and Rescue: Early Warning Management

Actions	Responsibility
Obtain early warning inputs from IMD, CWC, MHA / NDMA / KSNMDC/INCOIS/GSI control rooms,	In charge – DEOC
Notify the early warning to Chairman and the members of the DDMA, Nodal officers of the line departments, ADCs, AC, SP	In charge - DEOC ADC/AC/SP

Disseminate early warning to divisions, blocks and Panchayats	District Information Officer
Flash warning signals on all television and radio networks	District Information Officer
Establish disaster dash board on the official district website	Tahsildars
Inform communities / Public/ Villagers about the disaster warning using vehicles mounted with loudspeakers	Tahsildars
Use PA systems facilities at Temples, Mosques, and Churches to announce about the impending disasters	Tahsildars
Share early warning information with educational information and instruct closure of institutions if required	Tahsildars

Actions	Responsibility
Notify the early warning to Chairman and the members of the DDMA,, Nodal officers of the line departments, ADC,SP ,AC Hold meeting to assess situation and make a decision whether to evacuate specific communities / population	In charge –DEOC Chairman DDMA
Communicate decision regarding evacuation to concerned Revenue and Police Officers	Chairman DDMA
Evacuating people to safer places	Tahsildars
Trafficmanagement as wells as cordoning specific areas	Police Commissioner/District
Deploy teams for law and order maintenance,	Superintendent of Police
Establish routes, shelters and other logistics arrangements	Revenue department
Establish information desk,	Revenue department
Establish helpline numbers	BSNL

12.3. Evacuation when there no early warning

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

9.3.1 Search and Rescue: During and after course of Action

Actions	Responsibility
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 Deploy district level search and rescue teams in identified locations	Chairman DDMA
Deploy Fire and Emergency Service teams for search and rescue	District Fire Officer
Deploy Home Guards rescue teams Requisition of NDRF	District Commandant– Home Guards
Establish on site coordination mechanism	Chairman DDMA
Assign area of search and rescue responsibility for different teams deployed on site	ADC/AC
Establish Staging Area for search and rescue resources. Establish Camps for the responders with adequate food, water, Sanitation facilities	ACs and Concerned Tehsildars
Deploy teams for law and order maintenance, traffic management as wells as cordoning specific areas Identify nearest helipad and ensure it is in operating conditions.	Superintendent of Police
Establish triage	Concerned Tehsildars ACs
Transport critically injured	DHO/MO/ 108 Ambulance service /red cross
Establish onsite medical camps or mobile camps for First aid	DHO/MO
Establish information desk and dead body identification	ADC/AC
Evacuating people to safer places	ACs and Concerned Tehsildars
Deploy volunteers for supporting auxiliary functions such as crowd management, route management, first aid, information management	ACs and Concerned Tehsildars
Rescue animals in concerned spaces	Assistant Director Animal Husbandry

9.3.3 Relief Operation:

Actions	Responsibility
Undertake sub division wise / block wise / tehsil wise relief needs assessment in terms of food, water, shelter, sanitation, clothing, utensils, medical and other critical items	ADC/AC
Identify suitable and safe facilities and establish relief camps	ADC/ACs and Concerned Tehsildars
Establish adequate lighting arrangement at the relief camps	BESCOM

Ensure adequate security arrangement at the relief camps and for the affected communities	District SP
Ensure adequate water and sanitation facilities in relief camps and other affected communities Set up RO plants / water purification plants or other suitable facilities for immediate water supply	SE – Irrigation
Supply, procure and provide food to the affected communities Airdrop dry and un perishable food to inaccessible location safe drinking water. Provide essential items lost due to disasters such as utensils	District Supply Officer
Supply, procure and provide water to the affected communities	SE–Irrigation
Make required shelter arrangements including temporary camps.	SE–Irrigation /AC/Tehsildar
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 camp 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. Put in place grievance handling mechanism to prevent discrimination	AC / Tehsildar
Ensure adequate availability of daily need items such as food, medicine, consumables etc to ensure their access to affected communities.	AC/DD Food
Provide adequate and weather, gender, culture appropriate clothing to The affected communities and especially address the needs of women, children, aged and physically challenged	AC/Tehsildar
Ensure adequate transportation facility to transport relief items Maintain proper records of and documents of beneficiaries and relief distribution.	District RTO /AC/Tehsildar
Ensure adequate and appropriate heating facilities depending on the weather situation Supply fire wood, cooking gas, POL for the kitchen	DFO DD Food
Record and maintain documents of ex-gratia payments	AC/Tehsildar
Provide first aid and medical treatment to the injured animals. Establish animal shelters wherever required Arrange fodder for animals.	Veterinary Officer Animal husbandry.

Guidelines for setting and running the Relief Camps:

- On receipt of report from Revenue officials, the DC/AC 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 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 is 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 CO/ASO should be designated as Camp Officer by the DC/AC who will ultimately be responsible for general management of the Relief Camp. He/She will co-ordinate & supervise the works of other officers in the camp.

Administrative structure of the camp should be as follows:

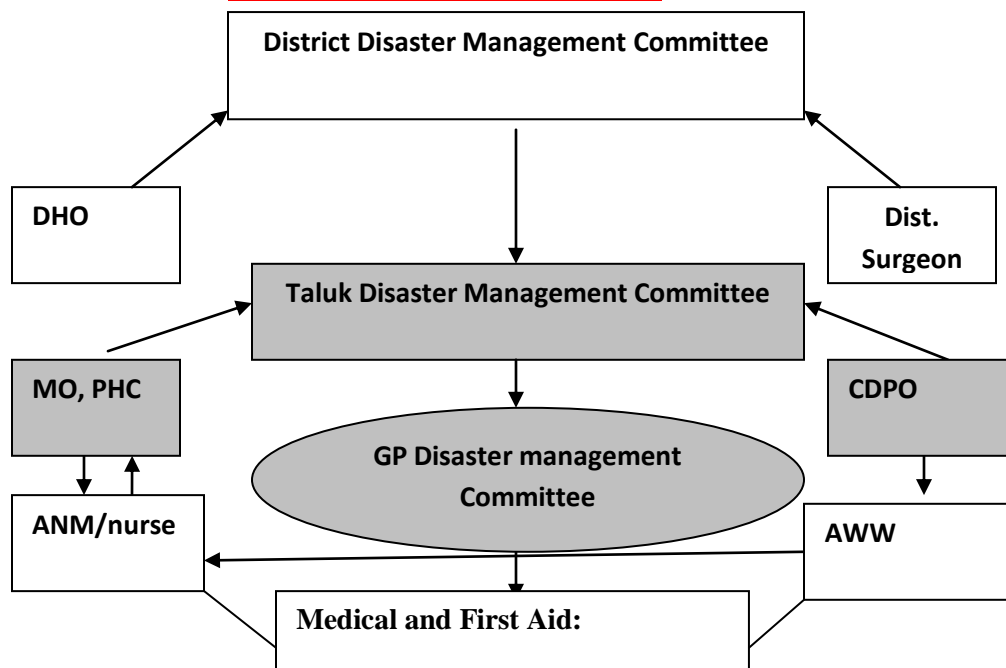
One help desk/ control room/ officer room should be designated where inhabitants can register their complaints.

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 gynaecologist 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 safely 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.

First aid & Health Services



Guidelines for Disposal of Animal Carcasses:

Responsibility	Department of Animal Husbandry, AC/ Tehsildar
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- ◆ Burial shall be performed in the most remote area possible.
- ◆ Burial areas shall be located a minimum of 300 feet down gradient from wells, springs and other water sources. Burial shall not be made within 300 feet of streams or ponds, or in soils identified in the country soil survey as being frequently flooded.
- ◆ The bottom of the pit or trench should be minimum 4 to 6 feet above the water table.
- ◆ Pits or trenches shall approximately be 4 to 6 feet deep. They should have stable slopes not steeper than 1 foot vertical to 1 foot horizontal.
- ◆ Animal Carcasses shall be uniformly placed in the pit or trench so that they do not exceed a maximum thickness of 2 feet. The cover over and surrounding shall be a minimum of 3 feet. The cover shall be shaped so as to drain the runoff away from the pit or trench.
- ◆ The bottom of trenches left open shall be sloped to drain and shall have an outlet. All surface runoff shall be diverted from entering the trench.
- ◆ Burial areas shall be inspected regularly and any subsidence or cavities filled.

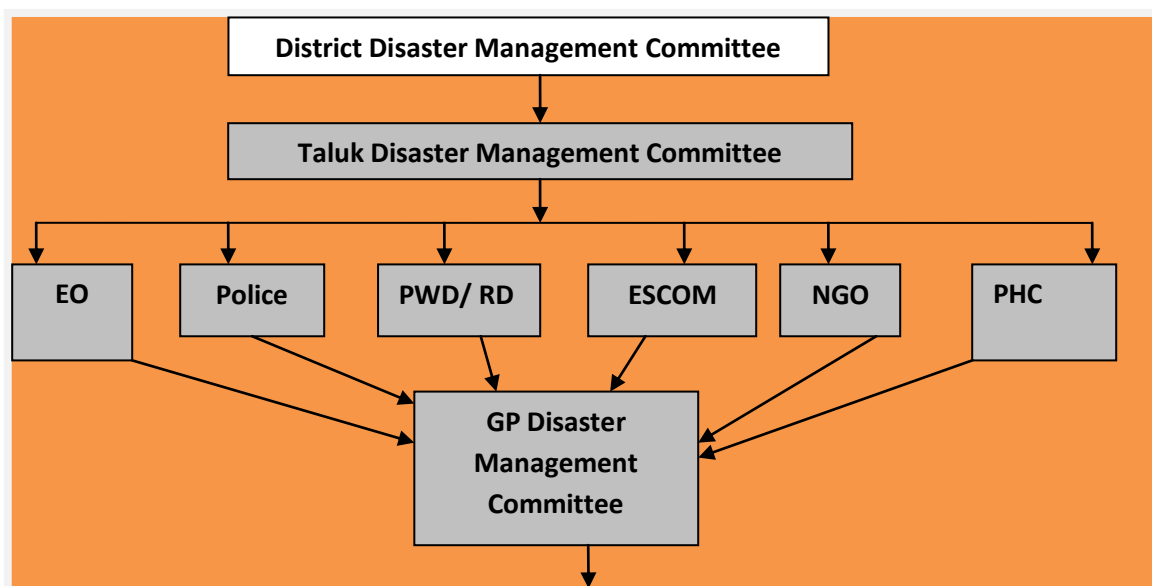
Guidelines for Composting:

- ◆ Select site that is well drained, at least 300 feet from water sources, sinkholes, seasonal seeps or other landscape features that indicate hydrological sensitivity in the area.

- ◆ Lay 24-inch bed of bulky, absorbent organic material containing sizeable pieces 4 to 6 inches long. Wood chips or hay straw work well. Ensure the base is large enough to allow for 2-foot clearance around the carcass.
- ◆ Lay animal in the centre of the bed. Lance the rumen to avoid bloating and possible explosion. Explosive release of gases can result in odour problems and it will blow the cover material off the composting carcass.
- ◆ When disposing large amounts of blood or body fluid, make sure there is plenty of material to absorb the liquid. Make a depression so blood can be absorbed and then cover, if a blood spill occurs, scrape it up and put back in pile.
- ◆ Cover carcass with dry, high-carbon material, old silage, sawdust or dry stall bedding (some semi-solid manure will expedite the process). Make sure all residuals are well covered to keep odours down, generate heat or keep vermin or other unwanted animals out of the window.

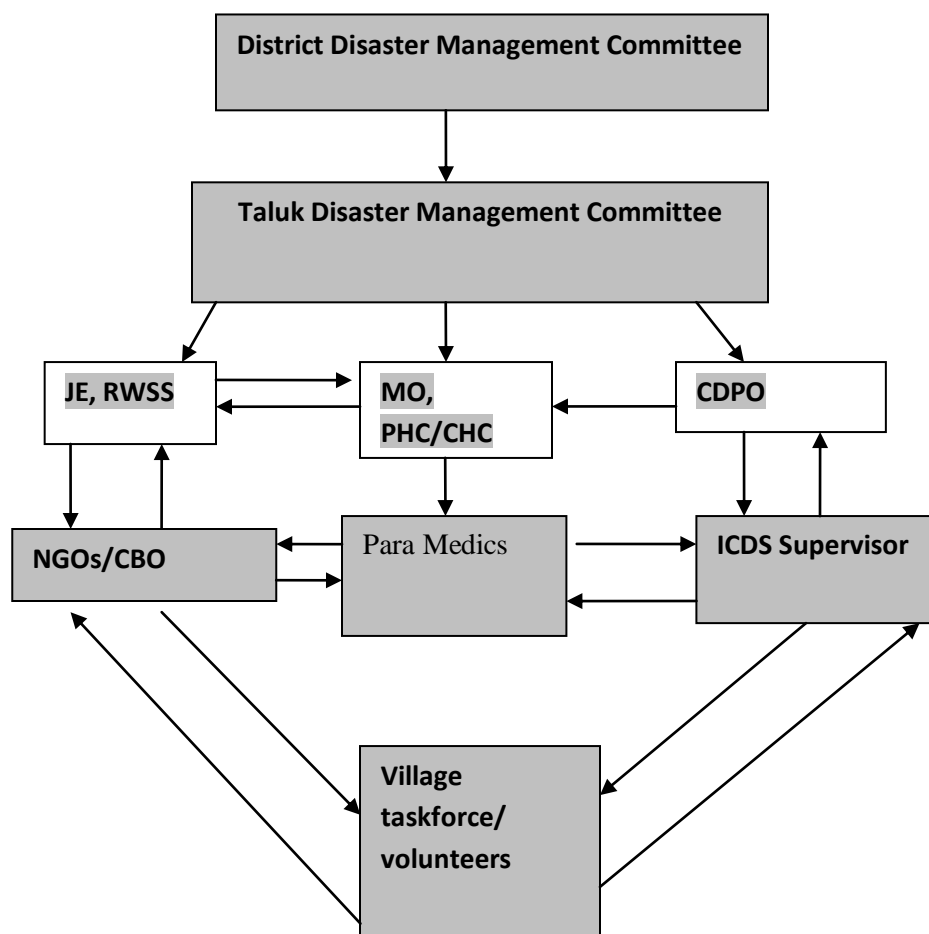
Shelter Management

1. Construction of shelters for cattle and development of infrastructure for storage and transportation of dry and green fodder etc.;
2. Ensuring provision of medicines and critical health care in the risk prone areas during drought for humans and animals;
3. Ensuring efficient functioning of the PDS in drought affected areas;
4. Provision of adequate infrastructure for dissemination of weather based advisories to the farming community on real-time basis in regional languages through extension machineries;
5. Providing credit promptly in the drought affected areas and extending marketing and price support to farmers;
6. Insurance products need to be developed for different agro-climatic zones providing coverage against drought.
7. Identifying, procuring and keeping in readiness drought proofing materials in required Quantities before the onset of monsoon season such as :
8. Seed & fodder Plan (including alternative varieties, mini kits etc. keeping in view the impending drought).



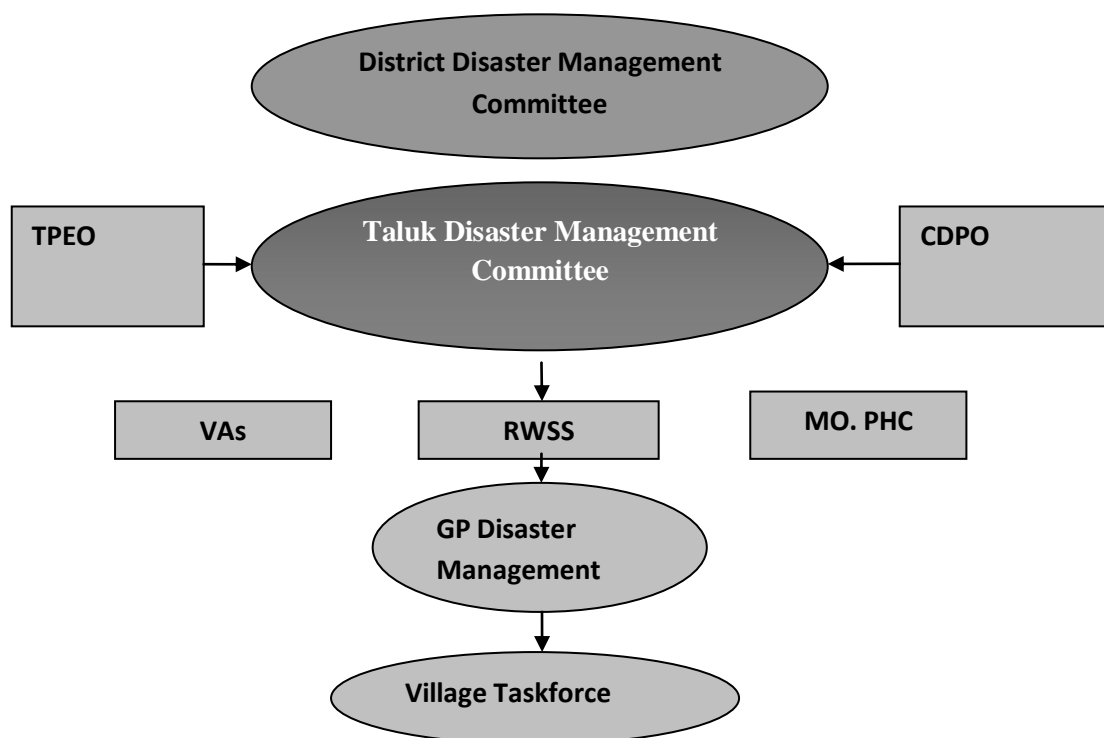
Village Taskforce Committee

Water and Sanitation Response



F: Water and Sanitation

S.No.	Department	Health and Sanitation Response System			
		Preparedness	Pre (after Warning)	During	Post
1	DHO	Health kits to be made available	take precautionary measures	coordinate with the line department	Setup camps and shelter points to treat the patients
2	DSWO	-	-	-	-
3	CDPO/Supervisor	-	-	-	-
4	Executive Engi. WS&S	-	-	-	-
5	RD/NGO/Volunteers	-	-	-	-



G: Relief

Phase Activities Officials involved During disaster Disseminating information 1st Responders. CDC Keeping the control room active round the clock. CDC Arrangement of vehicle and public address system for information dissemination. Police Distributing of duties to the district level officials, field functionaries on need basis. CDC Asking the people in the vulnerable areas to move to the shelters and to move their domesticated animals to shelter places and to co- operate with Fire services, Police, Revenue, Veterinary.

S.No.	Departments	Relief Operation - Response			
		Preparedness	Pre (after Warning)	During	Post
1	Dist. Admin	DDMA	TASK FORCE TEAM	DDMA	TASK FORCE TEAM
2	Taluk	PDO and TP	TASK FORCE TEAM	PDO and TP	TASK FORCE TEAM
3	DHO	District level	TASK FORCE TEAM	District level	TASK FORCE TEAM
4	CDVO	District level	TASK FORCE TEAM	District level	TASK FORCE TEAM
5	KUWS&DB	District level	TASK FORCE TEAM	District level	TASK FORCE TEAM
6	DSWO	District level	TASK FORCE TEAM	District level	TASK FORCE TEAM

7	NGO/ Volunteer	District AND TALUK level	TASK FORCE TEAM	District AND TALUK level	TASK FORCE TEAM
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Coordination Linkage with G.P. and Village



9.4 CHECKLIST FOR VARIOUS DEPARTMENTS

a) Collector and District Magistrate:

Activities	Pre- Disaster	During Disaster	Post Disaster
Vulnerable and risk assessment map	DEOC-NIC	DEOC-NIC	DEOC-NIC
Cut off area with safe route map	Police Dept	Police Dept	Police Dept
Storing facilities	Food Dept	Food Dept	Food Dept
List of dealers for food	Food Dept	Food Dept	Food Dept
Control room set up	DEOC	DEOC	DEOC
Boat and transport for rescue	Fire Dept	Fire Dept	Fire Dept
Transportation for food supply	KSRTC	KSRTC	KSRTC
Pre-positioning of staff	DEOC	DEOC	DEOC
Site operation centers/ staff	DEOC	DEOC	DEOC
Evacuation and rescue of people	AC/Tashildar	AC/Tashildar	AC/Tashildar
Coordination and linkage	AC/Tashildar	AC/Tashildar	AC/Tashildar
Damage assessment	AC/Tashildar	AC/Tashildar	AC/Tashildar
Address and telephone list	AC/Tashildar	AC/Tashildar	AC/Tashildar
Alternative communication system	DEOC	DEOC	DEOC
Pulling resources from outside if required	DDMA	DDMA	DDMA
Having network with neighboring blocks	DDMA	DDMA	DDMA
List of Volunteers	DDMA/DEOC	DDMA/DEOC	DDMA/DEOC

b) President Zilla Panchayat

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> Approval of DM plan in the Panchayat Generation Awareness generation 	Task force to be made Mock drills	DDMA decision action plan to be made	Relief Plan

c) DHO

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> Stock position of live saving drugs, ORS, IV fluids and other equipment Distribution of ORS, Halogen to field areas List of contact address of field staff List of Volunteers List of epidemic/ risk prone areas List of site operation areas Mobile health unit List of Dist./health control rooms List of private and local doctors Awareness through propagation of healthy practices during the disaster time. Trained the village taskforce on use of medicine and first aid. Daily disease report collection and analysis Preventive measures Taking help of others/dist 	At Hosipital and PHC	make necessary arrangement at hospital and PHC	make accessibility to proper beds and medical facilities and provide sufficient doctors at service

d) Executive Engineer Irrigation

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> Stock piling or repair materials like sand, bags, bamboo at vulnerable points (Place name etc.) Provision of guarding of weak points List of volunteers Taking help of community for maintenance of the embankments Taking proper measures for protecting the weak points Co-ordination with others 	Stock of sand bags and necessary equipments are arranged at the headquarters	Activate to the DEOC and follow the instruction	Work for improvement of the deseased area and work on the rebuilding of te works

e) DD Agriculture

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • List of different areas to be affected by different hazards • Crop pattern with land holding • List of irrigation points with status • Alternative crop • Trained for food preservation and protection • Assessment of damage • Provision of seeds and others • Helping in raising of community nursery for seedling/sapling • Crop insurance 	<p>make checklist of the victimised area and people affected by the drought and floods area and taking control of the affected area</p>	<p>survey the area affected and demarcate the area with the necessary provisions</p>	<p>coordinate with the line department and make necessary changes to the affected area</p>

f) VO

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • Animal population with categories. • Possible problems related to different hazards • Dealer of feeds/fodder • List of cow sheds • Site camps with volunteers • Programme for mass vaccination • Trained the taskforce to use of medicine • Coordination with others 	<p>stockpiling the fodder and making necessary miniskits to the affected area</p>	<p>take control of the diseased area and make necessary medical assistance stocks available for not to spread disease to other animals</p>	<p>make necessary documents and provide funds to the victimised</p>

9.5 CHECKLIST: DO'S AND DON'T'S

a) Operational Guidelines of what to do in the event of a flood.

- DO keep your emergency kit with you, safe and dry.
- DO watch out for your children at all times AND DO NOT allow them to swim or play in flood water.
- Switch off electrical and gas appliances, and turn off services off at the mains.
- DO take care of elderly people – do not allow their feet to remain submerged in water / keep them dry as far as possible.
- DO take particular care of people with special needs such as restricted mobility, eyesight difficulties or hearing difficulties – they may need assistance in responding to emergency warnings and you should plan for this.
- DO take note of the health of your family and community members.

- DO evacuate to higher ground where possible
- DO listen to local announcements over loudhailer / public broadcast, radio or TV where possible – and carefully follow all advice and warnings
- DO NOT wade through flood water
- DO NOT eat food which has been in contact with flood water
- DO NOT drink water from wells; ONLY drink water which has been boiled, or supplied in bottles
- DO NOT use gas, electricity or electrical appliances which have come into contact with flood water – until they have been safety checked.
- DO NOT walk near river banks, sand bag mounds or canal edges – these may collapse.
- Don't remove standing water in a basement too fast. If the pressure is relieved too quickly it may put undue stress on the walls.

If you must prepare to evacuate, you should:

- Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.
- Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.

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

- Check the house; secure loose tiles, carry out repair works for doors and windows.
- Check the area around the house. Remove dead or dying trees, anchor removable objects like lumber piles, loose bricks, garbage cans, sign-boards, loose zinc sheets etc.
- Keep some wooden boards ready so that glass windows can be boarded if needed
- Keep a hurricane lantern filled with kerosene, battery operated torches and enough dry cells
- Demolish condemned buildings
- Keep some extra batteries for transistors
- Get extra food, especially things which can be eaten without cooking or with very little preparation. Store extra drinking water in suitably covered vessel.
- Avoid being misled by rumours.
- Don't leave shelters until informed by the rescue personals.
- Don't leave the safer place during lull, however minor repairs can be carried out.
- Don't touch the loose and dangling wire from lamp post, it may have electric current.

c) Operational Guidelines of what to do in the event of a Landslide.

Do's for Protection from Landslides:

- Prepare tour to hilly region according to information given by weather department or news channel.
- Move away from landslide and avalanche path quickly without wasting time.
- Listen for unusual sounds such as trees cracking or boulders knocking together.
- Stay alert, awake and active (A-3) during the impact or probability of impact.
- Go to or locate public shelters,
- Try to stay with your family and companions.

- Check for injured and trapped persons.
- Mark path of tracking so that you can't be lost in middle of the forest.
- Know how to give signs or how to communicate during emergency time to flying helicopters and rescue team.

Don'ts for Protection from Landslides:

- Try to avoid staying in vulnerable hotel, guest house etc. near riverbank, steep slope.
- Do not panic and loose energy by crying.
- Don't touch or walk over loose material and electrical wiring or pole.
- Don't built houses near steep slopes and near drainage path.
- Don't drink contaminated water directly from rivers, springs, wells but rain water if collected directly without is fine.
- Don't eat wild fruits or things not known to you,
- Don't move an injured person without rendering first aid unless the casualty is in immediate danger.

d) Operational Guidelines of what to do in the event of a Drought.

- Monitoring of rainfall situation during South West Monsoon period, on regular basis.
- Issue of advisories to farmers for taking up drought resistant crops & crops requiring less water.
- Judicious use of available water.
- Ensure availability of agricultural inputs.
- Optimum utilisation of funds available under various schemes/programmes implemented by Central and State Govts. Towards mitigating adverse effects of drought.
- Do not waste water, especially drinking water, as it is precious.
- Do not waste food, as it could be useful for those in need.

e) Operational Guidelines of what to do in the event of a Earthquake

If Indoor

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, loadbearing doorway.
- Stay inside until the shaking stops and it is safe to go outside. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

- DO NOT use the elevators.

If Outdoors

- Stay there.
- Move away from buildings, trees, streetlights, and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

If in a moving vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake

Chapter-9

RECONSTRUCTION, REHABILITATION AND RECOVERY

9.1. 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 8.1: Sector specific approach and processes for Reconstruction, Rehabilitation and Recovery are as follows:

Sector	Approach	Process
Public assets: <ul style="list-style-type: none"> ➤ Roads and bridges ➤ Culverts ➤ Public buildings like hospitals and schools 	<ul style="list-style-type: none"> ➤ 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 ➤ Risk sensitive development will 	<ul style="list-style-type: none"> •Detailed damages and needs Assessment: Multi sectoral/multidisciplinary teams are to be made which can do a detailed damage and need assessment of the entire area. •Develop a detailed recovery plan through multi departmental participation. Specific recovery plan through consultative process of different line department are to be made. •Arrange for funds from Central government, state government,

	<p>be ensured in each of the reconstruction Programme. For example:</p> <ul style="list-style-type: none"> ➤ landslide and flood zone mapping to be implemented ➤ Detailed geological survey of the land to be used for reconstruction. ➤ Recommendations from PDNA report to be considered. 	<p>multilateral agencies (World Bank or ADB)”</p> <ul style="list-style-type: none"> •Multi sectoral Project Management Unit to be made. • The process of monitoring and manipulation is to be done by SDMA
<p>Utilities</p> <ul style="list-style-type: none"> • Water supply • Electricity • communication 	<ul style="list-style-type: none"> • Multi hazard resistant construction to be followed. For example: • Water pipelines, communication equipment used can be of such material which can resist impact of certain hazards Risk sensitive development will be ensured • Electric and communication junctions to be installed after considering landslide and flood zonation. • Recommendations from PDNA report to be considered. 	<ul style="list-style-type: none"> •Detailed damages and needs assessment: Multi sectoral/multidisciplinary teams are to be made which can do a detailed damage and need assessment of the utilities of the entire area. •Develop a detailed recovery plan through multi departmental participation including specific line departments and other stake holders. •Arrange for funds from Central government, state government, multilateral (World Bank or ADB)” •Multi sectoral Project Management Unit to be made. •Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.
Housing	<ul style="list-style-type: none"> • Multi hazard resistant construction to be followed. • Risk sensitive development will be ensured. • 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 	<ul style="list-style-type: none"> • Detailed damages and needs assessment: Multi sectoral/multidisciplinary teams are to be made which can do a detailed damage and need assessment of the entire area. • Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be

	<p>individual houses.</p> <ul style="list-style-type: none"> • Non-structural mitigation measures to be taken into consideration. • Use of non-shrinking mortar. • Further loans can be sourced through banks and other financial institutions. 	<p>made.</p> <ul style="list-style-type: none"> • Arrange for funds from Central government, state government and multi-lateral (World Bank or ADB)” • Multi sectoral Project Management Unit to be made. • Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.
<p>Economic restoration</p> <ul style="list-style-type: none"> • Agriculture • Horticulture • Industry • Allied sectors • Tourism etc. 	<ul style="list-style-type: none"> • Multi sectoral assessment • Assess direct and indirect losses. • Develop sectoral strategies the sectors that affected the most poor. • the sectors which are most critical for district’s economy. • Risk sensitive development will be ensured • Owner driven approach will be preferred • Provision of single window insurance claim system • Promote insurance facility for all sectors through government and private institutions 	<ul style="list-style-type: none"> • Detailed damages and needs assessment: Multi sectoral/ multidisciplinary teams are to be made which can do a detailed damage and need assessment of the entire area. • Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made. • Arrange for funds from Central government, state government, multi lateral (World Bank or ADB)” • Multi sectoral Project Management Unit to be made. Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.
<p>Livelihood restoration</p>	<ul style="list-style-type: none"> • Nature, number and types of livelihoods affected. • Interim and long term strategies • Focus on livelihood 	<ul style="list-style-type: none"> • Detailed damages and needs assessment: Multi sectoral/ multidisciplinary teams are to be made which can do a detailed damage and need

	<p>diversification</p> <ul style="list-style-type: none"> • Issues related to most poor, women, and marginalized sections • Livelihoods of people without assets (labor) • Role of NGOs 	<p>assessment of the entire area.</p> <ul style="list-style-type: none"> • Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made. • Arrange for funds from Central government, state government, multi lateral (World Bank or ADB)” • Multi sectoral Project Management Unit to be made. • Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.
<p>Psychosocial restoration</p>	<ul style="list-style-type: none"> • Provisions like trainings from institute like NIMHANS, Mental hospitals and other specialized institutes • Spiritual leaders can help the community to cope up from the trauma 	<ul style="list-style-type: none"> • Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)”

Chapter 10

Budget and Financial Arrangements for Disaster Management

District Disaster Response Funds and District Disaster Mitigation Funds are proposed to be created at the District Level as mandated by Section 48 of the DM Act.

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

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

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

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

10.1 Budget Required for Reestablishment and Restoration of VHF's in Kolar district:

Sl.No	Name of The Taluka	Equipment details	Required Amount in Rs (Lakhs)
1	DEOC	Establishment separate individual network tower and replacement of defunct equipments	8.00
2	Kolar		5.00
3	Bangarpet		5.00
4	KGF		5.00
5	Malur		5.00
6	Mulbagal		5.00
7	Srinivasapura		5.00
TOTAL			38.00

10.2 Financial Assistance to the Victims of Disaster:

1. The victims/dependants of victims shall be provided disaster relief assistance as per the guidelines and as per additional assistance guidelines issued by the Government in such cases.
2. The damage and needs assessment carried out by the State Government shall be sent to the Central Government for seeking grants under NDRF or Prime Minister's Relief Fund.

The damage and needs assessment carried out by the District administration shall be sent to the State Government for seeking grants under SDRF or Chief Minister's Relief Fund.

10.3 State Disaster Response Fund (SDRF)

Section 46(I) and Section 48(I) of the Disaster Management Act, 2005 stipulate the constitution of National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF) at the National and State levels respectively. Government of India will contribute 75% of the total yearly allocation for general category states and 90% for special category States in the form of a Non-Plan grant. During the year 2017-18 a total amount of Rs. 246.97 crores was released by SDRF in the ratio of 75:25 ie. 75% by GoI and 25% by the State.

10.3.1 District Disaster Response fund:

This fund will be constituted and made available to the District Disaster Management Authority for meeting the expenses for emergency response, relief and rehabilitation.

10.3.2 District Disaster Mitigation Fund:

This fund will be constituted and made available to the District Disaster Management Authority for meeting the expenses on mitigation activities.

10.4 Budgets for Line Departments

Budget requirements for each line department for drought, flood, epidemics, fire, chemical and all other disasters district-wise need to be worked out by the respective department under the guidance of District Disaster Management Authority (DDMA) and State Disaster Management Authority (SDMA). The State Disaster Management Authority may instruct the departments concerned to prepare the budget requirement for managing various stages of disasters namely;

- Preparedness
- Prevention
- Mitigation
- Response: Rescue, Relief, Rehabilitation
 - ◆ Budget for Preparedness shall be worked out by all the concerned line departments and ULBs
 - ◆ Budget for Mitigation (Short-term and long term measures) shall be prepared by all the concerned line departments
 - ◆ Budget for Response (Relief, rescue and rehabilitation) shall prepared by the concerne departments
 - ◆ Budget for Mitigation and Preparedness of School Safety to be prepared by each School/College
 - ◆ Budget for Hospital Disaster Management Plan.

At present, the departments do the damage assessment and estimate the requirement of the funds following an event. For example the Agriculture Department in the District and Taluka level prepares the damage assessment report and submits the same to the DC of the District and in turn submit it to the State Government and Central Government. This procedure of assessment of damage and loss and subsequent demand from the State and Central Government is practiced only after the disaster events. Similarly other concerned department's viz., PWD for Buildings and Infrastructure, Animal Husbandry

for Animal loss, Irrigation department for Canals and dams, Forest fires and wild animals conflicts in case of forest department.

All the 23 departments of GoK need to prepare financial requirements for mitigation, prevention, preparedness and response before the disaster strikes. Such estimates in anticipation of disasters in the vulnerable areas would help the district administration and individual departments to take up mitigation and preventive measures. The estimated funds can be generated well in advance from all sources. This task has to start in the month of December every year by the district administration under the supervision of DC and members of DDMA and responsibility shall be fixed on every departmental head at the district level.

Sl.No.	Details and description	Amount Required (in Rs. Lakhs)
1.	Purchase of Search and Rescue Equipments (KSFES)	30.00
2.	Purchase of additional inflatable boat with OBM	8.00
3.	Purchase of new Vehicle for District Rapid Response Force Team	15.00
4.	Establishment of Taluk Emergency Operational Centres (each taluk Rs.2.30 x 6)	13.80
5.	Payment of wages to the staff/home gaurds recruited in DEOC and TEOCs (3 persons per centre @ Rs.11480 x 12 months)	28.93
6.	Upgradation of DEOC (Purchase of computer, Fax, Hi Speed Internet, Furnitures, TV and others)	10.00
TOTAL		104.00

Overall the district requires an amount of Rs.142.00 Lakhs for 2019-20 as explained in the above tables in section 10.1 and 10.4

Chapter 11

Standard Operating Procedure (SOP) for Officers

SOP for Secretary Revenue (Disaster Management):

The Secretary Revenue (DM) is the member secretary of the SEC (State Executive Council) and is overall in charge of DM in the state. He/She works has link between the DDMAs/ district administrations, the KSDMA, SEOC and other organizations responsible for DM. The Secretary Revenue Department (DM) is the Member Secretary. He/She 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. He/She shall give directions to the concerned department and district authority or other authority to take steps for rescue, evacuation, or providing immediate relief saving lives or property and direct to the departments make available resources for emergency response, rescue. He/She carry out the preparation of memoranda on loss and damage to be submitted to the GoI for claiming relief, compensation, and other support. He/She has to monitor the updating of DDMPs and ensure preparedness in all the districts.

SOP for Deputy Commissioner:

The responsibility include initiating and maintaining co-ordination and co-operation with various agencies involved and provide prompt information, decisions and infrastructure facilities as requested. He/She should also mobilize, direct, and co-ordinate the emergency management staff during emergency.

Following are the main functions during any emergency:

Declaration of emergency after confirming the magnitude of the disaster. Activate the Emergency Control Room at Deputy Commissioner's office and make it functional. Co-ordinate and establish contact with all agency involved in the emergency actions.

- ◆ Ensure setting up of Local Emergency Control Room close to the scene of accident or at Taluk headquarters where the disaster has struck.
- ◆ Ensure actions have been initiated to contain the emergency.
- ◆ Have overall supervision of all the emergency relief operations.
- ◆ Initiate evacuation of people from affected area with the assistance of police, fire and other agencies.
- ◆ Depending on type of emergency, mobilize additional resources like heavy lifting gears line cranes, bulldozers for rescue and mitigation operation.
- ◆ Set-up safe shelters for evacuated people and ensure they are provided with food and medical attention as the need be.
- ◆ Monitor progress or disaster especially in case of natural disasters like cyclone or floods by getting information from various agencies involved and mobilize additional support to mitigate the effects of disaster.
- ◆ Keep the State Administration informed regarding the disaster and the steps taken to contain the same.
- ◆ Issue statement to the press (both print and electronic media) on the prevailing conditions and the steps being taken by the District Administration to mitigate effects of the disaster.
- ◆ Get mutual aid from neighboring districts, the Major Hazard Industries or seek the assistance of voluntary organization.
- ◆ If required, set-up mobile first aid centre or temporary health centers in the affected area or in the safe shelters.

- ◆ Visit the scene of the disaster to have first hand information about the rescue or mitigate operations that are being carried out.
- ◆ In case of floods, carry out aerial survey of the affected area to have preliminary estimates of the extent of damage caused.
- ◆ to co-ordinate with the state government through Principal Secretaries of Depts. mobilize the help of Army/Navy/Air force or other agencies as requires.
- ◆ Call off emergency after confirming that all the actions have been taken to normalize the conditions and it is safe for people to re-enter the affected areas

SOP for Superintendent of Police (SP):

Pre –Disaster:

- Preparedness and warning dissemination of warning: -
- Reception of warning from the DCR.
- Communication establishment with district and sub-division/ GP.
- Control rooms and departments offices within the division.
- Alerting the team force for deployment at the time of calamity.
- To issue directive to police field functionaries to co-operate with revenue personnel in management of relief operation

During –Disaster:

Rescue and Evacuation: -

- Clearance of roads and other means of transportation.
- Traffic management and patrolling of all highways and other access roads to disaster sites.
- Making sure that discipline is maintained.
- Assistance to district authorities for taking necessary action against hoarders, black marketers and those found manipulating relief materials
- Co-ordination with fire personnel.
- Provision of security in transit camps/feeding centers/relief camps/cattle camps/co-operative food stores and distribution centers.
- Safe guarding of belongings of evacuees.

Distribution of Relief: -

- Maintaining laws and order at the shelters and the relief camps. Coordination with military service personnel in the area.
- Deploying officers/police personnel to record death cases. Assisting the community in organizing emergency transport. Assisting the District Officials/NGOs in distribution of relief materials.
- Providing escorts in transit of relief materials to the relief camps/affected areas.

Post –Disaster

Short term measures: -

FIR of the disasters, the damages and the death cases. Assisting in collection of damage statistics of private properties. Maintaining law and order
 Long term measures: - Close co-ordination with district administration and local/external NGOs in reconstruction and rehabilitation process. Assisting the district authority whenever the need arises. Periodical visits to the affected areas to ensure law and order

SOP for District Health Officer DHO:

Alternate: District Surgeon

The DHO/THO would be based in the ECR and assist District Administration in ensuring prompt health care to all affected people through their network in affected areas.

Main functions:

- On receiving the information about the emergency DHO will mobilize all the available medical and paramedical Staff for handling emergency.
- Rush medical teams from the nearby hospitals to the scene of the disaster or safe shelters nearby.
- Set up first aid centre at the affected area and rescue shelters.
- Mobilize all the available ambulances and assist in shifting the injured/affected persons requiring the additional attention to hospitals.
- Alert all government & private hospitals to meet any emergency and line of treatment to be followed.
- Alert blood banks to maximize their stock.
- Set up temporary emergency wards with medical facilities to receive the affected victims.
- Inform all the doctors/para medicals regarding the nature of emergency as per the message received from the ECR and also inform about the line of treatment to be followed.
- Ensure sufficient stock of drugs and other medical facilities are available.
- Keep in touch with the district Emergency Control Room and Deputy Commissioner and appraise DC of the situation and advice him on additional help required from outside agencies.

SOP for Assistant Commissioner:

Alternate: - Tahsildar

The concerned Assistant Commissioner is Disaster Manager and he would rush to the Local Emergency Control Room (LECR) which is set up at the taluk headquarter of the affected taluk. He would function as the link between the affected area and the District Disaster Manager based at the main ECR located in the Deputy Commissioner office at Bellary.

Following are the main functions during any emergency

- Set up the LECR at the concerned Taluk headquarters or at a safe place close to the scene of the disaster.
- Depending on the nature of emergency, co-ordinate with the various agencies at local level.
- Initiate the rescue operation with the help of local police, fire or other voluntary organizations and mutual aid members.
- Have close interaction with the Site Controller to ensure proper actions have been taken.
- Visit the affected area to gain first hand information of various steps being taken to mitigate the effects of the disaster.
- Keep the main Emergency Control Room at district head quarters informed about the developments on a regular basis and request for additional help by way of resources or specialized manpower or equipment

TASK FORCE FOR DISASTER MANAGEMENT DURING EMERGENCIES

Assistant Commissioner

(To communicate with core committee, supervise and co-ordinate between Depts.)

AEE, PWD	Dy. SP/CPI	Tahasildar	Taluk Medical Officer	AEE, ZP	Animal Husbandry & Veterinary Services
To provide transport to evacuees and Undertake repairs to roads And buildings.	To maintain law and order and provide free passage to evacuees	To provide food, drinking water and milk	To co-ordinate with PHCs and provide Medical relief.	To provide clean drinking water, temporary shelters (school buildings etc.,)	To provide fodder and veterinary services

SITE CONTROLLER (Tahsildar of affected Taluk)

Alternate: - Deputy Tahsildar

The Site Controller would be at the scene of the disaster or accident and would be reporting to the Disaster Manager located in the Local Emergency Control Room. He is the person who is dealing with the disaster directly in association with the various other emergency services. He would be in direct contact with the Disaster Manager based at the Local Emergency Control Room (LECR).

His responsibilities vary widely depending on the type of emergency. It could be a natural disaster like flood the effects are wide spread where rescue work would be of main concern. It could be a road accident involving a tanker carrying hazardous chemical where quick action has to be taken to arrest the leakage, if any, followed by evacuation of people if required.

Following are the main functions any emergency: -

- Take measures to mitigate the emergency in association with various emergencies services like fire and police.
- Keep in constant touch with the Local Emergency Control Room at taluk head quarters with available means of communication and keep Disaster Manager informed about the developments on regular basis.
- Request for additional help like specialized manpower or equipment to effectively handle the emergency.
- Rescue and evacuate the people from affected area and shift them to safe shelters.
- Ensure setting up of safe shelters with basic amenities for food sanitation.
- Mobilize medical professional with the help of ECR or LECR and ensure the affected persons are given medical attentions.
- Arrange to shift the injured or sick to specialized hospitals if need be.

SOP for Tahsildar:

He will look after all the facilities required at rescue shelter/rallying post like food, clothing, medical aid, water, electricity, sanitation and other basic necessities in co-ordination with respective Government Agencies as well as voluntary organizations.

- 1) He will manage and arrange for any other requirements on need basic at that point of time in co-ordination with respective government authorities.

- 2) He will alert all his sub ordinates and utilize their services to manage the rescue shelter/rallying post.
- 3) His actions will be in concurrence from AC/DC.

The Site Controller would be at the scene of the disaster or accident and would be reporting to the Disaster Manager located in the Local Emergency Control Room. He is the person who is dealing with the disaster directly in association with the various other emergency services. He would be in direct contact with the Disaster Manager based at the Local Emergency Control Room (LECR). His responsibilities vary widely depending on the type of emergency. It could be a natural disaster like flood the effects are wide spread where rescue work would be of main concern. It could be a road accident involving a tanker carrying hazardous chemical where quick action has to be taken to arrest the leakage, if any, followed by evacuation of people if required. Following are the main functions any emergency Take measures to mitigate the emergency in association with various emergency services like fire and police Keep in constant touch with the Local Emergency Control Room at taluk headquarters with available means of communication and keep Disaster Manager informed about the developments on regular basis. Request for additional help like specialized manpower or equipment to effectively handle the emergency. Rescue and evacuate the people from affected area and shift them to safe shelters. Ensure setting up of safe shelters with basic amenities for food sanitation. Mobilize medical professional with the help of ECR or LECR and ensure the affected persons are given medical attentions. Arrange to shift the injured or sick to specialized hospitals if need be.

SOP for Deputy Superintended of Police:

It is observed that the police are the first agency to reach the site during any emergency. The local police initiate the emergency action even before the declaration of emergency and setting up of the ECR at Deputy Commissioner Office. Even though the main function of the Police is to maintain law and order, it is observed that most of the rescue and relief operation is initiated by the police before arrival of full-fledged rescue teams.

Following are the main functions of Police (at various) levels during any emergency

Superintendent of Police (SP)/Additional Superintendent of Police:

Once information about disaster/emergency reaches Superintendent of Police will rush to the ECR and establish contact with the local police station. He would then direct implementation of the action plan through the police station nearest to the scene of disaster. Depending on the type of disaster, ensure cordoning off the affected area by the local police.

- Mobilize additional police force from various sources depending on the requirement.
- Ensure co-ordination with various police and other agencies involved in handling the disaster.
- If necessary mobilize the home guards.

Deputy Superintendent of Police (DySP) of the concerned Sub Division:

The DySP of the sub-division where the disaster has struck would get in touch with the nearest police station and ensure the police team is rushed to the scene of the emergency. His/her main function would be to act as link between scene of the accident and the Emergency Control Room at the district headquarters.

- On receiving information from the Emergency Control Room, DySP would rush to the site, assess the situation, obtain first-hand information, take control of the overall situation.
- Alert district administration to mobilize Reserve Police personnel for deployment for traffic regulations, supervision of evacuation and security duties.
- Alert area District Commandant of Home guards to mobilize home guards, as necessary (and keep the SP informed).
- Arrange for necessary transportation vehicles for rescue operation in consultation with RTO.
- Arrange for necessary ambulances and other medical facilities for the affected persons in co-ordination with various government and non-governmental agencies.
- Arrange for removal of the dead bodies, identifications and proper preservation.
- Prepare list of missing persons and take immediate steps to trace them.
- Communicate the information to other agencies through police control room.
- Keep in constant touch with ECR to ascertain latest status and intimate police personnel with up to date information regarding response actions and further instructions.
- Arrange for relief to policemen handling the emergency situation.

Police Sub Inspector of nearest Police Station

The local police station plays an important role during any emergency or disaster around concerned area as well as during any road accident in the district.

- Divert traffic away from the scene of accident on major roads. Set up barricades and regulate crowd in affected area.
- Warn and advice people about emergency using vehicle mounted with Public Address system in the affected area.
- Evacuate people and livestock in affected areas using rescue routes identified in advance (depending on wind direction in case of gas leak),
- Provide relief to victims till arrival of rescue team.
- Maintenance of law and order at the scene of emergency and prevention of anti social elements from taking advantage of the situation.
- Ensure law and order and maintain security in evacuated areas.
- Assist in rendering first aid medical help to those in need,
- Ensure police personnel on emergency duty receive proper briefing about possible hazardous effects and are provided with personal protective equipment.

Traffic Police:

Depending on the type of disaster, the traffic police would take control of the traffic movement in the district. During a natural disaster like cyclone or floods the roads may be cut off for a longer period and hence traffic police play a very important role in handling any such emergencies. Their duties would include

- Stop traffic approaching the affected area and advise the crew regarding the impending danger.
- Ensure tankers containing hazardous chemicals are parked in safe places.
- Check for alternate routes and divert the traffic in a controlled manner to prevent congestion in diversions.
- Keep close liaison with other police agencies and assist in crowd control around the affected area.
- Make way for emergency and relief vehicles on priority basis.

- Monitor the condition of the blocked road and resume normal traffic only when the affected area is declared safe.

SOP for Circle Inspector (Law And Order) :

Circle Inspector: Circle Inspector of the concerned area would also rush to the scene of the accident and direct the various operations like maintaining law and order, barricading and diversion of traffic away from the scene of accident. Circle Inspector's main functions would include:

- Maintain direct contact with the local police station through the police mobile van.
- Keep monitoring the progress of various mitigate and rescue measures being undertaken.
- Ensure police personnel are given updated information for announcement during the emergency.
- Mobilize government and private buses through RTO for evacuation.
- Ensure that the bus/vehicle drivers are properly instructed regarding areas to be visited and routes to be taken during evacuation.
- Ensure security duty personnel are at their posts and that only authorized personnel/vehicles are allowed to enter the emergency/affected area with proper identity cards.

SOP for Inspector (Traffic):

1)The SP (Traffic) will be the overall in charge of traffic management who is assisted by Dy. SP (Traffic) in case of offsite emergency.

2) Receive the communication of offsite emergency from CEC and disseminate the information to all the functionaries and mobilize required force and put them into action for managing various traffic points, routes, etc.

3) For each industry, separate routes are identified as normal route and emergency route.

4) Mobilize necessary police personnel/vehicles to man and control traffic on various roads identified as safe routes and also take measures to divert normal traffic away from the emergency routes identified.

5) Ensure available of adequate number of vehicles fitted with public address system/wireless etc. and directly supervise manning of routes and parking yards.

6) Initiate action to ensure adequate number of skilled drivers in consultation with RTO, KSRTC, Home guards and Truckers Association etc.

7) The SP will initiate action on his own only under exceptional circumstances; however, his action shall be communicated to his superiors and should be confirmed with CEC.

8) Any other action as deemed necessary base on the circumstances. Depending on the type of disaster, the traffic police would take control of the traffic movement in the district. During a natural disaster like cyclone or floods the roads may be cut off for a longer period and hence traffic police play a very important role in handling any such emergencies. Their duties would include Stop traffic approaching the affected area and advise the crew regarding the impending danger. Ensure tankers containing hazardous chemicals are parked in safe places. Check for alternate routes and divert the traffic in a controlled manner to prevent congestion in diversions. Keep close liaison with other police agencies and assist in crowd control around the affected area. Make way for emergency and relief vehicles on priority basis. Monitor the condition of the blocked road and resume normal traffic only when the affected area is declared safe.

SOP for Dy. Director of Factories:

Factory Inspectorate plays an important role during any industrial and transportation disaster in which there is large-scale release of hazardous chemicals. In case of such disaster, the Dy. Chief Inspector of Factories or Sr. Inspector of Factories would position themselves in the ECR and help the District Administration by providing expert advice for minimizing the effect of such a disaster. Main functions: -

- ◆ Ensure the on-site emergency management plan of the affected industry (in case of an industrial disaster) has been activated and the mitigate measures are taken to safeguard the people present in the premises.
- ◆ Visit the site of accident to ensure proper measures are taken to control the situation. Speed up help from mutual aid members, if required to contain the emergency.
- ◆ Mobilize the technical experts for advice if required. Inspect the area along with the tech. Co-ordinators and report to Deputy Commissioner for giving all clear signals.

SOP for the Regional Fire Officer:

He will place himself in the main Emergency Control Centre and maintain continuous contact on VHF with the Station Officer at the site. Depending on the need, the Divisional Fire Officer will place himself at the site and maintain contact with the Deputy Commissioner in the Main Emergency Control Centre. The Station Officer/ Sub-Officer/Asst. Sub-Officer of the fire station closest to the scene of disaster will direct fire-fighting operations at the site and keep the Divisional fire officer/station officer informed of the developments at the site. Main functions: -

- ◆ Initiate rescue and fire fighting operation with available means. Ensure that all fire fighters use proper personnel protective equipment while fighting a fire or controlling gas leak.
- ◆ Help the District Administration in evacuation of people from affected zones using escape routes decided in advance depending on the wind direction.
- ◆ Continuously evaluate the situation and decide the necessity to call in additional Fire Engines from neighboring taluks/district.
- ◆ Mobilize the services of the home guards for fire-fighting through the police. ➤ He will advice the Deputy Commissioner on the extent of evacuation necessary. Preserve valuable evidences, which may be useful for investigation later on.
- ◆ Ensure availability of water and make arrangement for private water tanker carriers.
- ◆ When the emergency is over, carry out joint inspection of affected areas along with site controller and Technical experts to ensure the emergency is under control.
- ◆ Send the message of “SAFE” to DC/SP etc to enable him to officially call off the emergency.
- ◆ Take any other appropriate actions as deemed necessary in control of emergency.

SOP for Fire Station Officer:

The Fire Station can cater to the immediate need of the plant, but certainly not adequate to manage the emergency assumed in this document. Therefore,

- 1) On receipt of fire call, rush to the site of incident with all crewmembers and equipment and start fighting the fire.
- 2) Immediately send distress call to all other fire stations for additional reinforcement. Contacts the Divisional Fire Officer and informs him about the severity of the fire, the kind of assistance required, etc.

- 3) Continue to receive the necessary information from his superior officers and the DSP and adhere to the instructions.
- 4) Assist the police, Home guards and other Rescue Team the rescue evacuation of persons, salvage, etc.
- 5) Continue to be inaction till such times the divisional fire officer or his deputy arrives at the place of incident and takes charge. From there onwards, he will continue to assist the officials.

SOP for Home Guards Commandant:

District Commandant/Dy. Commandant will position themselves in the Emergency Control Room and assist the District Administration in mitigating the emergency. They would be continuous in contact with the field officer/units. Main functions: -

- ◆ Assist the Police or Fire personnel in carrying out their duties.
- ◆ Carry out rescue and evacuation operation in close association with other emergency agencies. Evacuated areas would need to be guarded against theft

SOP for Superintendent Engineer Public Works/Highway :

Depending on type and location of the disaster, the in-charge of the PWD/Highway or Irrigation department representatives would make themselves available at the ECR and maintain close contact with their engineers who would be at the scene of the disaster. Main functions: -

- ◆ Help the police to divert traffic away from the scene of accident along all the major roads. Ensure diversion routes are in good condition and traffic does not get jammed.
- ◆ Exhibit proper diversion signs conspicuously at suitable places.
- ◆ Provide the mobile crane/heavy earthmoving equipment for the purpose of salvage operation. Provide necessary assistance as required and directed by Deputy Commissioner/Superintendent of Police.

SOP for Deputy Director of Animal Husbandry:

- ◆ Deputy Director of Animal Husbandry will be the overall in charge for treatment of affected animals at site/hospital in co-ordination with police/voluntary organizations and revenue authorities.
- ◆ On receiving information from DC, he will rush to the site and activate the Temporary Medical Centre (TMC) at appropriate places in consultation with DC.
- ◆ Dy. Director will also co-ordinate with Assistant Commissioner/RTO/DCP /Inspector of Police (Traffic), for arranging necessary vehicles for shifting of animals, if required.
- ◆ The officer will be provided with one Police Officer with adequate number of Police Personnel and Home guards to ensure the orderly treatment and management of the Temporary Medical Center.
- ◆ The officer will identify the drug stores and ensure the supply of adequate and necessary drugs through the Drug Control Authorities.

SOP for RTO:

1. The RTO will be the overall in charge for providing number of rescue vehicles like trucks, buses, cars or any other type of transportation vehicles to emergency site, rescue shelter cum rallying post etc., for transportation of human beings as well as animals.
2. Receive information from DC and act accordingly.
3. Mobilize all possible resources is arranging transportation vehicles in co-ordination with KSRTC, Truckers Association, Travel Agencies, etc, also ensure availability of adequate number of skilled drivers and advise the Inspector (Traffic).
4. Workout the requirement of heavy earth moving equipment like cranes etc., and mobilizes the same in co-ordination with such agencies/parties.
5. Depute adequate numbers of Motor Vehicle Inspectors for assisting Inspector of Police, Traffic (in charge of parking yard), and Rescue Shelter cum rallying post, at the site of emergency. The transportation department plays an important role during any type of disaster as it would involve large-scale evacuation of people in the affected area. RTO/ARTO would be based at ECR and assist the District Administration in mitigating the emergency. Main functions Deploy required number of buses with drivers to evacuate people to safe shelters. Mobilize various earth moving equipment and other heavy machinery from different sources required for rescue operation. Provide mobile workshop if required for urgent repairs/breakdown. Provide assistance as required and directed by Superintendent of Police/Deputy Commissioner.

SOP for Environmental Officer Pollution Control Board:

- 1) On receiving information from DC, the Environmental Officer will mobilize all possible resources at his disposal and keep the laboratory functioning for analysis of pollutants, emissions, etc.
- 2) Rush to the site, collect the samples, analyze the pollutants and the likely effect on human life/environment and inform the DC about the same and the corrective actions to be taken to prevent further damage.
- 3) Act as an expert and advice the DC about the kind of message to be disseminated to the public and press, etc, on pollution matters. The representative of the Pollution Control Board would be based in the Emergency Control Room during any disaster and ensure the environmental damage is kept minimum.

Main functions: -

- ◆ Mobilize all possible resources at his disposal and keep the laboratory functioning for analysis of pollutants and emissions.
- ◆ Rush the team to the affected area for collection of samples and analyze the same.
- ◆ Keep the Emergency Control Room informed about the possible effect on human life as well as environment and corrective actions taken to minimize the same.

SOP for Executive Engineer KPTCL:

- 1) The Executive Engineer will be responsible for all electrical power supplies and illumination of places like site of incident, rescue shelter, rallying posts, parking yard, temporary medical centers, emergency route, etc.
- 2) In case of need to establish the temporary power supply points he will do so as advised by DC and ensure adequate continuous power supply.
- 3) Assist any other agency such as water works, PHE as and when needed.

SOP for Executive Engineer of Panchayat Raj Engineering:

- 1) The Executive Engineer will be over all in charge for providing adequate sanitation facilities such as dry latrines, soak-pits, etc. at the temporary rescue shelters.
- 2) Ensure maintenance of hygienic conditions at all such places including the site of incidence.

- 3) Ensure adequate supply of potable water to all places such as rescue shelters cum rallying post, parking yard, and temporary medical centers.
- 4) Assist other agencies as advised by DC as and when needed.

SOP for Dy. Director, Food and Civil Supplies:

He would be based in the Emergency Control Room and assist the District Administration in running the safe shelters and relief centers set up during the disaster.

Main functions: -

- ◆ Will be overall in-charge of Relief and Rehabilitation activities.
- ◆ Identify the rehabilitation centre in advance and establish them in shortest possible time.
- ◆ Arrange for orderly transportation of population from the emergency zone and adjacent villages in case evacuation has been ordered by Deputy Commissioner.
- ◆ Co-ordinate with the other departments connected with relief measures.
- ◆ Provide basic amenities such as food, drinking water and sanitation at the rehabilitation centers.
- ◆ Distribute food packets at the affected areas to the people, emergency services agencies such as police, fire fighting personnel and others.
- ◆ Exercise any other powers to seek any assistance from the local authorities in achieving this objective.
- ◆ Establish contact with the voluntary organizations for assistance.
- ◆ To ensure that necessary arrangements are made for the orderly return of all villagers to their respective places once the Deputy Commissioner informs about the termination of the emergency.

SOP for District Information Officer:

The District Information Officer would be based in the Emergency Control Room during any disaster and assist the district authorities in smooth operation.

Main functions: -

- ◆ Upon receiving the information from District Administration, the information officer should co-ordinate with media for giving information regarding emergency.
- ◆ Co-ordinate with the affected victims' families for giving information of their dear ones if.

Chapter 12

Standard Operating Procedures for Departments

State EOC:

Getting early warning and alerts are critical to mount timely and appropriate response. The unified SEOC located in the Disaster Management Secretariat will handle information related to disaster management. The state EOC would provide necessary information and coordination to all nodal departments and ESF. The SEOC with robust communication system will be handled by concerned nodal departments by deploying their specialist at the time of crisis.

Sequence of Action at the State Level:

SEOC

On receipt of information either from NEOC from DEOC or from early warning agencies at national or state level or from any other reliable source the following action will be taken:

- SEOC shall bring the information to the notice of SEC Issue alerts / warnings to all concerned DDMAAs / Nodal Departments ESF and all other designated Departments in the State.
- Release the information for public through AIR, television and Press.
- Establish contact and provide status report to NEOC, MHA Collect, collate and synthesize information for consideration of SEC & SDMA Provide regular appraisal and status reports to all designated authorities in the State.
- Arrange meetings of SEC.
- Activate ESFs if situation warrants.

State Disaster Management Authority (SDMA):

- Meeting of SDMA shall be convened on the direction of chairperson.
- SDMA will take stock of the situation
- SDMA shall assess level of disaster and outside assistance and cooperation required.

State Executive Committee (SEC):

- Pr- Secy. Department of Revenue (Disaster Management) shall convene the meeting of SEC
- SEC shall assess the situation and level of disaster
- Based on the assessments SEC shall give directions for handling the situation and measures to be taken by role players in response to any specific situation or disaster.
- SEC shall review and coordinate response from all departments.
- SEC shall call for NDRF, ARMY, AIRFORCE or any other outside support warranted for handling the situation. SEC may depute team for on the spot situation assessment and need assessment.
- Sec shall mobilise resources and dispatch them to concerned districts.
- SEC shall review the situation regularly as per demand of the situation.
- SEC shall maintain close liaison and contact with NDMA/MHA and keep them abreast of the situation.

- SEC shall constantly evaluate their own capabilities to handle the situation and project the anticipated requirements central resources.
- SEC will take necessary steps to pool the resources for better management of crisis situation.

Role of Key Departments:

- At the time disaster and on activation of State ESF plan, all the departments shall deploy nodal officers to SEOC for coordination measures.
- All concerned departments shall coordinate with their national counterparts and mobilise specialist resources and assistance as per requirement.
- All departments and organization of the state shall place the resources at the disposal of DDMA during disaster situation.

District Emergency Operation Centre (DEOC):

- District Emergency Operation Centre located in the office of Deputy Commissioner shall discharge the following functions:
- On receipt of information from SEOC/SEC or from any field office or Panchayat or from any other reliable source, DEOC will bring this in the notice of DDMA.
- DEOC shall issue necessary alerts to all authorities in the district or at state level depending on the situation.
- DEOC will send regular status and appraisal reports to SEOC.
- DEOC shall maintain all records.
- DEOC shall collate and synthesise information for consideration of DDMA.

District Disaster Management Authority:

- DDMA shall assess the situation and give directions to the concerned department heads in the district for better handling of the situation.
- DDMA shall assess the situation by taking into consideration reports from all formal and informal sources and decide upon the level of the disaster.
- Issue necessary direction for handling the response, relief & restoration measures.
- Call for outside support if necessary
- Keep the SDMA /SEC informed about the situation
- Raise demands for support and assistance
- Assess the resource availability and issue necessary direction for pooling resources for speeding an effective response.
- Process requests for NDRF/Army or any other specialized help.
- Coordinate with NGOs and Civil Society for supplementing the efforts of Govt.
- Monitoring and reviewing the situation on a regular basis.

First Response:

At the local or village level, when disaster is sudden and no early warning signals are available community members and specially the village disaster response team comprising Gram Panchayath

Adhyakshya, PDO, Village Accountant, Supervisory level staff of GP & elected members, Civil Defense, nearest police station, Home-guards, Fire, Health and Family welfare, NCC, NSS, NYKS, Ex-servicemen volunteers shall be the first responder.

First information report:

- District Emergency Operation Centre shall prepare and send first information report to SEOC/summarising the following :
- Severity of the disaster
- Action being taken
- District resources available and coping capacity.
- Need assessment for relief along with quantities.
- Logistics for delivering relief.
- Assessment on future development including new risks.
- FIR should be sent within 24 hours of occurrence of calamity as per the standard format.

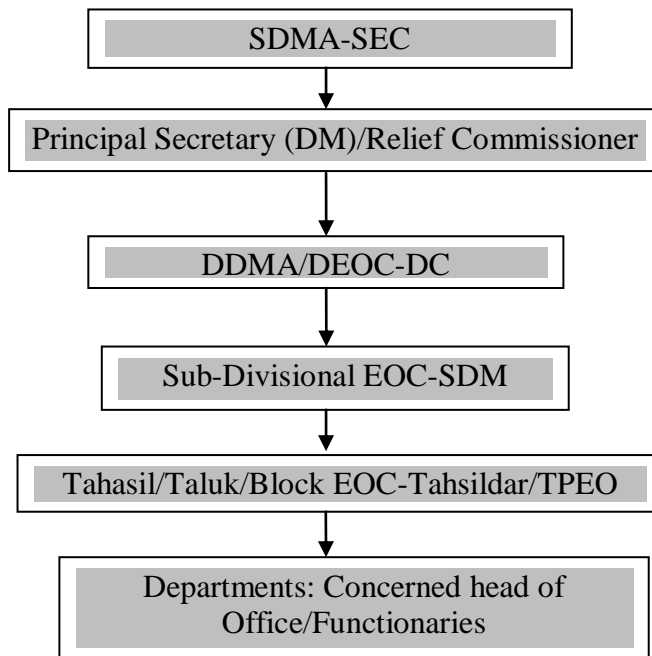
Daily Situation Report:

Daily situation report is to be submitted by DEOC for the consideration of DDMA/SDMA/SEC. The report is to be submitted in a standardized form. SOEC shall submit similar report to NDMA/MHA.

State Disaster Management Authority:

The State Disaster Management Authority (SDMA) has the mandate to lay down the state policies and approval of State Disaster Management Plan, with the assistance of SEC.

Hierarchy:



The information flow when warning signals available shall be as follows:

- ↓ Central nodal agency (IMD-CWC)
- ↓ NEOC/NDMA/MHA
- ↓ Chief Secy. /Pr-Secy. Revenue (DM)/ SEOC

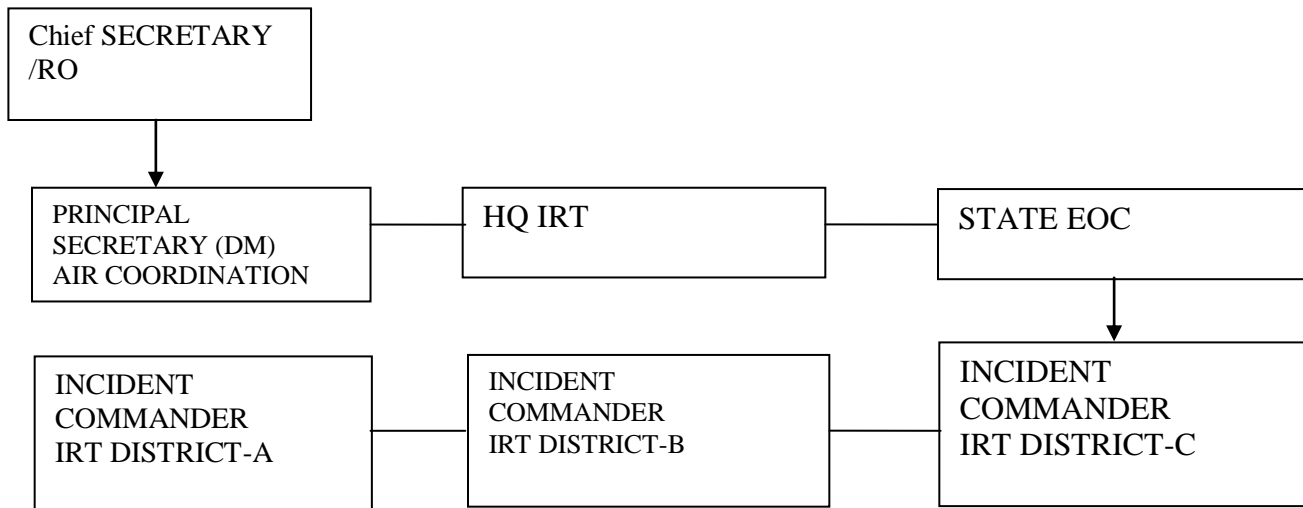
- ↓ DEOC/Deputy Commissioner/DDMA
- ↓ SDM
- ↓ All nodal Departments-ESF
- ↓ TPEO / Tahasildar
- ↓ GP Adhyaksha / Village Disaster Management Committee
- ↓ All nodal Departments
- ↓ All nodal Functionaries

When Disaster occurs without early warning:

- The village response team or any other functionary at the village level shall inform the
- Tahasildar/SDM/TPEO/DEOC about the incidence
- Tahasildar/SDM/TPEO/DEOC shall apprise the DDMA and activate the operations of rescue & relief with whatever resources at their command.
- DDMA shall assess the situation and declare the level of disaster i.e. L0, L1, L2, L3.
- DDMA shall identify the support requirement and seek assistance if required.
- SEC and SEOC are activated and NEOC/NDMA/MHA informed.
- SEC shall assess the situation and mobilise external resources if required.
- DDMA shall constantly assess and review the situation and activate coordination, command and control.
- DDMA shall deploy teams for rapid assessment of damage.
- Line department teams shall begin work for restoration of power, water supply telecommunication and road connectivity.

Trigger Mechanism and Incident Response System (IRS)

The Trigger Mechanism prescribes the manner in which the disaster response system shall be automatically activated after receiving early warning signals of a disaster happening or likely to happen or on receipt of information of an incident. Activities envisaged in the SOPs under the response phase shall be initiated simultaneously without loss of time to minimize the loss and damage and mitigate the impact of disaster. **The Incident Response Systems at District and State Level are explained in Chapter 4**



As per the DM Act-2005, CS is the Chief Executive Officer (CEO) of the SDMA as well as Chairperson of the SEC and Deputy Commissioner is the Chairperson of the DDMA and has been assigned all encompassing role of planning, coordination and execution of DM in his jurisdiction assisted by all line departments and local bodies. As per the Incidence Response System (IRS) the chief Secretary shall function as RO at the State level and Deputy Commissioner at district level.

Roles and Responsibilities of Chief Secretary as RO of the State:

The CS who is the head of the State administration and also chairperson of SEC and CEO Of SDMA, will perform responsibilities laid down under clause 22 (2) and 24 of the DM Act, 2005;

1. Ensure that IRTs at State, District, Sub-Division, and Tahsil/Taluk Panchayat are formed and IRS is integrated in the State and District DM Plan;
2. Ensure that a reasonable amount of interest fund is sanctioned clearly delineating the procedure for emergency procurement;
3. Ensure funds of Finance Commission (FC) for capacity building of administrative machinery in DM is spent appropriately;
4. Ensure that IRS and all key issues of DM are covered in the training conducted by ATI and other training institutions of the State;
5. Ensure that effective communication and Web based / online Decision Support System (DSS) is in place in the SEOC and connected with District, Sub-Division, Tahsil /Taluk level IRTs for support;
6. Ensure that toll free emergency numbers existing in the State for Police, Fire and Medical support and are linked to the EOC for response, command and control;
7. Activate IRTs at State headquarters when the need arises and issue order for their demobilization on completion of response;
8. Set overall objectives and incident related priorities;
9. Identify, mobilize and allocate critical resources according to established priorities;
10. Ensure that local Armed Forces Commanders are involved in the Planning Process and their resources are appropriately dovetailed, if required;
11. Ensure that when NDRF, Armed Forces arrive in support for disaster response, their logistic requirements like, camping ground, potable water, electricity and requirement of
12. Vehicles etc. are taken care of;
13. Coordinate with the Central Government for mobilization of Armed Forces, Air support etc. as and when required;
14. Identify suitable nodal officer to coordinate Air Operations and ensure that all District ROs are aware of it;
15. Consider the need for the establishment of AC, if required;
16. Establish Unified Command (UC) if required and get the approval of Chief Minister;
17. Ensure that telephone directory of all ESF is prepared and available with EOC and IRTs;
18. Ensure use of Global Positioning System (GPS) technology in the vehicles (Police, Fire,
19. Ambulance etc.) To get connectivity for their effective utilization ;

20. Keep the chairperson of SDMA informed of the progress of incident response;
21. Ensure that the Non-Governmental Organizations (NGOs) carry out their activities in an
22. equitable and non-discriminatory manner;
23. Conduct post response review on performance of IRTs and take appropriate steps to improve performance; and
24. Take such other necessary action as the situation demands.

Coordination of Response at the State Level:

The State Government / CS will designate various officers of line departments for the corresponding IRS positions to perform their duties. She/he may delegate some of the functions to the Principal Sec/ Secretary(DM)of the State, for the day to day supervision and management of the incident. She/He will however remain fully briefed by SEOC and IC and be aware of all developments and progress of response activities at all times. In case an incident is beyond the control of a District administration or a number of Districts are affected, the RO of the State will consider setting up of an Area Command and designate an Area Commander (AC). He may consider the Divisional Commissioner to act as AC or may deploy appropriate/suitable officer irrespective of seniority. The RO may also deploy some supporting staff to assist him.

Roles and Responsibilities of Deputy Commissioner as RO:

- Ensure that IRTs are formed at District, Sub-Division, Tahasil/Taluk levels and IRS is integrated in the District DM Plan as per Section 31 of the DM Act, 2005. This will be achieved by issuing a Standing Order by the RO to all SDMs and Tahasildars/ TPEOs;
- Ensure web based / on line Decision Support System (DSS) is in place in DEOC and connected with Sub-Division and Tahasil / Taluk level IRTs for support;
- Ensure that toll free emergency numbers existing for Police, Fire and Medical support etc. are linked to the DEOC for response, command and control;
- Obtain funds from State Government as recommended by the 13th FC and ensure that a training calendar for IRTs of District is prepared and members of IRTs are trained through
- ATIs and other training institutions of the District;
- Delegate authorities to the IC;
- Activate IRTs at District headquarter, Sub-Division, Tahasil / Taluk levels, as and when
- required;
- Appoint / deploy, terminate and demobilize IC and IRTs as and when required;
- Decide overall incident objectives, priorities and ensure that various objectives do not conflict with each other;
- Ensure that IAP is prepared by the IC and implemented;
- Remains fully briefed on the IAP and its implementation;
- Coordinates all response activities;
- Give directions for the release and use of resources available with any department of the Government, Local Authority, private sector etc. in the District;
- Ensure that local Armed Forces Commanders are involved in the planning process and their resources are appropriately dovetailed, if required;

- Ensure that local Armed Forces Commanders are involved in the planning process and their resources are appropriately dovetailed, if required;
- Appoint a nodal officer at the District level to organize Air Operations in coordination with the State and Central Government NO. Also ensure that all ICs of IRTs of the District are aware of it;
- Ensure that the NGOs carry out their activities in an equitable and non- discriminatory manner;
- Deploy the District Headquarter IRTs at the incident site, in case of need;
- Ensure that effective communications are in place;
- Ensure that telephone directory of all ESF is prepared and available with EOC and members of IRTs;
- Ensure provision for accountability of personnel and a safe operating environment;
- In case the situation deteriorates; the RO may assume the role of the IC and may seek support from the State level RO;
- Mobilize experts and consultants in the relevant fields to advise and assist as he may deem necessary;
- Procure exclusive or preferential use of amenities from any authority or person;
- Conduct post response review on performance of IRTs and take appropriate steps to improve performance; and Take other necessary action as the situation demands.

Area Command (AC):

In the event of disaster involving more than two districts the Commissioner of the respective zone will act as Area Command. Area Command will be activated when span of control becomes very large either because of geographical reasons or because of large number of incidents occurring at different places at the same time. Area Command may also be activated when a number of administrative jurisdictions are affected. AC will facilitate closer supervision, support to the IRTs and resolution of conflicts locally. In such eventualities the District Magistrate (RO) of the District will function as the IC. Similarly the District RO may introduce it Sub-Division wise when a large number of Tahasils / Taluks in different Sub-Divisions get affected. The RO will ensure adequate supporting staff for the AC. The roles and responsibilities of AC are as follows:

- Ensure that incident management objectives are met and do not conflict with each other;
- Allocate critical resources according to identified priorities;
- Ensure proper coordination in the management of incidents;
- Ensure resolution of all conflicts in his jurisdiction;
- Ensures effective communications;
- Identify critical resource needs and liaise with the SEOC for their supply;
- Provide for accountability of personnel and ensure a safe operating environment;
- Perform any other tasks as assigned by the RO.

Unified Command (UC):

In an incident involving multiple agencies, there is a critical need for integrating resources into a single operational organization that is managed and supported by one command structure. This is best established through an integrated, multi-disciplinary organization. In the IRS this critical need is

addressed by the UC. UC is a framework headed by the Governor / Administrator / CM and assisted by the CS that allows all agencies with jurisdictional responsibilities for an incident, either geographical or functional, to participate in the management of the incident.

UC will incorporate the following components:

- A collective approach for developing strategies to achieve incident goals;
- Improved information flow and inter-agency coordination;
- Familiarity with responsibilities and constraints of other agencies;
- Respect for the authority or legal responsibilities of all agencies;
- Optimal synergy of all agencies for the smooth implementation of the IAP; and
- Elimination of duplication of efforts.

Local Authorities PRIs and ULBs:

The DM Act, 2005 has defined the roles of Municipalities, Municipal Corporations, Municipal Councils and PRIs under section 41 (1) (2). These bodies will ensure that their officials and employees are trained in DM and resources relating to DM are also maintained in order to be readily available for use in any threatening disaster situation. These bodies will carry out relief activities in the affected areas in accordance with State and District DM Plans.

Community Participation in Disaster Response (CBDM):

A number of community based organizations like NGOs, Self Help Groups (SHGs), Youth Organizations, Volunteers of NYK, Civil Defence (CD) & Home Guard, etc., and workers of different projects funded by Government of India like National Rural Health Mission (NRHM), Integrated Child Development Services (ICDS), etc., would be required to act as volunteer in the aftermath of any disaster.

In the IRS structure, the skills of these organisations shall be utilised as Single Resource. The ROs of the State and District will ensure that such resources at village, ward or Gram Panchayat levels are organized with the help of leadership of PRIs and other community leaders. Their resources would be identified as per hazard and they would be encouraged and trained to be a part of the IRT. As a part of Plan one NGO for each Taluk/block as lead NGO shall be identified and whose capacity will be developed to coordinate response.

Role of Village Disaster Response Committees (VDRC):

The plan envisages constituting village response committees in each Panchayat comprising Panchayat President, Panchayat Secretary/PDO and village Accountant besides ward members. The village committees will constitute response teams from amongst the villagers by taking in to consideration the local needs vis-a-vis the hazard and vulnerability assessment. These response teams will be trained as first responders to garner disaster response in the absence of outside emergency responders. The plan envisages covering all Panchayats. The capacity building would involve awareness raising (about hazard, risks, disaster response) organising training (medical first aid search & rescue extrication from damaged buildings, road clearance, fire fighting) equipping (first aid kit, radio, extrication equipment) and networking. The plan also envisages establishing and strengthening local warning systems holding community drills through VDRCs. The committee would be responsible for:

- Developing the village Disaster Mitigating Plan.

- Keeping contact with Taluk/sub-district and District level committees and all other agencies related with the issue.
- Constituting response teams for search& rescue, medical aid, extrication of bodies, fire fighting or for any other purpose as per village specific needs.
- Ensuring house hold preparedness to village specific hazards.
- Identification of safe locations for temporary shelters
- Training and capacity building of all teams
- Resource inventory and gap identification with respect to the needs
- Identification of vulnerable groups

State Emergency Operations Centre (SEOC):

SEOC is an offsite facility which will be functioning from the DM Department Secretariat which actually is an augmented control room having communication facilities and space to accommodate the various ESFs emergency supports functions. It will be manned by various line departments of Government and other agencies, whose services are essentially required during incident response. It will allow all agencies and departments to share information, make decisions, activate plans, deploy IRTs, perform and log all necessary response and relief activities and make the EOC effective.

Functioning of SEOC:

- Secretary (DM) Revenue shall be overall in charge;
- Nodal officers of all concerned line departments will be the member of EOC and will have authority to quickly mobilize their departmental resources;
- The SEOC will have communication facilities with connectivity to Block, Taluk & Village level;
- SEOC will be equipped with a vehicle mounted with HF, VHF and satellite telephone for deployment in the affected site to provide immediate connectivity with the headquarters and ICP;
- SEOC will have connectivity with NEOC & National & State warning facilities;
- It will have well defined provision and plan for dovetailing the NDRF, Armed Forces and communication capabilities with the local communication set up. There will be proper plan so that all are able to connect with each other in case of large scale disasters or failure of the local communication systems;
- SEOC will have connectivity with KSNDMC and KARSAC for data and information.
- SEOC will have DM plans of all line departments incorporating the following:
 - Directories with contact details of all emergency services and nodal officers;
 - Connectivity with all District headquarters and police stations; Database of NGOs working in different geographical areas; Demographic details of the State and Districts;
 - Online /Web based DSS with the availability of at least the following components:
 - Standardization of Command Structure with the details of the earmarked and Trained personnel in IRS;
 - Proactive planning facilities;
 - Comprehensive resource management system;
 - Geographic Information System (GIS) for decision support; and Socio-economic, demographic and land use data for planning;
 - Resource inventories of all line departments and connectivity with database of India Disaster Resource Network (IDRN) India Disaster Knowledge Network (IDKN) and Corporate Disaster Resource Network (CDRN);

Incident Response Team (IRT):

The ROs of the State and Districts will constitute IRTs from among officers at the State and District level respectively. The members of IRTs will be properly trained and sensitised regarding their roles during the pre-disaster phase itself. The SEOC & DOEC will provide continuous support to the on scene IRT(s) and if required join them or take over response on the directions of the RO.

Incident Response System (IRS) Facilities

For effective response the following facilities will be established depending on the needs of the incidents.

Incident Command Post (ICP):

The ICP is the location at which the primary command functions are performed. The IC will be located at the ICP. There will be only one ICP for each incident. This also applies to situations with multi-agencies or multi jurisdictional incidents operating under a single or unified command will be located with other incident facilities like Incident Base.

The ICP may be located at Headquarters of various levels of administration and in case of total destruction or non availability of any other space, the ICP will be located in a vehicle, trailer or tent with adequate lighting, effective communication system.

Deployment of IRT:

On receipt of information regarding the impending disaster, the EOC will inform the RO, who in turn will activate the required IRT and mobilize resources. The scale of their deployment will depend on the magnitude of the incident. In the event of occurrence of disaster without warning local IRT (District, Sub-Division, Tahasil /Taluk/ Village) will respond and inform the higher authority and if required seek reinforcement and guidance.

Roles and Responsibilities of Nodal Departments/ Agencies:

State Disaster Management Authority	Lay down policies and plans for disaster management in the State. Declare emergency situation in case of State level disaster and the end of it. Provide policy directions and integration of Disaster Management programmes in the state development framework.
State Executive Committee for Disaster Management (SEC)	Implementation of the State Plan and monitoring body for management of disasters in the State.
ATI Mysuru (Centre for Disaster Management)	Primary agency responsible for conducting and coordinating training to all government officials involved in the planning and implementation of preparedness, mitigation response and relief work.
State Technical	Responsible for ensuring community participation in the disaster management activities. They will also advise the SEC on implementation of activities at State level.

Committee(s)	
Department of Revenue (Disaster Management)	Member Secretary of SDMA. Member of SEC, Overall coordination, implementation of the EOC activities and documentation and reporting to the SEC
Department of Public Works (PWD)	Primary agency for maintenance of public infrastructure identifies safer places, assess physical damage, identify safer routes, and provide necessary Reconstruction and rehabilitation support. Ensure hazard resistant features as per all building by laws and maintain all National & State roads.
Department of Town and country planning	Primary agency responsible for evolving policy and ensuring land use, hazard wise zonation and implementation building by laws.
Department of Urban development	Main agency to ensure repair and maintenance in the urban areas. Implementing disaster resistant Building Codes and Designs
Department of Education	The department will prepare curriculum related to disaster management and conduct training programme for teachers and children. The department will coordinate with the local authority and arrange for mock drills, search and rescue drills. Awareness campaigns, Volunteer Teams. Ensuring maintenance and retrofitting of school buildings/school safety.
Department of Home	Be the primary agency responsible for “Urban Fire”, “Village fire”, Nuclear 197 Home disasters, Serial Bomb blasts and Festival related disasters. And also for Security, evacuation, emergency assistance, search and rescue, first aid, law and order, communication, shifting of people to relief camps, traffic management. Burial work of dead bodies, Fire management.
Department of Forest	Be the primary agency responsible for “Forest Fire” and Man-Animal conflicts.
Department of Energy	Primary agency responsible for electrical disasters and fires. It will ensure power supply for public facilities such as hospital, police stations, telecommunication building and meteorological stations. Coordination with Hydro Power Projects.
Department of Science & Information Technology , KARSAC	Responsible for the fail proof communication. Maintenance of IT Infrastructures, maintain communication and satellite links.

Department of Irrigation	Primary agency responsible for Floods, Water supply and Drought, Issue flood warnings, identification of safer places, construct embankments, arrangement of boats and pump sets, swimmers and divers and communication.
Department of Health	Be the primary agency responsible for “Biological Disasters and Epidemics”. First aid, health and medical care, ambulance arrangements, preventive steps for other diseases, establishment of health camps. Providing Trauma Centers and all other health related support.
Department of Information and Public Relations	Communicate warnings to the public, relay announcements issued by SEC, telecast special programmes for information and actions, education and awareness messages for preparedness actions and coordinated response. Promote disaster related polices, provide emergency communication systems, enable critical communication links with disaster sites and coordinate with media.
Department of Rural Development	Primary agency to implement vulnerability reduction projects to alleviate poverty and improve people’s livelihoods. Ensure Rural development schemes implemented in the State incorporating disaster reduction measures. Assists in rehabilitation of the victims.
Department of Agriculture	Primary agency for hailstorms, droughts and pest attacks. To provide seeds and necessary planting material and other inputs to assist in early recovery. Information to farmers on rainfall and cropping methods to avoid drought situations
Department of Finance	Arrange necessary funds and ensure equitable distribution, manage accounts.
Department of Planning	Allocation of funds on priority basis for disaster mitigation and rehabilitation projects
Department of Transport	Primary agency for Road accidents. Arrange for sending personnel and relief material to the disaster affected area, relocate the affected people, keep access routes operational and inform about alternate routes. Keep an inventory of resources available with Govt. & private operators.
Department of Town and Country Planning	Ensure hazard resistant features are in all building by laws. Zoning for safe construction sites and development of policies.
Department of Technical Education and vocational	Be the primary agency responsible to conduct certificate training programmes for construction workers. To create a pool of qualified masons to ensure safe construction practices in construction work.

Standard Operating Procedures for Responsible Departments/Agencies:

These procedures shall be updated and revised every six month incorporating the new insight experience and understanding of vulnerability & risk perceptions and disaster that take place with the passage of time.

The departments, divisions and agencies will organize proper training of officers and staff so that they can help in rescue, evacuation and relief work at different stage of disaster. Emergency responses teams will be kept ready by each department so that they can move to disaster site/affected area on short notice. The Standard operating procedure shall be followed during normal times, warning stage, disaster stage and post disaster stage.

Department of Revenue (Disaster Management):

Primary Tasks:

- To coordinate with Govt. of India & National Disaster Management Authority.
- To function as a secretariat of the State Disaster Management Authority.
- To coordinate the relief recovery operations in the wake of disasters.
- To declare and notify Disaster Situation

Preparedness function:

- Establish infrastructure for state EOC and maintain it in state of readiness with all equipment in working order and all inventories updated.
- Train personnel on operations of EOC.
- Ensure basic facilities for personnel who will work at district level for disaster response.
- To coordinate the preparedness functions of all line departments.
- Establish disaster management funding mechanisms to ensure adequate resources for preparedness work, and quick availability of resources for relief and rehabilitation when required. Help DDMA with additional resources for disaster preparedness.
- On annual basis report to the SEC of the preparedness activities.
- Establish and activate help lines through police and health departments and district public relations office.
- Prepare a list of potential shelters with clearly specifying their capacity and check upon their suitability for accommodating people with varying social behavior.
- Prepare a plan for the disposal of dead bodies and carcasses.
- Constitute / activate Village-level Preparedness Teams with the help of PRIs local NGOs and revenue officials.
- Prepare & update inventory of resources every quarter.
- Coordinate with National & International Institutions.
- Development of policies
- Facilitate convening the meeting of District Disaster Management Authority
- Annually update the District Disaster Management Plan.
- Maintain and activate the District level EOC.

- Establish communications with state EOC and all stakeholders at all levels for purpose of receiving and sending warning and information exchange through district control room.
- Ensure collation of expense accounts for sanctions and audits.

Mitigation:

- Ensure that funds are being allocated under the State Mitigation Fund.
- Ensure that structural and non-structural mitigation measures are taken by all its department offices.
- Establish warning system between State – District and in high risk zones.
- Monitor implementation of construction norms for all types of buildings and infrastructure.

Alert and Warning Stage:

- Maintain contact with forecasting agencies and gather all possible information regarding the alert.
- Ensure activation of State level EOC in standby mode.
- Instruct all ESFs to remain in readiness for responding to the emergency.
- Advise concerned DDMA to carry out evacuations where required, and to keep transport, relief and medical teams ready to move to the affected areas at a short notice.
- Dispatch field assessment teams, if required.
- Provide assessment report to the SDMA.

Response:

- Activate EOC in full form
- Coordinate and plan all activities with the ESFs
- Conduct Rapid Assessment and launch Quick Response.
- Conduct survey in affected areas and assess requirements of relief.
- Distribute emergency relief material to affected population.
- Coordinate all activities involved with emergency provisions of temporary shelters, emergency mass feeding, and bulk distribution of coordinated relief supplies for victims of disasters.
- Coordinate with GREF, ITBP, Army, and Indian Air Force as per the demand of the situation.
- Prepare an evacuation plan for villages which are devastated or affected.
- Ensure the supply of food grains through the Public Distribution System.
- Prepare a list of relief items to be distributed.
- Formulate sector specific teams such as transport, material and equipment for responding to the disaster incident.
- Prepare a transportation plan for supply of relief items.
- Convene meetings of all NGOs, Youth Clubs, and Self Help Groups operating in the district and assign them unambiguous responsibilities for relief, recovery and rehabilitation.
- Ensure to establish and manage relief camps through key departments responsible for ESF.
- Call for emergency meeting to take stock of the situation. Develop an action plan.
- Appoint In-charge Officers of Response base.
- Ensure damage and need assessment through teams formed through concerned department.
- Commence functioning of IRS and ESF systems.

- Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments.
- Ensure that panic does not occur.
- Activate all emergency communications.
- Coordinate NGO, INGO and international agencies interventions/support.
- Ensure media briefing through a DPRO or an officer specifically designated for the purpose.

Recovery and Rehabilitation:

- Ensure preparation of rehabilitation plan for displaced population through ULBs/PRI's etc.
- Organise initial and subsequent technical assessments of disaster affected areas and determine the extent of loss and damage and volume and nature of relief required.
- Keep the SDMA informed of the situation.
- Ensure supply of food, drinking water, medical supplies and other emergency items to the affected population.
- Visit and coordinate the implement of various rehabilitation programmes.
- Coordinate the activities of NGOs in relief and rehabilitation programmes.
- Allocate funds for the repair, reconstruction of damaged infrastructure after considering their overall loss and damage.
- Ensure Provision of Nutritional aspects of food for disaster victims.
- Prepare an evacuation plan for population from the dangerous area / buildings as per the advice of agencies identified for issuing warnings before, during & after the incident.
- Ensure immediate disbursement of compensation.

Sl.No.	Preparedness Measures	Action Taken/Remarks
1	Update District Disaster Management Plan twice a year specifically with reference to the resources and Improved HVRA.	
2	Check upon communication network; phones, wireless, fax, internet, HAM network every month.	
3	Identify and determinate Hazard wise most vulnerable & risk prone pockets quarterly.	
4	Activate District Control Rooms establish communication with sub- division, The, Block & Village level functionaries in the close proximity Affected area.	
5	Fix the location of Response base	

6	Designate In-charge officials of the response base.	
7	Check the availability and deployment of resources and mobilize them.	
8	Convene meetings of District Disaster Management Authority once in three months	
9	Convene civil defense, NGOs, PRIs and ULBs Meetings prepare a list of NGOs, PRIs and ULBs with their Functional Specialization and Geographical Coverage.	
10	Check the availability of Food Grains in PDSs shops and other stocking and distributors in the district	
11	Prepare a list of relief items for distribution division wise keeping in view the food habits of people	
12	Determine quantity of relief items as per minimum Standards and expenditure to be incurred in it.	
13	Prepare a transport and alternate transport plan for evacuation and distribution of relief	
14	Prepare a plan for VIP's movement.	
15	Prepare a media plan for dissemination of information to the people of the district; local newspaper , radio, TV and cable, etc	
16	Ensure appropriate stocking of relief material received from outside.	

Department of Transport:

Primary Tasks:

- Arrange and organize transport for ensuring supplies to the affected villages and evacuation of the victims.
- Facilitate evacuation of people

- Grant Transport of relief material to the affected area

Non Disaster Time – Preparedness

- Designate one Liaison Officer of the department as the Focal Point and inform all concerned.
- Develop disaster management plan for the department.
- Carry out survey of condition of all highway systems at state and district level.
- Carry out survey of condition of all aircraft landing facilities.
- Prepare an inventory of vehicles trucks, buses, jeeps, tractors etc of government and private Agencies district wise and provide the list to the State EOC and District control room.
- Issue standing instructions to the State transport department for providing buses for evacuation and relief.

Non Disaster Time – Mitigation

- Make departmental mitigation plan and ensure its implementation.

Alert and Warning Stage

- Depute an officer at the SEOC.
- Ensure availability of fuel, recovery vehicles and equipment.
- Take steps for arrangement of vehicles for possible evacuation of people

During Disaster – response

- Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
- Establish contact with the SEOC.
- Take steps for transportation of relief personnel and material to affected areas. Take steps for movement of affected population to safer areas.
- Collate and disseminate information regarding operational and safe routes and alternate routes, fuel availability etc. to personnel operating in the field.
- Launch recovery missions for stranded vehicles.
- Launch repair missions for damaged critical infrastructure and routes.
- Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments.
- Provide trucks, buses, jeeps, tractors etc for evacuation and for ensuring supply chain continuity.

After Disaster – Recovery and Rehabilitation

- Assess damage to transportation infrastructure.
- Take steps to ensure speedy repair and restoration of transport links.

Department of Public Works:

Primary Task:

- To ensure the trouble free road communication.
- To evolve and implement earthquake design of building design of building.
- To evolve appropriate code and guidelines.

- To inspect buildings & critical buildings for their safety.
- To ensure appropriate designs of structures in areas of operation such as roads, bridges & buildings.

Non Disaster Time – Preparedness

- Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point.
- Take precautionary steps for the protection of government property against possible loss and damage during disaster.
- Formulate guidelines for safe construction of public works.
- Prepare list with specifications and position of heavy construction equipment in the state.
- Organize periodic training of engineers and other construction personnel on disaster resistant construction technologies.
- Procure HRV analysis of PWD.
- Based on HRV analysis, prepare a Contingency Action Plan division wise and vulnerable zone wise plan.
- Establish communication with State Emergency Operations Centre, District Control Rooms and departmental HQ within the division and state.
- Create an inventory of earth moving machinery available with each division and with private contractors.
- Create linkage and communication with power project authorities and identify resources available with them.
- Make an unambiguous written agreement for mobilization of private resources at the time of crisis.
- Officers at Taluk and Sub-Divisional level should be familiar with pre-disaster precautions and during and post-disaster procedures for road clearing and for defining safe evacuation routes.
- Review and update measures and procedures taken for the maintenance and protection of equipment.
- Clear areas beneath bridges to ensure smooth flow of water and especially prior to the monsoon season.
- Undertake rapid visual inspection of critical buildings and structures of the state government (including hospital buildings) by a specialized team and identify structures which are endangered requiring retrofitting or demolition.
- Emergency tools kit should be assembled for each division and should include:
 - Crosscut saws
 - Axes
 - Power chain saw with extra fuel, oil
 - Sharpening files
 - Chains and tightening wrenches
 - Pulley block with chain and rope
 - Cutters and Cranes
- Routes strategic to evacuation and relief should be identified and marked in close coordination with police and DEOC.

- Within the cities establish priority listings of roads which will be cleared and opened, among the most important are the roads to hospitals and main trunk routes.
- Identify locations for setting up transit and relief camps, feeding centres.

Non Disaster Time – Mitigation:

- Actively work to develop a sustainable state-wide hazard mitigation strategy.
- Repair, Maintenance and retrofitting of public infrastructure.
- Identify / prioritize mitigation activities of lifeline buildings and critical infrastructure and coordinate with the Departments and SDMA for its implementation.
- Report to SDMA about mitigation plans.

Alert and Warning Stage:

- Establish radio communications with State Emergency Operations Centre
- Instruct all officials at construction sites to keep manpower and materials prepared for protection and repair of public works.
- Direct construction authorities and companies to pre-position necessary workers and materials in or near areas likely to be affected by disaster.
- Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary.
- Dispatched extra vehicles from headquarters to be stationed at safe strategic spots along routes likely to be affected.
- Move heavy equipments, such as front-end loaders, to areas likely to be damaged.
- Inspect all roads, road bridges by a bridge engineer, including underwater inspection of foundations and piers. A full check should be made on all concrete and steel works.
- Secure works under construction ropes, sandbags, and cover with tarpaulins if necessary.
- If people are evacuating an area, the evacuation routes should be checked and people assisted.
- Identify locations for setting up transit and relief camps, feeding centres and quantity of construction materials and inform SEOC accordingly.

During Disaster – Response:

- Provide assistance to the damage assessment teams for survey of damage to buildings and infrastructure.
- Adequate road signs should be installed to guide and assist the drivers.
- Begin clearing roads. Assemble casual labourers to work with experienced staff and divide into work gangs.
- Mobilize community assistance for road clearing by contacting community organizations.
- Undertake repair of all paved and unpaved road surfaces including edge metal lining, pothole patching and any failure of surface, foundations in the affected areas and keep monitoring their conditions.
- Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for disaster victims.
- As per the decisions of the State Emergency Operations Centre and DEOC undertake construction of temporary structures required, for organizing relief work and construction

- of relief camps, feeding centres, medical facilities, cattle camps and SOC/s.
- Take steps to clear debris and assist search and rescue teams.
- Provide sites for rehabilitation of affected population The concerned Executive Engineer will be responsible for mobilizing staff and volunteers to clear the roads in case of any blockage.
- All response at district level teams should be provided with two way communication link.

After Disaster – Recovery and Rehabilitation:

- Carry out detailed technical assessment of damage to public works.
- Assist in construction of temporary shelters.
- Organize repairs of buildings damaged in the disaster
- Prepare detailed programs for rehabilitation of damaged public works.
- Arrange technical assistance and supervision for reconstruction works as per request.
- Mobilize community assistance for road clearing by contracting community organizations.
- Undertake clearing of ditches, grass cutting, burning or removal of debris and the cutting of dangerous trees along the roadside in the affected area through maintenance engineer's staff.
- As per the decisions of the DDMA, undertake construction of temporary structures required for organizing relief work and construction of relief camps, feeding centres medical facilities, cattle camps and Site Operations Centres.
- An up-to-date report of all damage and repairs should be kept in the Executive Engineer's office and communicate the same to the District Control Room & SEOC.

Department of Irrigation:

Primary Tasks:

- To act as nodal agency for floods.
- To ensure the availability of water supply.
- To ensure the operation of irrigation system.
- To undertake necessary steps for flood protection and management.
- To undertake drought management measures.

Non Disaster Time – Preparedness:

- Designate one Liaison Officer in the department
- Ensure efficient management of flood forecasting and warning centres and improve procedure of flood forecasts and intimation to appropriate authorities.
- Identify flood prone areas and activate flood monitoring mechanisms.
- Coordinate with KSNDMC Bengaluru in the flood season every year.
- Collect all the information on weather forecast, water level of all principal reservoirs.
- Keep in readiness essential tool kits and protection material at critical places for emergency deployment. These may include:
 - Empty Cement Bags
 - Boulders
 - Ropes
 - Sand

- Wire mesh
- Shovels
- Baskets
- Lights
- First Aid Kit
- Materials likely to be damaged by rains, such as cement bags, electric motors, office records etc should be covered with plastic even though stored inside.
- Coordinate with KSNDMC for rain gauge data Procure / prepare HRV analysis for water resource management and flood protection.
- Based on HRV analysis, prepare department specific Contingency Action Plan.
- Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect the equipment and machinery in the wake of any disaster.
- Keep Standby diesel in petrol pumps or generators in damage- proof buildings.
- A standby water supply plan should be available in the event of damage or pollution of the regular supply sources in disaster prone areas.
- Establish procedures for the emergency distribution of water if existing source of supply is disrupted.
- Make an inventory provisions to acquire tankers and establish other temporary means of distributing water on an emergency basis.
- Make an inventory provision to acquire containers and storage tanks, required for storing water on an emergency basis.
- Prepare a plan for upkeep and maintenance of equipment.
- Where ever possible make sure auxiliary generators and standby engines are in good working order.

Non Disaster Time – Mitigation:

- Make departmental mitigation plan and ensure its implementation.
- Review and update precautionary measures and procedures.

Alert and Warning Stage:

- Alert SEOC in the event of floods.
- Since flash floods get triggered within short time-spans, take steps to alert all through telephone and wireless according to needs.
- Organize on the receipt of flood warning or any other disaster continuous monitoring of
 - Wells
 - Intake structures
 - Pumping stations
 - Buildings above ground
 - Pumping mains
 - The treatment plant
- Mount watch on flood protection works and irrigation and water supply systems.

During Disaster – Response:

- Transportation of water with minimum wastage (in coordination with local administration)

- Locate drinking water facilities separate from sewer and drainage facilities
- Ensure that remaining or unaffected sources of water do not get contaminated and the distribution of water is equal to all victims in the area affected.
- Identify and mark damaged water pipelines and contaminated water bodies and inform disaster victims against using them.
- Recall important functionaries from leave communicate to the staff to man their places of duties like the ward and divisional officers and respective department.
- Repair damaged pipes, blocked sewages and salvage important and damaged facilities. Organize round the clock inspection and repair of :
 - Dams, Check dams
 - Irrigation Channels
 - Control gates
 - Overflow channels
- Organize round the clock inspection and repair of:
 - Pumps
 - Generators
 - Motor equipment
- Make sure the water supply to key establishment such as fire hydrants and hospital storage tanks is full and the hospital is conserving water.
- Inform people to store an emergency supply of drinking water.
- Establish emergency works gangs for immediate post-disaster repairs.
- After any repair on the distribution system, the required main should be flushed and disinfected with a chlorine solution of 50mg/litre for a contact period of 24 hours. After which the main is emptied and flushed again with potable water.
- If the demand for water is urgent or the repaired main cannot be isolated, the concentration of the disinfecting solution may be increased to 100mg/litter and the contact period reduced to 1 hour.
- At the end of disinfection operations, but before the main is put back into services, samples should be taken for bacteriological analysis and determination of chlorine residue.
- Recall important functionaries from leave: communicate to the staff to man their places of duties like the ward and divisional offices and respective departments.
- Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
- Identify unacceptable water sources and take necessary precautions to ensure that no water is accessed from such sources, either by sealing such arrangements or by posting the department guards.

After Disaster – Recovery and Rehabilitation:

- Carry out Environmental Impact Assessment of the disaster.
- Take up sustained programs for rehabilitation of flood protection works, water supply schemes, check dams.
- Take up afforestation drives for rehabilitation of vegetative cover lost in disaster. Protect pump stations from water ingress in the stream beds or banks.
- Repair sewage lines where damage is detected.
- Repair water pipelines wherever damaged.

- Ensure that potable water supply is restored as per the standards and procedures laid down in ‘Standards for Potable Water’.

Department of Agriculture:

Primary Task:

- To act as nodal department for drought related disasters
- To undertake need & damage assessment with respect to crops of all types.
- To ensure the uninterrupted functioning of all infrastructures related to agriculture sector.
- To assist the farming community in restoration & relocation efforts.

Non Disaster Time:

- Designate an RO for DM within the department.
- Procure HRV analysis for the State and Identify most vulnerable areas
- Identify areas likely to be affected.
- Organize distribution of seeds, seedlings, fertilizer and implements to the affected people.
- Arrange for keeping stock of seeds, fertilizers and pesticides.
- Develop district contingency action plan based on HRV.
- Establish communication with SEOC, DDMA, Deputy Commissioner and District Control Room and Agriculture Universities.
- Review and update preventive measures and procedures
- Check available stocks of equipment and materials which are likely to be most needed during disaster like floods and droughts.
- Determine the type of damage, pests or disease may cause crop wise and identify the insecticide required for the purpose, in addition to requirement of setting up extension teams for crop protection and accordingly ensure that extra supplies and materials be obtained quickly.
- All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.
- Suggest variety of seeds and cropping pattern, which can reduce losses and reduce the risks to farmers.
- Ensure that certified seeds of required varieties are available in adequate quantities.
- Develop a pest and disease monitoring system so that timely steps can be taken to reduce damage to crops.

Warning:

- Check available stocks of equipments and materials which are likely to be most needed after the disaster.
- Stock agricultural equipments which may be required after a disaster.
- Provide information to all concerned, about disasters, likely damages to crops and plantations, and information about ways to protect the same.
- All electrical equipments should be unplugged when disaster warning is received and especially in flood prone areas.

During Disaster:

- Depute one liaison officer to the SEOC.
- Monitor damage to crops and identify steps for early recovery.
- Estimate the requirement of
 - Seeds
 - Fertilizers
 - Pesticides and Labour
- Organise transport, storage and distribution of the above with adequate record keeping procedures.
- Ensure that adequate conditions through cleaning operations are maintained to avoid water logging and salinity.
- Print and widely distribute the list of points where certified seeds are available along with names of varieties and rates. Notices may be affixed at public places such as bus stands, on buses themselves, PHCs, Block headquarters, Tahasils etc.
- Recall important functionaries from leave: communicate to the staff to man their places of duties like the local and divisional offices and respective departments.
- Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
- Establishment information centres through **Raitha Samparka Kendras** and extension network and assist in providing an organized source of information.

After Disaster:

- Quantify the loss and damage within the quickest possible time and finalizes planning of agriculture rehabilitation.
- Ensure availability of adequate supply of seeds, seedlings, fertilizers, pesticides and agricultural implements.
- Assist farmers to re-establish their contacts with agriculture produce market and ensure that appropriate prices be offered to them.
- Provide information to NGOs and other organization about the initiative and resources of the department.
- Assess the extent of damage to soil, crop, plantation, micro-irrigation systems and storage facilities and the requirements to salvage or replantation.

Department of Animal Husbandry:**Primary tasks:**

- Provide necessary assistance in ensuring the protection of animal stock of the state.
- Develop strategy and plan for animal related issues vis-à-vis disasters.
- Control & check any outbreak of epidemics.
- Make an inventory of all veterinary centers and assess their capacity to handle disaster Situation.
- Develop protocol for disposal of bodies of dead animals.
- Develop protocol for tranquilisation of wild animals during conflicts

Non Disaster Time:

- Designate a focal point for disaster management within the department.
- Procure / Prepare HRV Analysis of Animal Husbandry sector in the state & District wise.
- Identify areas likely to be affected.
- Identify disaster prone areas, livestock population at risk, requirement of medicine, vaccines, equipments, disinfectants and other materials material require any material during disaster in prone area.
- Prepare inventory of human recourses along with their contact number (Veterinary Doctors, Para Vets, and Class-IV).
- Based on HRV analysis, prepare state wise & district wise plan for feed procurement Identify shelters for animals.
- Review and update precautionary measures and procedure for equipments protection.
- Prepare a list of water borne diseases that are preventable by vaccination. Publicize the information about common diseases afflicting livestock and the precautions that need to be taken.
- Stock emergency medical equipment which may be required during and post disaster.
- Determine what injuries / illness may be expected, and what drugs and other medical items will be required, in addition to requirements of setting up cattle camps.
- Check stocks of equipment and drugs which are likely to be most needed during and after disaster.
- Capacity building of all veterinary hospitals staff in dealing with likely damages and effects in the aftermath of disaster.
- Prepare kits for veterinary diseases, which could be provided to veterinary doctors at the block level and extension officers at the village level. The kits may also be provided to village level veterinary volunteers.
- The provision of medical services should be coordinated by the District Animal cattle camps.
- An injury and disease monitoring system should be developed, to ensure that a full picture of risk is maintained.
- Identify sites for cattle camps by ensuring the following:
 - Cattle sheds constructed should not exceed 20 sq. feet per animal.
 - There is adequate supply of drinking water.
 - There is sufficient shade for cattle to rest during the afternoon.
 - They are accessible.
 - They are conveniently located to be as close as possible to the affected villages

Warning:

- Check available stocks of equipments and materials which are likely to be most needed after the disaster.
- Stock veterinary equipments which may be required after a disaster
- Determine what damage, pests or diseases may be expected, and what drugs and other insecticide items will be required, in addition to requirements of setting up extension teams for animal protection, and accordingly ensure that extra supplies and materials, be obtained quickly.
- All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.

- Check the emergency electrical generator, to ensure that it is operational and that a buffer stock of fuel exists.
- Fill department vehicles with fuel and park them in a protected area.
- Fill hospital water storage tanks and encourage water savings. If no storage tanks exist water for drinking should be drawn in clean containers and protected.
- Prepare an area of the hospital for receiving large number of livestock.
- Develop emergency admission procedures (with adequate record keeping)
- The sterilized surgical packs must be stored in protective cabinets to ensure that they do not get wet. Covering the stock with polythene is recommended as an added safety measure.
- All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage proof.
- All electrical equipments should be unplugged when disaster warning is received especially in flood prone areas.
- Depute one liaison officer to the SEOC or DEOC as the case to facilitate quick coordination between SEOC and parent department.
- Rush Rapid Assessment Team to Incident site to assess the quantum of damage and immediate requirement for relief and rescue.
- Rush IRT along with the needed medicines equipments and other materials for relief and rescue operation at disaster site to minimize further loss and damage.
- Arrange for quick and proper disposal of carcasses with disinfection of the premises with the help of local people, other line department in coordination with SEOC or DEOC to check the spread of epidemic.
- To take immediate preventive measures like quarantine, immunization and culling etc. as per requirement of the situation.
- Develop a strategy for rehabilitation of affected animals.
- Establish radio communication with
 - SEOC and DEOC
 - Deputy Commissioner
 - District Control Room
 - Veterinary aid centres and hospital (including private practitioners) within the division
- Arrange for emergency supplies of anesthetic drugs.
- Provide information to the local police and rescue groups about the resources available with veterinary aid centres and hospital.
- The minimum number of cattle in the camp should be about 50 and the maximum 300.
- Make provision for 6kg per cattle head per day of fodder, and 1 to 1.5kg per cattle head per day or any other concentrate
- Organize vaccination campaigns in disaster prone villages
- Cattle camps and hospitals administrators should establish work schedules to ensure that adequate staffs are available.
- Set up teams of veterinary doctors and assistants for visiting flood affected sites.
- Organize transfer of serious injured livestock from villages to veterinary aid centers wherever possible.

- Establish cattle camps and additional veterinary aid centers at affected sites and designate an Officer In-charge for the camp.
- Estimate the requirement of water, fodder and animal feed, for cattle camps and organize the same.
- Ensure that adequate sanitary conditions through cleaning operations are maintained in order to avoid outbreak of any epidemic.

After Disaster:

- Quantify the loss and damage within the quickest possible time and finalize planning for rehabilitation.
- Coordinate with revenue Department to ensure relief distribution as per direction of the State Govt. / already laid down norms by the Govt.

Preparedness Checklist for Animal Husbandry:

Sl.No.	Preparedness Measures	Action Taken/ Remarks
1	Prepare and publicize the list of common disaster specific ailments and possible precautions for the farmers to observe.	
2	Organize vaccination for cattle in disaster villages.	
3	Prepare a plan for setting up cattle camps and cattle feeding centers.	
4	Prepare kits which could be given to Veterinary doctors and Animal Husbandry workers/volunteers.	
5	Prepare a plan for disposal of dead animals	
6	Prepare a plan for feed storage centers	

Department of Education:

Primary tasks:

- The department will prepare curriculum related to disaster management and conduct training programme for teachers and children.
- The department will coordinate with the local authority and arrange for mock drills, search and rescue drills.

Non Disaster Time – Preparedness

- Identify one Liaison Officer in the department as RO for DM.

- Develop a safety plan for the department in consultation with SDMA, include disaster related subjects in the curricula in schools, and colleges.
- Arrange for training of teachers and students of disaster prone areas about the steps to be taken at different stages of disaster and organise them, in coordination with volunteers and inspire them for rescue, evacuation and relief works.
- Ensure that all schools and colleges develop their disaster management plans.
- Ensure that construction of all educational institutions in earthquake zones is earthquake resistant and disaster resistant.

Non Disaster Time –Mitigation:

- Identify structural and non structural mitigation measures.
- In coordination with the SSA and/or Public works department assess schools and colleges buildings conditions.
- Make departmental mitigation plan and ensure its implementation.
- Ensure that earthquake multi-hazard resistant features are included in new school buildings.

During Disaster – response:

- In the event of disaster, place required number of education institutions and their buildings, under the SEOC for use as emergency shelter and relief centre if necessary.
- Students and staff can provide local voluntary assistance for distribution of relief material and assistance to special needy people in the locality

After Disaster – Recovery and Rehabilitation:

Determine the extent of loss in educational institutions and prepare plans for their rehabilitation.

Department of Technical Education:

Primary tasks:

- The department will play a vital role in the State mitigation strategy. Its main role will be to conduct training programs to the construction workers, involved at the community level.

Non Disaster Time – Preparedness:

- In consultation with SEC, include disaster related subjects in the curricula.
- Arrange for training programs and certificate course of construction workers.
- Prepare a disaster management plan for the department.

Non Disaster Time –Mitigation;

- To prepare an inventory of volunteers who have already completed training courses successfully and can be utilized in implementation of mitigation measures and new construction.

During Disaster – Response:

- Within the department, respond as per the departmental response plan.

After Disaster – Recovery and Rehabilitation:

- Coordinate with SDMA and DDMA for the recovery and rehabilitation.

Department of Health & Family Welfare:

- The department of Health has a responsibility in the reduction and prevention of suffering during natural and man-made disasters.
- During emergency department is responsible for prevention and response of natural disasters and man-made disasters, as well as in the investigation and response to outbreak of communicable diseases.

Primary Task:

- To provide overall medical and health service
- Check the spread of epidemics.
- To provide Trauma services.
- To provide MRHS.
- To create awareness

Non Disaster Time – Preparedness:

- Procure Hazard Vulnerability and Risk Map for each District.
- Ensure disaster management plans are developed in health centres and hospitals.
- Ensure that all hospital staff has been informed about the possible disasters in the district, likely damages and effects, and information about ways to protect life, equipment and property.
- Ensure that orientation and training for disaster response plans and procedures are undertaken.
- Special skills required during disaster situations are imparted to the officials and the staff.
- Ensure adequate availability of Emergency Health Kits in high risk areas
- Train volunteers on emergency preparedness programmes such as first aid and preventive measure against diseases in disaster prone areas.
- Prepare a list of medical and Para-medical personnel in disaster prone areas and make available to DDMA
- Establish and operate an early warning system for health threats based on the routine health information and in collaboration with other departments.
- Identify likely disease associated with each disaster prepare a health contingency plan keeping in view the threat perception and vulnerability.
- Based on HRV analysis, obtain a list of Response Base from the DDMA office and assign the medical personnel to each of these Response Base to the extent possible. Keep essential medicines and first aid facilities with each Response Base.
- Constitute mobile response units consisting of a doctor, health workers and ANMs and prepare a deployment plan such that each mobile unit is able to cover at least one Response Base in a day.
- Review and update precautionary measures and procedures.
- Review with staff, the precautions that have been taken to maintain and protect equipments.
- Stock emergency medical equipment which may be required in Disaster Management.

Determine type of injuries/illness expected and drugs and other medical items required and accordingly ensure that extra supplies of medical items are obtained quickly.

- Check stocks of equipment and drugs which are likely to be most needed in disaster management. These can be categorized generally as :
 - Drugs used in treatment of wounds and fractures such as tetanus toxoid analgesics, antibiotics, dressing material and splint.
 - Drug used for treatment of diarrhoea, water borne diseases influenza malaria, infective hepatitis.
 - Drug required for treating snake bite and fighting infection.
 - Drug needed for detoxication including breathing equipments.
 - Intravenous fluids

Non Disaster Time – Mitigation

- In coordination with the SEC, conduct building assessments, identification of structural and non structural mitigation activities.
- Prioritize mitigation activities and ensure budget allocation to such mitigation activities.

Alert and Warning Stage:

- To prepare and keep ready Mobile Hospitals and stock them with emergency equipment that may be required after the disaster.
- Assess likely health impacts and share with SEOC for planning purpose.
- To ensure pre-positioning of Emergency Health Kits and Personnel.
- Direct the activation of health/medical personnel, supplies and equipment as required.

During Disaster:

- Designate one liaison Officer to be present at the SEOC.
- Mobilise medical teams and Para-medical personnel to go to the affected areas as part of the Rapid Assessment and Quick Response Teams.
- Provide medical assistance to the affected population
- Carry out technical assessment on health infrastructure availability and need
- Non-ambulatory patients should be relocated to the safest areas within the hospital.
- Dressing pads should be assembled sterilized. A large enough number should be sterilized to last for four to five days.
- Secure medical supplies in adequate quantity for dealing with these situations, which may include:
 - Oral Rehydration Solutions
 - Chlorine Tablets
 - Bleaching Power
 - Anti diarrheal and Anti emetic medicines
 - Intravenous fluids
 - Suture materials
 - Surgical Dressings
 - Splints
 - Plaster rolls
 - Disposable Needle and Syringes
 - Local Antiseptics

All valuable instruments such as surgical tools, ophthalmoscopes, portable sterilizers, ECG machine, dental equipments, Ultra sound machine, analyzer, computer hardware etc should be packed in protective coverings and stored in rooms considered to be the most damage proof.

The safest rooms are likely to be:

- On ground floor.
- Rooms in the center of the building away from windows.
- Rooms with concrete ceilings.
 - Protect all immovable equipment such as X-ray machines, Sterilizer, Dental chair by covering them with tarpaulins or polythene.
 - Ensure adequate supplies of blood in each district.
 - Keeps one operating facility in each Response Base in readiness. Maintain all the equipment necessary for operations.
 - Prepare a maternity facility for pregnant women in every Response Base/ Advance Medical Post.
 - All electrical equipment likely to be affected should be marked & unplugged when flood warning is received.
 - Check the emergency electrical generator to ensure that it is operational and that buffer stock of fuel exists. If an emergency generator is not available at the hospital, arrange for one.
 - Request central warehouse immediately to dispatch supplies likely to be needed in hospitals, on an emergency priority basis.
 - Fill hospital water shortage tanks, if no storage tanks exists; water for drinking should be drawn in clean containers and protected.
 - Prepare an area of hospital for receiving casualties.
 - Develop emergency admission procedures.
 - Orient field with standards of services, procedures including tagging.

Field Office Priorities:

- Transport is arranged for transfer of seriously injured/ill patients from villages and peripheral hospital to general hospitals. If roads are blocked helicopter transportation should be ensured.
- Establish health facilities and treatment centres at disaster affected site.
- The provision of medical services will be coordinated by the CMO with District EOC and site operation centres.
- Procedures should be clarified between Health Services of Govt., Private and other established at transit camps, relief camps and affected site / villages.
 - PHCs
 - CHCs
 - Civil Hospital
 - Private Hospitals
 - Blood Banks
- Maintain check posts and surveillance at railway stations, Bus Stands and all entry and exit points of the affected area, especially during the threat or existence of an epidemic.
- An injury and disease monitoring system should be developed to ensure that a full picture of health risk is maintained. Monitoring should be carried out for portable water and quality of food and disposal of waste in transit and relief camps, feeding centers and affected villages.

- Plan for emergency accommodations for auxiliary staff from outside the area.
- Information formats and monitoring checklist must be used for programme monitoring and development and for reporting to emergency operation center at state level.
- Seek security arrangements from Senior Superintendent of Police to keep curious persons from entering hospital areas and to protect staff from hostile actions.
- Establish a 'Health Helpline' with means of communication to assist in providing the organized source of information. The hospital is responsible for keeping the community informed of its potential and limitations in disaster situations, list of admitted patients and dead persons etc.
- The local police, rescue teams and ambulance teams should be aware of the resources of each hospital.

Department of Environment and Forests:

Non Disaster Time – Preparedness:

- Develop a disaster management plan for the department.
- Designate one Liaison Officer of the department as the Focal Point and inform all concerned.
- Establish contact with KSNDMC and IMD for receiving alerts and warnings.
- Conduct community capacity building and awareness programs
- Conduct HRV of forest fires and wild animal conflicts.

Non Disaster Time – Mitigation:

- Develop and upgrade risk assessment and vulnerability analysis at state and district level in GIS format.
- Research on avalanche, earthquake and landslide mitigation/technology methods and share them with the State Mitigation task force.
- Research on climate change impacts in the State and recommend adaptation strategies.
- Vulnerability assessment of the State and GIS mapping.

Alert and Warning Stage:

- Share the findings related to hazard and vulnerabilities studies taken up by the department.
- Provide information to all concerned.

During Disaster:

Respond within the department as per the departmental disaster management plan.

After Disaster:

- Carry out environmental impact assessment of the disaster.
- Update risk and vulnerability assessment of the state.
- Provide specialised inputs for damage and loss assessment.

Department of Forest:

Primary Task:

- Create provision for permitting grazing in the forest land in the event of disaster when enough fodder is not available.
- Extraction and transportation of fodder from forest areas, when the fodder is not freely available.
- Provide wooden poles and bamboo for relief and reconstruction at subsidized rate to the inhabitants of affected villages.

Non Disaster Time – preparedness

- Prepare a department disaster management plan.
- Forest Fire prone areas should be identified and extra vigilance be ensured in such cases.
- Organise community awareness programs Depute one liaison officer within the department, who will be in contact with the DEOC during disasters.
- Conduct/Procure HRV analysis of Forest resources in the District.
- Based on HRV analysis, prepared district wise Contingency Action Plan of the department.
- Create task forces for forest fire fighting.
- Draw district specific action plan

Non Disaster time – Mitigation:

- Prepare and maintain forest lines.
- Prepare mitigation plan for the department buildings and infrastructure.

Alert and Warning Stage:

- A rapid response team will be established at division/sub-division level, which will have all tools and equipment readily available.
- Information dissemination to the people likely to be affected.

During Disaster:

- Recall important functionaries from leave: communicate to the staff to man their places of duties like the ward and divisional offices and respective departments.
- Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
- Respond within the department as per the department disaster management plan
- The liaison officer will coordinate with SEOC for information exchange and also for requirements of resources to and from SEOC
- Ensure supply of wood for disposal of dead bodies.

After Disaster:

- Damage assessment and sharing of reports with SEOC.
- Ensure plantation of fodder trees to maximum possible extent.

Department of Urban Development:

Preparedness function:

- Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point.

- Develop a disaster management plan for the department, including the identification of location of camps for different type of disasters, existing locations that can be used as shelters, inventories of agencies that can be used for tent establishment.
- To conduct regular training of the staff on minimum standards for shelter, relief camps and tent structures.

Mitigation:

- Designate one Liaison Officer in the department as focal point for the mitigation activities.
- Coordinate with the SDMA/SEC and HoDs for implementation of mitigation activities in the urban areas.
- Prepare and implement departmental mitigation plan

Alert and Warning Stage:

- Locate adequate relief camps based on survey of damage
- Quick assessment of functional and stable building structures.
- Clear areas for setting up relief camps.
- In case of damage to offices, assist local authorities to establish and house important telecom equipment and officials at the earliest Develop alternative arrangements for population living in structures that might be affected after the disaster.
- Establish water point in key locations and in relief camps

Response:

- Quick assessment of damaged areas and areas that can be used for relief camps for the displaced population Locate relief camps close to open traffic and transport links
- Set up relief camps and tents.
- Provide adequate and appropriate shelter to the entire population.
- Coordinate with other ESFs in equipping shelter and relief sites with basic needs of communication and sanitation.
- Maintaining provide and procure clean water.
- Coordinate with SEOC for proper disposal of dead bodies in the urban areas.

Recovery and rehabilitation:

- Implement recovery and rehabilitation schemes through municipalities for urban areas.

Department of Food, Civil Supplies and Consumer Affairs:

Primary Tasks:

- To arrange uninterrupted supply of food, essential articles and to meet the requirements of all in affected areas.
- To ensure the supply of POL, LPG.
- To check black marketing and hoardings.

Non Disaster Time – Preparedness:

- Develop a disaster management plan for the department and update it half yearly.
- Develop a plan that will ensure timely distribution of food to the affected population.
- Maintain a stock of food relief items for any emergency.
- Identify and delineate vulnerable areas.
- Prepare departmental contingency plan.
- Make an inventory of storages & go downs.
- Assess and ensure the safety of storage places.
- Constitute district wise/ vulnerable zone wise response teams and delineate roles & responsibilities.
- Estimate the quantity and nature of supplies required district / vulnerable zone wise.

Non Disaster Time – Mitigation:

- Prepare and implement department's mitigation plan.

Alert and Warning Stage:

- Determine the critical need of food for the affected area
- Catalogue available resources of food
- Ensure that food distributed is fit for human consumption
- Ensure quality and control the type of food.
- Allocate food in different packs that can be given to families at household and distributed in relief camps.
- Arrange and the transport system in readiness.

During Disaster:

- Coordinate with local authorities and other ESFs to determine requirements of food for affected population
- Mobilise and coordinate with other Department of Revenue (DM) for air dropping of food to affected site.
- Control the quality and quantity of food that is distributed to the affected population.
- Ensure that special care in food distribution is taken for women with infants, pregnant women and children.

After Disaster:

- Establishment of PDS points as per the c changed scenario/resettlements (If any) Issuing of duplicate ration cards to the disaster victims, who lost their papers.

Department of Rural Development & Panchayat Raj:

Non Disaster Time – Preparedness:

- Develop a disaster management plan for the department and update it annually.
- Analyse the training needs of the department's personnel, which include its officials and elected representatives of Gram Panchayat, Taluk Panchayat and Zila Panchayat and organise trainings with the help of ATI/DTI or any training institute.

- Conduct gram Panchayat level mock drills as part of preparedness.
- Assist in establishing village disaster management teams.

Non Disaster Time – Mitigation:

- Prepare and implement department’s mitigation plan.
- Ensure that all the developmental schemes have a mitigation component as an integral part.

During Disaster:

- Coordinate with local authorities and support the response efforts.
- Coordinate the support from unaffected Gram Panchayats.

After Disaster:

- Ensure proper distribution of reconstruction schemes and monitoring of the same through.
- Block development committee and Zila Panchayat meetings.

Department of Information and Public Relations:

The Department has to play a major role in education and awareness programmes for better organized preparedness and response at government and community levels. It also plays a main role to collect reliable information on the status of the disaster and disaster victims for effective Coordination of relief work at State level.

Non Disaster Time – Preparedness:

- Develop a disaster management plan for the department.
- Designate one Liaison Officer of the department as the Focal Point and inform all concerned.
- Conduct education and awareness for local community
- Popularize the techniques for preparedness and survival during pre-disaster, disaster and post-disaster period through television, radio and other publicity media.
- Ensure strict performance of the allotted duties by radio, television, news media, films and publications related departments.
- Take proper and adequate security steps for the protection of own installations and properties.
- Prepare guidelines / policy for necessary action by mass media on reporting disasters.

Non Disaster Time – Mitigation:

- Prepare and implement department’s mitigation plan.
- Prepare and implement public awareness on mitigation activities

Alert and Warning Stage:

- Acquire accurate scientific information from the nodal departments.
- Flash warning signals on all TV and radio networks. Disseminate information to all victims in the affected area.
- Curb the spread of rumours.
- Caution the victims about the dos and don’ts during a disaster.

During Disaster:

- Coordinate with the EOCs for required information for relief workers.
- Provide information of emergency numbers and other key contact numbers on television, through newspapers, loudspeakers and radio networks.
- Send news flashes of latest updates / donation requirements for disaster area.
- Ensure that the news to be broadcasted reflects the true and clear presentation of the actual position and does not create panic in the minds of the people and also advises them to desist from taking unreasonable steps.
- Take steps for publicity of news and directives relating to the situation issued by the SDMA.
- Curtail normal programmes to broadcast essential information on disaster if requested by the EOC.
- Arrange visit to the affected area by the local and foreign journalists in the interest of publication of accurate and true report in the news.
- Help victims as well as emergency workers in providing information regarding hospitals, help desks.
- Inform unaffected population about hospitals where they can find victims and where assistance is required.

After Disaster:

- Arrange dissemination of information of the short and long term measures of different departments/agencies for relief and rehabilitation of the affected people.

Department of Energy:**Primary Task:**

- Ensure uninterrupted power supply in the disaster prone area
- Coordination & mobilize the resources with private power developers in different basins.
- Protect the infrastructure against impending threats

Non Disaster Time – Preparedness:

- Designate one Liaison Officer of the department as the Focal Point and inform all concerned.
- Develop a disaster management plan for the department.
- Carry out survey of condition of all power supply at state and district level.
- Conduct HRV analysis for KPTCL and ESCOMs for installation & implementation in the state.
- Based on HRV analysis, prepare Contingency Action Plan of KPTCL/ESCOMs.
- Establish radio communication of key functionaries with State Emergency Operation Centre, District Control Room and with Boards and Departments.
- Review and update precautionary measures and procedure and review with staff the precautions that have been taken to protect equipment.
- Ensure that alternate power supply arrangements for emergency supply are available for critical facilities such as:
 - Secretariat Building at State & District level
 - Hospitals
 - IPH installations
 - State EOC/DEOC

- Police Stations
- Telecommunication buildings
- Meteorological stations
- Dc Office/BP Office
- Any other place if required
- Check whether emergency tool kits are properly assembled and if any additional equipment needed.
- Protect Power Stations from disaster. Raise the height of compound walls.

Non Disaster Time – Mitigation:

- Designate one Officer as nodal officer for mitigation activities...
- In coordination with the SEC, conduct building assessments, identification of structural and non structural mitigation activities.

Alert and Warning Stage:

- Establish radio communications with the SEOC.
- Prepare a First assessment report in conjunction with other ESFs for the SEOC to take further decision.
- Check emergency toolkits.
- Keep alternate power supply systems and generators in state of preparedness.
- Immediately undertake inspection of
 - High tension lines
 - Towers
 - Sub-stations
 - Transformers
 - Insulators
 - Poles and
 - Other equipments

During Disaster – Response:

- Establish contact with the SEOC.
- Assist authorities to reinstate generators for public facilities such as Hospital, water supply, police stations, telecommunication building and meteorological stations.
- Dispatch emergency repair teams equipped with tools, tents and food.
- Establish temporary electricity supplies for relief material warehouses.
- Instruct district staff to disconnect the main electricity supply for the affected area.
- Provide accurate & regular information to the people about the state of power supply.
- Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
- Establish temporary electric supplies to transit camps feeding centres, relief camps and Site Operation Centre, District EOC and on access roads to the same.
- Assist hospital in establishing an emergency supply by assembling generators and other emergency equipment if necessary.
- Establish temporary electric supplies to other key public facilities, public water system etc, to support emergency if necessary.

After Disaster – Recovery and Rehabilitation:

To facilitate restoration of energy systems after a natural /manmade disaster

- Review total extent o damage to power supply installations.
- Take steps to ensure speedy repair and restoration of power supply installations

- Begin repair/reconstruction.
- Compile an itemized assessment of damage from reports made by various electrical receiving centres and sub-centers.
- Report all activities to the head office and EOC at state and district level.

Departments of Industries, Factories and Boilers:

Non Disaster Time:

- Designate one Liaison Officer in the department as RO for Disaster Management Prepare and revise on-site and off-site DM Plan for all MaH units and other factories.
- Conduct regular safety drills on the site of factory.
- Ensure all possible steps for the security of manpower, implements, stock, installations/factories etc.
- Prepare listing and locations of industries and establishments for possible sourcing of relief material during disasters.
- Ensure training on preparedness programmes to be adopted at different levels for all manpower employed in factories and establishments in disaster vulnerable areas.
- Promote the preparation of implementation of emergency preparedness plans by all industrial units.
- Implementing the existing laws for preventing environmental disaster in chemical industry or industries emitting toxic gases and effluents.
- Issue detailed instructions to the employees about their duties and responsibilities in precautionary, disaster and post-disaster stages of normal disaster.
- Arrange regular training for employees and contractors in the disaster prone areas on disaster issues.

Alert and Warning Stage:

- Evacuation of the workers from the factories on the receipt of early warning.

During Disaster:

- Request industries to provide emergency relief material such as food products, temporary shelter, medicines and medical equipment and search and rescue equipment.

After Disaster:

- Take steps to plan for rehabilitation of industries adversely affected by disasters.

Department of Labour & Employment:

Non Disaster Time:

- Designate a liaison officer as a focal point and inform all concerned.
- Issue disaster management guidelines to all the industries and ensure on-site and offsite plans for all industries.
- Prepare and disseminate guidelines for the labour security and safety.

- Prepare and implement rules and regulations for industrial safety and hazardous waste management.
- Prepare and disseminate public awareness material related to chemical accidents.

During Disaster:

- Provide labour to other departments for relief supply and distribution.
- Provide skilled labour for maintenance of equipment and tools.
- Help in establishment of camps.
- Ensure minimum wages to labour during relief work in drought or other disasters.

After Disaster:

- Take appropriate steps to provide labour assistance to concerned ministries in reconstruction and rehabilitation programmes.
- Assist in employment generation and alternate livelihoods for affected populations

Department of Finance:

Beside normal duties, the department of finance will perform the following responsibilities

Non Disaster Time:

- Designate one Liaison Officer in the department as the Disaster Management Focal Point.
- Arrange for the necessary funds as per decision of the State Government

During Disaster:

- Ensure quick allocation of funds for meeting relief operations.
- Control all accounts under the responsibility of the Government
- Start mobilizing resources for construction of infrastructure, public facilities and structures required for recovery.

After Disaster:

- To monitor international loans and aid assistance to the state.
- To allocate and monitor government plan expenditure towards relief and rehabilitation of Disaster affected areas.

The Emergency Support Functions (ESF)

Disaster response is a multi-agency function. The Department of Revenue (DM) is the lead and nodal department responsible for managing and coordinating the response while other agencies will support and provide assistance in managing the incident. These ESFs will form integral part of the Emergency Operation Centers (EOCs) and each ESF would coordinate its activities from the allocated EOC. Extension teams and workers of each ESF will be required to coordinate the response procedures at the disaster affected site.

Alert Mechanism – Early Warning System

- In most disaster situations, the experience has shown that loss of life and property could be significantly reduced if preparedness measures are taken and appropriate warning systems are put in place. With respect to every disaster the following procedure will be used to issue warning and alerts:
- The District Disaster Management Authority will be the prime agency responsible for issuing the disaster warning at the district level and similarly at state level the State Executive Committee will be the prime agency.
- Technical State agencies authorized to liaison with national agency will receive warning and also communicate the same to the District Emergency Operation Center and State Emergency Operation Centre for further dissemination.

Agencies responsible to issue the warnings are as follows:

Hazards	Agencies (National Level)	Agencies (State Level)
Drought	Department of Agriculture	Department of Agriculture and KSNDMC
Floods	Central Water Commission	Department of Water Resources and KSNDMC
Human Epidemics	Ministry of Health	State Department of Health & Family Welfare
Animal Epidemics	Ministry of Animal Husbandry	Animal Husbandry
Road Accidents	MHA	State Department of Home
Industrial and Chemical Accidents	Ministry of Industry	Department Factories and Boilers and Dept., of Industries
Fires	MHA	Department of Home (Fire), Department of forest
Heat and Cold waves	Indian Meteorological Department	Department of Revenue(DM)

During non disaster time, the SEC will ensure that the following activities are being carried out in coordination with the concerned line departments:

Pre-Disaster Warning and Alerts

- For any information received on likelihood of disasters the SEC shall carry out the following activities
- Activate the SEOC
- Based on early warning received, prepare initial information report with estimation of likely severity and scale of disaster.

- The ESF will be asked to conduct a review of the preparedness level of the districts likely to be affected by the disaster, by calling a meeting of District Crisis Management Committees.
- Prepare a team for deployment to assess damage and need.
- Inform respective departments to activate respective SOPs
- Inform the recognized national and international organizations if necessary.
- Provide appropriate warning to general public and carry out evacuation.
- Request Home Department to be on standby for rescue and relief operations.
- If required, declare de-warning

Relief and Rehabilitation

- In the aftermath of disasters the affected people must be looked after for their safety, security and the well being and provided food, water, shelter, clothing, medical care etc. so as to ensure that the affected people live with dignity.

Guiding Principle of this phase would be “To build back better”

- The Department of Revenue(DM) through SEOC will coordinate the recovery and rehabilitation activities in the disaster affected areas under the aegis of SEC by undertaking the following activities.
- Declaration of end of Disaster Situation by the SEC under the directions of SDMA.
- Submission of the recovery and rehabilitation plan by the SEC as per the disaster specific emergent situational needs, to SDMA.
- Declaration of Compensation, which will be done by Department of Revenue (DM) under the directions of the State Government as per relief manual.
- Declaration of Rehabilitation Schemes by the SDMA under the directions of the State Government.
- Coordination with respective departments for implementation of rehabilitation programme
- Pooling of resources including external loans and funds if required.
- Implementation of the recovery and rehabilitation activities in the affected villages through existing mechanism and lessons learnt under the administration control of DDMA.
- Documentation of the disaster based on experiences and lesson learnt of all the involved departments/agencies by DDMA and submission of the report to the SEC for review and revision of the State Disaster Management Plans based on the report findings.

Food and Civil Supplies:

- People during disaster situation normally experience shortage of food. In order to ensure adequate availability to sustain life the following measures shall be taken:
- Free distributions of food shall be made to those who need the food most.
- The food distribution will be discontinued as soon as the situation comes to normal.
- Preferably dry rations shall be provided for home cooking.
- Community Kitchen for mass feeding shall be organized for an initial period following a major disaster and in situation where affected people do not have the means to cook.
- While providing food assistance, local food habits and preferences shall be kept in mind.

- Foods provided shall be of good quality, safe to consume, appropriate and acceptable to recipients.
- Rations for general food distributions shall be adopted to bridge the gap between the affected population requirements and their own food resources.
- Food shall be stored, prepared and consumed in a safe and appropriate manner at both household and community levels.
- Food shall be distributed in a responsive, transparent, equitable manner.
- Local voluntary groups, NGOs and other social organizations shall be involved for supplementing the efforts of the Government.
- The nutritional needs of the population shall be ensured.

Water:

- Water supply is invariably affected in natural disasters. Availability of Safe drinking water becomes doubtful particularly in hydro-meteorological disasters.
- The following measures shall be taken by the State Governments/District Administration:
- The Water Resources Department and KUWS&DB shall identify alternative sources of water and make necessary arrangements for supply to the affected population.
- The Water Resources Department and KUWS&DB shall ensure that affected people have adequate facilities and supplies to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene.
- Drinking water supplied shall conform to the prescribed quality standards for domestic consumption.

Health:

During post disaster phase many factors increase the risk of diseases and epidemics. These include poverty, insecurity, overcrowding, inadequate quantity and quality of water, poor environmental and sanitary conditions, inadequate shelter and food supply.

Medical Response:

- Medical response has to be quick and effective. The execution of medical response plans and deployment of medical resources warrant special attention at the State and District level in most of the situations. The following measures shall be taken by the Department of Health & Family welfare:
- A mechanism for quick identification of factors affecting the health of the affected people shall be established for surveillance and reporting.
- An assessment of the health and nutritional status of the affected population shall be done by medical teams to be constituted by DHOs of each district.
- The deployment of the nearest medical resources to the disaster site, irrespective of the administrative boundaries shall be ensured by DHOs.
- Ensuring the availability of adequate supply of medicines, disinfectants etc.
- Protocol for inoculation shall be developed.
- Vaccination of the children & pregnant women shall be undertaken.

- Vector control measures shall be undertaken.
- To prevent outbreak of water borne diseases appropriate measures shall be taken.

Mental Health Services:

- Disasters cause tremendous mental trauma to the survivors. Psycho-social support and mental health services would be made available immediately in the aftermath of disaster so as to reduce the stress and trauma of the affected community and facilitate speedy recovery. The following measures shall be undertaken by department of Health & Family welfare:
- A Nodal Mental Health Officer shall be designated for each affected District.
- Rapid needs assessment of psycho-social support shall be carried out by the Nodal Officer/ Health Department.
- Trained man power for psycho-social and mental health services shall be mobilized and deputed for psycho-social first aid and transfer of critically ill persons to referral hospitals.
- Psycho-social first aid shall be given to the affected community/ population by the trained community level workers and relief and rescue workers.
- Psycho-social first aid givers shall be sensitized to local, cultural, traditional and ethical values and practices.
- Psycho-social support and mental health Services shall be arranged in relief camps set-up in the post disaster phase.
- In case of large number of disaster victims psycho-social support through a referral system for long term treatment shall be followed.
- The services of NGOs and CBOs shall be requisitioned for providing psycho-social support and mental health services to the survivors of his disasters.
- Community practices such as mass prayers; religious discourse etc. will be organized in addition to medical support.

Clothing and Utensils:

During disasters, people lose their clothing and utensils. The following measures shall be taken by DDMA:

- The people affected by the disaster shall be provided with sufficient clothing as per the weather to ensure their dignity, safety and well-being.
- Each disaster-affected household shall be provided with cooking and eating utensils.

Shelter:

- In a major disaster a large number of people are rendered homeless. In such situations shelter becomes a critical factor for survival of the affected people in the initial stages of a disaster. Further, shelter becomes essential for safety and security and for protection from the adverse climatic conditions.
- Shelter is also important for human dignity and for sustaining family and community life in difficult circumstances. The following measures shall be taken while providing shelter to the affected people:
- Disaster affected people who have lost their dwelling units or where such units have been rendered damaged/useless shall be provided sufficient covered space for shelter.

- Disaster affected households shall be provided access to appropriate means of artificial lighting to ensure personal security.
- Disaster-affected households shall be provided with necessary tools, equipment and materials for repair, reconstruction and maintenance for safe use of their shelter.
- Shelter shall be chosen by taking into consideration the geographical terrain and weather conditions of the affected area.
- Different parts of the state have specific shelter requirements which can withstand severe weather conditions. For instance a simple tent may not work during winter season and hence providing of winterized tents or creation of temporary shelters would be required.
- Provision will be made for keeping the shelter warm during winter season.

Relief Camp:

The following steps shall be taken for setting up relief camps in the affected areas:

- Adequate numbers of buildings or open space shall be available where relief camps can be set up during emergency.
- The use of premises of educational institutions for setting up relief camps shall be bare minimum.
- One member of the Incident Command Team from the district trained pool will manage the relief camps.
- The requirements for operation of relief camps will be worked out in detail by each DDMA.
- Agencies to supply the necessary stores will be short listed in the pre-disaster phase.
- The temporary relief sites will have adequate provision of water for drinking and bathing, sanitation and essential health-care facilities.
- Adequate security arrangements shall be made by the local police.
- Adequate lighting arrangements shall be made in the Camp Area including at water points, toilets and other common areas.
- Special task forces from amongst the disaster affected families will be constituted for managing community kitchens.
- The victims will be issued identification cards and if required bank accounts for cash transfers etc.

Chapter 15

Contact Persons and Addresses

Important Name and Telephone Numbers:

Department	Contact Person	Address	Phone Numbers
State Disaster Management Authority		#547, State Emergency Operation Centre, Revenue Department (Disaster Management), 2 nd Gate, 5 th Floor, M-S Building, Bengaluru-560001	08022340676/1070
District Disaster Management Authority		First Floor, Room No F15, District Administrative Building, Kumbarahally Village, NH-75, Tamaka Post, Kolar-563103	08152-243666/1077
NDRF(National Disaster Response Force)	Guntur Battelion (Subeesh, Commandant)	Commandant 10 th BN Post-Nagarjuna Nagar, NDRF, Guntur District, Andhra Pradesh-522510	0211-4247000, 09490196470
Army	Lt. Col. Pragadish		7259037843
Civil Defence	Dr. P.S.R. Chetan		9845034460

KOLAR DISTRICT BLOOD BANK DETAILS

KOLAR TALUK

1	S.N.R Hospital, Kolar	Kolar	1	Dr.S.G.Narayanaswamy	9448161709, 08152- 222035/22203 6
2	RL Jalappa Hospital, Kolar		1	Dr.Das	9343334705 08152- 210604/24300 3

BANGARPET TALUK					
3	Civil Hospital KGF	KGF	1	Dr.Banudevi	9845122875
4	BEML Medical Centre, KGF		1	Dr.Indumathi	9448771535

1	S.N.R Dist Hospital	Kolar	2	Dr.Sridharmurthy	9449843174
3	General Hospital	Bangarpet	2	Dr.Poornima	9480643365
4	General Hospital	Mulbagal	2	Dr.Shankar	9480643367
5	General Hospital	Srinivaspura	2	Dr.Chandrakala	9480643368
6	General Hospital	Malur	1	Dr.Srinivasgowda	9480643366
7	Civil Hospital	KGF	1	Dr.Shivaram	
8	Primary Health Centre	Narasapura, kolar	1	Dr.Shilpashree	9480643396
9	Primary Health Centre	Kyasambali, Bangarpet	1	Dr. Sunil Kumar	9480643385
10	Community Health Centre	Bethamangal, Bangarpet	1	Dr.Priya	9480643379

KOLAR DISTRICT PRIVATE AMBULANCE DETAILS

1	R.L.Jalappa Hospital	Kolar	3	Dr.Lakshmaih V.	
2	Manjunatha Health Care	Kolar	1	Dr.Narayanswamy	
3	Suguna Nursing Home	Kolar	1	Dr.Ramaiah	
4	Srinivas Nursing Home	Kolar	1	Dr.Shankar	
5	Sanjeevene Ambulance Service	Kolar	1	Yogesh	

DETAILS REGARDING PRESS REPORTERS OF KOLAR DISTRICT

SL. NO.	NAME	EDITOR/ REPORTER	NAME OF THE NEWS PAPER	Residence	Office
1	K. Prahlada Rao	Editor	Kolar Patrike	222325	222692
2	Anasuya N. Murthy	Editor	Kolar Vani	222326	
3	M.G. Prabhakar	Editor	Honnudi	222405	222420
4	C.M. Muniyappa	Editor	Sanchike	224656	222512
5	K.N. Manjunath	Editor	Priya patrike	223345	224050
6	Gopika Mallesh	Editor	Kolar Shakthi		226678 570888
7	Kalavidha Vishnu	Editor	Kannada Thilaka	222836	401836 573555
8	Mahamed Yunus	Editor	E. Munjani	224707	222707
9	Muralidhar H.N.	Editor	Kolar Dwani	223376	
10	Y. Bharathkumar	Editor	Antharagange		
11	V. Muniraju	Editor	Smyuktha Vijaya	223423	
12	K.R. Harish	Editor	Damaruga	225826	
13	Habbani Shankar	Editor	VijayaDwani		227770
14	H.H. Dayananda	Reporter	Prajavani	228221	222009
15	B.V. Gopinath	Reporter	Samyukta Karnataka Udaya TV	225317	222657
16	S. Chandrasekhar	Reporter	E. TV	240527	
17	B. Suresh	Reporter	PTI, Kannada Prabha	222989	223739
18	Vasudevaholla	Reporter	Vijaya Karnataka	225788	222866
19	Ganesh K.S.	Reporter	Udayavani		226610

20	Ranganath K	Reporter	Times Of India	225443	222916
21	Sachidananda	Reporter	E. Sanje		222875
22	Velayudham	Reporter	Indian Express		
23	Vishvakundapur	Reporter	The Hindu		
24	Srinivasalu C.L.	Reporter	Hosa Diganta		227630
25	J. Sathyaraj	Reporter	Vartha Bahrathi		
26	Narayanaswamy	Editor	Nirnaya Varapatrike	223674	
27	Venkatesh	Editor	Simha Varapatrike		224370
28	Habi Ramesh	Photographer	Habi Studio		224533
29	Chandrasekhar	Photographer	Chandana Studio	227744	
30	Shivu	Cameraman	Udaya TV		
31	Eshwar	Cameraman	E. TV		
32	C.G. Murali	News Editor	K.C.M.N.		226069
33	Ravi K.C.M.N.	Cameraman	K.C.M.N.		
34	Ramana	Cameraman	Kasthuri		
35	Rajendra	Reporter	TV 9		
36	Viji	TV	Malur		
37		AIR		22258293	
38	AneesVikhar Hameed	Reporter	Rajastan Patrike		

LIST OF AMBULANCE VEHICLES (GOVT.)

SLNO	M.V.NO	NAME & ADDRES OF REGD OWNER
1.	KA07-G-268	Dist Surgeon S N R Hospital Kolar
2.	KA07-G-294	Dist Surgeon S N R Hospital Kolar
3.	KA07-G-370	Dist Surgeon S N R Hospital Kolar

4.	KA07-G-374	Dist Surgeon S N R Hospital Kolar
5.	KA07-G-375	Dist Surgeon S N R Hospital Kolar
6.	KA07-G-386	Dist Surgeon S N R Hospital Kolar
7.	KA07-G-408	Dist Surgeon S N R Hospital Kolar
8.	KA07-G-414	Dist Surgeon S N R Hospital Kolar
9.	KA07-G-415	Dist Surgeon S N R Hospital Kolar
10.	KA07-G-416	Dist Surgeon S N R Hospital Kolar
11.	KA07-G-417	Dist Surgeon S N R Hospital Kolar
12.	KA07-G-418	Dist Surgeon S N R Hospital Kolar
13.	KA07-G-419	Dist Surgeon S N R Hospital Kolar
14.	KA07-G-420	Dist Surgeon S N R Hospital Kolar
15.	KA07-G-421	Dist Surgeon S N R Hospital Kolar
16.	KA07-G-423	Dist Surgeon S N R Hospital Kolar
17.	KA07-G-428	Dist Surgeon S N R Hospital Kolar
18.	KA07-G-487	Dist Surgeon S N R Hospital Kolar
19.	KA07-G-488	Dist Surgeon S N R Hospital Kolar
20.	KA07-G-490	Dist Surgeon S N R Hospital Kolar
21.	KA07-G-491	Dist Surgeon S N R Hospital Kolar
22.	KA07-G-492	Dist Surgeon S N R Hospital Kolar
23.	KA07-G-493	Dist Surgeon S N R Hospital Kolar
24.	KA07-G-502	Dist Surgeon S N R Hospital Kolar

LIST OF AMBULANCE VEHICLES (PRIVATE)

SL NO	M.V.NO	NAME & ADDRESS OF, REGD OWNER
1.	KA07 8380	Medical Superintendent. RL Jalappa Hospital Tamaka kolar.
2.	KA07 7550	Chalukyara Geleyara Balaga TG Road Kolar.
3.	KA07 7049	Dr. Jagadish Shetty M/S premier Sanjeevini Hospital Karanji katte Main Road Kolar.
4.	KA07 7053	Dr. M. Shubha Sri Venkateshwara nursing Home Srinivasapur.
5	KA07 9638	The Maneging Trustee Deccan Foundation Bevahalli Mulbagal Tq
6	KA07 5164	Director Munjunatha Health Care Hospital Kolar

7	KA07 4537	Medical Superintendent. RL Jalappa Hospital Tamaka kolar.
8	KA07A 5004	Dr. D.M. Dodda Badre Gowda Hospital Mulbagal
9	KA07C9000	Dr. P. Rathnamma MD Maternity Hospital Tekal Road Kolar
10	KA07 6337	Medical Superintendent. RL Jalappa Hospital Tamaka kolar.
11	KA07A633	Medical Superintendent. RL Jalappa Hospital Tamaka kolar.
12	KA07A90	K.M. Manjunatha S/o M. Narayanappa Geetha Ice factory Keelukote Kolar

STRICT HEALTH AND FAMILY WELFARE OFFICE, KOLAR					
DETAILS OF KARNATAKA PRIVATE MEDICAL ESTABLISHMENTS REGISTERED ESTABLISHMENT UNDER KPME PORTAL					
Name of the Establishment and Address of Establishment	Name of the Owner	Contact Number	Category	Sub-Category	System of Mediciane
		Mobile Number			
Hospitals kolar					
Hope Hospital, Sangolirayana Circle, Kurubarapet, Kolar	Dr: Yaswanth, MBBS, MS, Gen Surgeon	9845280587	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sri Gowrav Orthopedic, Shanimahathma Temple Opp, Kolar	Dr: K.N.Devaraj, MBBS, MS, Ortho	944804490	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Dhanavanthri, Pedyatric Care, Bramana Steet, Kolar	Dr: D.Jayakumar, MBBS, DCH	984527454, 9632116016	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Poorna Swasthya Arogya Dhama, Old Extn Doomlight Circle, Kolar	Dr: M.A. Murthy, MBBS	9448587383	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
City Health Centre, Kolar	Dr: B.R. Srinivas	9480760009, 9480760088	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Maruti Hospital, DVG Road, Port, Kolar	Dr: Prabhakar Reddy, MBBS, MD, Gen Med	08152-222559	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Shankar Eye Hospital, G.T. Street, Kottanpet, Kolar	Dr: Shankar Naya.K, MBBS, MS, Ophth	08152-224666,	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine

Akshya Nurshing Home, 3 rd Cross, Gowripet, Kolar	Dr: ManjulaLakshma hiah, MBBS	9980038667	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
New Kamadenu Nurshing Home Sharadha Takis, Kolar	Dr: Prabhakar, MBBS, MD, Gen Med	9448048308	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Suguna Nursing Home, Anthargange Road, Kolar	Dr: K.Ramahaia, MBBS	9448715096	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
New Kolar Nursing Home, Kolar	Dr: Hemavathi.V.G, MBBS, DGO	9845899305	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Dr. Ashas Pedyatric Care, SNR Hospital Circle, Kolar	Dr: B.Asha, MBBS, DCH,	9886270726, 9845244903	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Amulya Orthopedic Centre, Kolar	Dr: P.V. Manohar, MBBS, MS, Ortho	9945782481, 9846313736	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Kolar Nursing Home, Dumlight Circle, Kolar	Dr: V.H.Nukapur, MBBS, MS, DNB	9448771806	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
RLJ Hospital & Re-Search Centre, Tamaka, NH-4, Kolar	Dr: Lakshmahaih, MBBS, MD	9845209858	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
RLJ Hospital & Re-Search Centre, Tamaka, NH-4, Kolar	Medical Superintendent	9448523003 PRO	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
RLJ Hospital, Narayana hrudyalaya, RT Centre, Tamaka	Dr: Vijayasing, MBBS, MD	manager 9740219894	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sri Chowdeshwari Hospital, 3 rd Cross, Kuvempunagara, KSRTC Busstop Near, Kolar	Dr: beeregowda.Y.C , MBBS, MD	9448034748	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Netradeep Eye Hospital, Vaibhav Arcade, Kataripalya, Kolar	Dr. Sundar Ram Shetty, MBBS	08152-227788	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Ashwini Nursing Home, Antharagange Road, Kolar	Dr: Y.C.Nagaveni, MBBS, DGO	9880047676	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Venkateshwara Children's Hospital, Sharadha Takis Road, Kolar	Dr: K.A.Shivashankar , MBBS, MD	9448514228	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Shrya Kidney Stone Super Specialty Center Clinic and Shreya Maternity Center Clinic, Fort, Kolar	Dr: C.Vandhana, MBBS, DGO, DNB	9845618077	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine

Nukapur Hospital, Sharadha Takis Road, Kolar	Dr: V.Sunil, MBBS, "D" Ortho	9845145892	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Srinivasa Nursing Home, Kolar	Dr: Shankar, MBBS, MS	9845488829	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Narendra Hospital, Hanumegowda Complex, Mulbagal Road, Kolar	Dr: D.Narendra, MBBS, "D" Ortho	9480202666	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Viveka Nethralaya Specilist Eye Hospital,	Dr: H.R. Manjunath, MBBS, DOMS	-	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
ETCM Hospital, Post Bos No-4, Kolar	Dr.H.Pul, MBBS, MS	8152222005	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Srimathi Sundharaj iyengar Primary Health Care Centre Ramamani Nagar, Belluru, Narasapura Hobbali, Kolar	Dr: B.Raghu Managing Trustee	-	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Leelavathi Children's Hospital, Kolar	Dr: N. Aravind	8152222666	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Mathru Metarinity, Near Kedar Gas Agencies, Bangarpet Circle, Kolar	Dr: K.V. Ashwin	944864445	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Eshwari Maternity, 5th Cross, Kuvempu Nagar, Kolar	Dr. Manjula M.V	9448239185	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Shree Chowdeshwari Hospital, 3rd Cross, Kuvempunagara, Opp Lic Office, Kolar	DR. BEEREGOWDA YC	9448226018	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Veda Hospital, No,116 1st Main Road Block-10, Ward-19, Bangarpet Road, Kolar.	DR.SHANKARA PPA	9448005851	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Amulya Orthopedic Centre, Antharagange Road, Near Ksrct Bus Stand, Kolar-563101	DR.Bhadrinath	9845313736	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Accident & Trauma Care Centre, Antharagange Road, Near Ksrct Bus Stand, Koalr	DR.PV. MANOHAR	9845313736	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Shreya Hospital, 2nd Main Road, Fort Kolar-563101	DR. VANDANA	9845628333	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Arogya Health Care, 151/152 Floor, 3 rd Cross, Dumligh Circle Near, Kolar	Dr: ambareesh & Prashanth,	9900539218	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine

Smt.ramamani Sundararaj Lyengar Primary Health Care Centre, Ramamani Nagar, Bellur Village, Narasapura Hobli, Kolar	B RAGHU		Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Vivek Nethralaya Speciality Eye Hospital, No. 167/1k Pattabiraman Building, Near KEB Office, Kolar	DR. H.R. MANJUNATHA	9916473919	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Lakshmi Hospital, No- 463,464, Opp.Ganesha Temple, Doom Light Circle, Word Mo.11, Old Extension Kolar	Dr.Prakash.R, MBBS	9740460062	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Navajeevan Health Centre, Opp to K.P.T.C.L Mulbagal Road, Kolar-563101	S.R. SHALINI		Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Surya Eye & Skin Care Hospital, 1st & 2nd Floor, Nehala Complex, Opp Sarvagnya Park Kote, Kolar- 563101	DR.K.N.UDAYA KUMAR	9632392457	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Vivekanandha Poly Clinic, Sharadha Takis Road, Kolar	Dr: Jagadish,MBBS	9448028853	Establishments Practicing Allopathic system of Mediciane	Poly Clinic	Allopathic medicine
Anugraha Health Care, Bangarpet Main Road, Kolar	Dr: Narayan, MBBS, MS	9448100954	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Aswini Clinic, Port, Kolar	Dr: B. Srinivasamurthy, MBBS	9845145049	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mathru Clinic, Head Post Office Near, Kolar	Dr: Shalini, MBBS, DGO	9448664445	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Ishwarya Clinic, Anthargange Road, Kolar	Dr: Devaraj, MBBS, MD, Skin & VD	9448209656	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Narendra Trama, Sharadha Takis Road, Kolar	Dr: Narendra, MBBS, D Ortho	9901836222	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Venkateshwara Medical Centre, Mulbagal Road, Kolar	Dr: Shivashankar.K.A , MBBS, MD, Paed	9448514228, 9738349919	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Shrya Kidni Ston Super, Sharadha Takis Behind, Kolar	Dr: Krishnayashetty, MBBS, MS, Mch (Urology)	9845628333	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Nandhi Clinic, College Road, Gowripet, Kolar	Dr: Krishnamurthy.C. N, MBBS	9845443848	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine

Surabi Clinic, Bhapuji High School Near, Tekal Road, Kolar	Dr: A.V.Narayanaswamy, MBBS	9972624334	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Pragathi Child Care, Sharadha Takis Road, Kolar	Dr: K.J.Gangadhara, MBBS, MD	9243498903	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Child Care Clinic, Soraba Nilaya, Railway Station Near, Kolar	Dr: K.J.Krishnappa, MBBS, MD, Paed,	9448887233	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Community Medical Center, Bramans Steet, Kolar	Dr: Sriramulu, MBBS, MS, Gen Surg	9845316360	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Dhanavanthri Poly Clinic, Brama Steet, Kolar	Dr:Raj kumar, MBBS, DCH	9845274544	Establishments Practicing Allopathic system of Mediciane	Poly Clinic	Allopathic medicine
Abhay Health Care, Bramans Steet, Kolar	Dr: Ravish, MBBS, MD, Gen Medical	9448448353	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Srinivasa Clinic, Busstand Near, Kolar	Dr: K.N.Srinivasaya, MBBS	9611132262	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Medical Clinic, No:777, Dumligh Circle, Kolar	Dr: Vanajakshi, MBBS	9448116911	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Geetha Clinic, Mudhuvathi, Tekal Road, Kolar	Dr: Vishwanath, MBBS	9880219860, 9845162041	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Varna Chikstalaya, Bramana Steet, Kolar	Dr: B.Muniyappa, MBBS	9845577354	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Vedha Clinic, Narayanaswamy Building Railway Station Road, Kedhar Gas Godan Opp, Kolar	Dr: J.Pitar, MBBS	9972338332	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mohanreddy Clinic, RTO Office Near, Kolar	Dr: Mohanreddy, MBBS, MD	9845198229	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
MG Alli Nethralaya, Antharaganga Road, 4 th Cross, Kuvempu Nagar, Kolar	Dr: Naziya Kirmani, MBBS	9740654304	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Shankar Clinic, Narasapura, Kolar Taluk	Dr: N.C.Narayanaswamy, MBBS	9448388385	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine

Sanjivini Clinic, Kolar	Dr: Krishnamurthy	9845768677	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Raju Clinic, Totli Village, Kolar Taluk	Dr: Rajashekar,	9845768677	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Akshath Clinic, Jayanagar 5 th Cross, Tekal Road, Kolar	Dr. N.Sharada, MBBS	9901402562	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Specialists Dental Clinic, #W5-393, G-Floor, SNR Hospital Circle, Kanakanapalya, Kolar	Dr.R.Swetha MBBS	9902077009	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
Guru Sparsha Clinic, Bovi Colony, Ward No-24, Karanji Katte Road, Kolar	Dr.Shankarappa.V , MBBS	9686502389	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Eshwari Maternity Clinic, Shop No-1, MNR Complex, Ganesha Temple Street, Near Shankar Eye Hospital, Aralepet, Kolar	Dr.M.V.Manjula, MBBS	9343594590	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Asharaf Dental Clinic, Sariganagar, Chikkaballapura Road, Kolar	Dr: Kubaraajan, BDS	9449833662	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
Sujata Clinic, Opp to Old Kolar Nursing Home Doome Light Circle, Kolar	Dr. Sujata, MBBS	9845425242	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Raj Dental Clinic, Dr. RajKumar Road, Kolar	Dr: B.N.Janardhan, BDS	9448249381	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
Bharani Health Care, Behind Kanakamandir, Old Extenstion, Kolar	Dr.K.N.Siddaling aiah, MBBS, MD	9845005876	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Srinivasa Specility Dental Care, M.G.Road, Kolar	Dr: C.S. Vikram, BDS	9845300253	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
Orthopeonist Dental, Gowripet, Kolar	Dr: B.N.Narasimahaih , MDS	9886707293	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
Sri Devika Dental Care, Sharadha Takis Road, Kolar	Dr: S.L.V. Shivakumar, MDS	9845405708	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
Shreyas Dental Care, Inside Dhamani Heart Centre, kolar	Dr. Bindhu Lavanya		Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine

Naveen clinic Opp KSRTC Bus stand, Kolar	Dr.S.V. Narayanaswamy		Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
C.S Clinic Near railway Station near Bangarpete Taluk	Dr.Srinath		Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mrudula Clinic, balaji nagar Palasandra layout, kolar	Dr.PushpaLatha		Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
sree venkateshwara clinic, Shapooar	Jayakumar		Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
R.V. Clinic, Thambihalli Ga Road.	DR.Anilkumar	9886698515	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mathru Clinic, A.Block, Vemgal, Kolar	Dr. Venkatachalapathy	9902908372	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Aishwarya Clinic, Antharegange Road, Kolar	Dr. Devaraj	9448209656	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Helpage India, Narasapura Industrial Area, Kolar (T)	M.Prakashan		Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Cm Skin clinic, Bank Of Baroda Near Bus Stand Kolar	Dr. Padma Satish	8317428170	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Ravi Poly Clinic, B1 Block, Vemagal Vill. Kolar Taluk	Dr. Ravindra kumar	9448249250	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Dr. Mohan Reddy Clinic, Opp RTO Office, Kolar Taluk	Dr. Moohan Reddy M	9845198229	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Silver Dental Care, Masjid Star Complex Kolar	Dr. Maaz Ahmed	8792636441	Establishments Practicing Allopathic system of Mediciane	Dental clinic	Allopathic medicine
Imamsheb Health Care, Near Sharada Takies, Kolar Taluk	Dr.Mujaid Pasha	9480394694	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sampagi Clinic, Rahamath Nagar cb pur Road, Kolar	Dr.Sathish Kumar M	8183877294	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine

SLV Clinic, Vidyanagar Narasapura, Kolar Taluk	Dr. Ravikiran	9740840639	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mastar Clinic, Clock Towar, Kolar	Jamil ahamad khan, BUMS	9449147201	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Master Clinic, Tippusulthan Road, Kolar	Dr: M.Ayubkhan, BUMS	9845204127	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Ashwad Clinic, Shanthi Nagar, Kolar	Dr: Jabir usen, BUMS	7795571207	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Vijaya Clinic, Narasapura, Kolar Taluk	Dr: H.M.Harigowda, BUMS	9448587609	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Dr. Bramas Homoeopathic Centre, Bangarpet Road, Kolar-	Dr: Virabramachari, BUMS	9845364752	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Shilpa Clinic, Bangarpet Road, Kolar	Dr: Jayaramareddy, Practicing Experience	08153-260318	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Sri. Rajarajeshwari Chkistalaya, Muduvathi, Kolar	Dr: Ambika Prasad, Practicing Experience	9739086280	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Prakash Clinic, Mulbagal Road, Kolar	Dr: Prasad Rao.T, Practicing Experience	9986306047	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Puthur Asthi Chikisthlaya, Acharipet, Kolar	Dr: Ramamurthy, BAMS	9900733365	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Bharath Clinic, Rahamath Nagar, Kolar	Dr: Shekdasthagiri Sab, Practicing Experience	9731003646	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Shifa Clinic, Rahamath Nagar, Kolar	Dr: Asifulla, BUMS		Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Kamadenu Ayurveda Chikisthalaya, Kolar	Dr: Jayarammoni.K. M, Practicing Experience	9448031466	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Maruthi Clinic, Ananvihar Building, Jayanagar, Post Office Near, Jayanagar, Kolar	Dr: O.V. Jayachandhan, BAMS	9964067190	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Bangaluru Poly Clinical and Laboratory, Sultan Timmasandra, Kolar	Dr.Mudasir Ahmed A.M		Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Markandeshwar Clinic, Behind Ramadev Temple Near Bus Stop Vokkaleri	Milind S.Y	9449791333	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Mubarak First Aid Clinic, C B Pur Main Road Arahalli Circle Kolar	B S INAYATHULLA H	9901404124	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Master Clinic, Tippu Sulthan Road, Kolar-563101	Dr.Ayubkhan M	9916864121	Ayurveda System of Medicine	Clinics & Dispensary	Ayurveda System of

				y only	Medicine
Shifa clinic, C B Pura Main Road, Prashanth Nagar Kolar-563101	Asif Ulla A M	8050942037	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Modern Clinic, Millath Circle C B Road Kolar	Jawayria Usmoni	8317334905	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Zakir Clinic, Rahamath Nagar.	Dr. Zakir Hussain K N	9341218911	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Ashwad Clinic, Shanthi Nagar, Rahamath Nagar Down Kolar	Jabeer Hussain K N	9343551986	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Kaveri Clinic, Main Road Masthi Village Malur Taluk, Kolar Dist.	DR ARSHAD ULLA BAIG	9972241367	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Manzoor Poly Clinic, Near Govt. Urdu Primary School, Keelukote road, Kolar	Dr. Manzoor Ahmed	9886786923	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Master Clinic, Near Clock Tower, Kolar	Dr. Jameel Ahmend Khan	9880490270	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Bangalore Poly Clinic, Tippasandra, Kolar	Dr. Mudasir Ahmed	7019240783	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Kolar Unani Clinic, Bamboo Bazar Road, Kolar	Dr. Shanoor Ahmed	9066429276	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Sun Risers Clinic, Vakkaleri, Kolar	Dr. Rafi	9845693241	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
S.S. Clinic, [oolshamohalla Kolar	Dr.Sabiya Khan	9740088065	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Junadiya Clinic, KalaiPET Kolar	Dr. Mohammed Shafi	9448101067	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Ameen Poly Clinic, Behind forest Office, Kolar	Dr. Roohi Sulthana M	7019209786	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Junadiya Clinic, Shainsha Nagar. Kolar	Shafi-ur-Rehaman	9448101067	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Dhruva Scan Center, 2 nd Cross Gowripet, Kolar Taluk	Dr. Kalavathi, MBBS	9886349195	Establishments Practicing Allopathic system of Mediciane	Scanning Center	Allopathic medicine
A.M.High tech Laboratory, Vakkaleri, Kolar Taluk	Ambrininaj.A.M	9448034748	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
SLN Diagnostic Center, Narsapura Road Near Syndicate Bank Vemagal	KUMAR A.V	9687598479	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine

Swathi Laboratory, C.B.Complex, Near SNR Hospital, Bangarpet Circle, Kolar	Mr.Janardhana T.S	08152- 227788	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Medall Clumax Diagnostics, No.89, Opp, Kedar Gas Godown, Railway Station Road, Bangarpet Main Road, Kolar	Dr.Raghunanda.N	9880047676	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
New Swathi Laboratory Near RTO Office Bangarpete road, Kolar	T.S Janardhan	9448514228	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
SLV Diagnostic Center, Narsapura Road Near Syndicate Bank Vemagal	ANAND KUMAR Y.V	9686424479	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Star Diagnostics Laboratory, millath Nagara, Near HP Palace, CB Pur Main Road, Kolar	ANITHA K	9743350339	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Kolar Polyclinic, &Diagnostic Laboratory, Khadripura Road, Near Ksrct Bus Stand, Kolar	DR. NAVEEN KUMAR	6361212505	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Sanjana Hospital, Maruthi Badavane, Malur	Dr: J.Mohan Chakravarthi, MBBS	9900926678	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Nanjamma Hospital, Maruthi Badavane, Malur	Dr: Chandranath, MBBS	9008087945	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Spandhana Hospital, Near Malur Busstand, Malur	Dr: Venkatesh, MBBS	9449182882	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Manasa Hospital, Haraleri Road, Malur	H.R.Panchakshari, Proprietor	08151- 235252,	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Bharani Hospital, Bengaluru Road, Malur	Dr: Vinayakprabhu, MBBS	9448320410	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sree Raghavendra Hospital, Maruthi Badavane, Malur	Dr: Raghunath, MBBS	9448321450	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sree Vinayaka Hospital, Hosur Road, Malur	Dr: Shylaja Prasad.S. Proprietor	08151- 232918	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine

Sri Krishna Metarnity Health Centre, T.M.C Near, Malur	Dr: S.Indhumathi, MBBS	9900162474	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Ratna Hospital, Court Circle Near, Malur	Dr: VenkatKrishna, MBBS	9448170253	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
S.T. Mariyas Nursing Home, P.B. No:16 Gudnahalli Road, Malur	Dr: Sister Licy Joseph Administrator, MBBS, DGO, MS	08151-	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sri Leela sai Hospital, Karanja Extation, Malur	Dr: R.L.Mahesh, MBBS, DA	8971904118	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Ramesh Childrens Hospital, Opp Junior College adarsh nagar, Malur.	Dr.Ramesh		Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sri Venkateshwara Hospital and Scan Centre, Maruthi Extension, Malur	Dr. Anupama Suresh, N	8971581710	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Geetha Clinic, Karanji Badavane, Malur	Dr: H. Vishwanthsing, MBBS	9902447886	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sree Venkateshra Day Care Clinic, Karanji Badavane, Malur	Dr: G. Prakash, MBBS	9880003426	Establishments Practicing Allopathic system of Mediciane	Day Care Center	Allopathic medicine
Sri Venkateswara Clinic, T.P.S. Complex, Opp Busstand, Malur.	Dr: M.GopalaGowda, MBBS	9945510172	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Balaji Clinic, Busstand Road, Malur	Dr: D.N.Devendra, MBBS	9886773870	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Aswini Metarnity & Child Care Centre, Neharu Badavane, Malur	Dr: Bhagyalakshmi, MBBS	9448925828	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Janavikas Clinic, Adarshanagar, Kolar	Dr: Madhukar, MBBS	9880576398	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Vinayaka Clinic, Masthi Road, Malur	Dr: M.P.Venkates, MBBS	9448182882	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
New Manipal clinic, Gandhi Circle Malur 563130	DR. CHANDRASHEKAR	7406961715	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Clinic, 162 # 2 Masthi Main Road Masthi Malur (T) Kolar (D)	ZAKIYA BEGUM	9141457679	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine

Sri Vidya Clinic, Appayya Building Near Bus Stand Lakkur Village And Post Malur (T) kolar (D)	RAMESH.B CHOUGULE	9740588089	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Maruthi Clinic, Masthi Road, K.G. Halli, Tekal Malur (T) kolar (D)	DR.PETER J	9071154041	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Lahari Clinic, Thorlakkii Village Masthi Road Malur (T) kolar (D) 563137	HARISH Y M	8197305937	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Vinayaka Health Care, Adarshanagara 1st Cross Malur Town Kolar (D)	DR. VIJAY KUMAR R	9916120155	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Vathsalya Clinic, Opposite Anjaneya Temple, Malur Road, Chikka Thirupathi, Lakkur Hobli, Malur (T)	BYRAPPAGARI SAMSKAR	9581767835	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Lokesh Clinic, Tekal Masthi Road, Opposite Vijayabank, Tekal Malur (T) Kolar (D)	DR. RAVI Y M	9448572865	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Nanjamma Poly Clinic, Opp New Count Complex Road, Meruthi Etension.	DR. CHANDRANAT HA B	9008087945	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Shree Clinic, Opp Bus Stanc Village And Post Malur (T) k	DR PRATIBHA BIRADAR	9731908425	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Balaji Clinic, Kodihalli Gate Seegepura Village, Jayamangala Post Malur (T) Kolar (D)	DR. SWETA KAKHANDI	9731631637	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
DR Mahaboob Basha, Shifa Piles Clinic Gpa Building Hosur Main Road Malur Town	MASTAN	9886933258	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Swathi Clinic, Tornahalli Village, Malur Taluk	S.Usha	8762797377	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Kaveri Clinic, Masthi Main Road, Malur	HarshadullaBeg, BUMS, MAHIR-TIB	9036676718	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Adharsha Clinic, Karanji Badavane, Malur	Kumar, Practising Experience	9036675496	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Shashidhar Parmasi, Doddapet, Malur	Prabakar, Practising Experience	9342645603	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Hari Clinic, Karanji Badavane, Malur	K.Nagaraj.K, BAMS	9480670822	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Sri Venayaka Clinic, Masthi, Malur Taluk	PrashanthChogale, BAMS	9448533412	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine

Chethan Clinic, Kudiyannuru, Malur Taluk	Dr. K.Srinivas, Vaidya Vidvan	9972910901	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Tekal Clinic, Malur Taluk	Harish.Y.M, BAMS	8197305937	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Vydyanath Clinic, K.G. HALLI, Malur taluk	Kuppaswamy	9448563523	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Shree Venkateshwara clinic, TPS Complex ,Malur	Dr: Gopalagowda	9448545789	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Anjani Child care, Kalid Complex Near Railway station Malur	Dr. Kiran kumar m.s	9448563540	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
S.S. Homoeo clinic, Malur To Hosur Main Road, Jayamangala Village, Malur (T)	SARATH S	8248009336	Homeopathic System of Medicine	Clinics & Dispensary only	Homeopathic System of Medicine
Homeo Care Clinic, Araleri Main Road, Near Saibaba Temple Malur Town Kolar (D)	DR. APARNA	8217347674	Homeopathic System of Medicine	Clinics & Dispensary only	Homeopathic System of Medicine
Anantha Laboratory & X-Ray Center, Maruthi Extation, Malur	G. Govindhappa, DLT	9845618077	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Sri Raksha Diagnostic, TPS Complex, Malur	G. Srinivas, DMLT	9845145892	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Prakruthi Diagnostic Laboratory, Thoranahalli Village, Malur Taluk	Veerabhadra	9845488829	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Gayatri Laboratory, Malur Road, Chikkatirupathy Village, Malur.	Arun K.V	-	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Jai Maruthi Hi Tech Laboratory, Behini Eshwari Sagar Hotel, Near Bovi Hostel Maruthi Ext Malur 563130	KRISHNAMURTHY	9535501438	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Sri Marikamba Diagnostic Laboratory, Hosuru To Malur Main Road Kodihalli Gate Malur (T) Kolar (D) 563130	CHIRANJEEVI R	9945556510	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Deepthi Diagnostic Laboratory, Near Bus Stand Behind Krishnappa Hotel, Near swapna Potho Studio Masthi, Malur (T) Kolar (D)	SRINATHA V	8431666276	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine

Anantha Laboratory, Maruthi Extation, Malur	GOVINDAPPA G	9448031466	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Gayatri Laboratory, Near Janardhan Medical Chikkathirupathi Village Malur (T)	SHASHIKUMAR N.V	9880121917	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
NSS Diagnostics Center, T. Krishnnareddy Building, Near India ATM, Lakkur, Malur (T)	MOHANA N.S	8123858140	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Heera Clinical Diagnostic Lab, Near Bus Stand Main Road, Masthi, Malur (T) Kolar (D)	A. NAZMEENTAJ	9964413492	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Manan Hospital, Dr.B.R Ambedkar Road, KGF	Dr: Mytyamanan, MBBS, MD, OBG	9448771534	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Osawal Hospital, Coronation Road, Bangarpet	Dr: K.Osawal, MBBS	9448101002	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sham Hospital, Geetha Road, Rabartsonpet, KGF	Dr: Ashokavardhan, MBBS MD	9341705828	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sushrutha Hospital, Masidhi Road, Bangarpet	Dr: Nagaraj, MBBS	08153-255002	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Manjushree Hospital, BM Road, Bangarpet	Dr: B.L.Manohar, MBBS	9845405742	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sambram Hospital, No-36, DK Halli, BEML Nagar, KGF	Dr: Prameshappa, MBBS	9448587609	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sambram Institute of Medical and Re-Search Centre, DH Plantation, BEML Nagara, KGF	Dr: Parusuramappa,	8884440063 9886533099 9448771535	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Shree Nanjundesh Hospital, Taluk Panchayath Complex Opp to Government Hospital, Bangarpet.	Dr: B.C Roopashree	9448170262	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Adarsha Hospital, 2nd Cross, Rabertsonpet, K.G.F	Dr.M.Nagappa	08153-260833	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Mathruchaya Metarnity & Surgical Hospital, Prasad Building opp, Jain Collage Road, KGF	Dr: B. Rajendrakumar, MBBS, MD, GM	9379154790	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine

Raj Clinic, Andrasanpet, KGF	Dr: R.K.Raj, MBBS. MD. DCH	9740451138	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Prakash Clinic, No:3159, Kolar Road, Rabartsonpet, KGF	Dr: Prakashbabu, MBBS	9886546863	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Saras Orthopedic Clinic, Rabi Tulasi Complex, Geetha Road, Rabartsonpet, KGF	Dr: D.S Manjunath, MBBS "D" Ortho	9379882836	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sathyakumari Clinic, NSC Bosi Road, Rabartsonpet, KGF	Dr: Satyakumari, MBBS, DCH	9902809399	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Medicare Clinic, 1 st Cross, Vivekanagar, Rabartsonpet, KGF	Dr: Mohankrishna, MBBS, MD	9845364752	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Sai Clinic, Geetha Road, Rabartsonpet, KGF	Dr: Sathish, MBBS, DCH	9886380502	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sandya Clinic, 1 st Cross, Rabartsonpet, KGF	Dr: M.P.Nagaraj, MBBS, FAIMS	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mariyan Clinic, 1 st Cross, Rabartsonpet, KGF	Dr: G.W.Dygi, MBBS	9448587596	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Lakshmi Clinic, Geetha Road, Rabartsonpet, KGF	Dr: V.N.Prakash, MBBS	9449147201	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
K.G.F Clinic, Rabartsonpet, KGF	Dr: K.H.Jayaprakash, MBBS	9845204127	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sudha Clinc, O Dinil Road, Andrasanpet, KGF	Dr: Jayakumar, MBBS	7795571207	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Harish Clinic, Old Umashankar Takis Near, BEML Nagar, KGF	Dr: Parameswarappa	9448587609	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Abhiman Clinic, KEB Office Near	Dr: R.Nanjundappa, MBBS	9845364752	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Adarsha Clinic, 1 st Cross, Rabartsonpet, KGF	Dr: Sandarshanagappa, MBBS	08153-260318	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Mohan Clinic, No:327 Bajar Road, Andarasonpet, KGF	Dr: Mugilmydas, MBBS,	9739086280	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine

Diabetic Clinic, 2 nd Cross, Rab KGF	Dr: Adarsha, MBBS	08153-260318	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Health Plus, Reddy Complex, Kuvempu Circle, Bangarpet	Dr: Pitar.J, MBBS	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Saras Orthopedic Clinic, Bangarpet	Dr: S.Manjunath, MBBS "D" Ortho	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Naveen Clinic, Old MM Road, Police Station Behind, Bangarpet	Dr: S.K.Tammareddy, DLT	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Diabetic Care Clinic & Lab, No-1126, Kalayana Bhavan Building, 5 th Cross, Rabartsonpet, KGF	Dr: S.Indhumathi, MBBS, DCP	9448771535	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Balaji Clinic, Origam Railway Station Road, KGF	Dr: V.T. Yamunadevi, MBBS, DCH	8095367536	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Deepak Eye Clinic, General Hospital Opp, KGF	Dr: Dhanashekarana.C, MBBS	9480507718	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Basaveshwara Dental Clinic, Madaya Road, Bangarpet	Dr. Basavaraj	-	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine
ETCMH Lenin Poly Clinic, Gowthami Nagar, Bangarpet	Dr:D.N.Basava Raj	9535411511	Establishments Practicing Allopathic system of Mediciane	poly Clinic	Allopathic medicine
Kusuma Clinic, Vivekananda Nagar, Bangarpet	Dr: Kamalakara, MBBS	9738686396	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Hamsa Clinic, Parandahalli Village, Bethamangala Hobli, Bangarpet Taluk	Dr. Sunil Kumar.B, MBBS	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Grace Clinic, BM Road Robertsonpet, Kolar.	Dr.Savitha prabhu, MBBS	9880074403	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Sharada Murthy Clinic, SRK Complex opp SKH ITI Kolar Road, Bethamangala	Dr.R.. Naveen Kumar, MBBS	7795958081	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
MD Dental Clinic Pitcherec Robetsonpet , KGF	Dr. Mohammed Suhale	9845204127	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Allopathic medicine

MD Poly clinic, Bethamangala, Bangarpete Taluik	Dr. Nasruth Jabeen	7795571207	Establishments Practicing Allopathic system of Mediciane	poly Clinic	Allopathic medicine
Meera Dental Clinic, BM Road, Rabartsonpet, KGF	Dr: N.R.Gunsheelan, BDS	9342822400	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Synapse Health Care, Above Kamal Medicals, BM Road, Opp To Govt Civil Hospital, Robertsonpet, KGF.	J.VINODHKUM AR	9886533099	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Marina Clinic, Sharma Complex, Robertsonpet KGF	Dr.G.W Dias	9448587596	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Bone And joint Center, Geetha Road, Robertsonpet, KGF	Dr. Manjunath	9845119633	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
MD Poly clinic, Bethamangala, Bangarpete Taluik	Dr. Nasruth Jabeen	9009856325	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
MD clinic, Bethamangala, Andersonpet, Bangarpete Taluik	Dr. Nasruth Jabeen	9344522401	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Al Mannan Dental Clinic, Rot KGF	Dr.Noor Asham Nadeem	9900494430	Establishments Practicing Allopathic system of Mediciane	Dental clinic	Allopathic medicine
Meera Dental Clinic, BM Road, Rabartsonpet, KGF	Dr: N.R.Gunsheelan, BDS	9342822400	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Synapse Health Care, Above Kamal Medicals, BM Road, Opp To Govt Civil Hospital, Robertsonpet, KGF.	J.VINODHKUM AR	9886533099	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Marina Clinic, Sharma Complex, Robertsonpet KGF	Dr.G.W Dias	9448587596	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Bone And joint Center, Geetha Road, Robertsonpet, KGF	Dr. Manjunath	9845119633	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Maruthi Clinic, Peddapalli Main Road, Oorigampet, KGF	Dr.C.Ramesh	9740168460	Establishments Practicing Allopathic system of Mediciane	Dental clinic	Allopathic medicine
Al Mannan Dental Clinic, Robertsonpet, KGF	Dr.Noor Asham Nadeem	9900494430	Establishments Practicing Allopathic system of Mediciane	Dental clinic	Allopathic medicine

Shree Bhasaveshwara Dental Clinic, Bangarpete	Dr. Basavaraj	8095367536	Establishments Practicing Allopathic system of Medicane	Dental clinic	Allopathic medicine
MD Dental Clinic Pitchered Road Robetsonpet, KGF	Dr. Mohammed Suhale	7795958081	Establishments Practicing Allopathic system of Medicane	Dental clinic	Allopathic medicine
Health Plus, Reddy Complex, Kuvempu Circle, Bangarpet	Dr: Pitar.J, MBBS	-	Establishments Practicing Allopathic system of Medicane	Medical Clinic	Allopathic medicine
The Standard Dental Clinic, Coronation Town, Rabartsonpet, KGF	F.M. Saldan, BAMS	9845452061	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Mercy Poly Clinic, DK Halli Road, Phalamagar, BEML Post, KGF	Juddin Stahansan, BHMS	9538484284	Unani System of Medicine	Clinics & Dispensary only	Unani System of Medicine
Trynity Frythrospapi Centre, NRC Boss Road, Andrasonpet, KGF	H.Naveen gold fry, MPT	9845815370	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Kamadenu Ayurveda Health Care	Dr: R.Rajendra.Mouni, BAMH,	9980910176	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Rahamanya Clinic, No-646 KSRTC Diport Near Andrasonpet, KGF	Dr: Abdhullatif	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Venkateshwra Ayurvedic Clinic Old Mubai Road, Bethamangala	Dr: Krishnamurthy	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Keral Ayurvedic Care, Kotkal Arya Vidya Sala Shankar Vilas, 1 st Cross, TMC Ground, Rabartsonpet, KGF	Dr: H. Venugopal, BAMH	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Shanthi Physiotherapy Centre, Suprim Buildign Opp, Rabartsonpet, KGF	Smt. B.Suryakala, Physiotherapy	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Powrnami, Old Market Road, Rabartsonpet, KGF	Dr: R.Raghunath, BHMS,	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Rahamanya Clinic, No-646 KSRTC Diport Near Andrasonpet, KGF	Dr: Abdhullatif	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Venkateshwra Ayurvedic Clinic Old Mubai Road, Bethamangala	Dr: Krishnamurthy	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Keral Ayurvedic Care, Kotkal Arya Vidya Sala Shankar Vilas, 1 st Cross, TMC Ground, Rabartsonpet, KGF	Dr: H. Venugopal, BAMH	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Vijaya Parmasi, Sulikunte Village, Bangarpet Taluk	Dr: S.Govid, Practice Experince	-	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine
Kamadenu Ayurveda Health Care	Dr: R.Rajendra.Mouni, BAMH,	9980910176	Ayurveda System of Medicine	Clinics & Dispensary only	Ayurveda System of Medicine

Guru Homoeo Care,1472/2A, Dandu road kuppaswamy Mudalair Layout, Bangarpet	Dr.Gurumurthy VS	-	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Sri Baba Poly Clinic, NSB Complex, Kyasamballi Road, Bethamangala	Dr: G.Manjunath kumar, BDS	9845103175	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Simon's Diagnostics Lab, Opp to Corporation Bank, O Daniel Road, Andersonpet, KGF	Jamesh Ravi kumar, DMLT	simonsdiagnosticslab@gmail.com 8892924221	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Naveen Clinic Laboratory, Old MM Road, Behind Police Station, Bangarpet	Dr.S.K.Thamareddy	944853265	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Shanthi Physiotherapy Centre, Suprim Building, Opp General Hospital, Rabartsonpet, KGF	Smt. B.Suryakala,	815053698	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Dr Saradha Laboratory,, Corporation Bank Building, O Daniel Road, Andersonpet, KGF	Saradha	9845161690	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Shanthi Diagnostic Centre, "O" Daniel Road, Andersonpet, K.G.F-563113	Sri S. Ramamurthy	9060428104	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Naveen Clinic Laboratory, Old MM Road, Behind Police Station, Bangarpet	S.k Thamareddy	9742611029	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Pavan Hospital, Rajiv Road, Srinivasapura	Dr: K.N.Venugopal, MBBS, MS	9448046176	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sri Venkateshwara Nursing Home, JC Road, Srinivasapura	Dr: Venkatachala, MBBS	9448342107 08157- 245388	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Doddappa Nursing Home, JC Road, Srinivasapura	Dr: M.S.Mahes, MBBS	-	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Lakshimi Clinic, JC Road, Srinivasapura	Dr: Ripathahalli, MBBS	9242046470	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
L.N.R. Nursing Home, J.C.Road, Srinivasapur.	Dr.K.L.Manjunath		Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine

Lakshmi Nursing Home, J.C.Road, Srinivasapura	Dr.Srinivasan	8105576075	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Murali Clinic, K.R. Extation, Srinivasapra	Dr: T.V. Murali, MBBS,	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Pramod Health Care, Tyagaraj Extation, Srinivasapura	Dr.Devaraj, MBBS	9448185348	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
SLN Clinic, Near T.B, MG Road, Srinivasapura	Dr: V.Sitharama Shashitri, MBBS	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Jayadev Clinic, Ramakrishna Extation, Srinivasapura	Dr: G.Srinivas, MBBS	9141829499	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Raksha Clinic, Ramakrishna Road, Srinivasapura	Dr: Lilasampathkuma r, MBBS, DGO	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Raksha Clinic, Ramakrishna Road, Srinivasapura	Dr: Sampath kumar, MBBS, DOMS	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Srinivasa Meternity Clinic, Polytechnique Road, Srinivaspura	Dr: S. Chendrakala, MBBS, DGO	9945965550	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Skyma Clinic, Ramalingareddy Building, Mulbagal Circle, SV Pur	Dr: M. Ashokareddy, MBBS	9448664432	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Sri Venkateshwara Clinic	Dr: K.V.Ramesh, MBBS, MD	9342622134	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
SLV Clinic, B.Kotatote Road, SV Pur	Dr: Nandha, MBBS	-	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Nobal Medical Center, Chinthamani Road, SV Pur	Dr: Abran Pasha, MBBS	9902149708	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Allopathic medicine
Balaji Dental Care, J.C. Road, Srinivasapura Town	Dr.c Balaji.K.S, Balaji Dental Care, MBBS	9379596478	Establishments Practicing Allopathic system of Mediciane	Dental clinic	Allopathic medicine
Gurukiran Clinic, Srinivaspura	Sujathamma	9886658870	Establishments Practicing Allopathic system of Mediciane	medical Clinic	Allopathic medicine
Sri Krishna Clinic, Tilak Road, Srinivasapura	Dr: K.S. RamaKrishna (Ayurveda Practicing	9741610007	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine

	Experience)				
Ramakumar Clinic, B.K.Road, Gownipalli, SV Pur Talukr	Dr: J. Saravanamurthy,	9448170294	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Prashanth Clinic, Vivekanada Road, SV Pur	Dr: Shekagpiran, (VYdhya Vidhvan Practicing Experience)	9448170294	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
SLN Clinic, B.Kottakota Road, Srinivasapura	Dr. N.S.Nanjunda Rao	9482673641	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Prashanthi Clinic, Vivekananda Road, Srinivasapura	Dr. Shek Haji Phiran, Vidyavidwan	9449272429	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Bismilla Prathama Chikistha kendea, Lakshmipura(v), Srinivasapur Taluk.	HYDAR SABI	9986399192	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Prashanth Clinic, Rojernahalli Cross, Dalasanur, Srinivasapur Taluk.	NITYAJEEVAN A RAO G	9964003070	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Chowdeshwari Clinic, Yeduru Village,Srinivaspura Taluk	Dr. Anjanamurthy	9064859632	Homeopathic System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
S.R Clinic, Yldur, Srinivasapura Taluk	Dr. Dakshinamurthy	8105812355	Ayurveda System of Medicine	Clinics & Dispensar y only	Ayurveda System of Medicine
Abhay Diagnostic Yeldur Village, Srinivasapura	Srikanth		Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Shree Sai Baba Diagnostic Centre, Srinivasapura	Varna	8105445160	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Vinayaka Lab, Ranga Road, Srinivasapura	Madhu	9448236987	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Naveed Cincal Lab, Yaldur Road,Srinivasapura	Anithamma	9883698524	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
SVP Clinical Lab, Ranga Road,Srinivasapura	B.P Venkatesh		Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Sri Raksha Diagnostic, Ranga Road, Srinivasapura	Srinivas	9845145892	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine

Prakruthi Diagnostic Laboratory, Srinivasapura	Veerabhadra	9845488829	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Naveen Clinic Laboratory, Vivekananda Road, Srinivasapura	Ramesh	944853265	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Allopathic medicine
Sri Sai Viharika Hospital, Mulbagal	Dr: KumarGowda, MBBS	9448155722	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Murthy Hospital, Mutalpet, Mulbagal	Dr: K.S.Krishnamurthy, MBBS	9164142434	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Manohar Sai Gowda Memoriyal Hospital, Mulbagal	Dr: D.M.Doddapadregowda, MBBS, "D" Ortho,	9448775566	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Poornima Hospital and Metarnity Centre, Govt Busstop Near, Tyagaraj Colony, Mulbagal	Dr: Poornima, MBBS, DGO	9449185889	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sri Venkateshwra Surgical Specility Hospital, Muthalpet Mulbagal	Dr: K.L.Naveen Kumar, MBBS, "D" Ortho	9900925678	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Prakash Hospital, Bajar Road, Mulbagal	Dr.Reetesh MBBS,MD	9902769799	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Venkateshwara Ortopedic Surgical & Speciality Hospital, Muthyalpet, Mulbagal	Dr.K.L.Naveen Kumar	9845294586	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Sai Viharika Nurshing Home, Muthalpet, Mulbagal	R.Ambika	9888238175	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Allopathic medicine
Naveen Clinic, Avani, Mulbagal Taluk	Dr: K.L.Naveen kumar, MBBS	9900925678	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Sri Venkateshwara Nethralaya, Mudiynuru, Mulbagal Taluk	Dr: Padmajoythi, MBBS, MS, Optho	9902288396	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
JR Reddy Clinic, MN Halli Road, Mulbagal	Dr: Naresh Kumar, MBBS,	9986902478	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary

Sri Manjunatha Dental Clinic, Vitaleshwara Palya, Mulbagal	Dr: Bindhu Lavanya,	9739277780	Establishments Practicing Allopathic system of Mediciane	Dental Clinic	Proprietary
Vishwantha Clinic, MC Road, Mulbagal	Dr: B.A. Vishwanathgutha, MBBS	9448435985	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Ashwini Clinic, Bajar Road, Mulbagal	Dr: O.V. Nirmaladevi, MBBS	9241219985	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Sahana Clinic, KSRTC Busstop Near, Mulbagal	Dr.N.Kamamma, MBBS	9164640206	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
		9886685921	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Arthi Clinic, Tyagaraj Colony Mulbagal	Dr: Sathya Lakshmi, MBBS, DGO	8147889752	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Swamy Clinic, MC Road, Mulbagal	Dr: Narayanaswamy, MBBS	9448206908	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Sri nidhi Clinic, Jyothinagar Road, Mulbagal	Dr: Jayaprakash, MBBS	9342822400	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Manjunath Clinic, Muthalpet, Mulbagal	Dr.S.Harish	9620603323	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Sri Venkateshwara Netralaya, Giriappa Complex, M.C. Road, Mulabagal Town.	Dr. Padmajyothi	9348632836	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Shine Orthodontic and Comprehensive Dental Care Centre	Dr. Venugopal.G.S, MBBS, MDS	9844067706	Establishments Practicing Allopathic system	Dental Clinic	Proprietary

			of Mediciane		
Vishwanatha Clinic, MC Road, Mulbagal	Dr. Vishwanatha Gupta	9448435985	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Rural Health Care, Devarayasamudra, Mulbagal Taluk	Dr. Prasanna Kamath	9980945879	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Sri Prasanna Chowdeshwari Clinic, MC Road, DVG Circle Mulbagal	Dr.Ramesh M	9845234246	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Vishwantha Clinic, MC Road, Mulbagal	Dr: B.A. Vishwanathgupt ha, MBBS	9448435985	Establishments Practicing Allopathic system of Mediciane	Medical Clinic	Proprietary
Nayeshdam Clinic and Dispensary, Mulbagal	Dr: DakshEnamurthy , BSAM	9902979026	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Gowsiya Clinic, Someshwara Polya, MC Road, Mulbagal	Dr: Salma Amatulla Rehmeb, BUMS	8123747451 9886447868	Unani System of Medicine	Clinics & Dispensary only	Proprietary
Padma Clinic, Muthalya Pet, Mulbagal	Dr: S.N.Akkullappa,	9986828900	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Sudha Ayrvia Clinic, DVG Road, Mulbagal	Dr: M.V.Veena, BAMS	9342916694	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Sri Venkateshwara Ayurvedic Clinic, MBS Building, MC Road, Mulbagal	Dr:Ravidinakar, BAMS	9663601999	Unani System of Medicine	Clinics & Dispensary only	Proprietary
Sri Sathya Sai Baba Clinic, Mohalla, Mulbagal Town.	H.A. Lakshmahaih, BHMS	-	Unani System of Medicine	Clinics & Dispensary only	Proprietary
Reddy Poly Clinic, Kurubara Pete Circle, Mulbagal.	Dr.Keshava Reddy	9964445153	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Shudda Ayurveda Clinic, DVG Road Near Kannada Kuteera, mulbagal.	Dr.Veena M.V	9844457545	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary

Reddy Poly Clinic, Kurubara Pete Circle, Mulbagal.	Dr.Keshava Reddy	9964445153	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Shudda Ayurveda Clinic, DVG Road Near Kannada Kuteera, mulbagal.	Dr.Veena M.V	9844457545	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Sri Venkatateshwara Clinic, Manjunatha Complex, Near Ambedkar Circle, Mulbagal.	DR ANAND M	8095563226	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Bangalore Clinic, M.C Road, Mulbagal	Dr. Syed Atheeq UR Rehaman	9738120778	Ayurveda System of Medicine	Clinics & Dispensary only	Proprietary
Sri Saibabu Diagonistic Centre, Asharama Road, Muthalpet, Mulbagal	Dr: Vasundra, MBBS	8152222666	Establishments Practicing Allopathic system of Mediciane	Nursing Home	Proprietary
Sri Chowdeshwari Diagnostic Laboratory & ECG Center, MGC Complex Opp Govt Hospital, M.C.Road, Mulbagal	Malathi.C	9739128212	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Proprietary
Sri Kamala Clinical Lab, Jyothi Nagar Street, Opp.Tulasi Ramalaya Temple, Mulbagal	K.Gangavathi	9449749743	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Proprietary
Sri Vinayaka Clinical Lab, MNA Complex, Opp Muthoot Finance Bazaar Street, Mulbagal	K.Vittal Kumar	9916346276	Diagnostic Centers and Therapy Establishments not attached to the Hospitals	Diagnostic centres with basic facility only	Proprietary