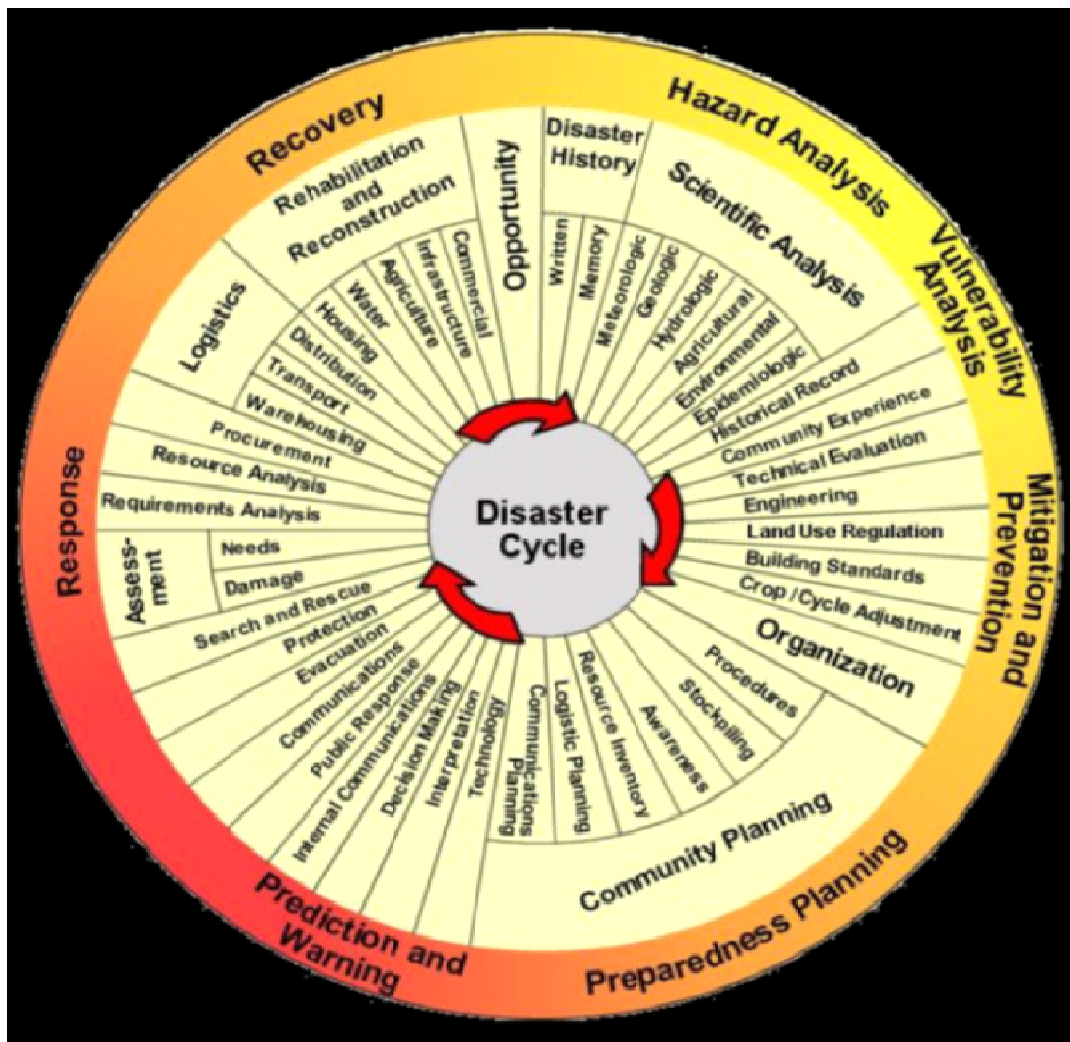


District Disaster Management Plan-2018

Bhavnagar



**Gujarat State Disaster Management Authority
and
District Collector Office – Bhavnagar**

Foreword



“Disaster Management is everybody’s business”

We live in a fast changing global environment where peril and risk to human society abound. Disaster has the ability to maim and kill people. They destroy property and the environment. Yet, disasters occur and re-occur with lasting detrimental consequences.

NDMA's guiding principles for the preparation of the Plan at district level has been to draft the Plan in a participatory approach with the preparatory process essentially strengthening the communities, elected local bodies and administration's response and preparedness.

I am extremely pleased with the deep involvement, support and cooperation of various stakeholders from community, line departments and other important groups in the preparation of the DDMP Bhavnagar. I am hopeful that the Bhavnagar District Disaster Management Plan and its process guidelines would inspire other Districts to follow the multistakeholder participatory approach.

The Plan also lays out the coordination structures at varied levels along with defined level for response as per the impact of the incident. I hope that this plan will be widely used by all the stakeholders in Bhavnagar encouraging us to make participatory multi-stakeholder plan for other districts of Gujarat as well.

The multi-hazard District Disaster Management plan of Bhavnagar is divided in two Parts. Part-1 is a comprehensive document covering all possible hazards, with a systematic analysis of risk and vulnerability, element at risk and level of impact through scientific method and experience. Part-2 is all about informative details of the district. Hope the updated DDMP 2018 shall be immensely useful to all departments and agencies and shall prove to be beneficial to public at large.

**Harshad Patel (IAS)
Collector & District Magistrate
Bhavnagar**

Preface



Disaster risk reduction must be an everyday concern for everybody. Due to natural and man made disasters people are being tested time to time. As on today, it is observed that people of gujarat are strong and bold to counteract disasters confidently. Technology is developed to work with such disasters.

Bhavnagar district is vulnerable towards multiple types of disasters. So, It is very necessary to be prepared for and respond in a timely manner to it.

Gujarat State Disaster Management Authority and Collector Office Bhavnagar prepare the communities and Government Officials from grass root level to top level for securing quick response mechanism under the Disaster Risk Management Programme. There are four DRM Components; These are Capacity Building, Awareness Generation, Mock drill and Plan Preparation. There are some other programmes like; Gujarat School Safety Programme and Apadamitra project headed by GSDMA for preparing community.

I am elated by this Bhavnagar District Disaster Management Plan as it has been developed in a consultative manner with constant inputs and feedbacks from all the stakeholders. This Plan has moved beyond the reactive relief based approach and has a concise plan of actions for different stakeholders at District level for disaster risk reduction, emergency response and recovery.

This District Disaster Management plan is a necessary document for reducing risks due to hazards and vulnerability; I hope this great document would be really helpful for protecting life and properties as well as sustainable development in the future.

**Umesh Vyas (GAS)
District Nodal Officer
Resident Additional Collector
Bhavnagar**

District Disaster Management Committee

Sr. No.	Designation	Position in DDMC	Remarks
1	Collector/ District Magistrate	Chairman	
2	District Development Officer	Member	
3	District Superintend of Police	Member	
4	DCF, Forest	Member	
5	Resdential Additional Collector	Member	
6	District Supply Officer	Member	
7	District HomeGuard Commandant	Member	
8	Exe. Engineer-R&B State	Member	
9	Exe. Engineer-R&B Panchayat	Member	
10	Exe. EngineerR&B State Irrigation	Member	
11	Exe. Engineer- Water Supply	Member	
12	Superintending Engineer- PGVCL	Member	
13	Superintendent Civil Hospital	Member	
14	CDHO	Member	
15	District Agriculture Officer	Member	
16	Dy.Director Animal Husnundary	Member	
17	District Primary Education officer	Member	
18	District Educatin Officer	Member	
19	Port Officer	Member	
20	Airport-Director	Member	
21	DRM-Railway	Member	
22	Divisional Controller-State Transport	Member	
23	Regional Transport Officer	Member	
24	Regional Officer-GPCB	Member	
25	Dy.Director-DISH	Member	
26	Dy. Director-Information Department	Member	
27	Dy. Controller –Civil Defense	Member	
28	District Munivipality Officer/Chief Fire Officer	Member	
29	NGO Member	Member	
30	Media Person	Member	
31	All SDM	Member	
	SDM, Bhavnagar	Member	
	SDM, Sihor	Member	
	SDM, Palitana	Member	
	SDM, Mahuva	Member	
	SDM, Talaja	Member	

LIST OF ABBREVIATION/ACRONYMS

GSDMA:	GUJARAT STATE DISASTER MANAGEMENT AUTHORITY
DCO:	DISTRICT COLLECTOR OFFICE
DCR:	DISTRICT CONTROL ROOM
EOC:	EMERGENCY OPERATION CENTER
BMC:	BHAVNAGAR MUNICIPAL CORPORATION
DC:	DISTRICT COLLECTOR
DDO:	DISTRICT DEVELOPMENT OFFICER
MC:	MUNICIPAL COMMISSIONER
DSP:	DISTRICT SUPRITENDENT OF POLICE
RAC:	RESIDENSIAL ADDITIONAL COLLECTOR
DRMP:	DISASTER RISK MANAGEMENT PROGRAMME
CBDM:	COMMUNITY BASED DISASTER MANAGEMENT
CBDP:	COMMUNITY BASED DISASTER PREPAREDNESS
IDRN:	INDIA DISASTER RESOURCE NETWORK
SDRN:	STATE DISASTER RESOURCE NETWORK
DDMP:	DISTRICT DISASTER MANAGEMENT PLAN
DDMC:	DISTRICT DISASTER MANAGEMENT COMMITTEE
CDMP:	CITY DISASTER MANAGEMENT PLAN
CDMC:	CITY DISASTER MANAGEMENT COMMITTEE
TDMP:	TALUKA DISASTER MANAGEMENT PLAN
TDMC	TALUKA DISASTER MANAGEMENT COMMITTEE
VDMP:	VILLAGE DISASTER MANAGEMENT PLAN
VDMC:	VILLAGE DISASTER MANAGEMENT COMMITTEE
SDMP:	SCHOOL DISASTER MANAGEMENT PLAN
IEC:	INFOR MATION EDUCATION COMMUNICATION
ICS:	INCIDENT COMMAND SYSTEM
SOP:	STANDARD OPERATING PROCEDURE
CMG:	CRISIS MANAGEMENT GROUP
NAC:	NOTIFIED AREA COUNCIL
NCC:	NATIONAL CADET CORPS
NSS:	NATIONAL SERVICE SCHEME
NGOS:	NON GOVERNMENTAL ORGANIZATION
ULB:	URBAN LOCAL BODIES
UEVRP:	URBAN EARTHQUAKE VULNERABILITY REDUCTION PROGRAM
AC:	AREA COMMANDER
ESF:	EMERGENCY SUPPORT STAFF
GSU:	GROUND SUPPORT UNIT
IAP:	INCIDENT ACTION PLAN
ISS:	INCIDENT STATUS SUMMARY
UC:	UNMIFIED COMMANDER
TUL:	TIME UNIT LEADER
SUL:	SITUATION UNIT LEADER
TS:	TECHNICAL SPECIALIST
TB:	TRANPORTATION BRANCH
RO:	RESPONSIBLE OFFICER
LO:	LIAISON OOFFICER
NO:	NODAL OOFICER
IRS:	INCIDENT RESPONSE SYSTEM
IRTS:	INCIDENT RESPONSE TEAM
IC:	INCIDENT COMMANDER

ICP: INCIDENT COMMAND POST
ICS: INCIDENT COMMAND SYSTEM
LS: LOGISTIC SECTION
LSC: LOGISTIC SECTION CHIEF
OS: OPERATION SECTION
OSC: OPERATION SECTION CHIEF
PS: PLANNING SECTION
PSC: PLANNING SECTION CHIEF
GSSP: GUJARAT SCHOOL SAFETY PROGRAMME
NCRMP: NATIONAL CYCLONE RISK MITIGATION PROGRAMME

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CHAPTER – 1

Introduction:

What is Disaster?-

Disaster management is a process or strategy that is implemented when any type of catastrophic event takes place. Sometimes referred to as disaster recovery management, the process may be initiated when anything threatens to disrupt normal operations or puts the lives of human beings at risk. Governments on all levels as well as many businesses create some sort of disaster plan that make it possible to overcome the catastrophe and return to normal function as quickly as possible.

A disaster is an event triggered by natural manmade causes that lead to sudden disruption of normalcy causing widespread damage to life and property. The High Power Committee of Government of India has identified 30 major and minor disasters, which frequently occurs in our country. It is now a recognised fact that while natural disasters is primarily due to imbalance in the nature but losses due to them on account of human feelings. Human sufferings and misery from a large number of natural disasters can be minimised by taking timely action, preventing mechanisms and undertaking capital works of long and medium terms.

Concept of Disaster Management-

Disaster Management is a continuous and integrated process of:

- Planning and implementing measures to mitigating or reducing the risk of disasters
- Mitigating the severity or consequence of disaster
- Preparedness for emergencies and disasters
- Assessing the effects of disasters
- Providing emergency relief and rescue and post disaster rehabilitation and reconstruction, and
- Building capacities to these ends.

The concepts of all hazard management and empowerment provide the foundation for disaster management plans and efforts. All hazards management involves considering, planning for, and taking actions to avoid or mitigate, all possible hazards, which may affect the district.

Empowerment means that each citizen is enabled, through education, training and support, to be able to address all hazards and disasters, which may threaten their lives or livelihoods. Empowerment does not transfer full responsibility for dealing with disasters to the individual, but strives to ensure each individual has the means and support needed to avoid or limit the impact of disaster.

The district and subsidiary plans seek to limit vulnerability and reinforce the resilience of communities in the face of hazards and disasters.

Addressing vulnerability generally takes place before a disaster through actions to reduce the opportunities for the disasters to occur. Reinforcing the resilience occurs through actions to reduce the scale or potential impact of a disaster, and building capacities and systems that facilitates (shorten and make less costly) the recovery process.

Levels of Disaster (**The L Concept**)

The L concept has been developed to define the different levels of disaster in order to facilitate the assistance to State and the Centre. It has four levels which are as follows.

L0 level: Denotes normal times, which will be utilized for close monitoring, documentation and preparatory activities. Training of Search and Rescue teams, rehearsals, evaluation and inventory updation for response activities will be carried out during this period.

L1 level: Denotes when the disasters which can be managed at the District level where the State and the Centre need to be on guard in case assistance is required for disaster relief operations.

L2 level: Disaster situations that require assistance and active participation of State resources for management of the disaster.

L3 level : Disaster situation arises in case of large scale disasters that have a noticeable impact on a number of districts of states and when the State and District authorities have been overwhelmed with the disaster and require assistance from the Centre for rescue and relief operations.

Approach to Disaster Management-

The Government of Gujarat takes a inclusive approach to disaster management. Disaster impact decrease is divided into two broad areas:

- Warning, Relief and recovery, focusing on plans and actions necessary to reduce the impact of quick-onset disasters or speed the response of slow-onset disaster, and,
- Mitigation, Preparedness and Prevention, focusing on plans and action to avoid or eliminate the causes or impacts of hazards or threatened disasters.

The overall approach to disaster management is based on six elements;

- Precise risk and Vulnerability assessment
- Planning and efficient allocation of resources,
- Capacity building and training
- Provision of ample resources
- The assignment of disaster management roles and responsibilities which correspond to normal roles and responsibilities (if possible) and,
- Use of diverse legal and operational mechanisms to accomplish disaster management objectives.

Approach to Disaster Management:-

1 Warning, Relief and Recovery

Necessary actions are intended to eliminate the loss of life and property and hardship due to disasters. Plans and SOPs at District level should provide

as seamless as possible provision of warning, relief and recovery assistance to avoid or reduce losses and hardship.

The focal point for early warning, relief and recovery is the District Collector, who directs and coordinates these efforts within the district. The Collector is also answerable for coordinating warning, relief and recovery with similar activities in neighboring districts and with the GSDMA and Revenue Department.

The Collector is further responsible for developing long term relief, recovery and rehabilitation plans during the course of a disaster. These plans will include steps to reduce disaster impact in the future and be coordinate with the GSDMA in terms of policy and implementation.

2 Mitigation, Preparedness and Prevention

Mitigation, preparedness and prevention actions are to be taken before a disaster to reduce the probability of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction. The district can avail itself of four mechanisms (singularly or together) to reduce risk and vulnerability;

- Long term planning for mitigation, preparedness and prevention investments in the district,
- Enforcement of regulations, particularly building and safety codes and land use plans,
- Review and evaluation of development plans and activities to identify ways to reduce risks and vulnerability, and,
- Capacity building including warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability.

The Collector, assisted by the District Development Officer, is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above.

Base on the interim assessment of risk and vulnerabilities, the District will focus on the following areas for mitigation, preparedness and prevention;

- Resilience of lifeline systems (water, power and communications)
- Reduction in disaster impact on health care facilities, schools and roads
- Vulnerability reduction in flood-prone areas
- Vulnerability reduction to high winds
- Improvement of off-site Preparedness near industrial sites.

3 Finance

The finance arrangement as per the fund granted by GSDMA / State nodal agencies to the district.

District Collector has authorities to distribute / impart the fund to the counter partners of Disaster management in the District as per required activities, according to the instructions of Government of Gujarat.

Aims and Objectives-

In the absence of a defined plan response to a disaster would be arbitrary leading to over emphasis of some actions or other actions, which would be critical. Moreover, due to absence of a defined response structure and responsibilities allocations there would be mismanagement of resources and overlap of actions among various agencies, which may exacerbate the situation there by compounding the disaster effect.

The objectives of the disaster management plan for the Bhavnagar District should be listed covering the subject of responsibility of the District administration.

- To ascertain the status of existing resources and facilities available with the various agencies involved in the management of disaster in the District.
- Assess their adequacies and short falls if any in providing a multi-disaster response.
- Suggest institutional strengthening, technology support, up gradation of information system and data management for improving the quality of administrative responses to disaster at the district level and finally
- To evolve DDMP as an effective managerial tool.
- Defines the risks and Vulnerabilities of the citizens of the district to different disasters and Identifies the private and public sector parties with prime and supporting responsibilities to reduce or negate these vulnerabilities.
- Defines actions to be taken by these parties to avoid or mitigate the impact of possible disasters in the district.
- To prevent loss of human lives and property and effective medical response

Subsidiary plan detail the roles and responsibilities of most important and at the bottom of parties (Stake holders) in responding to definite disasters. These plans are developed

- At the Taluka level
- For location specific major industrial sites located in the district and,
- Through Standard Operation Procedures (SOPs) detailing how specific disaster response actions will be accomplished.

Developing and maintaining SOPs are the responsibility of parties with designated prime of supporting tasks assigned by this plan.

Evolution of the Plan-

Gujarat Act No. 20 of 2003, THE GUJARAT STATE DISASTER MANAGEMENT ACT, 2003 clearly stated to mandatory provision of the DM plan as per the following clause & sections

Clause 15 of Chapter VI

1. The authority shall develop or cause to be developed guidelines for the preparation of disaster managements plans and strategies and keep them update and shall assist such departments of Government, local authorities and person, as may be specified by the authority in preparation of plans and strategies and coordinate them
2. The plan preparing authority while preparing the plan under subsection (1) shall make suitable provisions in the plan after considering the following namely:
 - (a) The types of disaster that may occur and their possible effects;
 - (b) The communities and property at risk;
 - (c) Provision for appropriate prevention and mitigation strategies;
 - (d) Inability to deal with disasters and promote capacity building;
 - (e) The integration of strategies for prevention of disaster and mitigation of its effects with development plans, programme and such other activities in the State;
 - (f) Provision for assessment of the nature and magnitude of the effects of a disaster;
 - (g) Contingency plans including plans for relief, rehabilitation and reconstruction in the event of a disaster, providing for-
 - (i) Allocation of responsibilities to the various stakeholders and coordination in carrying out their responsibilities;
 - (ii) Procurement of essential goods and providing essential services;
 - (iii) Establishment of strategic communication links;
 - (iv) Dissemination of information; and
 - (v) Other matters as may be provided for in the regulations.
 - (h) Any other matter required by the Authority.
- (3) The Authority shall prepare, or cause to be prepared, and maintained a master plan for the State/District

How to use the plan

The present plan is not intended to provide comprehensive explanations and background information about a disaster, or serve as a training manual on how to respond to a disaster or conduct a disaster related task. The approach taken is that plans and SOPs should be limited to the minimum information need to respond to a specific disaster or undertake a disaster related task. Steps to address disaster specific requirements can be covered in procedures related to actions. This approach

does require that task forces develop disaster specific procedures where appropriate.

In other words, this plan is intended for use by persons who are technically competent in the tasks or responsibilities set out in each plan. The SOPs are intended to be used by persons who are unfamiliar with disaster management topics but are intended to be task specific and not as replacements for full plans.

Authority for the plan-

The requirement for district and subsidiary plans is set by the Gujarat State Disaster Management Authority (GSDMA) under the authority of the Gujarat State Disaster Management Act of 2003. The Act authorizes the collector to secure cooperation and assistance from other parties in efforts to avoid or reduce the impact of disasters.

The Collector (Specifically) and Government authorities (generally) are responsible for managing hazards and disasters, which affect a district, with support from GSDMA, the relief commissioner and other public and private parties as, may be needed. The roles, responsibilities and obligation of the Collector and other parties are set out in detail in the Act and are considered as part of this plan.

Stakeholders and their Responsibilities-

At the district level, District Collector is responsible for responding any disaster situation in consultation with other line departments at district HQ are responsible to deal with all phases of disaster management within district.

Technical institutions, NGOs, Local authority, private sector, Community groups, volunteer agencies and citizens.

According to Disaster Management Act-2003 Stakeholders and their responsibilities are:

District Collector:

During the period, an area is an affected area the Collector may issue directions to the officers of the departments of the Government and the local authority in the affected area, to provide emergency relief in accordance with the disaster management plans.

The District Collector may-

1. Make arrangements for release and use of available resources
2. Control and restrict traffic to, from and within the area affected by a disaster

3. Control and restrict the entry into, movement within and departure from any disaster area or part of it
4. Remove debris
5. Conduct search and rescue operations
6. Make arrangements for the disposal of the unclaimed dead body, by appropriate means
7. Provide alternative shelter
8. Provide food, medicines and other essentials
9. Require experts and consultants in the matters relevant to the disaster to provide relief under his direction and supervision
10. To take possession and make use of any property, vehicles, equipment, buildings and means of communication on such terms and conditions as may be prescribe
11. Procure exclusive or preferential use of amenities as and when required
12. Construct temporary bridges or other structures
13. Demolish unsafe structures which may endanger the public
14. Coordinate with non-governmental organizations and ensure that such entities carry out their activities in an equitable manner
15. Disseminate information to the public to deal with the disaster
16. Direct and compel evacuation, of all or part of the population from any affected area for the purpose of preservation of life and for such evacuation, and for such evacuation use such force as may be necessary
17. authorize any person, to make any entry into any place, to open or cause to be opened, any door, gate or other barrier, if he considers such an action is necessary for preservation of life and property, if the owner or occupier is absent, or being present, refuses to open such door, gate or barrier

The Collector may exercise the powers contained in subsection (2) to the extent only that this is necessary for the purpose of –

- (a) Assisting and protecting the community
- (b) Providing relief to the community
- (c) Preventing or combating disruption
- (d) Dealing with the destructive and other effects of the disaster

The Collector may issue such directions to any person or government agency and take such other steps, as may be necessary to curtail the escalation of the disaster or to alleviate, contain or minimize the effects of disaster.

The Collector

- Facilitate and, coordinate with, local Government bodies to ensure that pre and post - disaster management activities in the district are carried out.

- Assist community training, awareness programmers and the installation of emergency facilities with the support of local administration, non-governmental organizations, and the private sector.
- Take appropriate actions to smoothen the response and relief activities to minimize the effect of disaster.
- Recommend CoR and State Government for declaration of disaster.

Local Authority

- Provide assistance to GSDMA, COR and Collector in disaster management activities.
- 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.
- Ensure that all construction projects under it conform to the standards and specifications lay down.
- Each department of the Government in a district shall prepare a disaster management plan for the district. Carry out relief, rehabilitation and reconstruction activities in the affected area within its jurisdiction.

Private Sector

- The private sector should ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the GSDMA or the Collector.
- They should also adhere to the relevant building codes and other specifications, as may be stipulated by relevant local authorities.

Community Groups and Voluntary agencies

- Local community groups and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the GSDMA or the Collector.
- They should actively participate in all training activities as may be organized and should familiarize themselves with their role in disaster management

Citizen

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

Approval of the plan-

The District Collector has authority to gave approval pf DM plan when there are any significant changes in that then it will have to be

incorporated by the District Collector / District Emergency Operation Centre.

The DM Act authorizes the District Collector to secure cooperation and assistance from other parties in efforts to avoid or reduce the impact of disasters. The Collector (Specifically) and Government authorities (generally) are responsible for managing hazards and disasters which affect a district, with support from GSDMA, the relief commissioner and other public and private parties as may be needed. The roles, responsibilities and obligations of the Collector and other parties are set out in detail in the Act and are considered as part of this plan.

Plan Review and Updation-

The District Collector is responsible for the preparation, revision and updation of the District Disaster Management Plan in collaboration with the line departments and other organizations in the district. The plan should be reviewed annually / half yearly and updated:

- When significant changes in the nature of any hazards
- Lessons learnt following any major disaster or
- When there is any significant change to organization or responsibility of primary members of the task forces defined in the plan.

CHAPTER – 2

Hazard Vulnerability and Risk Assessment:

Matrix of past disasters in the district

Year	Description
1982	<p>On 8th November 1982 Bhavnagar faced a tropical cyclone of the speed of 150 kms / hours. Instead of it there was heavy rain in the district on 7th and 8th November 2004. Because 250 mm rain falls in two days there was the situation of flood in the rivers that cause the death of 125 people at the site of Kalubhar dam in Gadhada Taluka. Same day 25 people felt in the grip of death of Umratal Taluka.</p> <p>In the same cyclone the Kashmir of Saurashtra MAHUA lost its beauty because thousands of trees fell down and there was heavy loss of human being, resources, property and livestock.</p>
1999	Again the Bhavnagar District copied a cyclone of 80-100 kms / hour with heavy rain. It's taken the 5 innocent people in the grip of death.
2000	<p>In August – 2000 the topple of Bhavnagar experienced the earthquake. The epicenter of the quake was near to the 8 kms far from circuit near Malanka village.</p> <p>From August 2000 to 25th January – 2001 the people of Bhavnagar experienced 175 to 200 light earthquakes.</p> <p>Because of the waves of those quakes there was heavy loss of buildings in the Bharatnagar area of Bhavnagar.-</p>
2001	The destructive earthquake of 26 th January 2001 badly affected the Bhavnagar district. Because of earthquake 4 people and one cattle dead and 24 people were injured. In the same earthquake 9752 kuchcha and pukka houses were partially damaged and 239 house were totally damaged.
2002	In Bhavnagar district during 6 th June 2002 to 30 th June 2002 the heavy rain created flood in Palitana, Bhavnagar and Sihor Taluka of the district, during the flood 19147 people were affected and 8 people were dead and there was heavy loss of buildings and property in Bhavnagar, Sihor and Palitana Taluka.
2007	During this session heavy rain became the main cause of flood. Seven taluka of the Dist. were adversely affected city and total 40 people dead in different area within district. Similarly other adjoining taluka were also affected. There was heavy loss public and private property.
2015	<p>There was heavy rain in district and it cause of flood. It affected whole district especially some area of Palitana city and Talaja city and also 4 villages of Gariyadhar and Jeasar taluka.</p> <p>8 people were dead and there was heavy loss of property. Administration also done evacuation during flood situaion.</p>

**'Hazard Risk Vulnerability Assessment-
(Authority that carried out HRVA)**

Bhavnagar faces a number of hazards, which pose the threat of disaster, the threat (risk) and possible impact (vulnerability) which can be actualized from these hazards ranges from minor impacts affection one village to events impaction larger than the state alone.

The table below summarize the results of an analysis of hazard, risk and disaster impact in Bhavnagar. This analysis indicated that disaster planning at the Bhavnagar district level should first focus on the functional response to the High winds and Sea surge. The functional responses to these events have links to the response to floods, hail storms and dam failure. Typical responses to these disaster events also can apply to fire, industrial accidents, failure of critical infrastructure and building collapse.

Special plans exist for drought, oil spills and ship breaking. A separate plan for dealing with chemical and industrial accidents also exists and focuses on the technical procedures needed to avoid or address these hazards.

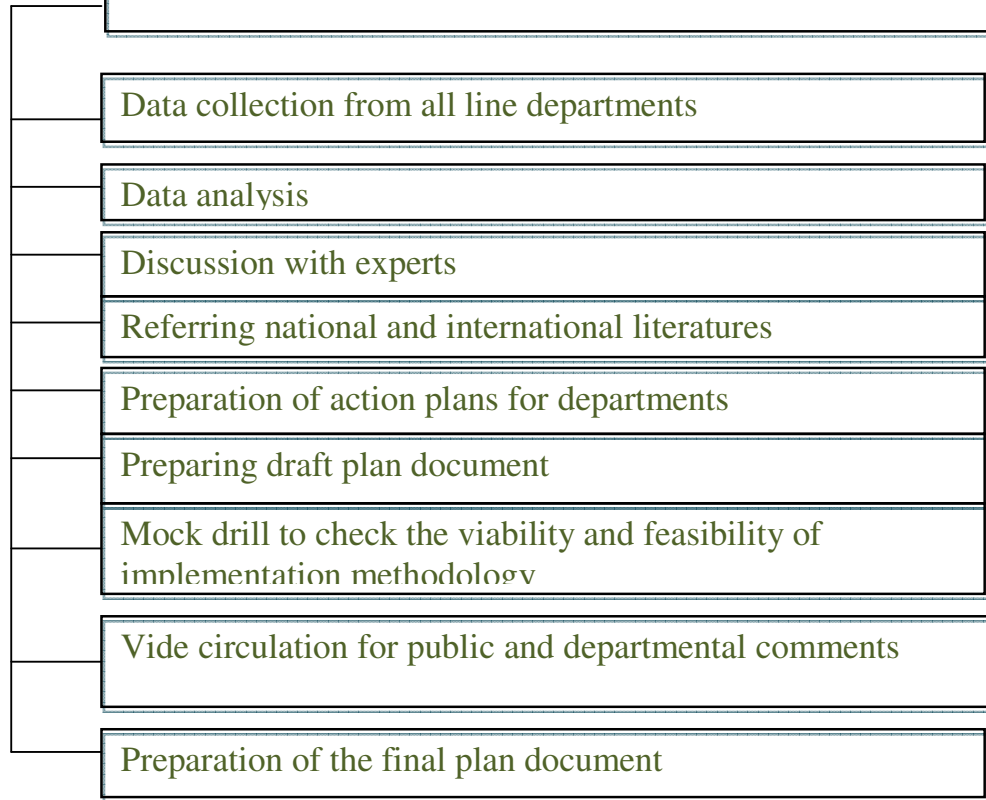
Hazards	Probab ility Rating	Impact Rating	Vulnerabi lity Ranking	Vulnerable Areas / Taluka	Vulnerable Population
1	2	3	4	5	6
High Wind	4	4	16 (high)	Very high damage risk zone B (50m/s.) Bhavnagar, Ghogha , Talaja, and Mahuva	1.717 million (4 taluka of the district are likely to be affected)
Sea Surge	4	4	16 (high)	Coastal Taluka i.e. Bhavnagar, Ghogha, Mahuva, Talaja	0.22 million (2,27,264) 31 Coastal villages in 4 taluka are likely to be affected Maximum surge record is 3 meters.
Drought	4	3	16 (high)	(4 Taluka) Vallabhipur, Bhavnagar, Gariadhar and Umralla	
Fire	4	3	12 (moderate)	Mostly in urban pockets and industrial areas (including rural areas)	
Industri al Accident s	3	4	12 (moderate)	In major Industries like Excel, Nirma etc.	
Oil Spill	2	5	10 (moderate		

)		
Earthquake	2	5	16 (high)	Zone – III : Bhavnagar	
Heat Wave	3	2	8 (high)		

Hazards	Probability Rating	Impact Rating	Vulnerability Ranking	Vulnerable Areas / Taluka	Vulnerable Population
1	2	3	4	5	6
Rail / Road / Air Accidents	4	1	4 (high)		
Flood	4	4	4 (high)	May occur due to heavy rain fall, sea surge of dam failure	
Terrorism	1	1	1	Bhavnagar City, IOCL	
Failure of Critical Infrastructure	1	3	3 (Low)		
Boat Sinking	1	1	2 (Low)		
Mine Fires / Collapse	2	1	2 (Low)		
Building Collapse	1	2	2 (Low)		
Hail Storms	1	1	1 (Low)		
Land Slides /Mud Flows	1	1	1 (Low)		
Epidemics	1	1	1 (Low)		
Animal Disease	1	1	1 (Low)		
Food Poisoning	1	1	1 (Low)		
Dam Failure	1	1	1 (Low)		
Civil Unrest	2	1	1		

Tool and methodology used for HRVA

METHODOLOGY OF HRVA



List of hazards with probability (frequency and magnitude)

Probability of Occurrence of disaster												
Type of Hazard	Time period											
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Earthquake												
Cyclone												
Flood												
Tsunami												
Fire												

List of Vulnerable Talukas and Villages (Hazard wise)

The Details of Coastal Villages are as under

Sr. No.	Name of Taluka	No.of Villages
1	Mahuva	13
2	Talaja	10
3	Bhavnagar	8
4	Ghogha	3
Total:-		34

Details of water logging villages are as under

Sr. No.	Name of the Taluka	No. of Village
1	Mahuva	5
2	Talaja	5
3	Sihor	3
4	Gariyadhar	2
5	Bhavnagar	17
6	Umrالا	4
7	Jesar	2
Total :-		38

Details of river affected villages are as under

Sr. No.	Name of the Taluka	No. of Village
1	Mahuva	6
2	Talaja	4
3	Palitana	10
4	Gariyadhar	3
5	Vallabhipur	19
6	Bhavnagar	13
7	Ghogha	4
8	Umrالا	17
9	Jesar	8
Total :-		84

Resoure Analyses-

Equipment available with District Collector

Sr.No.	Item Name	Number of Items
1	Portable inflatable Emergency Lighting System	2

2	Life Jacket	50
3	Life Buoy	50
4	PP Ropes 26 MM (100ft)	8
5	PP Ropes 26 MM (200ft)	4

Equipment available with BMC

Sr.No.	Item Name	Number of Items
1	Portable inflatable Emergency Lighting System	7
2	Motorcycle Mounted Water Mist	1
3	Trolley Mounted Water Mist	5
4	Water Browser	1
5	Mini Fire Tender	1
6	Life Jacket	120
7	Life Buoy	120
8	PP Rope (100ft)	24
9	PP Rope (200ft)	12
10	FRP Boat	1
11	Rubber Boat	1

Equipment available with Nagarpalika

Sr. No.	Name of Nagarpalika	Portable inflatable Emergency Lighting System	Motorcycle Mounted Water Mist	Water Browser	Mini Fire Tender
1	Gariyadhar	2	1	1	1
2	Mahuva	2	1	1	1
3	Palitana	2	1	1	1
4	Sihor	2	1	1	1
5	Talaja	2	1	1	1
6	Vallabhipur	2	0	1	0

Equipment available with Alang Fire station

Sr.No.	Item Name	Number of Items
1	Water tander	2
2	Form tender	1
3	Bouser	4

Capasity Analyses -

It is important to identify and recognize traditional coping capacity of the community to enable them to enhance their capacity to withstand disasters.

Hazard	Early Warning	Preparedness	Early Response
--------	---------------	--------------	----------------

Flood	Monitoring of water sources through community	Identified high elevation places and rescue teams	Evacuation, Search and Rescue and First Aid support
Cyclone	Information through fisher folks	Evacuate to safe place	Search and Rescue and First aid support
Earthquake	-	Identification of Safe places	Search and Rescue and First aid support
Drought	Own assessment mechanism	Fodder storage, Food storage at individual level	Panjarapol
Tsunami	-	Evacuate to safe place	Search and Rescue and First aid support
Industrial/Chemical Hazard	Local administration	OCR, DISH and DEOC	Local response team

Outcome and recommendations of the Hazard, Risk, Vulnerability and Capacity Analyses

Hazards are defined as “Phenomena that pose a threat to people, structures or economic assets and which may cause a disaster. They could be either man-made or naturally occurring in our environment.” A disaster is the product of a hazard coinciding with a vulnerable situation, which might include communities, cities or villages. Vulnerability is defined as “the extent to which a community, structure, service or geographical area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to a hazardous terrain or disaster prone area.

Hazard, Risk analysis:-

A detailed analysis of the hazards likely to impact the state will be carried out by the Department of Disaster Management, in consultation with the DMC of the state H.C.M. RIPA and experts from the field. Hazard assessment is concerned with the properties of the hazard itself. The Vulnerability Atlas of Gujarat, developed by BMTPC, Govt of India, will be used as the baseline for all analyses. The State Disaster Management

Authority shall take all appropriate steps to complete a comprehensive hazard assessment of the State.

1. Earthquake

Bhavnagar district falls under zone-III according to the zoning map so very high possibility of failure of various infrastructures and very high chances of risk of loss of live properties too in certain highly inhabited areas of the district.

Population / Density wise area / residents details can be drawn from the CDM Plan / WDM Plan of BMC in case of city area, from TDM Plan / CDM Plan of Municipalities for urban areas of the district.

2. Flood

The Climate of Bhavnagar District can be regarded as one of extreme king with hot summers & cold winters except in the coastal region, where it is generally pleasant all throughout the year. The air is humid due to coastal location.

- a. The District has no major river. There are seasonal rivers streams. Amongst these are the river Maleshri, Lakahnka, Kalubha, Ghelo, Vaigad, Manari, Kairi, Shetrunji, Kharo, Rajaval, Hanol, Khodiya, Sitapari, Sukhbhadar, Goma, Kaniyad, Rangholi, Malan, Rojki, Bagad, Bhadod, Ranaji. Flow of the river is towards the Gulf of Kutch in the north and in northwest.
- b. There is not any huge dam in Bhavnagar District, the 17 dams of Bhavnagar controlled by the Department of irrigation and 4 other dams are in the neighbor district, but affect the villages of Bhavnagar.
- c. The dams situated in Ghogha taluka; does not affect any village of Ghogha but affect the villages of Bhavnagar Taluka.
- d. Sukhsagar dam of Surendranagar district also affects the villages of Bhavnagar district.

3. Cyclone

In meteorology, a cyclone is an area of closed, circular fluid motion rotating in the same direction as the Earth. This is usually characterized by inward spiraling winds that rotate counter clockwise and clockwise of the Earth. Most large-scale cyclonic circulations are centered on areas of low atmospheric pressure. The largest low-pressure systems are cold-core polar cyclones and extra tropical cyclones which lie on the synoptic scale.

Coastal areas of District like Bhavnagar, Ghogha, Mahuva and Talaja are particularly prone. Cyclones originate out at sea and become hazardous when they come ashore. They also drive the sea level up to cause coastal flooding.

At a community level, the GSDMA has proposed to provide temporary cyclone shelter. There is a identified site to construct Cyclone Shelter. This shelter will be, with built-in safety against high wind velocity and heavy rainfall and within easy reach of the people most affected. Educational buildings or places of worship may also be designed as cyclone shelter, for evacuation and temporary occupation.

4. Drought: probability chances are higher due to low rainfall.

5. Tsunami

Tsunamis are ocean waves produced by earthquakes or underwater landslides. Tsunamis are often incorrectly referred to as tidal waves, but a tsunami is actually a series of waves that can travel at speeds averaging 450 (and up to 600) miles per hour in the open ocean. However, waves that are 10 to 20 feet high can be very destructive and cause many deaths or injuries.

Tsunamis are most often generated by earthquake-induced movement of the ocean floor. Landslides, volcanic eruptions, and even meteorites can also generate a tsunami. Areas at greatest risk are less than 25 feet above sea level and within one mile of the shoreline. So far as Bhavnagar District is concern there are 4 costal talukas and 34 villages of the same. Most deaths caused by a tsunami are because of drowning. Associated risks include flooding, contamination of drinking water, fires from ruptured tanks or gas lines, and the loss of vital community infrastructure.

6. Fire

Fires may be caused due to earthquakes, explosions, electrical malfunctioning and various other causes. The State shall take up detailed assessment of fire hazards like preparation of inventories/maps of storage locations of toxic/hazardous substances, provision and regular maintenance of firefighting equipment, identification of evacuation routes, fail-safe design and operating procedures, planning inputs, transportation corridors etc.

Bhavnagar district has 5 MHA company, many cotton and oil mills and Alang Ship Breaking Yard which is most vulnerable for Fire in so fire possibility are like more.

7. Industrial Accident

There are 723 factories registered under the Indian factories Act and approximately 2.00 lacks persons are employed in these factories. Besides the district is known for Diamond and Handicrafts.

There are 9651 small-scale industries registered and employing 47291 people.

Bhavnagar has 5 MAH industries. IOCL, Alang Ship Breaking Yard, Sun petrochemical provate ltd are the LPG user industries. Exel Corps ltd. using Mithenol, Toluin, Hydrogen, Solvent C-IX and Formaldehyd and Nirma Ltd. using Clorine. So District is very high chances of risk of loss of property due to leakage of gases and fire.

Industries have their own Onsite Emergency Management Plans to dealt with onsite emergencies and the other major units like IOCL, Excel crop care, Nirma and Alang etc. has developed their Disaster Management Plans.

8. Epidemic

Probability is almost certain due to increase in Human Disease (Water borne disease, air borne disease and vector borne disease) along with that animal disease so impact will be very high according to that vulnerability is very high.

Chapter – 3

Institutional Arrangements:

The plan incorporate multi level institutional as well as response planning mechanism at district level. That is.....

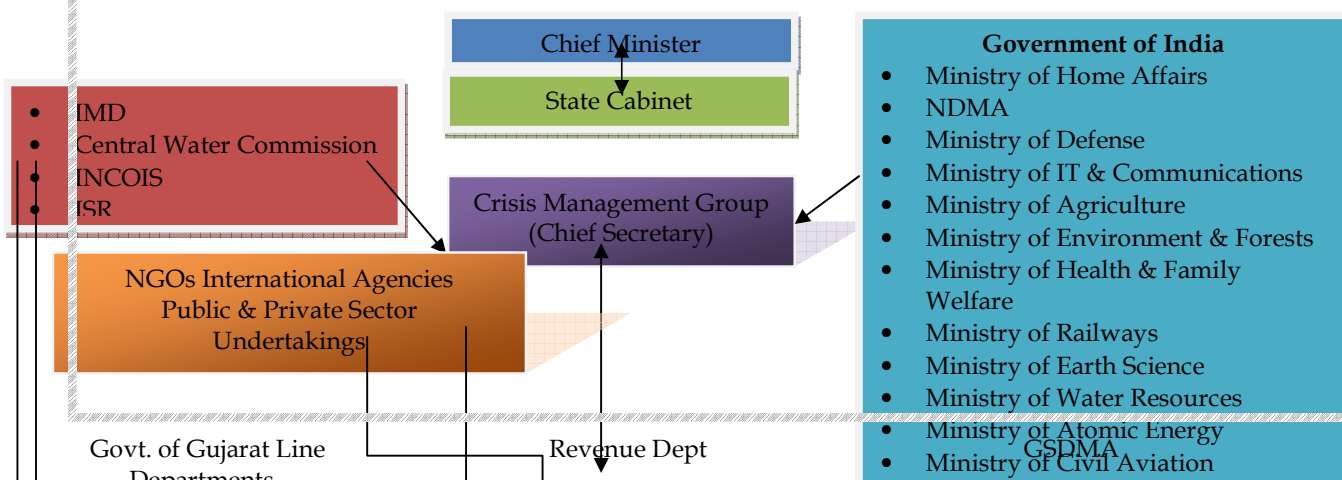
The DM structure in the State is as per the Gujarat State Disaster Management Act – 2003. The National Disaster Management Act – 2005 resembles the State Act with only a few provisions which are not a part of the State Act but are there in the Central Act. Those provisions include designating a Vice Chairman to the GSDMA, constitution of a State Executive Committee, establishment of a District Disaster Management Authority in each District and creation of a District Disaster Response &

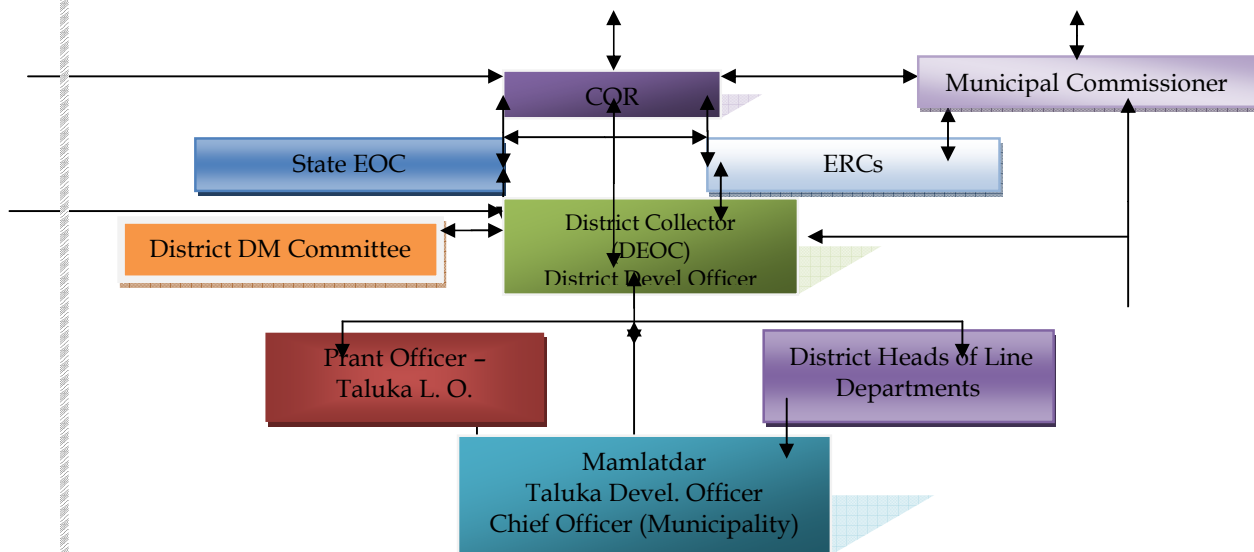
Mitigation Funds. The State has existing institutional arrangements in place for addressing the roles / responsibilities envisaged through the above provisions and hence does not find it compelling to implement the provisions afresh.

The Revenue Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs. The State EOC, ERCs and other control rooms at the State level as well as district control rooms should be activated with full strength. The State Government may publish a notification in the official gazette, declaring such area to be disaster-affected area under GSDMA Act (Section 32 (2) (a)).

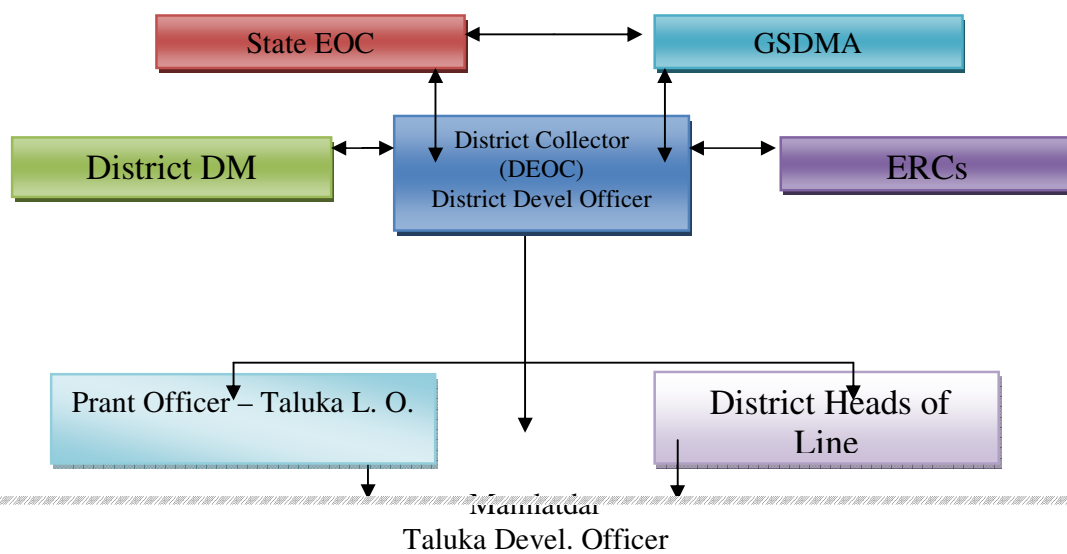
Under this State Disaster Management Plan, all disaster specific mechanisms would come under a single umbrella allowing for attending to all kinds of disasters. The existing arrangements therefore will be strengthened by defining this administrative arrangement. This arrangement proposes Chief Secretary as the head supported by the Relief Commissioner through the branch arrangements at the Emergency Operations Centres (EOC), both at State level and at the district levels. There is a formal Incident Response System in the State. The GSDMA Act 2003 empowers Commissioner of Relief to be the Incident Commander in the State and District Collector in the respective districts.

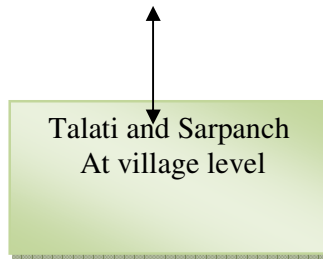
D.M. Organizational Structure of the State





D.M. Organizational Structure In The District





District Crisis Management Group (Task Force)

The District administration of Bhavnagar has identified 16 expected task forces for key response operation functions that are described below (As per the ICS manual). Additional taskforces can be added under the operations section as needed by the circumstances of a disaster. Each Taskforce is led by one organization and supported by other organizations.

Emergency Operation Taskforce	Functions
1. Coordination and Planning	Coordinate early warning, Response & Recovery Operations
2. Administration and Protocol	Support Disaster Operations by efficiently completing the paper work and other Administrative tasks needed to ensure effective and timely relief assistance
3. Warning	Collection and dissemination of warnings of potential disasters
4. Law and Order	Assure the execution of all laws and maintenance of order in the area affected by the incident.
5. Search and	Provide human and material resources needed to

Rescue (including Evacuation)	support local evacuation, search and rescue efforts.
6. Public Works	Provide the personnel and resources needed to support local efforts to reestablish normally operating infrastructure.
7. Water	Assure the provision of sufficient potable water for human and animal consumption (priority), and water for industrial and agricultural uses as appropriate.
8. Food and Relief Supplies	Assure the provision of basic food and other relief needs in the affected communities.
9. Power	Provide the resources to reestablish normal power supplies and systems in affected communities.
10. Public Health and sanitation (including First aid and all medical care)	Provide personnel and resources to address pressing public health problems and re-establish normal health care systems.
11. Animal Health and Welfare	Provision of health and other care to animals affected by a disaster.
12. Shelter	Provide materials and supplies to ensure temporary shelter for disaster-affected populations
13. Logistics	Provide Air, water and Land transport for evacuation and for the storage and delivery of relief supplies in coordination with other task forces and competent authorities.
14. Survey (Damage Assessment)	Collect and analyses data on the impact of disaster, develop estimates of resource needs and relief plans, and compile reports on the disaster as required for District and State authorities and other parties as appropriate.
15. Telecommunications	Coordinate and assure operation of all communication systems (e.g.; Radio, TV, Telephones, Wireless) required to support early warning or post disaster operations.
16. Media (Public Information)	Provide liaison with and assistance to print and electronic media on early warning and post-disaster reporting concerning the disaster.

The specific response roles and responsibilities of the taskforces indicated above is that these roles and responsibilities will be executed and coordinated through the ICS/GS system. For example, in flood, search & rescue would come under the Operations section, Transport would come under the Logistics Section and Public Information under the Public Information Unit.

District Disaster Management Committee (DDMC)

The District Collector will be responsible for coordinating all disaster management activities at the district level. There shall be a District Disaster Management Authority headed by Collector. The District Disaster Management Authority shall approve a district disaster management planning and review all measures relating to preparedness and response to various hazards. The District Disaster Management Committee comprises members from Jilla Panchayat, different line departments, NGOs and others to be notified by the Department of Disaster Management from time to time. In times of disasters, Dist. Collector shall constitute a District Relief Committee to oversee management of relief. Following member should ne club at district level committee.

Sr. No.	Designation	Position in DDMC
1	Collector/ District Magistrate	Chairman
2	District Development Officer	Member
3	District Superintend of Police	Member
4	DCF, Forest	Member
5	Resdential Additional Collector	Member
6	District Supply Officer	Member
7	District HomeGuard Commandant	Member
8	Exe. Engineer-R&B State	Member
9	Exe. Engineer-R&B Panchayat	Member
10	Exe. EngineerR&B State Irrigation	Member
11	Exe. Engineer- Water Supply	Member
12	Superintending Engineer- PGVCL	Member
13	Superintendent Civil Hospital	Member
14	CDHO	Member
15	District Agriculture Officer	Member
16	Dy. Director Animal Husnundary	Member
17	District Primary Education officer	Member
18	District Educatin Officer	Member
19	Port Officer	Member
20	Airport-Director	Member
21	DRM-Railway	Member
22	Divisional Controller-State Transport	Member
23	Regional Transport Officer	Member
24	Regional Officer-GPCB	Member
25	Dy. Director-DISH	Member
26	Dy. Director-Information Department	Member
27	Dy. Controller –Civil Defense	Member
28	District Munivality Officer/ Chief Fire Officer	Member
29	NGO Member	Member
30	Media Person	Member

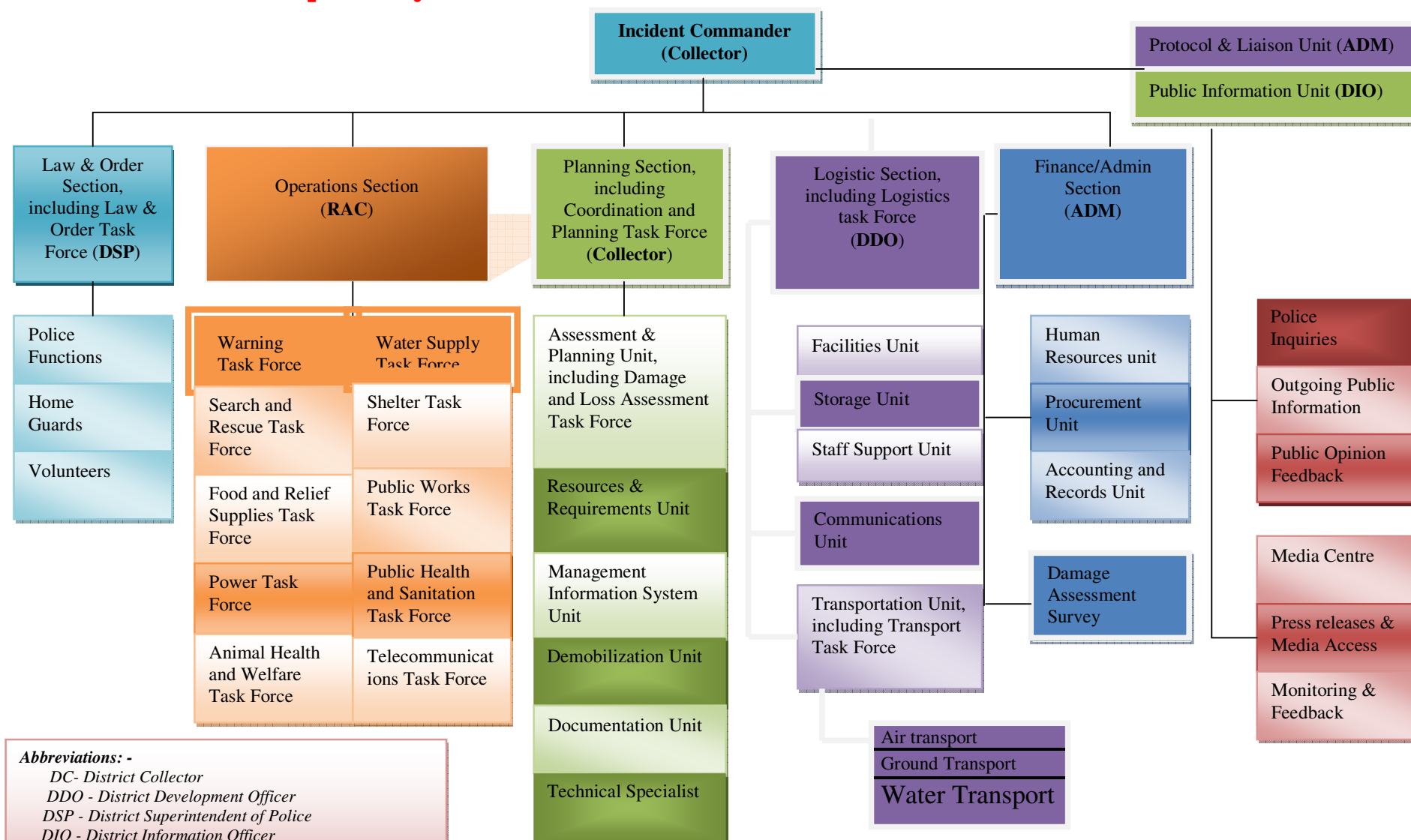
Insident Response System in the Distict

The response to disasters in the district will be organized according to the Incident Command System as adopted to conditions in Gujarat State (ICS/GS). The argument for the ICS is that its fundamental elements –unity of command, clarity of objectives and efficient resource use are common to the effective response to any disaster.

In Bhavnagar district, the multi-hazard response plan focused on sector specific action plans unlike the department specific planning approach in the previous plan documents. The disaster response is led by the **District Emergency Operation Center** (EOC) under the command and control of the District Collector.

The organizational structure of the Incident command system of district and Taluka is given in the next page.

Incident Command/Response System in the District



Abbreviations: -

DC- District Collector
 DDO - District Development Officer
 DSP - District Superintendent of Police
 DIO - District Information Officer
 ADM- Additional District Magistrate
 RAC- Residential Additional Collector

Departmental Control Room and Nodal Officer
Supporting department details in response

The COMPOSITION of the TASKFORCES is given in the table below:

Sr. No.	Task Force	Taskforce Leader	Supporting members / Organizations/Departments	Section / Unit
1.	Planning and Coordination	Collector	DDO, DSP, Commissioner BMC, RAC and Mamlatdar	Planning
2.	Administration & Protocol	RAC	DDO, DSP, Commissioner BMC, RAC and Mamlatdar	Finance & Admin.
3	Damage Assessment/Survey	RAC	DIC, Dy. DDO, Ex. Engr., R&B, DAO, Fisheries	Planning
4	Warning	RAC	RAC, Dy. Mamlatdar, Control Room, District Information Officer (DIO)	Operation
5	Communications	RAC	Dy. Mamlatdars, Mobile Operators, TV, Radio, Port Office GMB, Police, Forests	Logistics
6	Media	District Information Officer	Information Department, Print, Media, TV, Journalists, NGOs	Public Information
7	Logistics	DDO	RTO, DSO, FPS, Private & Public sector, Municipal water supply board, Mamlatdar, Dist. Supply Mamlatdar	Logistics
8	Law & Order	DSP	Dy. SP, Home Guards Commandant, NGOs, Para-military and Armed Forces	Law & Order
9	Search & Rescue	RAC Civil Defense	Mamlatdar, TDO, Police, Executive Engr., BMC Fire & Emergency services, RTO, State Transport, Health Deptt.	Operation
10	Public Works	Ex. Engr. R&B (State)	Irrigation, Ex. Engr., Panchayat, NGOs, Water Supply Board, Municipalities, Home Guards, Police	Operation

11	Shelter	Dist. Primary Education Officer	School Principal, Teachers, Health, PHC, State Transport, Water Supply, RTO, Mamlatdar, TDO.	Operation
12	Water Supply	Ex. Engr. GWSDB / Ex. Engr. Water Works VMSS	Dy. Ex. Engr., Talati, Mamlatdar, TDO, Health, Dy. Engr. BMC	Operation
13	Food & Relief Supplies	Dist. Supply Officer	FPS, PDS, Mamlatdar, NGO, RTO, State Transport, Municipality, DRDA, Police, Home guard	Logistics
14	Power	Supt. Engr. PGVCL	Ex. Engr., Dy. Engr. Technical, PGVCL, Transport	Operation
15	Public Health & sanitation	Chief district health Officer (CDHO)	Supt. GG Hospital, BMC Hospital, Municipality, Red Cross, Fire and emergency services, BMC, Civil Defense, R&B, NGOs, Doctors, TDO, Mamlatdar	Operation
16	Animal Health & Welfare	Dy. Director Animal Husbandry	Veterinary Inspector, NGOs	Operations

EOC setup and facilities available with the location

District Emergency Operation Center (DEOC)/ District Control Room (DCR)

The District Control Room is located in building of Collector office, Near Bhavnagar Mahanagarpalika and Jilla Panchayat office, opposite Galaxy. It is also the central point for information gathering, processing and decision making more specifically to combat the disaster. Most of the strategic decisions are taken in this control room with regard to the management of disaster based on the information gathered and processed. The Incident Commander takes charge at the District Control Room and commands the emergency operations as per the Incident Command System organizational chart.

All the task force leaders shall take position in the District Control Room along with Incident Commander to enable one point co-ordination for decision-making process.

• Facilities at District Emergency Operation Centers

The District Control Room equipped with to the following items in Table:

Sr. No.	Item/ Facility	Unit/ Number of item
1	Television	1
2	Telephones	3
3	Satellite Telephone	1
4	Fax machine	1
5	Printer	3
6	Scanner	1
7	PC with GSWAN Internet and web site facilities	3
8	Marker board -	1
9	Projector	1
10	A copy of Disaster Management Plan	10
11	Other relevant documents of district information	-
12	Chairs	30
13	Tables	5

Taluka Emergency Operation Centers (TEOC)

The Taluka Emergency Operation Centers located at the Office of Mamlatdar. The Liaison Officers of the respective Talukas shall take charge of the Control Room. The respective Liaison Officers shall coordinate between the task group members working at disaster sites and TFOR for mobilization of resources and dissemination of instructions received from TFOR/DEOC.

• Task Force Operation Room (TFOR)

Individual Task Force function shall activate & operate their respective control rooms in their office manned by a competent person who is proficient in communication and technically capable of coordinating with Taluka Level Control Room and District Control Room and mobilize requisite resources to the disaster site.

• Facilities at Taluka Level Control Rooms (TLCR)

The following facilities are maintained inside TFCR:

- Telephones
- Facsimile
- Satellite Phone (desirable)
- Hand held Radios/Base Stations
- Marker board (1)
- A copy each of Disaster Management Plan and Taluka Level Plan
- Other relevant documents, if any

Responsibility of up keeping and maintenance of all the above items / facilities in the respective Control rooms is given as below.

DCR (DEOC): District Collector or any person nominated
TFCR: Respective Task Force Leader
TLCR (TEOC): Respective Taluka Liaison Officer

The above responsible Depts./ personnel shall carryout periodic inspection of such facilities in their respective control rooms at the frequency set by them and maintain records on the same.

Emergency Communication Systems

Communication system is very crucial for effective control of any disaster. The communication philosophy adopted by Disaster Management team during the disaster is given as below:

In the event of collapse of any communication facility / Communication infrastructure as a cascading effect/consequence of disaster, Telecommunication Task Force Leader shall ensure immediate restoration of such facility or infrastructure to ensure uninterrupted communication for effective disaster management operations.

Synthesized Radio Communication

All the Control Rooms are equipped with Radio base stations and all the task force leaders and their teams are provided with hand held radio sets. The different user groups are operating at different frequency channels allotted to them for ease in communication in respective groups. The table below shows the allotted frequency channel for individual Task Force. All the sets are programme for different groups' frequencies to facilitate horizontal communication among the different task groups.

Sr. No.	Task Force / Functional Area	Channel
1.	DCR	
2.	Law & Order & its TFOR	
3.	Search & Rescue & its TFOR	
4.	Public Works & its TFOR	
5.	Shelter & its TFOR	
6.	Water Supply & its TFOR	
7.	Food & Social Service & its TFOR	
8.	Power & its TFOR	
9.	Public Health & Sanitation & its TFOR	
10.	Logistics & its TFOR	
11.	Animal Health & Welfare & its TFOR	
12.	Relief Supplies & its TFOR	
13.	Communication & its TFOR	
14.	Survey & its TFOR	
15	Taluka Level Control Room (TLCR)	

At present, "Hand held radio sets" are with the District Magistrate, DDO, DSP, fire Brigade and Forest department. If possible, Health Personnel may be given these sets later.

Telephones

Telephones and Fax Machine had provided at DEOC and all TEOC Control Rooms.

Alternate EOC available and its location

The Bhavnagar District Control Room is located in the building of Collector office near Bhavnagar Mahanagarpalika and jilla Panchayat office, opposite Galaxy. It is also the central point for information gathering, processing and decision making more specifically to combat the disaster but when such kind of situation where DEOC will collapse so alternate EOC will started at Collector office.

Alternate Communication System

There could be a situation when all the communication facilities and systems may come to halt due to collapse of communication facilities/infrastructures. In the event of such a failure, till the facility/infrastructure is restored made functional, following alternate systems shall be used based on the seriousness of the situation:

Satellite Communication System

Satellite communication shall be activated once all the communication systems fail. This facility is installed at all the control rooms. The Telecommunication Task Force Leader shall ensure that this facility is resumed on all such occasions.

Messengers

- Use of messengers as a last resort to carry the hand written messages to persons concerned in dealing with the disaster.
- A dedicated vehicle shall be made available by the Transport Task Force Leader upon request
-
-

Right use of Communication facility

- The sense of urgency that every one experiences during disaster may lead to a chaotic situation if communication systems are not properly used.
- Communication shall be brief and simple.
- Telephones/ Hot Lines shall be used wherever possible to avoid congestion of Radio communication.
- All task force members shall communicate only through their allotted frequency channel to avoid congestion in the particular channel.

Personnel who use Radios should be acquainted with the operation of the equipment, various channels, code words, length of speech, etc.

Public and private emergency service facilities available in the district

Bhavnagar district has a fire station of Bhavnagar Municipal Corporation and 6 Fire stations in Respective 6 Municipality and in addition the district has a fire station in Alang as well as GMB control Room. This emergency service are fully equipped by various equipment and train personal which are use in search and rescue operation during disaster situation.

Forecasting and warning agencies

Alert Mechanism – Early Warning

On the receipt of warning or alert from any such agency, which is competent to issue such a warning, or on the basis of reports from District Collector of the occurrence of a disaster, the response structure of the State Government will be put into operation. The Chief Secretary/Relief Commissioner will assume the role of the Chief of Operations during the emergency. The details of agencies competent enough for issuing warning or alert pertaining to various types of disasters are given below;

Sr. No.	Disaster	Agencies
1	Earthquakes	IMD, ISR
2	Floods	IMD, Irrigation Department
3	Cyclones	IMD
4	Tsunami	IMD, ISR, INCOIS
5	Drought	Agriculture Department
6	Epidemics	Health & Family Welfare Department
7	Industrial & Chemical Accidents	Industry, Labor & Employment Department, DISH
8	Fire	Fire & Emergency Services

Chapter 4

Prevention and Mitigation Measures:

Prevention measures in development plans and programmes

For disaster prevention and mitigation, both structural and non-structural interventions can be planned. Structural interventions include construction of physical engineering and non engineering structures to reduce hazard risks. Non structural mitigation includes awareness and capacity building at official and community level, formulation of new plans and overall promoting a commitment for safety.

Mitigation measures can be divided in two categories:

- i) Structural measures: On site works, construction, and engineering works and
- ii) Non-structural measures: Which include studies, research, regulations, policy changes and capacity building activities that support the structural measures.

The taluka disaster management plan includes hazard specific structural and non structural mitigation plans in consultation and convergence with various Departments. For example, the MGNREGA work can take up activities on construction of embankment for flood safety or the forest department may take up mangrove plantation in the coastal areas, while the water supply department can construct hand pumps on raised platforms.

Departments shall draw out its own plan, goals and milestones and review it annually for its achievements and planning for next year.

Mitigation, preparedness and prevention actions are to be taken before a disaster to reduce the likelihood of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction. The district can avail itself of four mechanisms (singularly or together) to reduce risk and vulnerability;

- Long term planning for mitigation, preparedness and prevention investments in the district,
- Enforcement of regulations, particularly building and safety codes and land use plans,
- Review and evaluation of development plans and activities to identify ways to reduce risks and vulnerability, and,
- Capacity building, including warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability.

The Collector, assisted by the District Development Officer, is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above.

Base on the interim assessment of risk and vulnerabilities, the District will focus on the following areas for mitigation, preparedness and prevention;

- Resilience of lifeline systems (water, power and communications)
- Reduction in disaster impact on health care facilities, schools and roads
- Vulnerability reduction in flood-prone areas
- Vulnerability reduction to high winds
- Improvement of Off-site Preparedness near Industrial sites.

Special Project proposed for Preventing the Disaster

1. Disaster Risk Management Programme (DRMP)

Disaster Risk Management Programme (DRM) has taken strong roots at various levels of administration in Gujarat. The Department of Revenue & Disaster Management is the nodal Department in Government of Gujarat that handles the subject with GSDMA. Disaster Management Committees are formed at various levels and are assigned the task of implementing the programme. Representation for these committees are drawn from elected representatives, officials of line departments, professional bodies, Civil Defense, NGO and CBO representatives and local opinion leaders. Major Activities are being carried out under DRM program are Plan Development at Various Levels, Emergency Resources Database maintain through SDRN / IDRN, Capacity Building through Trainings & Resource Mobilization, Disaster Awareness through Orientations, Campaigning, Media Management and IEC distribution. Coordinate District Administration for all Disaster Management Activities with expertise knowledge, logistics and fund allocation.

2. Gujarat School Safety Programme (GSSP)

Gujarat State Disaster Management Authority initiates the GSSP with the help of government of Gujarat. This programme is all about promoting the idea of school safety in schools of the state. It designed for creating culture of disaster safety in schools and reduce risk through structural and non-structural measures in the schools.

Celebration of School Safety Week

School safety week celebration creates awareness among the school teachers and students regarding to mitigate the risks of natural hazard as well as manmade disaster in schools.

3. Apada mitra project

Community Service has always been part and parcel of culture of gujarat and community is always the first responder during any disaster. Training the community to effectively respond during a disaster would professionalize the response and reduce the impact of a disaster.

Gujarat State Disaster Management Authority undertakes various capacity building activities to mitigate the impact of disasters. As part of such capacity building measures, GSDMA is initiated a project “Aapda Mitra: on training of community volunteers in conducting basic search & rescue operations and to assists the district administration for effective disaster response.

Hazard wise Structural and Non- structural Mitigation Measures

Hazard: Flood

Table No. : A1

Structural Mitigation Measures for Flood
(Identified works of concerned Departments)

Probable Mitigation Measures	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Desalting and deepening of water channel (khans)	Irrigation and Rural Development, GLDC	Departmental program & MGNREGS,	Regularly
Construction of embankments/ protection wall	Rural Development, Forest	Departmental program & MGNREGS, watershed, Integrated coastal zone management programme	Regularly
Repair of embankments/ protection wall	Rural Development, R&B department	Departmental program & MGNREGS	Regularly
Repair and maintenance of Flood Channels, canals, natural drainage, storm water lines	Irrigation department Concern Municipality	Departmental or special plan	Regularly
Construction of Safe Shelters (new construction through Indira Awas, Sardar Awas and Ambedkar Awas)	Collector and R&B District Panchayat	NCRMP	Regularly
Protection wall and mangroves and vegetative cover against sea level intrusion and land erosion	Forest and Rural development department GEC	Department schemes, MGNREGS, IWMP Integrated coastal zone management	Regularly
Desalting of water bodies like river and ponds	Irrigation DDO Rural Development	MGNREGA and Land Development	Regularly

Table No. : A2

Non-Structural Mitigation Measures for Flood
(Identified works of concerned Departments)

Non-Structural measures	Implementing Departments	Convergence with agency/program	Time Frame
Safety audit of existing and proposed housing stock in risk prone areas	DDO, Rural development	IAY, Sardar Awas and other rural housing schemes	Regularly
Promotion of Traditional, local and innovative practices like bamboo/plastic bottle rafts etc, clean city green city	DDMC, TDMC, CDMC, SHGs and youth groups, NGOs Volunteers	Training and capacity building plan for disaster management At all level	Regularly
Capacity building of volunteers and technicians	DDMC, TDMC, CDMC	Training and capacity building plan for disaster management	Regularly
Awareness generation on health and safety of livestock	veterinary officer, rural development	Departmental Scheme	Regularly

Hazard: Cyclone

Table N.: B1

Structural Mitigation Measures for Cyclone

Structural measures	Identified Locations and Villages	Implementin g Departments	Convergence with Scheme/Program	Time Frame
Plantations (mangroves) and Shelter Belt in the Coastal Area	Cyclone prone 34 villages Bhavnagar district	Forest department, Port Authority, DIC, TDO, Rural development department, GEC	Departmental schemes, MGNREGA Integrated coastal zone management	Regularly
Identification and repair/ retrofitting of houses and buildings unsafe for cyclone		R & B (District Panchayat)	Departmental Scheme	Regularly

Table No.: B2

Non-Structural Mitigation Measures for Cyclone

Non-Structural measures	Location/ coverage area	Implementing Departments	Convergence with agency/ program	Time Frame
Strengthening of Early warning mechanisms	Cyclone prone 72 villages In Kutch district	DDMC, TDMC	District administration Line department	Regularly
Training and awareness generation for use of safety jackets/rings/buoys/rope etc for fisher folks		DDMC, TDMC, VDMC, CDMC	TDMP, VDMC	Regularly
Enforcing strict compliance to coastal regulation zone and awareness regarding hazard		Department of Environment & Forest Dept. Fishing GEC	Integrated Coastal Zone Management CRZ Regulation	Regularly
Registration of fishing boats		Fisheries Department	CRZ Regulation	Regularly
Regulate and issue orders for poor quality hoardings/buildings or any other objects		R & B Department		Regularly

Hazard: Earthquake**Table No. : C1****Structural Mitigation Measures for Earthquake**

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Retrofitting (if required) of public utility buildings like offices, schools/ banks/ markets etc	Bhavnagar direct comes under Zone-III	R & B (State and Panchayat), DDO, Rural department	DM Plan and all development plan	Regularly
Retrofitting of unsafe rural houses		DDMC, DDO, R & B State and panchayat	Rural housing schemes and departmental programs	Regularly
Identifying and safely dismantling unsafe structures		R & B department	Development plan	Regularly
Issue permission for Earthquake registrant house		Area Development Authority	TP plan	Regularly

Table No. : C2

Non Structural Mitigation Measures for Earthquake

Non-Structural measures	Location / coverage area	Implementing Departments	Convergence with agency/ program	Time Frame
Capacity building of architects, engineers and masons on earthquake resistant features	Bhavnagar direct comes under Zone-III	R & B (State and Panchayat) DDMC, TDMC, CDMC	DRM	Regularly
Registration of trained and certified mason		R & B (State and Panchayat), DDMC	--	Regularly
Strict enforcement of guideline pertaining to seismic safety for government rural housing, urban development structure		DDO, DDMC, CDMC, TDMC, VDMC	Rural housing schemes	Regularly
Mock-drills for Schools, Hospitals and , Public Buildings and trainings for mason, engineers and architects		DDMC, Schools	DRM	Regularly

Hazard: Drought**Table No. : D1****Structural Mitigation Measures for Drought**

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Development of Pasture land in common property, seed farms and trust land		Forest, Rural Development, Panchayat	Departmental Scheme, MGNREGA	Regularly
Rain Water Harvesting storage tanks at household level and public buildings		GWSSB, (WASMO), Rural Development	MGNREGA, Swajaldhara	Regularly
Structures for water harvesting and recharging like wells, ponds, check dams, farm ponds, etc		DDO, Rural development, irrigation department	MGNREGA ,Watershed program, departmental schemes	Regularly
Development of fodder plots/banks		DDMC, Forest department , animal husbandry department	Development plan	Regularly
Repair and maintenance, de-silting of water sources, check dams, hand pumps etc.		Irrigation, Rural Development	MGNREGA, Watershed	Regularly

Table No.: D2

Non-Structural Mitigation Measures for Drought

Non-Structural measures	Location s/ coverage area	Implementi ng Departmen ts	Convergence with agency/ program	Time Frame
Listing/developing shelf of work for drought proofing/scarcity works including Identification of potential sites of water bodies		Rural Developmen t	MGNREGS	Regularly
Farmer education to practice drought resistant crops and efficient water use		Agriculture & horticulture department	Department al schemes	Regularly
Set up control mechanism for regulated water use (ponds, small dams, check dams) on the early onset.		Panchayats		Regularly

Hazard : Industrial (Chemical)

Table No. E1

Industrial (Chemical) Structural Measures

Structural measures	Activities	Implementing Departments	Convergence with agency/ program	Time Frame
Monitoring impact of industries on NRM (land, water and air)	Data collection of impact on natural resources (ground water monitoring wells, air quality test, etc)	DDMC, DCG GPCB	Environment protection act	Regular intervention
Safety assessment	Carry out structural safety inspection/audit	DISH, DCG (Asst. Director. Industrial safety and health)	Industrial act	Regular intervention
Protection wall	Build protection wall for minimize risk of disaster	Industrial unit	Industrial act	Regular intervention

Table No.: E2

Industrial (Chemical) Non-Structural Measures

Non structural Measures	Activities	Implementing Departments	Convergence Agencies	Time Frame
Planning	Prepare an onsite and offsite emergency plan	Occupier, DISH	Various Industrial act	-
	Conduct mock drills as per the regulations	DISH and LCG	Various Industrial act	Regular intervention
	Update the DM plan as per the requirement	Occupier, DISH	Various Industrial act	Industrial act
	Monitor similar activities in all the factories/	DISH and LCG	Various Industrial	Industrial act

Non structural Measures	Activities	Implementing Departments	Convergence Agencies	Time Frame
	industries		act	
Capacity Building	Develop IEC material for Publication & Distribution	TDMC	Various Industrial act	Industrial act
	Awareness generation to general public and medical professional residing near MAH factories for immediate steps	TDMC, LCG	Various Industrial act	Industrial act
	Organize training programmers, seminars and workshops (e.g. for drivers of HAZMAT transport, line departments officers, Mamlatdar etc)	TDMC, LCG	Various Industrial act	Industrial act
	List of experts/ resource person/ subject specialist (District emergency Off site plan)	TDMC, LCG	Various Industrial act	Industrial act
	Encourage disaster insurance	Labor & employment department	Various Industrial act	Industrial act
Medical	Listing of hazardous chemicals and gases.	Occupier, LCG, DISH, THO	Various Industrial act	Industrial act
	Keep check on availability and validity of relevant antidotes for chemical hazards prevalent in Taluka	Occupier, LCG, DISH, THO	Various Industrial act	Industrial act
	Workshops and trainings for medical professionals to handle potential chemical and industrial hazard	THO, Occupier, LCG, DISH	Various Industrial act	Regularly
Compliance	Environmental Protection Act, Factory Act, Mutual Aid SOPs	DISH , GPCB	Various Industrial act	Regular interval

At the District level, the District Crisis Management Group (DCG) is an apex body to deal with major chemical accidents and to provide expert guidance for handling them. DCG has a strength of 34 members which includes District Collector, SDM and Dy. Collector, DDO, Dy. Director – Industrial Safety & Health, DSP, PI, Fire Superintendent of the City Corporations or important Municipalities, Chief District Health Officer, Civil Surgeon, SE, Chief Officer, Dy. Chief Controller of Explosives, Commandant – SRPF, Group-I, Dy. Director – Information to name a few.

Hazard: Tsunami

Table No. F1

Structural Mitigation Measures for Tsunami

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Constructing shelter belts in coastal areas		Rural Development	Departmental programs , MGNREGA	Long term planning
Contraction Sea water brake structure		R & B State and panchayat	Departmental programs , MGNREGA	Long term planning

Table No. : F2

Non-Structural Mitigation Measures for Tsunami

Non-Structural measures	Locations/ coverage area	Implementing Departments	Convergence with agency/program	Time frame
Provisions of Coastal Regulation Zone to be effectively implemented		Department of Environment & Forest GEC	ICZMP	Long term planning
Capacity building of task forces in coastal villages		TDMC, DDMC, CDMC, VDMC,	DRM,	Periodically
Awareness activity in prone/ vulnerable area		DDMC , TDMC, CDMC, VDMC	DRM	Regularly

Hazard-Fire

Over and above the softer issues highlighted above, GSDMA has provided all the existing Government schools in Gujarat with ISI marked portable Water-CO2 type of Fire Extinguisher (31746 Government schools covered of which 31336 are primary and 410 are secondary and higher secondary schools). For the necessary guidance/instruction for use of fire extinguishers, GSDMA has prepared an 18-minute short education film in Gujarati on fire safety for schools. This was show to all government primary schools through the satellite network.

Specific projects for vulnerable group

DRMP (Disaster risk management programme) is targeting the most vulnerable people or group and give the training on different subject for built their capacity. It also organized mockdrills on various subject at industry, village, Taluka, ULB, district and Municipal corporation level.

GSSP (Gujarat School Safety programme) is targeting the school students, teachers and principal as organized training, sensitization programme, mockdrills, preparing the school disaster management plan and distribute the IEC material.

Thus, DRMP and GSSP are specific project for vulnerable group.

Chapter 5

Preparedness Measures:

Identification of Stakeholders involved in Disaster Response

Disaster response is the most important step during disasters. Public as well as volunteers take part in the response work. There should be search and rescue, first aid and evacuation activities. In case of Search and Rescue NDRF, Fire staff, Police, Homeguard, GRD, NCC, NSS and other trained volunteers involved in Search and rescue. In case of First Aid work people from Health profession and other trained volunteers involved in First Aid activities and in case of Evacuation again Polic, Fire, HG and GRD involved in the same work.

Formation of Persons and Training for-

Search & rescue

It is the duty of the DDMA to provide specialized life saving assistance to district and local authorities. In the event of a major disaster or emergency its operational activities include locating, extricating and providing on site medical treatment to victims trapped in collapsed structures. In the event of any disaster the Home Guards along with the support of the Police dept. form teams to locate injured and dead and try to rescue the ones in need. There are other bodies too that help these departments in this work, like the PWD, Health dept, Fire dept and also the people that voluntarily form teams to help the ones in need. Proper training for search and rescue process needs to be undertaken so as to minimize the time taken in rescuing someone. Also proper methodology and resources are needed to carry out a search & rescue mission.

The tactics used in the search & rescue process vary accordingly with the type of disaster that we are dealing with. In case of flood, a boat and trained swimmers are a must while in case of an earthquake sniffer dogs and cutting tools with trained manpower is a binding requirement. The household register that is maintained by the warden should be maintained for every village as it proves to be of great help in case of a disaster like an earthquake. Because in case of the aforementioned disaster people get trapped in the debris of buildings and houses and it becomes difficult to estimate how many people are present in the debris. But if a household register is maintained then the task becomes quite easy and effective to find out almost correctly that how many people would be present in any building/house at any given time. Thus the resources can be justifiably distributed and more lives can be saved. This kind of process is highly recommended in this particular district which lies in moderate earthquake prone region.

For flood it is recommended that the boats that are used should be light weight and the motor should be of 'luma' type, so that it becomes easy for the rescue team to lift the boat and carry it to the spot.

Search & rescue Team

Designation of trained S&R Team member
<p><i>The Search & Rescue team is formed as and when required and the members & equipments are taken according to the nature of the disaster (and also on their availability).</i></p> <ul style="list-style-type: none"> • Police Officers (2 or more) • Home guards (2 or more) • Swimmers (In case of flood) • A construction engineer (From P.W.D.) • Driver (For Every vehicle) • Any person with the prior experience of the disaster (From Home Guard/Police Dept.) • A doctor or nurse or at least a person having first aid training • A Class IV Officer (Health Dept.)

Early Warning

The early warning systems for different disasters should be in place so that the concerned administrative machinery and the communities can initiate appropriate actions to minimize loss of life and property. These should give an indication of the level of magnitude of the mobilization required by the responders. The goal of any warning system is to maximize the number of people who take appropriate and timely action for the safety of life and property. All warning systems start with the detection of the event and with their timely evacuation. Warning systems should encompass three equally important elements viz detection and warning, dissemination of warning down to the community level and the subsequent quick response.

The State acknowledges the crucial importance of quick dissemination of early warning of impending disasters and every possible measure will be taken to utilize the lead-time provided for preparedness measures. As soon as the warning of an impending calamity is received, the EOCs at the State, District and Block levels will be on a state of alert. The Incident Commander will take charge of the EOC and oversee the dissemination of warning to the community. The District Collector will inform the District Disaster Management Committees who will alert the block and Village level DMCs and DMTs to disseminate the warning to the community. On the basis of assessment of the severity of the disaster, the State Relief Commissioner (Incident Commander) shall issue appropriate instructions on actions to be taken including evacuation to the District Collector, who will then supervise evacuation. In situations of emergency, the District Collector will use his own discretion on the preparedness measures for facing the impending disaster.

At the village level, members of the VDMCs and DMTs or village level will coordinate the evacuation procedures to the pre-designated relief centers, taking special care of the vulnerable groups of women, children, old people etc. according to the plans laid down earlier.

Evacuation

Evacuation is a risk management strategy, which may be used as a means of mitigating the effects of an emergency or disaster on a community. It involves the movement of people to a safer location. However, to be effective, it must be correctly planned and executed. The process of evacuation is usually considered to include the return of the affected community.

Shelter provides for the temporary respite to evacuees. It may be limited in facilities, but must provide protection from the elements as well as accommodate the basic personal needs, which arise at an individual level in an emergency.

The plan must allocate responsibility for management of each of the elements of shelter. Considering the wide range of services, agencies and issues to be managed, it becomes essential for 'shelter' to be managed within a structure, which facilitates the coordination of agencies and services and support of emergency workers. The following factors may need consideration:

- Identification of appropriate shelter areas based on safety, availability of facilities, capacity and number of victims
- Approaches to the shelter location in light of disruption due to hazard impact and traffic blockades
- Temporary accommodation
- Provision of essential facilities like drinking water, food, clothing, communication, medical, electrical and feeding arrangements, etc
- Security
- Financial and immediate assistance
- First-aid and counseling

Types of evacuation

For planning, all evacuations may be considered to be one of two generic types:

- (a) Immediate evacuation, which allows little or no warning and limited preparation time as in the case of earthquakes and air accident
- (b) Pre-warned evacuation resulting from an event that provides adequate Warning and does not unduly limit preparation time as in the case of Flood and Cyclone.

Principles of Evacuation Planning

- Establishment of a management structure for organization, implementation, coordination and monitoring of the plan
- Determination of legal or other authority to evacuate
- Clear definition of rules and responsibilities
- Development of appropriate and flexible plans
- Effective warning and information system
- Promoting awareness and encouraging self-evacuation.
- Assurance of movement capability
- Building confidence measures and seeking cooperation of the affected community.
- Availability of space for establishment of relief camps having requisite capacity and facilities
- Priority in evacuation to be accorded to special need groups like women, old and sick, handicapped and children
- For effective evacuation, organization and running of relief centers, cooperation and involvement of all agencies viz. Community, volunteers, NGOs, NCC / NSS, Home guards and civil defense, district and village bodies be ensured
- Security arrangement and protection of lives and property
- Preparation and updating of resource inventories
- Appropriate welfare measures throughout all stages
- Test exercise of prepared plans and recording of lessons learnt
- Documentation

Stages of Evacuation

There are five stages of evacuation as under:

- Decision of authorities to evacuate victims
- Issue of warning and awareness
- Ensuring smooth movement of victims to designated relief camps
- Ensuring provision of all requisite facilities like security, safe-housing, feeding, drinking-water, sanitation, medical and allied facilities
- Safe return of personnel on return of normalcy

Decision to Evacuate

Vulnerability analysis may indicate that for certain hazards and under certain conditions, sheltering in place could well be the best protection. Available lead-time may influence the decision to evacuate the public before the impact of emergency (e.g. floods) and reducing the risk to lives and property. Decision would also be dependent on factors like ready availability of suitable accommodation, climatic condition, and severity of likely hazard and time of the day.

The Collector would be the authoritative body to issue directions for evacuation. The OIC of DECR would convey directions to Desk Officers of concerned agencies, which are responsible to execute evacuation.

Basic consideration for Evacuation

The DCG will define area to be evacuated as also the probable duration of evacuation based on meteorological observations and intimations by the concerned forecasting agencies. It should also identify number of people for evacuation, destination of evacuees, lead-time available, welfare requirements of evacuees as also identify resources to meet the needs of victims, viz. manpower, transport, supplies equipments, communications and security of the evacuated area.

The evacuating agency should set priorities for evacuation in terms of areas likely to be affected and methodology to execute evacuation:

- Delivery of warning
- Transport arrangement
- Control and timing of movement
- Fulfill welfare needs including medical treatment
- Registration of evacuees

All agencies involved in evacuation operation like Home guards, Police, PWD, PHED, etc. will coordinate in field. They will remain in touch with the Desk officials in the DECR for issuing warning, information and advise the public.

Evacuation Warning

An evacuation warning must be structured to provide timely and effective information. Factors, which may influence the quality and effectiveness of warning, include time, distance, visual evidence, threat characteristic and sense of urgency e.g. the more immediate the threat, the greater the resilience of people to accept and appropriately react to the warning.

The warning should be clear and target specific. The warning statement issued to the community should be conveyed in a simple language. The statement should mention:

- The issuing authority, date and time of issue
- An accurate description of likely hazard and what is expected
- Possible impact on population, area to be in undated or affected due to earthquake
- Need to activate evacuation plan
- Do's and Don'ts to ensure appropriate response
- Advise to the people about further warnings to be issued, if any

Damage & Loss Assessment

Immediately after the disaster, there is an urgent need of damage assessment in terms of loss of life, injury and loss of property. The objectives of damage assessment are to mobilize resources for better rescue and relief, to have detailed information of damage extent and severity of disaster and to develop strategies for reconstruction and restoration facilities.

Damage is assessing with regard to building stock, standing crops, agricultural area, livestock lost, forest cover decimated, vital installations etc. In damage assessment of building stock, generally three types of flags are used; green, yellow and red. The green color is given to the buildings that are safe and require 2-3 days to return to their original function. Yellow flags depict the considerable damage to the buildings and considered unsafe for living, as they require proper structural repairs and careful investigation. The red flag is assigned to buildings that are partially or completely collapsed. Immediately after a disaster event, damage assessment will be conducted in 2 phase's viz. Rapid Damage Assessment and Detailed Damage Assessment.

Training need analysis

Although education about disaster mitigation and prevention and capacity building would seem to be ideal district-level efforts, the lead for both probably best rests with the state level, with districts having a facilitating role. The issue is that if 26 districts independently embark on education and capacity building it will be hard to coordinate and standardize the results across districts. A significant consequence would an inequality in capacities across districts, and thus uneven mitigation and prevention results' How to fund these activities remains open. Options range from GSDMA grants to set-asides in budget allocations. Project Impact in the US and similar programs in Australia and Canada are good models for the former approach.

Awareness

Task	Activity	Responsibility
Information, education And communication	Advertisement, hording, booklets, leaflets, banners, shake-table, demonstration, folk dancing and music, jokes, street play, exhibition, TV Spot, radio spot, audio-visual and documentary, school campaign, Rally, - Planning and Design - Execution and Dissemination	<input type="checkbox"/> Information Dept <input type="checkbox"/> Education Dept <input type="checkbox"/> All line dept <input type="checkbox"/> Dist. Collectors <input type="checkbox"/> Chief officer <input type="checkbox"/> Other Dist. Authorities

Arrangements for training and capacity building

Training, capacity building and other proactive measures

Sr. No.	Task / Activity	Responsibility
1	Training to civil defense personal in various aspect of disaster management	Home Department
2	Training to home Guards personal in various aspect of disaster management including search and rescue	Dy. Controller Civil Defense District Home Guards Commandant
3	Training to NCC and NSS personal in various aspect of disaster management	Education Department NCC Collector Office
4	Training to educational and training institutions personal in various aspect of disaster management	DDMC
5	Training to civil society, CBOs and corporate entities in various aspect of disaster management	DDMC
6	Training to fire and emergency service personal in various aspect of disaster management	Fire Dept, CDMC DDMC
7	Training to police and traffic personal in various aspect of disaster management	DDMC Police Dept.
8	Training to media in various aspect of disaster management	DDMC Information Dept.
9	Training to govt. officials in various aspect of disaster management	DDMC
10	Training to engineers, architects, structural engineers, builders and masons in various aspect of disaster management	DDMC, R & B

Activation of Incident Response System in the District

Command:

This function establishes the framework within which a single leader or committee can manage the overall disaster response effort. A single Incident Commander is responsible for the successful management of the response during operational period in an area. If the incident grows in size and extends throughout many jurisdictions, multiple incident commanders can be useful with an area command authority may be established to coordinate among the incidents. Incident Commander requires the following Command Staffs to support him, which are as followings,

- Public Information Officer – the single media point of contact
 - Safety Officer – Responsible for identifying safety issues and fixing them, he has the authority to halt an operation if needed.
 - Liaison Officer – Point of contact for agency to agency issues.
1. **Operations:** this section carries out the response activities described in the Incident Action Plan (IAP) along with coordinating and managing the activities taken the responding agencies and officials that are directed at reducing the immediate hazard, protecting lives and properties. This section manages the tactical fieldwork and assigns most of the resources used to respond to the incident. Within operations, separate sections are established to perform different functions, such as emergency services, law enforcement, public works...etc.
 2. **Planning:** this section supports the disaster management effort by collecting, evaluating, disseminating, and uses information about the development of the emergency and status of all available resources. This section creates the action plan, often called “Incident Action Plan” (IAP), which shall guide emergency operations/response by objectives.

Followings are the six primary activities performed by the planning section, including,

- Collecting, evaluating, and displaying incident intelligence and information
- Preparing and documenting IAPs
- Conducting long-range and contingency planning
- Developing plans for demobilization
- Maintaining incident documentation
- Tracking resources documentation

3. **Logistics:** the process of response includes personnel, equipments, vehicles, facilities...etc, all of which will depend upon the acquisition, transport, and distribution of resources, the provision of food and water, and proper medical attention. The Logistic section is responsible for the mentioned process.
4. **Finance and Administration:** this section is responsible for tracking all costs associated with the response and beginning the process for reimbursement. The finance and administration section becomes very important when the national government provides emergency funds in place that guarantee local and regional response agencies that their activities, supply use, and expenditures will be covered.

A traditional command structure exists in the administrative hierarchy which manages disasters in India. It has been planned to strengthen and professionalise the same by drawing upon the principles of the ICS with suitable modifications. The ICS is essentially a management system to organise various emergency functions in a standardised manner while responding to any disaster. It will provide for specialist incident management teams with an incident commander and officers trained in different aspects of incident management, such as logistics, operations, planning, safety, media management, etc. It also aims to put in place such teams in each district by imparting training in different facets of incident management to district level functionaries. The emphasis will be on the use of technologies and contemporary systems of planning and execution with connectivity to the joint operations room at all levels.

The local authorities do not have the capacity to play an efficient role at local level to support the DEOC's requirements for field information and coordination. The DEOC will therefore need to send its own field teams and through them establish an Incident Command System. The system will comprise:

- Field command
- Field information collection
- Inter agency coordination at field level

Management of field operations, planning, logistics, finance and administration

Protocol to seeking help from other agencies

As any kind of disaster happened to district which is not controllable by the district response team, collector ordered to DEOC for seeking help from ERC of Saurashtra or NDRF team and Army team to tackle the disaster situation. DEOC also informed same to SEOC.

Checking and certification of logistics, equipments and stores

Bhavnagar district has various types of logistics and equipment. It should be checked and certified by concern officer periodically. Disaster Management cell is regularly monitoring this activity and got certification of this equipment. (Detail information of Equipment is given in Annexure)

Operational check-up of Warning System

Warning system are checked periodically like, Satellite phone, Hot Line, Telephone connection, GSWAN connectivity etc, In Pre- monsoon meeting also give direction for checking warning system like, port signals.

Operational check-up for Emergency Operation Centre

Operational checkup of Emergency Operation Centre are carried out month wise and check out all facility and equipment in DEOC.

Seasonal inspection for facilities and critical infrastructure

Before Cyclone and Monsoon, the equipments are checked, especially pre-monsoon all the equipments, other facilities and critical infrastructure checked by respective authority if it found that equipments are not in working condition, regularly follow up taken by DEOC.

Command and Coordination –

Identification of quick response teams

In case of any kind of disaster district collector is responsible for command all the line departments and DEOC is responsible for coordination with affected area and other stakeholders under the guidance of district collector.

During any disasters quick response is essential and Police, HG, GRD, NCC, NSS, Fire services and other volunteers are responsible to identification of quick response teams.

NGOs and other stakeholders coordination

NGO and Voluntary group are doing very important activity and response during disaster. DDMA also organized capacity-building programmes, awareness programmes on Disaster Management for NGO and Voluntary group.

For arrangement of water supply, temporary sanitation facilities, search and Rescue activity, Relief distribution can be sought with help of special agencies, NGOs and CBOs. (Information of NGO and Voluntary group refer in Annexure)

Seasonal preparedness for Seasonal Disaster

Like Flood and Cyclone-

Whether personal or institutional, all collections are subject to risks that can seriously affect the lifetime and value of a collection. For many museums, galleries, and private collections, an essential aspect in Collection Management is maintaining a loss prevention plan for seasonal disasters.

Hazards from these storms come in many forms including high winds, tornadoes, and storm surges and flooding. Natural disasters make all of us acutely aware of our vulnerabilities to disaster. Fortunately, catastrophes of a large magnitude are rare, but disaster can strike in many ways. Large or small, natural or man-made, emergencies put collections in danger. Hazards can often be mitigated or avoided altogether by a comprehensive, emergency-preparedness plan. Such plans provide a means for recognizing and responding effectively to emergencies. The goal is to hopefully prevent damage or, at least, to limit the extent of the damage.

Identifying Risks

A first step is to list geographic and climatic hazards and other risks that could jeopardize the building and collections. These might include geographical susceptibility to hurricanes, tornadoes, flash flooding, earthquakes, or forest fires, and even the possibility of unusual hazards such as volcanic eruptions. Consider man-made disasters such as power outages, sprinkler discharges, fuel or water supply failures, chemical spills, arson, bomb threats, or other such problems. Take note of the environmental risks that surround you. Chemical industries, shipping routes for hazardous materials, and adjacent construction projects all expose you to damage. Any event that is a real possibility should be covered under your Emergency Preparedness Plan. It is also important to determine the vulnerability of the objects within the collections. What types of materials are included? Are they easily damaged? Are they particularly susceptible to certain types of damage such as moisture, fire, breakage, and the like? How and where are collections

stored? Are they protected by boxes or other enclosures? Is shelving anchored to structural elements of the building? Is it stable? Are any artifacts stored directly on the floor where they could be damaged by leaks or flooding? All items should be raised at least four inches from the floor on waterproof shelves or pallets. Are materials stored under or near water sources? Analyze your security and housekeeping procedures. Do they expose collections to the dangers of theft, vandalism, or insect infestation? Consider vulnerabilities. Are your collections insured? Is there a complete and accurate inventory? Is a duplicate of the inventory located at another site? Although there may be a wide range of disaster scenarios, the most common are water, fire, physical or chemical damage, or some combination of these. The specific procedures of a disaster plan focus on the prevention and mitigation of these types of damage.

Decreasing Risks

Once your hazards are specified, the disaster planner should devise a program with concrete goals, identifiable resources, and a schedule of activities for eliminating as many risks as possible. While water damage is the most common form of disaster for collections, everyone needs a good fire-protection system. Wherever possible, collections should also be protected by a fire suppression system. Preservation professionals now recommend wet-pipe sprinklers for most collections. In addition, water misting suppression systems have become available within the last several years; these can provide fire suppression using much less water than conventional sprinkler systems. Before choosing a fire-protection system, be sure to contact preservation professional or a fire-protection consultant for information about the latest developments in fire protection and for advice appropriate to your collections and situation. An inventory will provide a basic list of holdings, and will be essential for insurance purposes. Improved collection storage, such as boxing and raising materials above the floor level, will reduce or eliminate damage when emergencies occur. Comprehensive security and housekeeping procedures will ward off emergencies such as theft, vandalism, and insect infestation. They will also ensure that fire exits are kept clear and fire hazards eliminated.

Identifying Resources

An important step in writing your plan is to identify sources of assistance in a disaster. Research these services thoroughly--it is an essential part of the planning process. These can range from police, fire, and ambulance services to maintenance workers, insurance adjusters, and utility companies. If possible, invite local service providers to visit in order to become familiar with your site plan and collections in advance of an emergency. For example, you may want to provide the fire department with a list of high-priority areas to be protected from water if fire-fighting efforts permit. Other valuable sources of assistance are local, state, or federal government Agencies.

Community awareness, education and preparedness

Awareness Generation

As a part of Preparedness Awareness, generation among community will be continuous process. From District to Taluka, Village level awareness programme must be conducted with the help of Print Media, Electronic media, folk media authority can create awareness among community.

GSDMA DRM activities:

Disaster Risk Management Programme (DRM) has taken strong roots at various levels of administration in Gujarat. The Department of Revenue & Disaster Management is the nodal Department in Government of Gujarat that handles the subject with GSDMA. Disaster Management Committees are formed at various levels and are assigned the task of implementing the programme. Representation for these committees are drawn from elected representatives, officials of line departments, professional bodies, Civil Defense, NGO and CBO representatives and local opinion leaders. Major Activities are being carried out under DRM program are Plan Development at Various Levels, Emergency Resources Database maintained through SDRN / IDRN, Capacity Building through Trainings & Resource Mobilization, Disaster Awareness through Orientations, Campaigning, Media Management and IEC distribution. Coordinate District Administration for all Disaster Management Activities with expertise knowledge, logistics and fund allocation.

The Disaster Risk Management Program (DRM) being implemented by Gujarat State Disaster Management Authority (GSDMA) aims to strengthen the response, preparedness and mitigation measures of the community, local self-governments, the District administration and the State in Gujarat. Under the DRM Programme

District Level Process

1. Orientation of District level officers and PRI members including line department officials
2. Formation of District Disaster Management Committee
3. Development of manuals and guidelines Capacity building of DDMC members, government officials, training institutes, other concerned organizations at district level.
4. Development of the District Disaster Management Plan
5. Use of IEC materials for awareness generation for preparedness, risk reduction and mitigation
6. Data updation on IDRN

Taluka level process

1. Orientation cum sensitize Taluka level officers and PRI members.
2. Formation of Taluka Disaster Management Committee
3. Capacity building of government officials
4. Development of the TDMP
5. Use of IEC material and media sources for create awareness at taluka level
6. TDMP update on SDRN

City-ULB level process

1. Orientation of City level officers, elected members & leaders.
2. Formation of CDMP
3. Capacity building of municipal official and concerned organizations at city level
4. Development of the CDMP.
5. Use of IEC material for create awareness at city level
6. CDMP updation on SDRN

Village Level Process

1. Formation Cluster within 10 to 12 village and conduct cluster meetings over 10-12 villages
2. Organize Gramsabha in each village
3. Undertake PRA exercise at village level for hazard, vulnerability assessment and resource analysis
4. Facilitate the formation of the Village Disaster Management Committee (VDMC)
5. Conduct training programs for DMT and DMC Members and volunteers
6. Awareness campaigns on risk reduction mechanisms, Risk Transfer-insurance, disaster resistant construction
7. Developed Village Disaster Management Plan (VDMP)
8. Conduct mock drills for test the VDMP
9. Update VDMP twice in a year (by VDMC)

Bhavnagar district had taken the preparedness measures from village level to District level. At the villages village Task forces was formed and trained about First aid and Health, Search and Rescue and Disaster Management. Some volunteers were also trained in Disaster Management and plans like VDMP were prepared and updated. Officers reviewed the disaster preparedness of the villages and interacted with the Village level Disaster Management team members, in the pre-monsoon meeting all departments, and stakeholders were asked to get prepared departmental plan. SOP's were

also discussed with them so that quick response can be assured and any kind of risk due to water lodging, flood, heavy rainfall and dam overflow can be reduced.

Prevention and Mitigation and preparedness actions are to be taken before a disaster to reduce the likelihood of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction.

Base on the interim assessment of risk and vulnerabilities, certain majors for mitigation, preparedness and prevention has been taken with respect to the District. These are...

The proposed state-level disaster-planning format sets out priorities for mitigation, prevention and preparedness activities. The underlying concept is to incorporate these three types of activities into normal (developmental) policies, procedures and undertakings and targeting specific areas for concerted effort.

Complementary priorities, plans and activities need to be established at the district level. This process is complicated by five realities:

1. Developmental policies and budgets are set at the state-level and project implementation is not always under the control of district authorities
2. District authorities have limited policy and funding independence.
3. The range of possible mitigation, prevention and preparedness actions within a district is significant but can be difficult to prioritize.
4. Many activities require popular participation and should be focus on the family or community, which requires time and effort to effectively organize.
5. The local commercial sector is cost-conscious and tends to avoid investments in activities which do not immediately improve profits.

A set of possible district-level approaches to mitigation, prevention and preparedness are summarized below based on these realities. These approaches need to be reviewed at the district and state level and to the degree possible, harmonized vertically within the government structure and across public and private sector organizations and districts. At the same time, the focus of efforts can vary between and even within districts depending on their particular hazards, risks and vulnerabilities.

One approach to developing this harmonization is to hold a state-district conference on mitigation, preparedness and prevention, complemented by annual review workshop. The initial conference would define and harmonize policies, procedures and approaches vertically and horizontally. The workshop would serve to recognize progress and adjust plans to take into account changing local and state-level conditions.

Community Warning System

It is often observed that communities living in remote and isolated locations do not receive timely and reliable warnings of impending disasters. Hence, it is necessary to have robust and effective early warning systems, which can play crucial role in saving lives and limiting the extent of damage to assets and services. Outreach and reliability of warnings are key factors for planning and implementing response measures. Post disaster advisories like information on rescue, relief and other services are important to ensure law, order, and safety of citizens.

Type of Action	Flood	Cyclone	Chemical and industrial accidents	Tsunami
Existing EWS	Irrigation department /dam authority/ IMD ↓ Collector ↓ Mamlatdar /TDO ↓ Villages	IMD ↓ Collector ↓ Mamlatdar/T DO ↓ Villages	Industrial Association/industries ↓ DCG ↓ LCG ↓ Mamlatdar ↓ Villages	IMD ↓ Collector ↓ Mamlatdar /TDO ↓ Villages
Responsible Agency for warning dissemination	DDMC Mamlatdar office/TDO VDMC	DDMC Mamlatdar office/TDO VDMC	DDMC Mamlatdar office/TDO VDMC	DDMC Mamlatdar office/TDO VDMC
Trained personnel and operators available				
Villages covered	All risk prone villages			
Villages/habitat on not covered or difficult to access	Communities in remote locations (fisher folk, salt pan workers, etc) VDMC			
Measures required to improve timeliness and outreach (For example, voice enabled SMS)	Contact of communities in remote locations (fisher folk, saltpan workers etc)			

During and Post Disaster Advisory Action Plan

Type of Hazard	Flood	Cyclone	Earthquake	Drought	Chemical and industrial accidents	Tsunami
Responsible Agency	DDMC, Mamlatdar office & TDO					
Villages covered	All risk prone villages					
Villages/habitation not covered or difficult to access	communities in remote locations (fisher folk, salt pan workers etc)					
Measures required for outreach	Contact of communities in remote locations (fisher folk, salt pan workers etc)					

Procurement various Resource

Provide logistical support to government and agencies for procurement of relief goods, transportation, Tents, blankets, tarpaulins, equipment etc, and monitoring illegal price escalations, stocking etc. during crisis. DDMA and other local authority should do procurement of such resource and If they have such resource so keep them in ready to use in disaster situation.

SDRN/IDRN data updation

State disaster Resource network and India Disaster Resource Network is a crucial databases for response any disaster. SDRN, a decision support tool, is layered using the existing IT Wide Area Network (WAN) of the State - GSWAN. SDRN uses the map-based Geospatial Information Systems developed by the Gujarat based organization Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG). Currently, the SDRN network is being integrated with the GIS based Decision Support System using Java, MS-Access, Visual Studio 2005 with Database SQL Server 2005. The GIS Visualize does not require any GIS software. The GIS visualize contains multi layered options depicting roads-highways, taluka, district boundaries, rivers, ports, airways, etc. SDRN and IDRN updation are regularly base work and it is updation.

IDRN, a web based information system, is a platform for managing the inventory of equipments, skilled human resources and critical supplies for emergency response. The primary focus is to enable the decision makers to find answers on availability of equipments and human resources required to combat any emergency. This database will also enable them to assess the level of preparedness for specific vulnerabilities. Total 226 technical items listed in

the resource inventory. It is a nationwide district level resource database. Each user of all districts of the state has been given unique username and password through which they can perform data entry, data updation on IDRN for resources available in their district. The IDRN network has functionality of generating multiple query options based on the specific equipment, skilled human resources and critical supplies with their location and contact details.

Protocol and arrangement for VIP Visit

It is important that immediately inform VIPs and VVIPs on impending disasters and current situation during and after disasters. Appeals by VIPs can help in controlling rumors and chaos during the disaster. Visits by VIPs can lift the morale of those affected by the disaster as well as those who are involved in the response. Care should be taken that VIP visits do not interrupt rescue and life saving work. Security of VIPs will be additional responsibility of local police and Special Forces. It would be desirable to restrict media coverage of such visits, in which case the police will liaise with the government press officer to keep their number to minimum.

Media Management/information dissemination

The role of media, both print and electronic, in informing the people and the authorities during emergencies becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness. Media through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response. During any emergency, people seek up-to-date, reliable and detailed information.

The State Government has established an effective system of collaborating with the media during emergencies. At the State Emergency Operation Centre (SEOC), a special media cell has been created which is made operational during emergencies. Both print and electronic media are regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground.

Documentation

Documentation is very important activity in disaster management. DDMA also appoints duty for Documentation to the information department. Documentation should be in good manner. It can be in summary and detail form. It is reliable and authentic.

Chapter 6

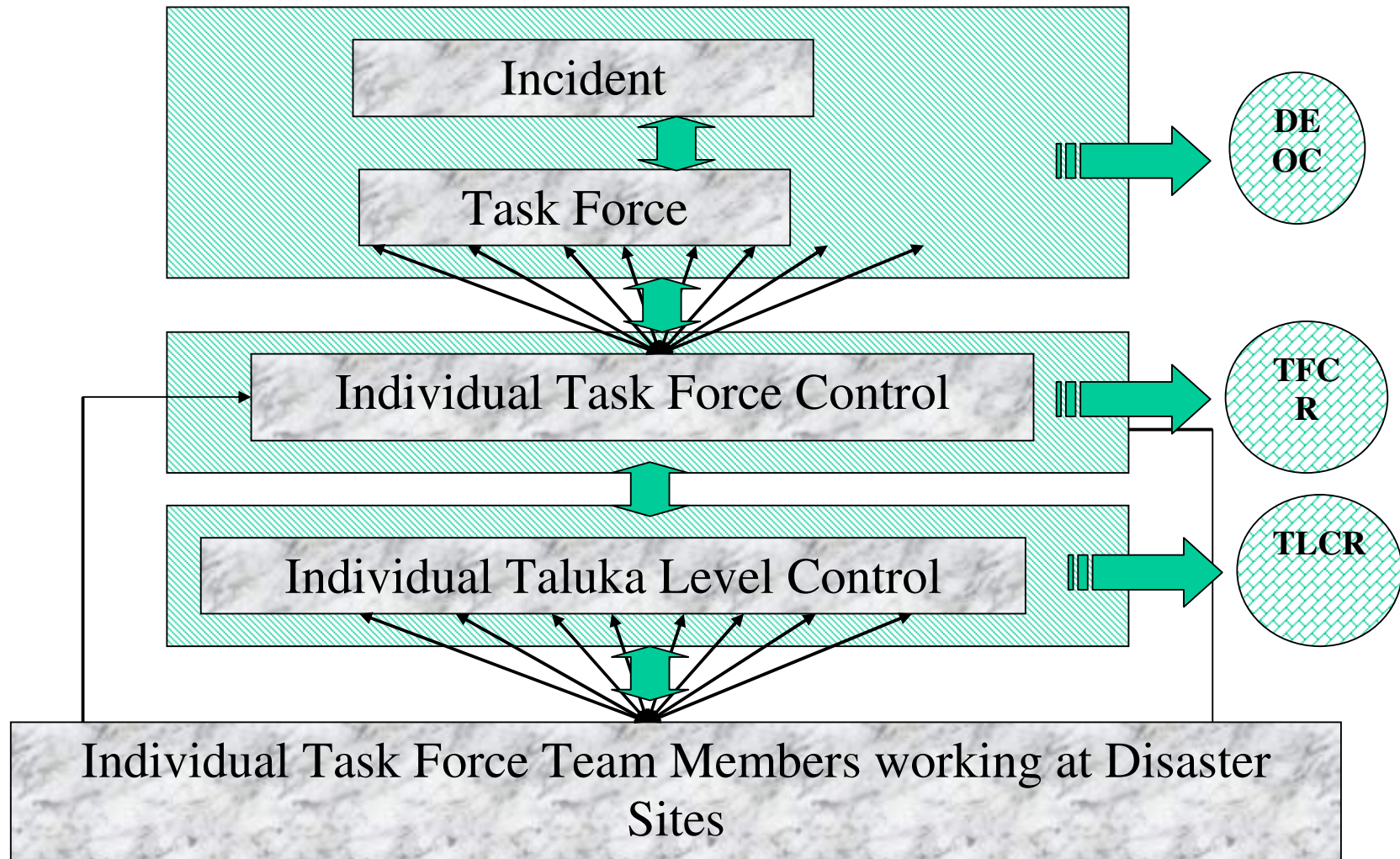
Response Measures (Multi-Hazard):

Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until the disaster is declared to be over. Since response is conducted during periods of high stress in a highly time-constrained environment and with limited information and recourses (in majority of the cases), it is by far, the most complex of four functions of disaster management. Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear perception/vision about hazards, its consequences and actions that need to be taken in the event of it.

The Revenue Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs.

The District EOC, ERCs and other control rooms at the District level should be activate with full strength and begun active for search and rescue according disaster.

Response Flow chart



Warning and alert dissemination

On the receipt of warning or alert from any such agency, which is competent to issue such a warning, or on the basis of reports from District Collector of the occurrence of a disaster, the response structure of the State Government will be put into operation. The Chief Secretary/Relief Commissioner will assume the role of the Chief of Operations during the emergency. The details of agencies competent enough for issuing warning or alert pertaining to various types of disasters are given below;

Sr. No.	Disaster	Agencies
1	Earthquakes	IMD/ISR
2	Floods	Meteorological Department, Irrigation
3	Tsunamis	IMD/ISR/INCOIS
4	Cyclones	IMD
5	Epidemics	Public Health Department
6	Road Accidents	Police
7	Industrial and Chemical Accidents	DISH, Police, Collector
8	Drought	Agriculture, Scarcity department
9	Fire	Fire Brigade, Police, Collector
10	Rail Accident	Railways, Police, Collector
11	Air Accident	Police, Collector, Airlines
12	Ammunition Depot-Fire	Army, Police, Collector.

1. Cyclone/flood forecasting is generally the responsibility of the Indian Meteorological Department (IMD). IMD is the nodal agency for providing cyclone-warning services. IMD's INSAT satellite based Cyclone Warning Dissemination System (CWDS) is one of the best currently in use in India to communicate cyclone warnings from IMD to community and important officials in areas likely to be affected directly and quickly. There are 19 CWDS stations in Gujarat.

2. After getting information from IMD, warning dissemination is a responsibility of State Government (COR). The COR under the Revenue Department is responsible for disseminating cyclone warnings to the public and Line Departments.

3. On receiving an initial warning, the office of the COR disseminates the warning to all Line Departments, the District administration and DG Police. Warning messages are transmitted though wireless to all districts and Talukas. District Collectors are provided with satellite phones and a Ham radio to maintain effective communication, even if terrestrial and cell-phone communication fails.

4. The state EOC and control rooms of the other line departments at the State level as well as district level also get the warnings. The control rooms are activated on receiving the warnings.

District CMG meeting

At the District level, the District Crisis Management Group (DCG) is an apex body to deal with major chemical accidents, disaster and to provide expert guidance for handling them. DCG has a strength of 34 members which includes District Collector, SDM and Dy. Collector, DDO, Dy. Director – Industrial Safety & Health, DSP, PI, Fire Superintendent of the City Corporations or important Municipalities, Chief District Health Officer, Civil Surgeon, SE, Chief Officer, Dy. Chief Controller of Explosives, Commandant – SRPF, Group-I, Dy. Director – Information to name a few. At Taluka level Local Crisis Management Group (LCG) is formed for coordination of activities and executing the operations. DCGs as well as LCG. Meeting will meet periodically twice in a year.

Activation of EOC

Emergency Operation Center (EOC) is a physical location and normally includes the space, facilities and protection necessary for communication, collaboration, coordination and emergency information management.

The EOC is a nodal point for the overall coordination and control of relief work. In case of a Level 1 Disaster the Local Control room will be activate, in case of a Level 2 disaster DEOC will be activated along inform with the SEOC.

Response planning, preparedness and assumption Quil assessment of damages and need

Agriculture

Prevention Activities:

- Awareness generation regarding various plant diseases, alternate cropping practices in disaster-prone areas, Crop Insurance, provision of credit facilities, proper storage of seeds, etc.
- Hazard area mapping (identification of areas endemic to pest infections, drought, flood, and other hazards)
- Develop database village-wise, crop-wise, irrigation source wise, insurance details, credit etc.

- Regular monitoring at block level; the distribution and variation in rainfall
- Prepare the farmers and department officers to adopt contingency measures and take up appropriate course of action corresponding to the different emerging conditions.
- Detail response manuals to be drawn up for advising the farmers for different types of disasters, e.g., rain failure in July or September & development of a dynamic response plan taking into account weekly rainfall patterns.
- Develop IEC materials to advise the farming communities on cropping practices and precautionary measures to be undertaken during various disasters
- Improving irrigation facilities, watershed management, soil conservation and other soil, water and fertility management
- Measures keeping in mind the local agro climatic conditions and the proneness of the area to specific hazards.
- Promotion of alternative crop species and cropping patterns keeping in mind the vulnerability of areas to specific hazards
- Surveillance for pests and crop diseases and encourage early reporting.
- Encourage promotion of agro service outlets/enterprise for common facilities, seed and agro input store and crop insurance.

Preparedness Activities before disaster seasons

- Review and update precautionary measures and procedures, especially ascertain that adequate stock of seeds and other agro inputs are available in areas prone to natural calamities.
- Review the proper functioning of rain gauge stations, have stock for immediate replacement of broken / non-functioning gadgets/equipments, record on a daily basis rainfall data, evaluate the variation from the average rainfall and match it with the rainfall needs of existing crops to ensure early prediction of droughts.

Response Activities:

Management of control activities following crop damage, pest infestation and crop disease to minimize losses

1. Collection, laboratory testing and analysis of viruses to ensure their control and eradication
2. Pre-positioning of seeds and other agro inputs in strategic points so that stocks are readily available to replace damage caused by natural calamities.
3. Rapid assessment of damage to soil, crop, plantation, irrigation systems, drainage, embankment, other water bodies and storage

facilities and the requirements to salvage, replant, or to compensate and report the same for ensuring early supply of seeds and other agro inputs necessary for re-initiating agricultural activities where crops have been damaged.

4. Establishment of public information centers with appropriate and modern means of communication, to assist farmers in providing information regarding insurance, compensation, repair of agro equipments and restarting of agricultural activities at the earliest.

Recovery Activities

1. Arrange for early payment of compensation and crop insurance dues.
2. Facilitate provision of seeds and other agro inputs.
3. Promotion of drought and flood tolerant seed varieties
4. Review with the community, the identified vulnerabilities and risks for crops, specific species, areas, which are vulnerable to repetitive floods, droughts, other natural hazards, water logging, increase in salinity, pest attacks etc. and draw up alternative cropping plans to minimize impacts to various risks.
5. Facilitate sanctioning of soft loans for farm implements.
6. Establishment of a larger network of soil and water testing laboratories
7. Establishment of pests and disease monitoring system
8. Training in alternative cropping techniques, mixed cropping and other agricultural practices which will minimize crop losses during future disasters

Health Department

Disaster Events

Prevention Activities:

- Assess preparedness levels at State, District and Block levels.
- Identification of areas endemic to epidemics and natural disasters
- Identification of appropriate locations for testing laboratories
- Listing and networking with private health facilities
- Developing a network of volunteers for blood donation with blood grouping data
- Strengthening of disease surveillance, ensuring regular reporting from the field level workers (ANMs / LHV etc) and its compilation and analysis at the PHC and District levels, on a weekly basis (daily basis in case of an epidemic or during natural disasters), forwarding the same to the State Disease Surveillance Cell and monthly feedback from the State to the district and from the District to the PHC

- Formation of adequate number of mobile units with trained personnel, testing facilities, communication systems and emergency treatment facilities
- Identification of locations in probable disaster sites for emergency operation camps
- Awareness generation about various infectious diseases and their prevention
- Training and IEC activities
- Training of field personnel, Traditional Birth Attendants, community leaders, volunteers,
- NGOs and CBOs in first aid, measures to be taken to control outbreak of epidemics during and after a disaster, etc
- Arrangement of standby generators for every hospital
- Listing of vehicles, repair of departmental vehicles that will be requisitioned during emergencies for transport of injured

Preparedness Activities before Disaster Seasons

For heat wave:

Preparation and distribution of IEC materials, distribution of ORS and other life-saving drugs, training of field personnel on measures to be taken for management of patients suspected to be suffering from heatstroke;

For flood and cyclone:

- Assessment and stock piling of essential medicines, anti snake venom, halogen tablets, bleaching powders. ORS tablets, Pre-positioning of mobile units at vulnerable and strategic points

Response activities:

Stock piling of life-saving drugs, detoxicants, anesthesia, Halogen tablets in vulnerable areas

Strengthening of drug supply system with powers for local purchase during Level-0

Situational assessment and reviewing the response mechanisms in known vulnerable pockets

Ensure adequate availability of personnel in disaster site

Review and update precautionary measures and procedures.

Sanitation

- Dispensing with post-mortem activities during L1, L2 and L3 when the relatives and/or the competent authority are satisfied about cause of death
- Disinfections of water bodies and drinking water sources

- Immunization against infectious diseases
- Ensure continuous flow of information.

Recovery Activities

- Continuation of disease surveillance and monitoring
- Continuation of treatment, monitoring and other epidemic control activities till the situation is brought under control and the epidemic eradicated
- Trauma counseling
- Treatment and socio-medical rehabilitation of injured or disabled persons
- Immunization and nutritional surveillance
- Long term plans to progressively reduce various factors that contribute to high level of vulnerability to diseases of population affected by disasters

Epidemics

Preventive Activities:

- Supply of safe drinking water, water quality monitoring and improved sanitation
- Vector Control programme as a part of overall community sanitation activities
- Promotion of personal and community latrines
- Sanitation of sewage and drainage systems
- Development of proper solid waste management systems
- Surveillance and spraying of water bodies for control of malaria
- Promoting and strengthening Primary Health Centers with network of paraprofessionals to improve the capacity of surveillance and control of epidemics
- Establishing testing laboratories at appropriate locations to reduce the time taken for early diagnosis and subsequent warning
- Establishing procedures and methods of coordination with the Health Department, other local authorities/departments and NGOs to ensure that adequate prevention and preparedness
- measures have been taken to prevent and / or minimize the probable outbreak of epidemics
- Identification of areas prone to certain epidemics and assessment of requirements to control and ultimately eradicate the epidemic
- Identification of appropriate locations and setting up of site operation camps for combating epidemics
- Listing and identification of vehicles to be requisitioned for transport of injured animals.

- Vaccination of the animals and identification of campsites in the probable areas
- Promotion of animal insurance
- Tagging of animals
- Arrangement of standby generators for veterinary hospitals
- Provision in each hospital for receiving large number of livestock at a time
- Training of community members in carcasses disposal

Preparedness activities before disaster seasons

- Stock piling of water, fodder and animal feed
- Pre-arrangements for tie-up with fodder supply units
- Stock-piling of surgical packets
- Construction of mounds for safe shelter of animals
- Identification of various water sources to be used by animals in case of prolonged hot and dry spells
- Training of volunteers & creation of local units for carcass disposal
- Municipalities / Gram Pranchayats to be given responsibility for removing animals likely to become health hazards.

Response Activities:

- Control of animal diseases, treatment of injured animals, Protection of lost cattle.
- Supply of medicines and fodder to affected areas.
- Ensure adequate availability of personnel and mobile team.
- Disposal of carcasses ensuring proper sanitation to avoid outbreak of epidemics.
- Establishment of public information centre with a means of communication, to assist in providing an organized source of information.
- Mobilizing community participation for carcass disposal.

Recovery Activities:

- Assess losses of animals assets and needs of persons and communities.
- Play a facilitating role for early approval of soft loans for buying animals and ensuring insurance coverage and disaster proof housing or alternative shelters/ mounds for animals for future emergencies.
- Establishment of animal disease surveillance system

Water Supplies and Sanitation (GWSSB)

Prevention Activities:

- Provision of safe water to all habitats
- Clearance of drains and sewerage systems, particularly in the urban areas
- Assess preparedness level
- Annual assessment of danger levels & wide publicity of those levels
- Identify flood prone rivers and areas and activate flood monitoring mechanisms
- Provide water level gauge at critical points along the rivers, dams and tanks
- Identify and maintain of materials/tool kits required for emergency response
- Stock-pile of sand bags and other necessary items for breach closure at the Panchayat level

Preparedness Activities for disaster seasons

- Prior arrangement of water tankers and other means of distribution and storage of water.
- Prior arrangement of stand-by generators
- Adequate prior arrangements to provide water and halogen tablets at identified sites to used as relief camps or in areas with high probability to be affected by natural calamities.
- Rising of tube-well platforms, improvement in sanitation structures and other infrastructural measures to ensure least damages during future disasters
- Riser pipes to be given to villagers

Response Activities:

- Disinfections and continuous monitoring of water bodies.
- Ensuring provision of water to hospitals and other vital installations.
- Provision to acquire tankers and establish other temporary means of distributing water on an emergency basis.
- Arrangement and distribution of emergency tool kits for equipments required for dismantling and assembling tube wells, etc.
- Carrying out emergency repairs of damaged water supply systems.
- Disinfection of hand pumps to be done by the communities through prior awareness activities & supply of inputs.
- Monitoring flood situation.
- Dissemination of flood warning.

- Ensure accurate dissemination of warning messages to GPs & Taluka with details of flow.
- Monitoring and protection of irrigation infrastructures.
- Inspection of bunds of dams, irrigation channels, bridges, culverts, control gates and overflow channels.
- Inspection and repair of pumps, generator, motor equipments, station buildings.
- Community mobilization in breach closure

Recovery Activities:

- Strengthening of infrastructure.
- Sharing of experiences and lessons learnt.
- Training to staff, Review and documentation.
- Development of checklists and contingency plans.
- Strengthening of infrastructure and human resources.
- Review and documentation.
- Sharing of experiences and lessons learnt.
- Training of staff.
- Development of checklists and contingency plans.

Police:

Prevention Activities:

- Keep the force in general and the RAF in particular fighting fit for search, rescue, evacuation and other emergency operations at all times through regular drills.
- Procurement and deployment of modern emergency equipments while modernizing existing infrastructure and equipments for disaster response along with regular training and drills for effective handling of these equipments.
- Focus on better training and equipments for RAF for all types of disasters.
- Rotation of members of GSDRAF so that the force remains fighting fit.
- Ensure that all communication equipments including wireless are regularly functioning and deployment of extra wireless units in vulnerable pockets.
- Ensure inter changeability of VHF communication sets of police and GSDMA supplied units, if required.
- Keeping close contact with the District Administration & Emergency Officer.

- Superintendent of Police be made Vice Chairperson of District Natural Calamity Committee.
- Involvement of the local army units in response planning activities and during the preparation of the contingency plans, ensure logistics & other support to armed forces during emergencies.

Response Plan:

- Security arrangements for relief materials in transit and in camps etc.
- Senior police officers to be deployed in control rooms at State & district levels during L 1
- Level deployment onwards.
- Deploy personnel to guard vulnerable embankments and at other risk points.
- Arrangement for the safety.
- Coordinate search, rescue and evacuation operations in coordination with the administration
- Emergency traffic management
- Maintenance of law and order in the affected areas
- Assist administration in taking necessary action against hoarders, black marketers etc.

Civil Defense

Prevention Activities

- Organize training programmers on first-aid, search, rescue and evacuation.
- Preparation and implementation of first aid search and rescue service plans for major public events in the State.
- Remain fit and prepared through regular drills and exercises at all times.

Response Activities

- Act as Support agency for provision of first aid, search and rescue services to other emergency service agencies and the public.
- Act as support agency for movement of relief.
- Triage of casualties and provision of first aid and treatment.
- Work in co-ordination with medical assistance team.
- Help the Police for traffic management and law and order.

Fire Services:

Prevention Activities:

- Develop relevant legislations and regulations to enhance adoption of fire safety measures.
- Modernization of fire-fighting equipments and strengthening infrastructure.
- Identification of pockets, industry , etc. which highly susceptible to fire accidents or areas, events which might lead to fires, building collapse, etc. and educate people to adopt safety measures. Conduct training and drills to ensure higher level of prevention and preparedness.
- Building awareness in use of various fire protection and preventive systems.
- Training the communities to handle fire emergencies more effectively.
- VHF network for fire services linked with revenue & police networks.
- Training of masons & engineers in fireproof techniques.
- Making clearance of building plans by fire services mandatory.

Response Activities:

- Rescue of persons trapped in burning, collapsed or damaged buildings, damaged vehicles, including motor vehicles, trains and aircrafts, industries, boilers, trenches & tunnels.
- Control of fires and minimizing damages due to explosions.
- Control of dangerous or hazardous situations such as oil, gas and hazardous materials spill.
- Protection of property and the environment from fire damage.
- Support to other agencies in the response to emergencies.
- Investigation into the causes of fire and assist in damage assessment.

Civil Supplies:

Preventive Activities

- Construction and maintenance of storage goods storage at strategic locations
- Stock piling of food and essential commodities in anticipation of disaster.
- Take appropriate preservative methods to ensure that food and other relief stock are not damaged during storage, especially precautions against moisture, rodents and fungus infestation.

Response Activities

- Management of procurement
- Management of material movement
- Inventory management

Recovery Activities

Conversion of stored, unutilized relief stocks automatically into other schemes like Food for Work. Wherever, it is not done leading to damage of stock, it should be viewed seriously.

Public Works/ Rural Development Departments

Prevention Activities:

- Keep a list of earth moving and clearing vehicles / equipments (available with Govt. Departments, PSUs, and private contractors, etc.) and formulate a plan to mobilize those at the earliest
- Inspection and emergency repair of roads/ bridges, public utilities and buildings

Response Activities

- Clearing of roads and establish connectivity. Restore roads, bridges and where necessary make alternate arrangements to open the roads to traffic at the earliest
- Mobilization of community assistance for clearing blocked roads
- Facilitate movement of heavy vehicles carrying equipments and materials
- Identification and notification of alternative routes to strategic locations
- Filling of ditches, disposal of debris, and cutting of uprooted trees along the road
- Arrangement of emergency tool kit for every section at the divisional levels for activities like clearance (power saws), debris clearance (fork lifter) and other tools for repair and maintenance of all disaster response equipments.

Recovery Activities:

- Strengthening and restoration of infrastructure with an objective to eliminate the factor(s) which caused the damage.
- Sharing of experiences and lessons learnt.
- Training to staff, Review and documentation.
- Development of checklists and contingency plans.

Energy: PGVCL

Prevention Activities:

- Identification of materials/tool kits required for emergency response.
- Ensure and educate the minimum safety standards to be adopted for electrical installation and equipments and organise training of electricians accordingly.
- Develop and administer regulations to ensure safety of electrical accessories and electrical installations.
- Train and have a contingency plan to ensure early electricity supply to essential services during emergencies and restoration of electric supply at an early date.
- Develop and administer code of practice for power line clearance to avoid electrocution due to broken / fallen wires.
- Strengthen high-tension cable towers to withstand high wind speed, flooding and earthquake, modernize electric installation, and strengthen electric distribution system to ensure minimum damages during natural calamities.
- Conduct public/industry awareness campaigns to prevent electric accidents during normal times and during and after a natural disaster.

Response Activities:

- Disconnect electricity after receipt of warning.
- Attend sites of electrical accidents and assist in undertaking damage assessment.
- Stand-by arrangements to ensure temporary electricity supply.
- Prior planning & necessary arrangements for tapping private power plants like those belonging to ICCL, NALCO, RSP during emergencies to ensure uninterrupted power supply to the Secretariat, SRC, GSDMA, Police Headquarters, All India Radio, Doordarshan, hospitals, medical colleges, Collector Control Rooms and other vital emergency response agencies.
- Inspection and repair of high tension lines /substations/transformers/poles etc.
- Ensure the public and other agencies are safeguarded from any hazards, which may have occurred because of damage to electricity distribution systems.
- Restore electricity to the affected area as quickly as possible.
- Replace / restore of damaged poles/ salvaging of conductors and insulators.

Fisheries

Prevention Activities

- Registration of boats and fishermen.
- Building community awareness on weather phenomena and warning system especially on Do's and Don'ts on receipt of weather related warnings.
- Assist in providing life saving items like life jackets, hand radios, etc.
- Certifying the usability of all boats and notifying their carrying capacities.
- Capacity building of traditional fishermen and improvisation of traditional boats which can be used during emergencies.
- Train up young fishermen in search & rescue operation and hire their services during emergency

Response Activities

- Ensure warning dissemination to fishing communities living in vulnerable pockets.
- Responsible for mobilizing boats during emergencies and for payment of wages to boatmen hired during emergencies.
- Support in mobilization and additional deployment of boats during emergencies.
- Assess the losses of fisheries and aquaculture assets and the needs of persons and communities affected by emergency.

Recovery Activities

Provide compensations and advice to affected individuals, community.

Forest Department

Prevention activities

- Promotion of shelter belt plantation
- Publishing for public knowledge details of forest cover, use of land under the forest department, the rate of depletion and its causes
- Keep saws (both power and manual) in working conditions
- Provision of seedling to the community and encouraging plantation activities, promoting nurseries for providing seedlings in case of destruction of trees during natural disasters

Transport Department:

Prevention Activities

- Listing of vehicles which can be used for emergency operation.
- Safety accreditation, enforcement and compliance
- Ensuring vehicles follow accepted safety standards.
- Build awareness on road safety and traffic rules through awareness campaign, use of different IEC strategies and training to school children.
- Ensure proper enforcement of safety regulations
- Requisition vehicles, trucks, and other means of transport to help in the emergency operations.
- Participate in post impact assessment of emergency situation
- Support in search, rescue and first aid.
- Cooperate and appropriation of relief materials.

Recovery Activities

- Provision of personal support services e.g. counseling.
- Repair/restoration of infrastructure e.g. roads, bridges, public amenities.
- Supporting the GPs in development of storage and in playing a key role and in the coordination of management and distribution of relief and rehabilitation materials.
- The G.P. members to be trained to act as an effective interface between the community,
- NGOs and other developmental organizations.
- Provide training so that the elected representatives can act as effective supportive agencies for reconstruction and recovery activities.

Panchayati Raj Institutions

Preventive Activities

- Develop prevention/mitigation strategies for risk reduction at community level.
- Training of elected representatives on various aspects of disaster management
- Public awareness on various aspects of disaster management
- Organize mock drills
- Promote and support community-based disaster management plans.
- Support strengthening response mechanisms at the G.P. level (e.g., better communication, local storage, search & rescue equipments, etc.).

- Clean drainage channels, trimming of branches before cyclone season.
- Ensure alternative routes/means of communication for movement of relief materials and personnel to marooned areas or areas likely to be marooned.
- Assist all the government departments to plan and priorities prevention and preparedness activities while ensuring active community participation.

Response Activities

- Train ups the G.P. Members and Support for timely and appropriate delivery of warning to the community.
- Clearance of blocked drains and roads, including tree removal in the villages.
- Construct alternative temporary roads to restore communication to the villages.
- PRIs to be a part of the damage survey and relief distribution teams to ensure popular participation.
- Operation emergency relief centers and emergency shelter.
- Sanitation, drinking water and medical aid arrangements.
- IEC activities for greater awareness regarding the role of trees and forests for protection during emergencies and also to minimize environmental impact which results owing to deforestation like climate change, soil erosion, etc.
- Increasing involvement of the community, NGOs and CBOs in plantation, protection and other forest protection, rejuvenation and restoration activities.
- Plan for reducing the incidence, and minimize the impact of forest fire.

Response Activities:

- Assist in road clearance.
- Provision of tree cutting equipments
- Units for tree cutting and disposal to be put under the control of GSDMA, SRC, Collector during Level 1.
- Provision of building materials such as bamboos etc for construction of shelters

Recovery Activities:

Take up plantation to make good the damage caused to tree cover.

Information & Public Relations Department

Prevention Activities

- Creation of public awareness regarding various types of disasters through media campaigns.
- Dissemination of information to public and others concerned regarding do's and don'ts of various disasters
- Regular Liasoning with the media

Response Activities

- Setting up of a control room to provide authentic information to public regarding impending
- emergencies
- Daily press briefings at fixed times at district level to provide official version
- Media report & feedback to field officials on a daily basis from Level 1 onwards
- Keep the public informed about the latest emergency situation (area affected, lives lost, etc).
- Keep the public informed about various post-disaster assistances and recovery programmers.

Revenue Department

- Co-ordination with Govt. of Gujarat Secretariat and Officers of Govt. of India
- Overall control & supervision
- Damage assessment, finalization of reports and declaration of Level 1/Level 2 disasters
- Mobilization of finance

Home Department

- Requisition, deployment and providing necessary logistic support to the armed forces
- Provide maps for air dropping, etc.

Gujarat Disaster Rapid Action Force

Response

- To be trained and equipped as an elite force within the Police Department and have the capacity to immediately respond to any emergency.

- Unit to be equipped with life saving, search & rescue equipments, medical supplies, security arrangements, communication facilities and emergency rations and be self-sufficient.
- Trained in latest techniques of search, rescue and communication in collaboration with international agencies

Warning dissemination

An early warning system can be implemented as a chain of information communication systems and comprises sensors, event detection, decision subsystems. They work together to forecast and signal disturbances that adversely affect the stability of the physical world, providing time for the response system to prepare for the adverse event and to minimize its impact.

EWS Observer Controller Model and the Subsystem

It prevents loss of life and reduces the economic and material impact of disasters. To be effective, early warning systems need to actively involve the communities at risk, facilitate public education and awareness of risks, effectively disseminate alerts, and warnings and ensure there is constant state of preparedness. A complete and effective early warning system supports four main functions: risk analysis, monitoring and warning; dissemination and communication; and a response capability.

Resource Mobilization

Any disaster happens in district so resources are very important for response disaster. Resource mobilization is one of most important crucial activity. As mansion above about IDRN and SDRN portal are have information regarding which kind of resource are available and location of its. IDRN and SDRN should use for resource mobilization. DDMC, TDMC, CDMC and VDMC should be update regularly.

Seeking external Help for assistance

In case of very big disaster, it is need to take help from external authority like, other district, state government and central government

First Assessment Report

It is very important to report on time in any kind of dIsasters; natural disasters as well as manmade disasters.

Media Management/Coordination/Information dissemination

The role of media, both print and electronic, in informing the people and the authorities during emergencies becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response. During any emergency, people seek up-to-date, reliable and detailed information.

The State Government has established an effective system of collaborating with the media during emergencies. At the State Emergency Operation Centre (SEOC), a special media cell has been created which is made operational during emergencies. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground.

Emergency Response Functions

Responsible for assuring specific operations according to objectives and plans to address the immediate impacts of the incident. Taskforces under the operation section will deal with specific functional tasks, such as search and rescue, the provision of water or shelter. The composition and size of these taskforces depends on the nature of the incident.

The District administration of Bhavnagar has identified 16 expected task forces for key response operation functions that are describe below. Additional taskforces can be added under the operations section as needed by the circumstances of a disaster. Each Taskforce is led by one organization and supporter by other organizations.

Emergency Operation Taskforce Functions

Sr. No.	Emergency Operation Taskforce	Functions
1	Coordination and Planning	Coordinate early warning, Response & Recovery Operations
2	Administration and Protocol	Support Disaster Operations by efficiently completing the paper work and other Administrative tasks needed to ensure effective and timely relief assistance
3	Warning	Collection and dissemination of warnings of

		potential disasters
4	Law and Order	Assure the execution of all laws and maintenance of order in the area affected by the incident.
5	Search and Rescue (including Evacuation)	Provide human and material resources needed to support local evacuation, search and rescue efforts.
6	Public Works	Provide the personnel and resources needed to support local efforts to reestablish normally operating infrastructure.
7	Water	Assure the provision of sufficient potable water for human and animal consumption (priority), and water for industrial and agricultural uses as appropriate.
8	Food and Relief Supplies	Assure the provision of basic food and other relief needs in the affected communities.
9	Power	Provide the resources to reestablish normal power supplies and systems in affected communities.
10	Public Health and sanitation	Provide personnel and resources to address pressing public health problems and re-establish normal health care systems.
11	Animal Health and Welfare	Provision of health and other care to animals affected by a disaster
12	Shelter	Provide materials and supplies to ensure temporary shelter for disaster-affected populations
13	Logistics	Provide Air, water and Land transport for evacuation and for the storage and delivery of relief supplies in coordination with other task forces and competent authorities.
14	Survey (Damage Assessment)	Collect and analysis data on the impact of disaster, develop estimates of resource needs and relief plans, and compile reports on the disaster as required for District and State authorities and other parties as appropriate.
15	Telecommunications	Coordinate and assure operation of all communication systems (e.g; Radio, TV, Telephones, Wireless) required to support early warning or post disaster operations.
16	Media (Public Information)	Provide liaison with and assistance to print and electronic media on early warning and post-disaster reporting concerning the disaster.

The specific response roles and responsibilities of the taskforces indicated above is that these roles and responsibilities will be execute and coordinated through the ICS/GS system. For example, in flood, search & rescue would come under the Operations section, Transport would come under the Logistics Section and Public Information under the Public Information Unit.

Humanitarian Relief and Assistance

Response defines provision for assistance/ intervention during and after emergency. Response plan includes clear Incident Command System (ICS) operated through emergency operation centers (EOCs) with effective 3 C (Command, Control and Communication) mechanism. ICS covers early warning, search and rescue, humanitarian assistance, Food, medical response, relief, temporary shelter, water and sanitation, law and order, animal care, public grievance, recovery and rehabilitation.

Specific Task Forces should be formed for Food distribution, drinking water management, medicine and health related facility, clothes distribution, other essential needs and shelter related work. It is also essential to repair and restoration of basic amenities and management of VIP visits.

Helpline

Establish Information/ reception centers and setting up telephone helpline numbers for public utility. True information must be released by media to the concerned person and in case of rescue activity public can call on help line number. In that point of view help line must be activated at DEOC.

Reporting

Disasters include natural events such as earthquakes, volcanic eruptions and hurricanes, and situations sparked by human actions, such as oil spills, radiation leaks and chemical accidents.

There are two main phases to disaster reporting

- The initial period
- The longer-term aftermath

It is useful to report the chronology of events to create an accurate picture of what has happened, and it is important to avoid laying the blame for any disaster without having strong reasons to do so.

Information Management

Taskforce Leader: District Information Officer

Note: As per the above format the Media taskforce of the district will prepare its taskforce action plan.

Activation of the Plan

The District Disaster Response structure is activated on warning or occurrence of a disaster. Task Forces are activated on a specific request of the District Collector or according to pre-determined SOPs, as appropriate for the nature of the hazard or disaster. Activation can be:

In anticipation of a District level disaster, or

Occur in response to a specific event or problem in the district.

On activation, coordination of warning and response efforts will operate from the District Control Room and Information Centre (DCIC). The DCIC operations plan and SOPs are providing in Annexure.

To activate a task force, the Collector or designated Incident Commander will issue an activation order. This order will indicate:

The nature of needs to be addressed

The type of assistance to be provided

The time limit within which assistance is needed

The District or other contacts for the provision of the assistance

Other Task Forces with which coordination should take place, and

Financial resources available for task force operations.

Special powers are conferred on Incident Controller during disasters. The Principle organization leading each task force is responsible for alerting the appropriate authority when use of these special powers is required to accomplish warning, relief or recovery objectives give to a task force.

Situation Report

Information department is also responsible for giving current situation report in any kind of disasters.

Media release

Media can play crucial role during response time. Media management to ensure precise communication of the impact of disaster and relief measures being taken and generate goodwill among community and other stakeholders.

Demobilization and winding up

The end of emergency shall be declared through an ALL CLEAR siren/message. The Incident Controller in consultation with the ICS GROUP leaders shall declare the same once the situation is totally controlled and normalcy is restore and after any kind of disasters proper documentation of the event, success stories and lessons for future is also essential.

Chapter-7

Recovery Measures:

Recovery is defined as decisions and actions taken after a disaster with a view to “restoring or improving life and assets of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery and reconstruction (R&R) or comprehensive rehabilitation is the last step in cycle of disaster management. In addition, this is the phase of new cycle, where the opportunity to reconstruction and rehabilitation should be utilized for building a better and more safe and resilient society.

Strategies for restoring physical infrastructure and lifeline services may be:

General policy guidelines

Build Back Better

This ensures greater resilience, preparedness; and minimum loss in an event of future disaster.

Participatory Planning

Infrastructure improvement measures need to be balanced with, or at least be in line with, the social and cultural needs and preferences of beneficiaries

Coordination

A plan of recovery will help better coordination between various development agencies.

Damage Assessment and Needs Assessment shall be the basis of recovery planning

Various Sectors for recovery process may be

Essential Services- Power, Water, Communication, Transport, Sanitation, Health

Infrastructural: Housing, Public Building and Roads

Livelihood: Employment , Agriculture, Cottage Industry, Shops and Establishments

Basic services such as power, water supply, sanitation, wastewater disposal etc. should be restored in shortest possible time. Alternate arrangement of water supply, temporary sanitation facilities can be sought with help of special agencies.

Special arrangements for provision of essential services should be ensured. It can include creating temporary infrastructure for storage and distribution of water supply, running tankers, and power supply and sanitation facilities.

Detailed damage and loss assessment

Restoration of Essential Services and Infrastructure

Following tables are to be filled after an event of disaster

Table No. 7.1

Power

Item/ Services	No. of unit damag ed	No of villag es affect ed	Popul ation affect ed	Recovery measures	Implem enting agency	Tentative Duration (Months)	Budget
Feeder							
Transformers							
HT Lines							
LT Lines							
Electric Poles							

Note: To be planned after initial damage assessment by departments

Table No. 7.2

Health

Item/ Services	PHC (village name)	CHC	Sub Centre	Drug Store	Recovery Measures	Implement ing agency	Tentative Duration (Months)	Budget
No of buildings damaged								

No of health centres inaccessible								
Refrigeration and other vital equipment for storage								
Drugs and medicines perished	(Location and qty)							
No of Ambulance damaged								

Note: To be planned after initial damage assessment by departments

Table No. 7.3
Social

People in need of immediate rehabilitation including psychosocial support (due to disaster)

Village	Men	Women	Children	Total	Recovery Measures	Implementing agency	Tentative Duration (Months)	Budget

Table No. : 7.4
Water Supply

Type	Village	No. of unit affected	Faliya/ Population affected	Recovery Measures	Implementing agency	Tentative Duration (Months)	Budget
Well							
Bore wells							
Pond							
Water Supply Disrupted							
Contamination							
ESR damaged							
GLR Damaged							
Sump damaged							
Pipe lines damaged							
Stand post damaged							
Cattle trough damaged							
Hand pump							

Table No. 7.5
Road and Transport

Road damage	Location	Severity	K m	Recovery Measures	Implementing agency	Tentative Duration (Months)	Budget
Panchayat							
State Roads							
National Highway							
Nagar Palika							

Item/ services	Village /Ward	Population	Alternative road/route	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
Road Cut off							
Rail Connectivity							

Table No. : 7.6
Communication

Type	Office/Tower Damaged	Villages affected	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
Landline connectivity	(No. of unit and location)					
Mobile connectivity						
Wireless Tower						
Radio						

Table No. : 7.7
Food Supply
List of village affected by disruption in food supply

Type	No. of godown damaged	Type of grains perished (Ton)	Qty of grain perished (Ton)	Qty of grain at risk (Ton)	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
Civil Supply								
APM C								
Other								

Table No. : 7.8
Housing

Partial Damage		Fully Damaged / Collapsed		Recovery Measures	Prog. / Scheme	Implementing Agency	Tentative Duration (Months)	Budget
Kucha	Pucca	Kucha	Pucca					

Table No. : 7.9
Public Utilities

Public Buildings	Partial damage (No. of units)	Fully Damage d/ Collapse d (No. of Unit)	Recover y Measure s	Prog/ Schem e	Implement ing Agency	Tentative Duration (Months)	Budge t
Panchayat							
Educational Buildings							
Aanganwadi							
Hospitals							
Office Buildings							
Market							
Police station							
Community Halls/ Function plots							

Table No. : 7.10
Restoration of Livelihood
Provisioning of Employment

Occupational category	No. of workers	Implementing Agency	Tentative Duration (Months)	Budget
Skilled laborers				
Unskilled and , Agricultural laborers				
Small and marginal farmers				
Construction workers				
Salt pan workers				
Fisher folk				
Weavers				
Other artisans				

Table No. : 7.11
Land Improvement

Land erosion / siltation (Hectare)	HHs affected	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget

Table No.:7. 12
Agricultural

Crop failure (Hectare)	HHs affected	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget

Table No. : 7.13
Nonfarm livelihood

Cottage Industry	Extent of damage/disruption		Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
	Tools and equipment (Specify no. and type)	Goods and material (Specify type and qty)				
Handloom						
Pottery						
Food Processing						
Diamond sorting etc						
Printing/ Dying						
Other						

Table No. :7.15
Shops and establishment

Extent of damage/disruption			Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
Building (No. and location)	Tools and equipments (Specify no. and type)	Goods and materials (Specify type and qty)				

Long-term recovery programme

Disaster recovery typically occurs in phases, with initial efforts dedicated to helping those affected meet immediate needs for housing, food and water. As homes and businesses are repaired, people return to work and communities continue with cleanup and rebuilding efforts. Many government agencies, voluntary organizations, and the private sector cooperate to provide assistance and support.

Some individuals, families and communities that are especially hard hit by a disaster may need more time and specialized assistance to recover, and a more formalized structure to support them. Specialized assistance may be needed to address unique needs that are not satisfied by routine disaster assistance programs. It may also be required for very complex restoration or rebuilding challenges. Community recovery addresses these ongoing needs by taking a holistic, long-term view of critical recovery needs, and coordinating the mobilization of resources at the, and community levels.

Oftentimes, committees, task forces or other means of collaboration formed with the goals of developing specific plans for Community recovery, identifying and addressing unmet or specialized needs of individuals and families, locating funding sources, and providing coordination of the many sources of help that may be available to assist. Some collaboration focuses on the community level and relies on the expertise of community planning and economic development professionals. Other collaborations focus on individual and family recovery and are coordinated by social service and volunteer groups. All such efforts hope to lay the groundwork for wise decisions about the appropriate use of resources and rebuilding efforts.

Under the National Response Framework, Emergency Support Function (ESF) #14 Community Recovery coordinates the resources of federal departments and agencies to support the long-term recovery of States and communities, and to reduce or eliminate risk from future incidents. While consideration of long-term recovery is imbedded in the routine administration of the disaster assistance and mitigation programs, some incidents, due to the severity of the impacts and the complexity of the recovery, will require considerable interagency coordination and technical support.

ESF #14 efforts are driven by State/local priorities, focusing on permanent restoration of infrastructure, housing, and the local economy. When activated, ESF #14 provides the coordination mechanisms for the Federal government to:

Assess the social and economic consequences in the impacted area and coordinate Federal efforts to address Community recovery issues resulting from an Incident of National Significance;

Advise on the Community recovery implications of response activities, the transition from response to recovery in field operations, and facilitate recovery decision-making across ESFs;

Work with State, local, and tribal governments; NGOs; and private-sector organizations to conduct comprehensive market disruption and loss analysis and develop a forward looking market-based comprehensive long-term recovery plan for the affected community;

Identify appropriate Federal programs and agencies to support implementation of the Community recovery plan, ensure coordination, and identify gaps in resources available;

Avoid duplication of assistance, coordinate to the extent possible program application processes and planning requirements to streamline assistance, and identify and coordinate resolution of policy and program issues; and

Determine/identify responsibilities for recovery activities, and provide a vehicle to maintain continuity in program delivery among Federal departments and agencies, and with State, local, and tribal governments and other involved parties, to ensure follow-through of recovery and hazard mitigation efforts.

Grievances Redressed System

Grievance redressed is important aspect in the context of providing need based assistance to affected communities with transparency and accountability. It is also ensures the protection of their rights and entitlements for disaster response services.

Grievance Redressed System

No.	Key Person/ Establishment	Contact No	Address
1	DEOC/ RAC	0278- 2521554/55	Collector Office-District Emergency Operation centre
2	DDO	0278- 2426810	District Panchayat
3	Police	0278- 2520050	S.P. Office, Bhavnagar

Matrix form of Sort term and long-term recovery programme

Disaster recovery has three distinct but interrelated meanings. First, it is a goal that involves the restoration of normal community activities that were disrupted by disaster impacts – in most people’s minds, exactly as they were before the disaster struck. Second, it is a phase in the emergency management cycle that begins with stabilization of the disaster conditions (the end of the emergency response phase) and ends when the community has returned to its normal routines. Third, it is a process by which the community achieves the goal normal life.

SHORT TERM AND LONG TERM RECOVERY TIME TABLE

Recovery and Reconstruction

Activity/Action	Estimate of Duration	Estimate of Duration
Period	Short-Term	Long-Term
Warning	Hours to a few days	
Response/Operations	Ongoing	Ongoing
Emergency	1-15 days	1-60 days
Preparation of damage assessment	1-4 days	4-8 days
Disaster declaration (state or federal)	1-10 days	0-30 days
Federal/State mitigation Strategy	1-15 days	15-30 days
Recovery	7-150 days	150-365 days
Temporary building moratorium	<=30 days	<=60 days
Letter of intent to submit HM Grant	<=60 days	<=60 days
Short-term reconstruction	<= 1 year	200-365 days
State mitigation	<= 180 days	365 days
HMGP proposal	70-200 days	200-365 days
Long-term reconstruction	100 days to 5 years	5 to 10 years

Chapter-8

Financial Arrangement

Financial resources for implementation of plan

To ensure the long-term sustenance and permanency of the organization funds would be generated and deployed on an ongoing basis. There are different ways to raise the fund in the State as described below

National and state disaster Response fund

To carry out Emergency Response & Relief activities after any disaster the State Disaster Response Fund is making available to Commissioner of Relief, Revenue Department under which the Central Government will share 75% and the Govt. of Gujarat has to share 25% as per the recommendation of 13th Finance Commission.

National and state disaster mitigation fund

The Pre-Disaster Mitigation (PDM) program provides funds for hazard mitigation planning and projects on an annual basis. The PDM program was set in place to reduce overall risk to people and structures, while at the same time, also reducing reliance on federal funding if an actual disaster were to occur.

State Budget

The Authority, submit to the State Government for approval a budget in the prescribed form for the next financial year, showing the estimated receipts and expenditure, and the sums which would be required from the State Government during that financial year. As per the provisions of The Gujarat State Disaster Management Act, 2003 the Authority may accept grants, subventions, donations and gifts from the Central or State Government or a local authority or any individual or body, whether incorporated or not.

Centrally Sponsored scheme

Name	Purpose	Finance Arrangements	Activities that can be take under scheme	Nodal Agency
NDRF (NCCF)	Relief Assistance	100% Central Govt	Cash and kind relief	Revenue Department
SDRF (CRF)	Relief Assistance	75% Centre, 25% State	Cash and kind relief	Revenue Department
Planning Commission (13 Finance commission) Year 2011-15	Capacity Building	100% Centre	Trainings Awareness Generation IEC material Mock drills	Revenue Department

District Planning Fund

For preparedness, mitigation, capacity building and recovery fund can be raised from MP or MLA grant as received for developmental work. also from departmentally arrangement.

Partnerships

There are projects/schemes in which funding can be done by a public sector authority and a private party in partnership (also called on PPP mode funding). In this State Govt. along with Private organizations and with Central Govt., share their part.

Disaster Insurance

Risk Transfer / Risk Distribution

Risk transfer or risk distribution refers to compensation cover against loss of life or assets in case of any disaster event. Insurance and reinsurance mechanisms and products against natural and manmade disasters have rapidly evolved in last decade. According to UNISDR, “Insurance is a well-known form of risk transfer, where coverage of a risk is obtained from an insurer in exchange for ongoing premiums paid to the insurer. Risk transfer can occur informally within family and community networks where there are reciprocal expectations of mutual aid by means of gifts or credit, as well as formally, where governments, insurers, multi-lateral banks and other large

risk-bearing entities establish mechanisms to help cope with losses in major events. Such mechanisms include insurance and re-insurance contracts, catastrophe bonds, contingent credit facilities and reserve funds, where the costs are covered by premiums, investor contributions, interest rates and past savings. Linkages with government insurance schemes like Rashtriya Swasthya Bima Yojana, Aam Admi Bima Yojana can be extensively taken up for risk transfer. Linkages can be done for teaching staff and children with existing insurance schemes. Livestock insurance can also be taken up through animal husbandry department. Coverage of crop insurance should be increased specifically for small and marginal farmers. Weather/rainfall insurance can also be explored with various existing schemes.

(DDMC should draw up their own risk transfer/distribution framework and action plan in this regard)

Micro fianancing

Microfinance has proven to be an essential element for people in disaster situations, enabling them to start to rebuild their lives and improve their living conditions. However, in recent times there have been crisis situations where massive injections of donor funding—including capital for microfinance operations—have not achieved their intended purpose, largely because there was insufficient local capacity to deliver services in a timely and appropriate manner.

Chapter-9

Maintenance of Plan

DDMC shall compile its learning and proposed new mechanisms for improvement of the capacity to deal with disasters.

Schedule for updation of plan

District Disaster Management Plan (DDMP) updated by Disaster management cell, collector office in the month of May-June every year as a part of pre monsoon preparedness.

Schedule for revision of plan

DDMP revises in the month of October-November every year by the Disaster Management Cell of collector office.

Schedule for Mockdrills

Plan Maintenance is a dynamic process of updating plan on a periodic basis. It is based on learning and from the last disaster (As per under Mention) and mock drill exercise.

Major Learning based on experience of last disasters and mock drills (on planning/implementation/compliance)	Revisions adopted/proposed	Remarks
Flood	May-June	Highly affected area of the district
Chemical disaster	Jan, Feb	Due to MAH unit (Under Factory act-1947)
Tsunami	June, Oct	Due to coastal belt
Cyclone	May- June and Oct. Nov.	Due to Coastline

Certified/ Approved By _____ **Collector Bhavnagar**

Chapter-10

Incident Response System

Introduction:

The Incident Response System (IRS) is a system of management by objectives through Incident Action Plan (IAP). It takes care of any expanding incident through an organisational structure of Command Staff, Sections, Branches, Divisions, Groups, Units, resources and span of control, called Incident Response Team (IRT)

As per NDMA's IRS guidelines, IRT at District, Sub-Division, Tehsil and Block level should be constituted under the written directives of District Magistrate (DM). These teams will include experienced officers / employees at all levels and respond to all natural and man-made disasters. The lowest administrative unit (Sub-Division, Tehsil or Block) will be the first responder as the case may be. IRT at all levels will have same structure, i.e. IC supported with Operations, Planning and Logistics Sections. The IRTs are to be pre- designated at all levels.

Incident Response System

Operations Section (OS)

The OS deals with all types of field level tactical operations directly applicable to the management of an incident. This section is headed by an Operation Section Chief (OSC). In addition, a deputy may be appointed to assist the OSC for discharging his functions depending on the magnitude of the work load. OS is further sub-divided into Branches, Divisions and Groups which assist the OSC / IC in the execution of the field operations.

Operations Section Chief (OSC)

On activation of the OS, the OSC will assume command of all the field operations and will be fully responsible for directing all tactical actions to meet the incident objectives.

The OSC will report to the IC. He will be responsible for activation, deployment and expansion of his Section as per IAP. As the operational activities increase and because of geographical reasons, the OSC will introduce or activate and

expand the Branch into Divisions for proper span of control and effective supervision.

Roles and Responsibilities of Operations Section Chief (OSC)

The Operations Section Chief will:

1. Coordinate with the activated Section Chiefs;
2. Manage all field operations for the accomplishment of the incident objectives;
3. Ensure the overall safety of personnel involved in the OS and the affected communities;
4. Deploy, activate, expand and supervise organizational elements (Branch, Division, Group, etc.) in his Section in consultation with IC and in accordance with the IAP;
5. Assign appropriate personnel, keeping their capabilities for the task in mind and maintain On Duty Officers list (IRS Form-007) for the day as enclosed in Annexure-VII;
6. Request IC for providing a Deputy OSC for assistance, if required;
7. Brief the personnel in OS at the beginning of each operational period;
8. Ensure resolution of all conflicts, information sharing, coordination and cooperation between the various Branches of his Section;
9. Prepare Section Operational Plan in accordance with the IAP; if required;
10. Suggest expedient changes in the IAP to the IC;
11. Consult the IC from time-to-time and keep him fully briefed;
12. Determine the need for additional resources and place demands accordingly and ensure their arrival;
13. Ensure record of various activities performed (IRS Form-004 enclosed in Annexure-IV) by members of Branches, Divisions; Units/Groups are collected and maintained in the Unit Log IRS Form-003 (enclosed in Annexure-III)

Planning Section (PS)

The PS deals with all matters relating to the planning of the incident response. It is headed by the Planning Section Chief (PSC). This section helps the IC in determining the objectives and strategies for the response. It works out the requirements for resources, their allocation and subsequent utilization. It

maintains up-to-date information about the ongoing response and prepares IAP. For the closing phase of the Operations, this Section also prepares the Incident Demobilization Plan (IDP).

Planning Section Chief (PSC)

The Planning Section Chief is responsible for collection, evaluation, dissemination and use of information. It keeps track of the developing scenario and status of the resources. In case of need, the PS may also have Technical Specialist for addressing the technical planning matters in the management of an incident.

A list of such specialists will be kept available in the PS. The PSC reports to the IC and will be responsible for the activation of Units and deployment of personnel in his Section as per requirement.

Roles and Responsibilities of Planning Section Chief

The Planning Section Chief will:

1. Coordinate with the activated Section Chiefs for planning and preparation of IAP in consultation with IC.
2. Ensure that decisions taken and directions issued in case of sudden disasters when the PS had not been activated are obtained from the IMO (Command Staff) and incorporated in the IAP.
3. Ensure collection, evaluation, and dissemination of information about the incidents including weather, environment toxicity, availability of resources etc. from concerned Composition of Planning Section Technical Specialist (if required) Demobilization Unit, Documentation Unit, Situation Unit Resource Unit departments and other sources. The PS must have a databank of available resources with their locations from where it can be mobilized.
4. Coordinate by assessing the current situation, predicting probable course of the incident and preparing alternative strategies for the Operations by preparing the IAP. The IAP contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period (24 hours is considered as one operational period). The plan may be oral or written. Written plan may have a number of attachments, including incident objectives, organization assignment list IRS Form-005 (enclosed in Annexure-V), incident communication plan IRS Form-009 (enclosed in Annexure-IX),

demobilization plan IRS Form-010 (enclosed in Annexure-X), traffic plan, safety plan, and incident map etc. The major steps for preparing IAP are as follows;

- ✓ Initial information and assessment of the damage and threat;
 - ✓ Assessment of resources required;
 - ✓ Formation of incident objectives and conducting strategy meetings;
 - ✓ Operations briefing;
 - ✓ Implementation of IAP;
 - ✓ Review of the IAP; and
 - ✓ Formulation of incident objectives for the next operational period, if required;
5. Ensure that Incident Status Summary (IRS Form-002) enclosed in Annexure-II is filled and incorporated in the IAP.
 6. Ensure that Organizational Assignment List (Divisional / Group) IRS Form-005 as enclosed in Annexure – V is circulated among the Unit leaders and other responders of his Section.
 7. Plan to activate and deactivate IRS organizational positions as appropriate, in consultation with the IC and OSC.
 8. Determine the need for any specialized resources for the incident management.
 9. Utilize IT solutions for pro-active planning, GIS for decision support and modeling capabilities for assessing and estimating casualties and for comprehensive response management plan;
 10. Provide periodic projections on incident potential;
 11. Report to the IC of any significant changes that take place in the incident status.
 12. Compile and display incident status summary at the ICP.
 13. Oversee preparation and implementation of Incident Demobilization Plan (IRS Form-010) enclosed in Annexure-X.
 14. Assign appropriate personnel, keeping their capabilities for the tasks in mind and maintain On Duty Officers List (IRS Form-007) for the day as enclosed in Annexure-VII.
 15. Ensure that record of various activities performed (IRS Form-004 enclosed in Annexure-IV) by members of Units are collected and maintained in the Unit Log (IRS Form-003) enclosed at Annexure-III; and

Logistics Section (LS)

The LS deals with matters relating to procurement of resources and establishment of facilities for the incident response. It also deals with all

financial matters, concerning an incident. This section is headed by the Logistic Section Chief (LSC) and is an important component of the IRS organization for providing back end services and other important logistic support like communications, food, medical supplies, shelter and other facilities to the affected communities and responders as well. There is a Finance Branch (FB) attached to this Section in order to ensure that the procurements, if any, may be done quickly and in accordance with the financial rules.

The establishment and functions of all Sections are essential and vital for efficient response management. However, for management of smaller incidents, all the Sections need not be activated.

Logistics Section Chief (LSC)

The LS comprises Service, Support and Finance Branches. Structure and details of each Branch are shown in Fig. 16. The Section is headed by a chief known as the LSC. The activation of various Branches of the LS is context specific and would depend on the enormity and requirements of the incident. The Finance Branch (FB) constitutes an important component of the LS to specially facilitate speedy procurement, and proper accounting following financial procedures and rules.

Roles and Responsibilities of Logistics Section Chief (LSC)

The Logistics Section Chief will:

1. Coordinate with the activated Section Chiefs;
2. Provide logistic support to all incident response effort including the establishment of SA, Incident Base, Camp, Relief Camp, Helipad etc.
3. Participate in the development and implementation of the Incident Action Plan (IAP)
4. Keep RO and IC informed on related financial issues.
5. Ensure that Organizational Assignment List (Divisional / Group) IRS Form-005 as enclosed in Annexure – V is circulated among the Branch Directors and other responders of his Section.
6. Request for sanction of Impress Fund, if required.
7. Supervise the activated Units of his Section.
8. Ensure the safety of the personnel of his Section.

9. Assign work locations and preliminary work tasks to Section personnel.
10. Ensure that a plan is developed to meet the logistic requirements of the IAP with the help of Comprehensive Resource Management System.
11. Brief Branch Directors and Unit Leaders.
12. Anticipate over all logistic requirements for relief Operations and prepare accordingly.
13. Constantly review the Communication Plan, Medical Plan and Traffic Plan to meet the changing requirements of the situation.
14. Assess the requirement of additional resources and take steps for their procurement in consultation with the RO and IC.
15. Provide logistic support for the IDP as approved by the RO and IC.
16. Ensure release of resources in conformity with the IDP.
17. Ensure that the hiring of the requisitioned resources is properly documented and paid by the FB.
18. Assign appropriate personnel, keeping their capabilities for the tasks to be carried out and maintain On Duty Officers List (IRS Form-007) for the day as enclosed in Annexure-VII.
19. Ensure that cost analysis of the total response activities is prepared;
20. Ensure that record of various activities performed (IRS Form-004 enclosed in Annexure-IV) by members of Branches and Units are collected and maintained in the Unit Log IRS Form 003 as enclosed at Annexure-III.

Role and Responsibility of IRS Officer

1. District Magistrate & Collector

- Preparation and updating of District Disaster Management Plan for the District.
- To ensure to able to perform the role of each involved emergency service effectively.
- To activate and maintain the District Control Room round the clock. To provide essential facilities with the District control room.
- To access emergency situation and have to declare the emergency, call and direct the emergency services to respond the emergency by providing reinforcement and support by pooling the resources form the District and if required from the State.
- The arrangement for rescue, evacuation, shelter, food, water, clothing, and transportation to affected area, announcement to the public.
- To keep inform to the higher authority time to time to declare the withdrawal or termination of emergency.
- Rehabilitation, Restoration, Cleaning etc on post emergency actions.
- To submit the reports on emergency. To conduct the meetings.
- To conduct the mock drill.

2. District Development Officer

- To ensure the different authorities, agencies, organization persons, as specified their role, should participate immediately during emergency in district pocket area.
- To advice and guide different panchayat department and local representatives for mitigate and preventives aspects of disaster management and coordinative approach at the time of emergency.
- To participate in the meeting, mock drill & training.
- To prepare own detailed action plan to ensure effective control on emergency.
- To liaison & co-ordination with chair person, Central Control Room, emergency services, organization, agencies, agencies person etc.
- To support all other duties as specified by District Collector.

3. Police Department

- To access the situation and report immediately.
- To maintain the law and order during the emergency to control the traffic and control the affected area.
- To protect the life of people, inside, outside as well as road movers.
- To protect the property & environment & public announcement.
- Evacuation, rehabilitation, shelter & transportation work during the emergency as per prevailing situation.
- To help & assist to make area clean, removing of any structure and other similar work as required during actual emergency.
- To participate the meetings & Mock Drill / Rehearsal & Training.
- To liaison with Central Control Room and other emergency services / organization / agencies.
- To prepare their own details action plan & to ensure the provisions to handle the emergency.

4. Fire Service

- Inspection, survey and assess the situation where incident occurs & give the report.
- To decide the proper & effective actions and immediate response actions to control the emergency, under intimation to Central Control Room or Chair Person.
- Proper training to fight against different hazards
- Rescue, Evacuation, Remove of debris, and other emergency work as directed or instructed.
- To maintain the proper and adequate fire fighting, equipments, neutralizing media, self-breathing apparatus, emergency equipments, personnel protective equipments with keeping in working order.
- The knowledge & information on different type of alternative resources, various types of extinguishing media, neutralizing media, chemical properties and their hazards with safe handling procedure.
- To participate the meetings Mock Drill / Rehearsal & training.
- To liaison with Central Control Room and other emergency services.

- To prepare their own details action plan & to ensure the provisions to handle the emergency.
- Other duties as required during actual emergency.

5. Health Department

- To ensure the arrangement & preparedness for special medical treatment antidotes and trained doctor Para-medical staff as specified in toxicology at the time of industrial emergency in local pocket area.
- On declaration of emergency or on receiving the message or information, prompt medical facilities should be set up e.g. first aid post, casualty receiving center/camp, as per gravity of situation at site. Similarly, arrangement for emergency operation or special treatment on chemical burn, injury, gas dispersion etc with adequate arrangement, which will can serve the purpose of Base Hospital.
- Identification of dead bodies and post mortem arrangement.
- To maintain up to-date list with telephone nos. of services of doctors, hospitals,
- Ambulance, primary health center, Para-medical staff, vehicle to meet the emergency situation.
- Arrangement to inform the upto-date status time to time to DEOC, Chair Person, and Relatives of injured or admitted patients, emergency services etc.
- Arrangement to safe guard the public health in case of development of epidemic situation & announcement on safety measure to be taken by public at the time of emergency situation.
- To advice & guide the different stake holders in respect of medical & health part time to time.
- Provision for proper and adequate medicines, life saving drugs, equipments, antidotes etc. related to different hazards.
- To participate meetings, mock drills / examine and training.
- To prepare own detailed action plan to ensure the effective handling of different kinds of emergencies.
- To liaison with DEOC, Chair person, emergency services organization, agency and other related person.
- Other duties as required during actual emergency.

6. RTO

- To respond to collector and police instructions in different kinds of emergency
- To provide adequate requirements for both persons and material.
- To arrange for deployment of vehicles with full fuel levels.

- To streamline traffic flow and parking yard movement.
- To co-ordinate in deployment of vehicles, if required.
- To participated meeting, mock drills & training.
- To prepare own detailed action plan to ensure effective handing at the time of actual emergency.

7. Civil Supplies Department

- To arrange to provide cooked food and clothing to evacuees and others involved in emergency controlling operation.
- To ensure availability of sufficient cooked food, water ready for distributaries at various locations.
- To participate in the meeting, mock drills & training.
- To prepare own detailed action plan to ensure effective handling of emergency.

8. Dy Director - Information

- To participate in the meeting, mock drill / exercises and training.
- To assist the public in case of rescue operation and authentic news.
- To liaison & Co-ordination with Chair person, Central Control Room and emergency services.
- Ensure to safe guard the public at large during actual emergency by providing correct reliable authentic guideline and news.

9. Dy. Controller (Civil Defence)

- To participate in meeting, mock drills & training.
- To prepare own detailed action plan to ensure effective handling of emergency
- To assist police in rescue and evacuation work during emergency.
- To provide security, cordoning the area, and other Services.

10. Gujarat Electricity Board (PGVCL)

- To arrange for un-interrupted power supply, if needed.
- To arrange for lighting at temporary medical camps, rallying points and parking yards.
- To take care of electrical equipment within affected zone.
- Arrange for switching off power supply if requested by authority.
- To participate in the meeting, mock drills & training
- To prepare own detailed action plan to ensure effective handling of emergency

11. Regional Officer (GPCB)

- To participate in the meetings, mock drill / exercises and training.
- To prepare own detailed action plan to ensure the effective control of industrial emergency & subsequent action.
- Liaison with central control Room, chair person, Emergency Services, Organization agencies & other related persons.

- Advice & Guidance to the District Crisis Group in Respect of environment protection in the industrial pocket.
- To provide the technical input regarding environment and evaluate the contamination or adverse effect during industrial emergency.
- To provide the details & information on development of emergency situation regarding in safe level to the life and suggest area to be evacuated and other safety measures.
- To suggest the safe level for restoration & restarting of work on termination of emergency services & expert persons etc.
- Other duties or work as directed by District crisis group or chair person.

12. Representative Form MAH Units

- The management of major accident hazardous unit has to maintain updated onsite emergency plan with necessary details with accurate information and a correct assessment of the situation. The site main controller is responsible to provide immediately on occurrence of crisis at his unit with specific details, development and needed help from local crisis group & district crisis group. He will arrange & provide all the resources, equipments, manpower, and communication network form his own unit and co-ordinate with local crisis group & district crisis Group to combat the industrial emergency.

13. Role of other members of District Crisis Group

- To participate in the meeting, mock drill / exercise and training.
- To assist the public in proper way in case of rescue and evacuation during actual emergency.
- To advice and guidance to the District crisis group & Chair person.
- To arrange and help the supporting actions and duties in respect of industrial emergency
- To provide more and adequate resources & various requirement to tackle the industrial emergency immediately.
- Liaison & co-ordination with Central Control Room and emergency services.

14. Volunteer Organizations (N.G.O.)

- The voluntary organization / services can play vital role in relief & rescue operations like arrangement of food packets & packing up of the same, distribution of the food packets and water pouches, arrangements of life saving drugs & distribution of the same, can play a major role in awareness generation, to convince the person / public to evacuate the residence / place and to shift to safe shelter timely during emergency. Otherwise it may result

more serious effect. To save the life of public is more important factor, which will be successfully carried out by the voluntary organization. The list of such organization with address, telephone no. organization etc will be prepared and up-dated time to time.

15. Railway Authority

- To issue the standing instruction to all railway gates to take actions on receiving the message from the Station Master.
- To decide authority level of railway staff to take actions.
- To carry out evacuation by railway, if required.
- To take care of floating population at railway stations and on board travelers.
- To issue the standing instruction to station Masters on up and down railway stations to stop the train as soon as emergency message is received from DEOC and CCR.

16. Irrigation Department

- Play vital role in pre, during and post form of emergencies particularly in floods.
- Proper management of dams, irrigation canals, ponds and timely maintenance of the same.
- Inform DEOC and respective stake holders in case of water release from the dams.
- Start their control room at the time of monsoon.
- Follow the instructions mentioned with the Flood memorandum.
- To participate in the meetings, mock drill / exercises and training.
- To prepare own detailed action plan to ensure the effective handling of different kinds of emergencies.
- Liaison with DEOC, Chairperson, emergency services organization, agency and other related person.
- Other duties as required during actual emergency.

17. R&B Department

- To play vital role in pre, during and post form of emergencies.
- Proper management of roads and buildings and timely maintenance of the same.
- Inform DEOC and respective stake holders diversion of routes, closing status of the roads etc.
- Ensure safety terms while establishing or developing of bridges, dams, roads, buildings etc.
- To participate in the meetings, mock drill / exercises and training.
- To prepare own detailed action plan to ensure the effective handling of different kinds of emergencies.
- Liaison with DEOC, Chairperson, emergency services organization, agency and other related person. Other duties as required during actual emergency

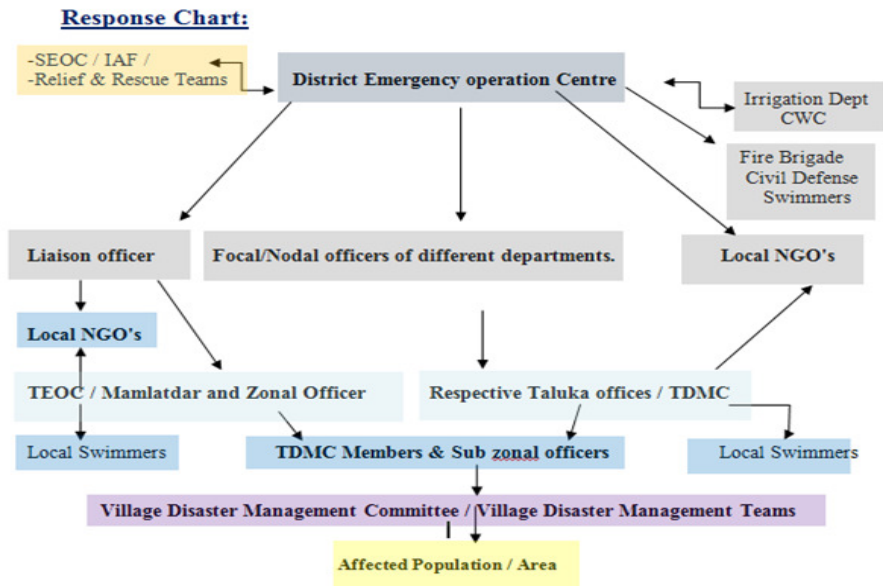
Bhavnagar District & Taluka level IRT

Position of IRT	District	Taluka
Responsible Officer	Collector & DM	Dy Collector & SDM
Incident Commander	ADM	Mamlatdar
Information & Media Officer	Dy. Director Information	Asst. Officer from Info dept.
Liaison Officer	SDM/Any Class one officer	SDM/Any Class one officer
Safety Officer	Disaster specification/ (fire-fire officer, flood-health, earthquake -civil engineer, CDHO)	Disaster specific-Fire-fire officer, As per require Health-BHO, Earthquake-Dy. Engineer
OPERATIONS SECTION CHIEF	DISH/SP/CDHO/FO	Dy. SP/Factory Inspector/BHO/FO
Staging area manger	DPEO/DEO	TPEO
Response Branch Director	District Municipal Officer	Chief Officer
Division Supervisor/Group-in charge	Fire officer	Fire officer /FireStaff
Transportation Branch Director	Dy. Collector Stamp Duty	Dy. Mamlatdar (Extra post)
Road Group	ARTO	ARTO's staff
Rail Group	Divisional Manger	Station Master
Air Operations Group	EE R&B State	Ass. Eng.R&B State
PLANNING SECTION CHIEF	Dy Collector DCLR	Dy Mmaltdra DCLR
Resource Unit	District Project Officer-GSDMA	Dy. Mamaltdar Revenue
Situation Unit	Taluka Mamltar	Members of VDMC
Documentation Unit	District Project Officer-GSDMA(Along with DEOC Staff)	Dy.Mamlatdar Revenue
Demobilization Unit	District Project Officer-GSDMA (Along with DEOC Staff)	Dy.Mam and TDO staff/CO

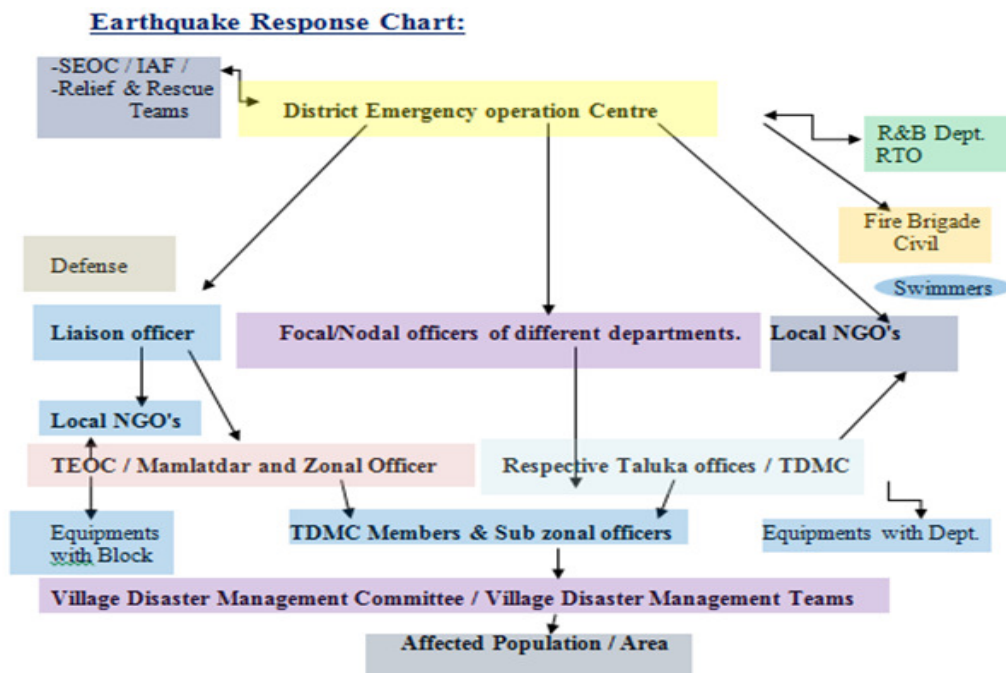
LOGISTIC/ FINANCE SECTION CHIEF	Dy Collector Election	Dy Mamltard Election
Service Branch Director	Dy. DDO Panchyat	Dy. Chinish Panahcyat
Communication Unit	Ex. Eng. GEB/R&B, General Manager BSNL	Dy. Engineer, R&B& GEB; SDOP;
Medical Unit	CDHO	BHO
Food Unit	DSO	Dy Mamlatdar, Supply Office
Support Branch Director	Dy DDO Revenue	ATDO
Resource Provisioning Unit	DSM (District Supply Mamlatdar)	Dy Mamlatdar / RAK
Facilities Unit	DPEO/DEO, Ex. ENG.R&B Panchayat	TPEO; Dy Engineer R&B Panchayat
Ground Support Unit	ARTO, DSO	RAK, RTO Inspector
Finance Branch Director	District Treasury officer	Sub-Treasury Officer
Claim Unit	Citnish to Collector (PRO)	Accountant Panchayat/Mamltard
Compensation Unit	Dy. DDO (Revenue) & Team	Dy. Mamlatdar / TDO / CO and team
Procurement Unit	Chitnish to Collector	Dy. Mamlatdar under the guidance of Mamlatdar
Cost Unit	ADM	Mamltard

Action Plan in various Disasters

Response Chart

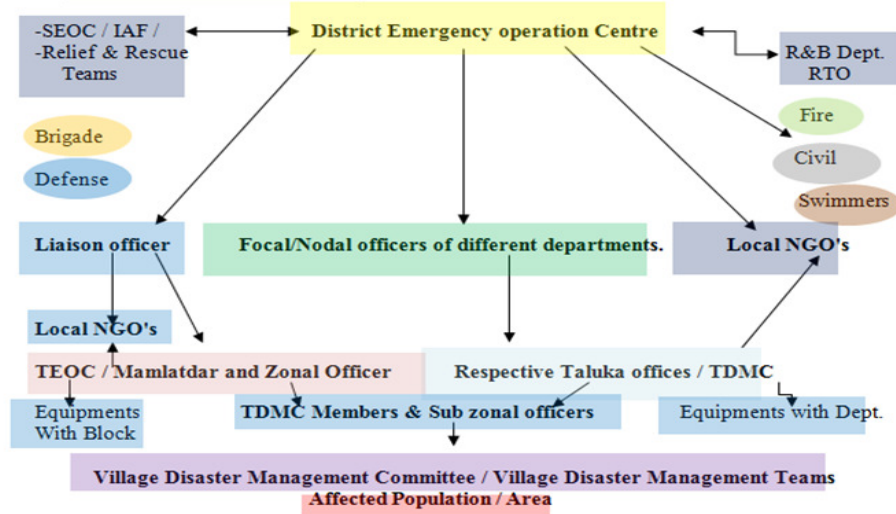


Earthquake Action plan



Cyclone Action Plan

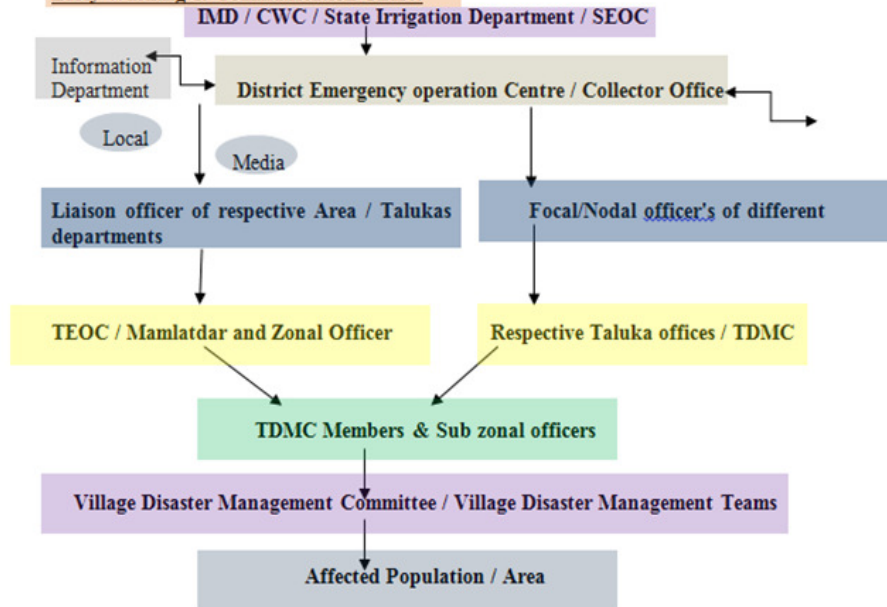
Cyclone Response Chart:



Flood Action Plan

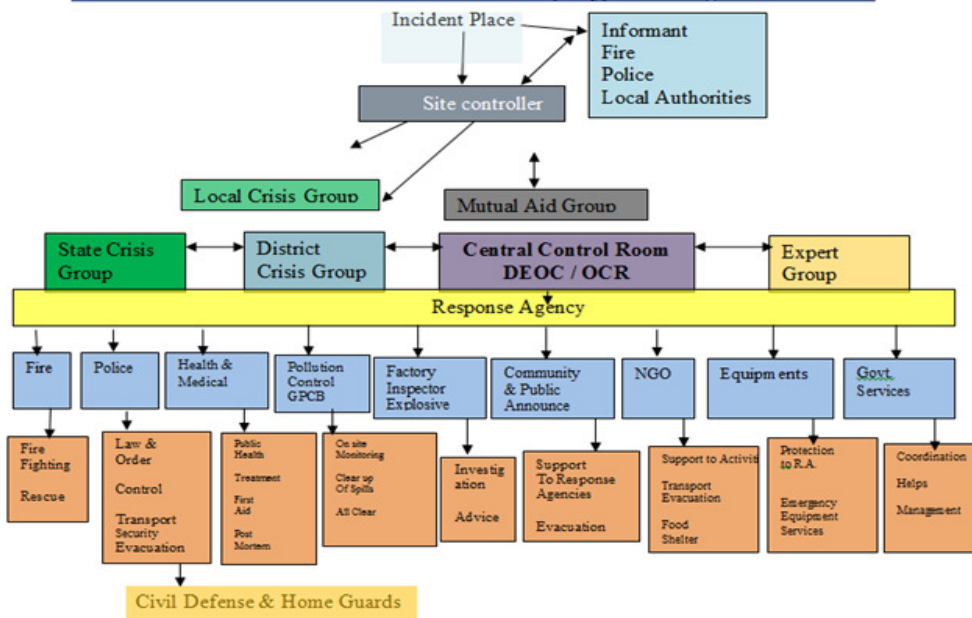
Flood

Early Warning & Communication Chart:



Chemical/Industrial fire/Oil spills Action Plan

Action Chart in case of Chemical / Industrial Fire / Oil Spill types of Emergencies is as under:



Chapter-11

Miscellaneous

Evacuation plan

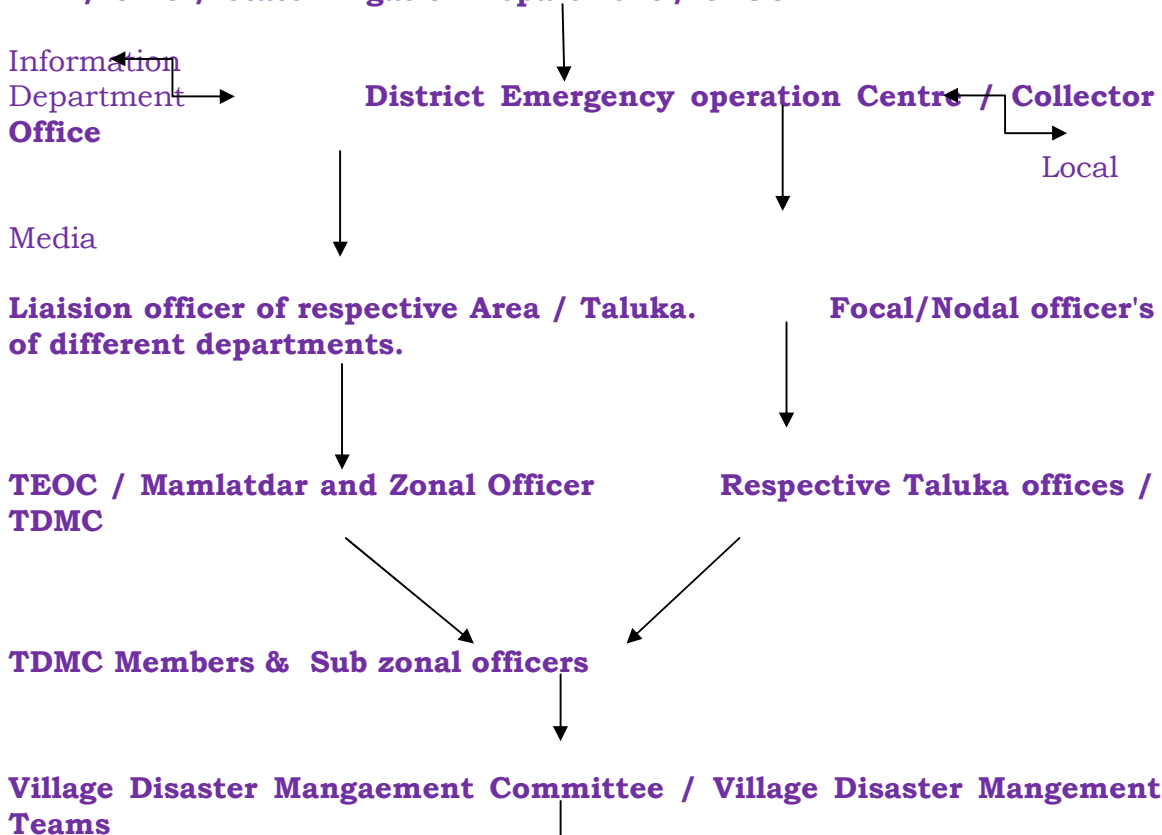
- (1) White Signal - Alert condition
- (2) Blue Signal - Ready for Evacuation
- (3) Red Signal - Immediate Evacuation

As and when the warning come from Indian Metrological department (IMD) , or from Irrigation department regarding heavy rainfall or water release the following channel has been intimated and appropriate message conveyed to the concerned department / official / control rooms /community members using tele communication , wireless message , by fax or in written by DEOC.

In city area the route has been finalized for early warning , accordingly early warning task force leading by fire and emergency services personals spread the message of alert in respective low line areas , in villages local methodologies of early warning has been used (by bitting up of drums etc.) to communicate the message of alert to the affected population of the village.

The following channel has been intimated and appropriate message conveyed to the concerned.

Early Warning & Communication Chart : IMD / CWC / State Irrigation Department / SEOC



Shelter Management plan

Temporary Shelter:

Urban Area:-

Local Nagar Palika and TEOC,-District Primary and Secondary Education Officer will be Responsible to Shift safely of Affected Population during any kind of Disaster ,In Bhavnagar District mainly use school, collage /community hall ,and Samaj Vadi for shifting of Affected people.Also already it has been identified ward wise by TEOC AND Nagar Palika. The list of Safe Shelter Included in CDMP Plan. Also find list on SDRN Side. At Urban level City Disaster Management Committee and District Administration directly responsible to evacuate affected people at Safe Place.

Village area:

Mainly village area looking by District and Taluka Panchayat with the support of Liaison officer and Respective mamlatdar. Also already Identified Village wise Safe Shelter at village level, like school/community hall/Samaj vadi etc. Detail List in VDMP Plan. Also find list on SDRN. District /Taluka/Village Level - District /Taluka /Village Disaster Management Team directly responsible to Evacuate affected people at Safe Place

Medical and Hospital Management plan

Disaster: Health Impacts

Disaster causes negative impact on the overall health of the community besides interfering in its sustainable development. Direct health implications of disaster are death and injury. Disruption of human ecology and environmental concerns are of prime importance due to:

Disruption / damage to sanitation and sewage facilities creates enabling environment favorable for occurrence of vector borne and water borne diseases,

The affected communities living in temporary shelters / resettlements have limited or no access to safe drinking water, food etc. In addition, prevailing unhygienic sanitary conditions make it conducive for spread of food and water – borne disease.

Overcrowding in temporary shelters results in spread of communicable diseases.

Effects on mental health include Post Traumatic Stress Disorder; excessive grief, sleep disorders; exaggeration of existing illness; death wish & suicidal ideation.

Reproductive Health – Pregnant mothers and newborns become vulnerable and require additional care.

Among all the adverse health impacts, the impact of communicable disease is often delayed for weeks or months after the acute event. Water and food-borne disease transmission potential increases immediately and week after the disaster. Vector borne diseases may appear after four weeks or more due to disruption of vector control efforts, washing away of residual insecticides, increased number of vector breeding sites and more man-vector contact. Nutritional problems appear after months. Table (see next slide) gives the summary of health effects according to the type of hazard.

Post disaster public health intervention

Emphasis on post disaster public health measures is necessitated by the following additional factors:

Destruction of health care infrastructure.
Interference in public health services specially for:

Safe drinking water
Sanitation measures
Immunization
Rodent/mosquito control

Ecological changes and its effect on vector populations
High population density due to displacement Public health interventions to prevent disease outbreaks after disaster should
Essentially focus on:

Post disaster sanitation measures for:

Safe water supply
Food hygiene
Proper sewage systems/disposal of excreta
Vector/rodent control
Public health education

Media Management Plan

Preparedness

External

Broadcast programs to raise people's awareness of disaster prevention measures
Develop news sources in emergency situation
Liaison with community leaders
Publicize station frequency
Broadcast public planning meetings
Outreach to the elderly, women, children, mentally and physically disabled people, as well as other marginalized and other vulnerable groups
Encourage stockpiling of (hand –powered) radio receivers
Compile local knowledge on signs of impending disaster and share it with community

Internal

Back up important documents and files (including audio content) and store in a safe location
If possible, place a set of minimum broadcast equipment such as a microphone, tape/CD player, transmitter and antennae in a safe location
Plan radio programs to raise people's awareness of disaster prevention
First aid training for station personnel
Technical preparedness (generator, APS, securing, transmitter
Guidelines for managing staff and volunteers
Arrange emergency drills in the station
Develop a contact list and post in station
Map community (ethnicity, religion, race, culture, vulnerability)
Prepare pre-recorded Emergency Response
Announcements and scripts and post in the studio

Mitigation

Develop networks with local Disaster Management and Response (DMR) NGOs, local government and key stakeholders: hold regular meeting with them
Arrange emergency drills in the community
Training of on-air personnel - what and how to broadcast

Response

External-on air

Broadcast pre-prepared announcements
Broadcast emergency public meetings
Broadcast emergency evacuation announcements
All announcements broadcast in a reassuring and calm manner
Dispel myths and rumors and provide timely and accurate updates
Broadcast updates on damage situation
Produce programs in which victims can express themselves
Establish contact with the meteorological office and broadcast weather information

Internal-behind the scenes

Ensure safety of all station personnel
Call station briefing meeting
Notify CR networks of status
Monitor all official announcements and activities of national government, local government and aid agencies(NGOs)
Enact station evacuation plan if needed
Log all communications for reference
Stay calm
Divide information work so that all voices of the community can be heard and not just male leaders.

Relief

Establish Information Support Centre for information sharing and logistic distribution

Rehabilitation

External – Networking and Support

- Broadcast pre-prepared announcements
- Broadcast programs to heal victim's psychology trauma.
- Interview trauma counselors, monks, Imams and priests
- Broadcast recovery announcements
- Cooperate with DMR NGOs, local government and key stakeholders
- Broadcast recovery public meetings
- Provide call in or talk-back programs for people to people interactions
- Broadcast positive entertainment programming

Disaster Zonation

Cyclone

Sr. No.	Name of Taluka	No.of Villages
1	Mahuva	13
2	Talaja	10
3	Bhavnagar	08
4	Ghogha	03
Total:-		34

Flood (water logging villages)

Sr. No.	Name of the Taluka	No. of Village
1	Mahuva	5
2	Talaja	5
3	Sihor	3
4	Gariyadhar	2
5	Bhavnagar	17
6	Umralla	4
7	Jesar	2
Total :-		38

Flood (river affected villages)

Sr. No.	Name of the Taluka	No. of Village
1	Mahuva	6
2	Talaja	4
3	Palitana	10
4	Gariyadhar	3
5	Vallabhipur	19
6	Bhavnagar	13
7	Ghogha	4
8	Umralla	17
9	Jesar	8
Total :-		84

Earthquake

Bhavnagar district comes under Zone-III for earthquake

Industrial Hazard (MAH industries in Bhavnagar District)

Sr. No.	Name of MAH industries	Chemical utilized by the industries	Remarks
1	Excel Crop Care Ltd.	Mithenol Toluin Hydrogen Solvent C – IX Formaldehyd	Bhavnagar
2	Indian Oil Corporation	LPG	Bhavnagar
3	Ship Recycling Industrial Association (india)	LPG	Ghogha
4	Sun fire Petrochemical Private Ltd.	LPG	Sihor
5	Nirma Ltd.	Clorine	Bhavnagar

Relief and Rehabilitation Norms

Office Memorandum

સરકારી કાગળ
સરકારી કાગળ

No. 32-3/2010-NDM-I
Government of India
Ministry of Home Affairs
(Disaster Management Division)

Most immediate

23/8/12

ગોપ/3/4.3
નામ/9.3.

B' Wing, 3rd floor, NDCC-II, New Delhi
Dated the 23rd August, 2012.

Office Memorandum

Subject: Inclusion of cold wave / frost as an eligible natural calamity in the guidelines for relief assistance under the SDRF/ NDRF- regarding.

The undersigned is directed to refer this Ministry's OM of even number dated 28th September 2010 regarding guidelines on constitution and administration of the State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF). The Government of India has approved the inclusion of cold wave/ frost in the list of eligible calamity for assistance from SDRF and NDRF.

2. As such in addition to the natural calamities listed in the Para 3 and Para 3.1 of the Guidelines of SDRF/ NDRF respectively, the cold-wave/ frost may also be added to the list of eligible calamities for financial assistance from SDRF/ NDRF.

3. However, following condition/ criteria stipulated as under will be taken into account while considering the assistance from SDRF/ NDRF for the calamity of cold wave / frost:-

- a) Severe cold wave conditions would be said to prevail in an area :
 - (i) If minimum temperature is lower than 7th C in an area where normal minimum temperature is 10th C or above; and
 - (ii) If minimum temperature is lower than 5th C in an area where normal minimum temperature is less than 10th C.
- b) Frost conditions would be said to prevail when temperature falls below 0th C in an area where it is an abnormal phenomenon during the kharif/ rabi season.
- c) For declaring a district affected by frost/ cold wave conditions by the State Government concerned, the meteorological data on departure of normal minimum temperature in the affected area, as released by the India Meteorological Department (IMD) shall be taken into consideration for prevalence of frost/ cold wave conditions.
- d) Areas which suffer crop loss of 50% or more by cold wave/frost conditions will be eligible for assistance from SDRF/ NDRF, as is now allowed in the case of damage due to drought, hailstorm, pest attack and other natural calamities. Similarly, animal husbandry, including poultry sector, would get assistance from SDRF/ NDRF in the wake of cold wave/frost.

50/53
24/8/13

24/8

24/8

24/8

1/2

- e) The composition of the Central Team will be same as the Central Team constituted for the purpose of drought/hailstorm. The Central Team would make a field visit for assessment of damage to agriculture and horticulture production due to cold wave/ frost and shall take into consideration of all concomitant factors such as crops cutting experiment, fall in normal production, Normalized Differential Vegetation Index (NDVI) status of crops in the affected area, crops sown in the area affected, the vulnerability of the cold wave/ frost on standing agriculture/ horticulture crops etc. in the guidelines. The Ministry of Agriculture will be the nodal Ministry for natural calamity of cold wave/ frost.

4. This order will come into force prospectively with immediate effect.


(Dev Kumar)
Director (DM-I)
Telefax: 234328123

Distribution:-

1. Ministry of Finance, Department of Expenditure, North Block, New Delhi.
2. Ministry of Agriculture, Department of Agriculture & Cooperation, Krishi Bhavan, New Delhi.
3. National Disaster Management Authority, New Delhi.
4. Chief Secretaries of (All States).
5. The Relief Commissioners/ Secretaries, Department of Disaster Management of (All States).
6. Accountants General of all State Governments.
7. Controller General of Accounts (CGA), New Delhi.
8. Comptroller & Auditor General (CAG), New Delhi.
9. Resident Commissioners of all State Governments.

2/
2

Items and Norms of assistance From the State Disaster Response Fund (SDRF) and The National Disaster Response Fund (NDRF) for the period 2010-2015

284/4/4

No. 32-3/2013-NDM-I
Government of India
Ministry of Home Affairs
(Disaster Management Division)

C Wing, 3rd Floor, NDCC- II,
Jai Singh Road, New Delhi-110001,
Dated the 21st June 2013

To

02 JUL 2013
152873

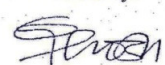
- Chief Secretaries of all States
- The Relief Commissioners, Secretaries, Department of Disaster Management of all States

Subject: - Items and Norms of assistance from the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) for the period 2010 - 2015.

Sir/ Madam,

I am directed to refer to this Ministry's letter No. 32-3/ 2012-NDM-I, dated 28th September 2012 regarding forwarding the list of revised items and norms from assistance from SDRF/ NDRF in the wake of identified natural calamities.

- It has now been decided to further revise the norms in respect of S. No. 9 (a) (i) i.e. repair/ restoration of fully damaged/ destroyed Pucca houses from Rs. 35,000/- per unit to Rs. 70,000/- per unit, of the revised list of items and norms of assistance from SDRF and NDRF. Similarly, it has also been decided to further revise the norms in respect of S. No. 1 (e) i.e. "provision of Gratuitous relief for families in dire need of immediate sustenance after a calamity; 4 (i) (B) (a) & (b) and 5 (ii) i.e. provision of input subsidy to SMF and OSMF (where crop loss is 50% and above) in respect of rainfed, irrigated and perennial crops; 6 (ii) & (iii) i.e. "provision of fodder/ feed concentrate and water supply in cattle camps". The State Governments concerned should draw up a separate plan with concerned Central Ministries and Planning Commission etc. for mitigating the drought situation. These revised norms, as cited above, will be effective from 1st March 2013. -
- The revised items and norms can also be downloaded from website of Disaster Management Division of Ministry of Home Affairs i.e. www.ndmindia.nic.in.
- Accordingly, a copy of further modified/ revised items and norms of assistance from SDRF/ NDRF in the wake of identified natural calamities is **Annexed**.
- This supersedes this Ministry's earlier letter on this subject, the last being No.32-3/ 2012-NDM-I dated the 28th September, 2012.

Yours faithfully,

(Goutam Ghosh)
Deputy Secretary to the Govt. of India
Telefax: 23438123

Encl: As above.

Handwritten notes and stamps:
Top left: (4) 284/4/4, 28/7/13, 28/9/13
Left margin: PS(RD), 3/7, 28/7/13, 28/9/13
Bottom left: 28/7/13, 28/9/13, 28/10/13, 28/11/13, 28/12/13, 28/1/14, 28/2/14, 28/3/14, 28/4/14, 28/5/14, 28/6/14, 28/7/14, 28/8/14, 28/9/14, 28/10/14, 28/11/14, 28/12/14, 28/1/15, 28/2/15, 28/3/15, 28/4/15, 28/5/15, 28/6/15, 28/7/15, 28/8/15, 28/9/15, 28/10/15, 28/11/15, 28/12/15, 28/1/16, 28/2/16, 28/3/16, 28/4/16, 28/5/16, 28/6/16, 28/7/16, 28/8/16, 28/9/16, 28/10/16, 28/11/16, 28/12/16, 28/1/17, 28/2/17, 28/3/17, 28/4/17, 28/5/17, 28/6/17, 28/7/17, 28/8/17, 28/9/17, 28/10/17, 28/11/17, 28/12/17, 28/1/18, 28/2/18, 28/3/18, 28/4/18, 28/5/18, 28/6/18, 28/7/18, 28/8/18, 28/9/18, 28/10/18, 28/11/18, 28/12/18, 28/1/19, 28/2/19, 28/3/19, 28/4/19, 28/5/19, 28/6/19, 28/7/19, 28/8/19, 28/9/19, 28/10/19, 28/11/19, 28/12/19, 28/1/20, 28/2/20, 28/3/20, 28/4/20, 28/5/20, 28/6/20, 28/7/20, 28/8/20, 28/9/20, 28/10/20, 28/11/20, 28/12/20, 28/1/21, 28/2/21, 28/3/21, 28/4/21, 28/5/21, 28/6/21, 28/7/21, 28/8/21, 28/9/21, 28/10/21, 28/11/21, 28/12/21, 28/1/22, 28/2/22, 28/3/22, 28/4/22, 28/5/22, 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Annexure -

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

(Period 2010-15, MHA Letter No. 32-7/2011-NDM-I Dated 16th January 2012, modified vide letter No. 32-3/2012-NDM-I, dated 28th September 2012, modified vide letter No. 32-3/2013-NDM-I, dated 21st June 2013)

SNO.	ITEM	NORMS OF ASSISTANCE
1	2	3
1	GRATUITOUS RELIEF	
	a) Ex-Gratia payment to families of deceased persons.	<p>Rs.1.50 lakh per deceased person including those involved in relief operations or associated in preparedness activities, subject to certification regarding cause of death from appropriate authority.</p> <ul style="list-style-type: none"> In the case of an Indian citizen who loses his life due to a notified natural calamity in a foreign country, his family would not be paid this relief. In the case of a Foreign citizen who loses his life due to a notified natural calamity within the territory of India, his family would also not be paid this relief.
	b) Ex-Gratia payment for loss of a limb or eye(s).	<p>Rs. 43,500/- per person, when the disability is between 40% and 80%.</p> <p>Rs. 62,000/- per person, when the disability is more than 80%.</p> <p>Subject to certification by a doctor from a hospital or dispensary of Government, regarding extent and cause of disability.</p>
	c) Grievous injury requiring hospitalization	<p>Rs. 9,300/- per person requiring hospitalization for more than a week.</p> <p>Rs. 3,100/- per person requiring hospitalization for less than a week.</p>
	d) Clothing and utensils/ house-hold goods, for families whose houses have been washed away/ fully damaged/severely inundated for more than a week due to a natural calamity.	<p>Rs.1,300/- per family, for loss of clothing.</p> <p>Rs.1,400/- per family, for loss of utensils/ household goods.</p>
	e) Gratuitous relief for families in dire need of immediate sustenance after a calamity.	<p>Rs. 40/- per adult and Rs. 30/- per child, not housed in relief camps. State Govt. will certify that (i) these persons have no food reserve, or their food reserves have been wiped out in the calamity, and (ii) identified beneficiaries are not housed in relief camps. Further State Government will provide the basis and process for arriving at such beneficiaries district-wise.</p> <p>GR to be provided to those who have no food reserves, or whose food reserves have been wiped out in a calamity, and who have no other immediate means of support.</p> <p>Period for providing gratuitous relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period of assistance will upto to 30 days, which may be extended upto 60 days in the first instance, if required, and subsequently upto 90 days in case of drought/ pest attack.</p>

2. SEARCH & RESCUE OPERATIONS	
(a) Cost of search and rescue measures/ evacuation of people affected/ likely to be affected	As per actual cost incurred, assessed by SEC and recommended by the Central Team (in case of NDRF). - By the time the Central Team visits the affected area, these activities are already over. Therefore, the State Level Committee and the Central Team can recommend actual/ near-actual costs.
(b) Hiring of boats for carrying immediate relief and saving lives.	As per actual cost incurred, assessed by SEC and recommended by the Central Team (in case of NDRF). The quantum of assistance will be limited to the actual expenditure incurred on hiring boats and essential equipment required for rescuing stranded people and thereby saving human lives during a notified natural calamity.
3 RELIEF MEASURES	
a) Provision for temporary accommodation, food, clothing, medical care, etc. for people affected/ evacuated and sheltered in relief camps.	As per assessment of need by SEC and recommendation of the Central Team (in case of NDRF), for a period up to 30 days. The SEC would need to specify the number of camps, their duration and the number of persons in camps. In case of continuation of calamity like drought, or widespread devastation caused by earthquake or flood etc., this period may be extended to 60 days, and upto 90 days in cases of severe drought. Medical care may be provided from National Rural Health Mission (NRHM).
b) Air dropping of essential supplies	As per actual, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF). - The quantum of assistance will be limited to actual amount raised in the bills by the Ministry of Defence for airdropping of essential supplies and rescue operations only.
c) Provision of emergency supply of drinking water in rural areas and urban areas	As per actual cost, based on assessment of need by SEC and recommended by the Central Team (in case of NDRF), up to 30 days and may be extended upto 90 days in case of drought.
4. CLEARANCE OF AFFECTED AREAS	
a) Clearance of debris in public areas.	As per actual cost within 30 days from the date of start of the work based on assessment of need by SEC for the assistance to be provided under SDRF and as per assessment of the Central team for assistance to be provided under NDRF.
b) Draining-off flood water in affected areas	As per actual cost within 30 days from the date of start of the work based on assessment of need by SEC for the assistance to be provided under SDRF and as per assessment of the Central team (in case of NDRF).
c) Disposal of dead bodies/ Carcasses	As per actual, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF).
5 AGRICULTURE	
(i) Assistance to small and marginal farmers.	
A. Assistance for land and other loss	
a). De-silting of agricultural land (where thickness of sand/ silt deposit is more than 3", to be certified by the competent authority of the State Government.)	Rs. 8,100/- per hectare for each item.

b) Removal of debris on agricultural land in hilly areas	(Subject to the condition that no other assistance/ subsidy has been availed of by/ is eligible to the beneficiary under any other Government Scheme)
c) De-silting/ Restoration/ Repair of fish farms	
d) Loss of substantial portion of land caused by landslide, avalanche, change of course of rivers.	Rs. 25,000/- per hectare to only those small and marginal farmers whose ownership of the land is legitimate as per the revenue records.
B. Input subsidy (where crop loss is 50% and above)	
a) For agriculture crops, horticulture crops and annual plantation crops	Rs. 4,500/- per ha. in rainfed areas and restricted to sown areas. Rs. 9,000/- per ha. in assured irrigated areas, subject to minimum assistance not less than Rs.750 and restricted to sown areas.
b) Perennial crops	Rs. 12,000/- ha. for all types of perennial crops subject to minimum assistance not less than Rs. 1500/- and restricted to sown areas.
c) Sericulture	Rs. 3,200/- per ha. for Eri, Mulberry, Tussar Rs. 4,000/- per ha. for Muga.
(ii) Input subsidy to farmers other than small and marginal farmers	Rs. 4,500/- per hectare in rainfed areas and restricted to sown areas. Rs. 9,000/- per hectare for areas under assured irrigation and restricted to sown areas. Rs. 12,000/- per hectare for all types of perennial crops and restricted to sown areas. - Assistance may be provided where crop loss is 50% and above, subject to a ceiling of 1 ha. per farmer and upto 2 ha per farmer in case of successive calamities irrespective of the size of holding being large.
6. ANIMAL HUSBANDRY - ASSISTANCE TO SMALL AND MARGINAL FARMERS	
i) Replacement of milch animals, draught animals or animals used for haulage.	<p>Milch animals - Rs.16,400/- Buffalo/ cow/ camel/ yak etc. Rs.1650/- Sheep/ Goat</p> <p>Draught animals - Rs.15000/- Camel/ horse/ bullock, etc. Rs.10,000/- Calf/ Donkey/ Pony/ Mule</p> <p>- The assistance may be restricted for the actual loss of economically productive animals and will be subject to a ceiling of 1 large milch animal or 4 small milch animals or 1 large draught animal or 2 small draught animals per household irrespective of whether a household has lost a larger number of animals. (The loss is to be certified by the Competent Authority designated by the State Government).</p> <p>Poultry:- Poultry @ 37/- per bird subject to a ceiling of assistance of Rs 400/- per beneficiary household. The death of the poultry birds should be on account of a natural calamity.</p> <p>Note: - Relief under these norms is not eligible if the assistance is available from any other Government Scheme, e.g. loss of birds due to Avian Influenza or any other diseases for which the Department of Animal Husbandry has a separate scheme for compensating the poultry owners.</p>

ii) Provision of fodder / feed concentrate including water supply and medicines in cattle camps.	<p>Large animals- Rs. 50/- per day.</p> <p>Small animals- Rs. 25/- per day.</p> <p>Period for providing relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period for assistance will be upto 30 days, which may be extended upto 60 days in the first instance and in case of severe drought up to 90 days.</p> <p>Based on assessment of need by SEC and recommendation of the Central Team, (in case of NDRF) consistent with estimates of cattle as per Livestock Census and subject to the certificate by the competent authority about the requirement of medicine and vaccine being calamity related.</p>
iii) Transport of fodder to cattle outside cattle camps	As per actual cost of transport, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF) consistent with estimates of cattle as per Livestock Census.
7 FISHERY	
i) Assistance to Fisherman for repair / replacement of boats, nets – damaged or lost -- Boat -- Dugout-Canoe -- Catamaran -- net (This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/ assistance, for the instant calamity, under any other Government Scheme.)	<p>Rs. 3,000/- for repair of partially damaged boats only</p> <p>Rs. 1,500/- for repair of partially damaged net</p> <p>Rs. 7,000/- for replacement of fully damaged boats</p> <p>Rs. 1,850/- for replacement of fully damaged net</p>
ii) Input subsidy for fish seed farm	<p>Rs. 6,000 per hectare.</p> <p>(This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/ assistance, for the instant calamity, under any other Government Scheme, except the one time subsidy provided under the Scheme of Department of Animal, Husbandry, Dairying and Fisheries, Ministry of Agriculture.)</p>
8 HANDICRAFTS/HANDLOOM – ASSISTANCE TO ARTISANS	
i) For replacement of damaged tools/ equipment	<p>Rs. 3,000 per artisan for equipments.</p> <p>- Subject to certification by the competent authority designated by the Government about damage and its replacement.</p>
ii) For loss of raw material/ goods in process/ finished goods	<p>Rs. 3,000 per artisan for raw material.</p> <p>- Subject to certification by Competent Authority designated by the State Government about loss and its replacement.</p>
9 HOUSING	
a) Fully damaged/ destroyed houses	
i) Pucca house	Rs. 70,000/- per house
ii) Kutch House	Rs. 15,000/- per house
b) Severely damaged houses	
i) Pucca House	Rs. 6,300/- per house
ii) Kutch House	Rs. 3,200/- per house

(c) Partially Damaged Houses – both pucca/ kutcha (other than huts) where the damage is at least 15 %	Rs. 1,900/- per house
d) Damaged / destroyed huts:	Rs. 2,500/- per hut, <i>(Hut means temporary, make shift unit, inferior to Kutcha house, made of thatch, mud, plastic sheets etc. traditionally recognized as hut by the State/ District authorities.)</i> <i>Note: -The damaged house should be an authorized construction duly certified by the Competent Authority of the State Government.</i>
e) Cattle shed attached with house :	Rs.1,250/- per shed.
10 INFRASTRUCTURE	
<i>Repair/restoration (of immediate nature) of damaged infrastructure:</i> <i>(1) Roads & bridges (2) Drinking Water Supply Works, (3) Irrigation, (4) Power (only limited to immediate restoration of electricity supply in the affected areas), (5) Schools, (6) Primary Health Centres, (7) Community assets owned by Panchayat.</i> Sectors such as Telecommunication and Power (except immediate restoration of power supply), which generate their own revenues, and also undertake immediate repair/ restoration works from their own funds/ resources, are excluded.	<i>Activities of immediate nature :</i> Illustrative lists of activities which may be considered as works of an immediate nature are given in the enclosed Appendix . <i>Assessment of requirements :</i> Based on assessment of need, as per States' costs/ rates/ schedules for repair, by SEC and recommendation of the Central Team (in case of NDRF). <ul style="list-style-type: none"> - As regards repair of roads, due consideration shall be given to Norms for Maintenance of Roads in India, 2001, as amended from time to time, for repairs of roads affected by heavy rains/floods, cyclone, landslide, sand dunes, etc. to restore traffic. For reference these norms are <ul style="list-style-type: none"> • Normal and Urban areas: upto 15% of the total of Ordinary Repair (OR) and Periodical Repair (PR). • Hills: upto 20% of total of OR and PR. <i>Note: States shall first use its provision under the budget for regular maintenance and repair.</i>
11 PROCUREMENT	
Procurement of essential search, rescue and evacuation equipments including communication equipments, etc. for response to disaster.	<ul style="list-style-type: none"> - Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC). - The total expenditure on this item should not exceed 5% of the annual allocation of the SDRF.

Illustrative list of activities Identified as of an immediate Nature

Illustrative list of activities identified as of an immediate nature.

1. Drinking Water Supply :

- i) Repair of damaged platforms of hand pumps/ring wells/ spring-tapped chambers/public stand posts, cisterns.
- ii) Restoration of damaged stand posts including replacement of damaged pipe lengths with new pipe lengths, cleaning of clear water reservoir (to make it leak proof).
- iii) Repair of damaged pumping machines, leaking overhead reservoirs and water pumps including damaged intake – structure, approach gantries/jetties.

2. Roads

- i) Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments.
- ii) Repair of breached culverts.
- iii) Providing diversions to the damaged/washed out portions of bridges to restore immediate connectivity.
- iv) Temporary repair of approaches to bridges/embankments of bridges., repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub base, over damaged stretch of roads to restore traffic.

3. Irrigation :

- i) Immediate repair of damaged canal structures and earthen/masonry works of tanks and small reservoirs with the use of cement, sand bags and stones.
- ii) Repair of weak areas such as piping or rat holes in dam walls/ embankments.
- iii) Removal of vegetative material/building material/debris from canal and drainage system.

4. Health :

Repair of damaged approach roads, buildings and electrical lines of PHCs/ community Health Centres.

5. Community assets of Panchayat

- a) Repair of village internal roads.
- b) Removal of debris from drainage/ sewerage lines.
- c) Repair of internal water supply lines.
- d) Repair of street lights.
- e) Temporary repair of primary schools, Panchayat ghars, community halls, *anganwadi*, etc.

Formats (Reports, Damage and Loos Assessment)

Standard damage assessment form:

Application form for Government help for to Repair / Rebuilt House/Huts damaged during the Natural calamities of Earthquake on date 26.01.2001

:: APPLICATION FORM ::

Name of Applicant

Name of Village & Location of House / Hut

3. a. Ward No. Block No. House No.
b. Area
c. Valuation Register No.

Total No. of Family Member of Applicant

Sr. No.	Name	Age	Relation
1			
2			
3			

Annual Income of Applicant family

(A) Ownership of House :

House owner / House Tenant Name and Address:

House / Hut Party damage or fully damage

Damage estimate cost (In Rupees)

Amount Damaged for to Repair / Rebuilt House / Hut.

Fully damage House/ Hut is on official place or not? If not then Rebuilt

House / Hut is on official place?

Place:

Date:

Signature of Applicant

Rojkam

Shriresident of Bhavnagar
has residential building / Hut which is demolished heavy damage during the
.....(type of Calamities). Which has seen by us and the
estimated damage cost is Rs..... is true for that we punch sign under
this.

- 1.
- 2
- 3

In presence of Team leader

Agreement

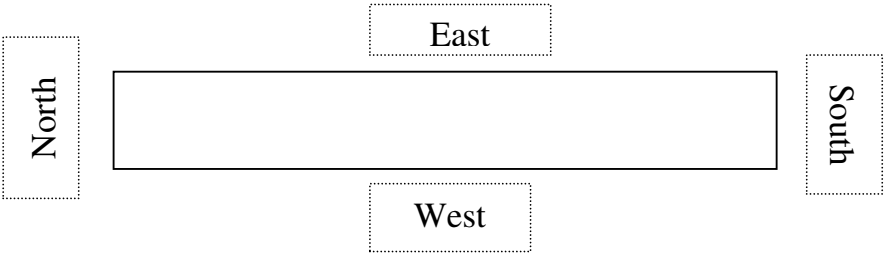
I shri living in village
..... Taluka Agree to write agreement that in referce to
my application what over the help given to me by Government according to
his rules, I spend it for rebuilt house / hut. If I fail to do so I repaid the help
to Government.

Witness:
Dates:
In presence of ten leaders.

Name:
Applicant Signature

In accordance with the Application of Shri.....
for to repair / rebuilt residential building / kacha / packa / Hut. I personally
verified the damage. In accordance with damage of situation of
applicant . I agree to give him help according to rule. His valuation register
No. is

Date: Team Leader : Signagture
Shri.....
Residence..... house / hut damage details
Ward No.....
House No.....
Type of House : Kacha / Packa / Hut



Height of building :

Plinth Area:

Walls :

Cellar :

Roof detail : Tiles / Slash

Approximate damage:

(Repairing cost)

Categon of Damage:

% damage:

Sign

Engineer's Sign / Officer's

Name:

-----Looking to the above detail Rs.is sranted
as a help for to repair / rebuilt . House / Hut.

Date:

Mamlatdar

Place:

SOPs

As per IRS

Projects for prevention of disaster

1. **Disaster Risk Management Programme (DRM)**
2. **National Cyclone Risk Mitigation Project (NCRMP)**
3. **Gujarat School Safety Programme (GSSP)**
4. **Aapada Mitra project**

Annexure-1

Bhavnagar District Profile

Demographic details-

The district is having an area of 10,034 Sq. Kms. Total population is 2,880,365 (Males – 1,490,201 and Female – 1,390,164 as per 2011 census) and it is about 4.77 % of the total state population. Density of population is 287 persons per Sq. Km. The literacy in percentage is 75.52 %.

Geographic Details-

Bhavnagar is placed in the southwestern corner of Gujarat State. Its mainland extends between 21-47 degree southeast at North Pole and 71-15 degree longitude. It is bounded by Gulf of Khambhat in east and south and Amreli district in the west, Rajkot and Surendranagar districts in the northwest, Ahmedabad in northeast and Arabian Sea in the east and south.

Bhavnagar, in the Indian State of Gujarat, is a port of city on the coastal region of the Saurashtra peninsula abutting the picturesque Gulf of Cambay. Once the capital of the princely state of that name, Bhavnagar was founded in 1743 by a Rajput Prince, Bhav Sinhji and was lucky enough to have successive rulers who contributed to the development of their kingdom in a major way, to the extent that it became a highly progressive society. Bhav Sinhji, the founder of the city established educational and judicial institutions. Later rulers commissioned European architects to build palaces and administrative buildings. So aware and progressive were the rulers that Bhavnagar was amongst the first of the princely states to join the Indian Union after independence in 1947.

General Information about District-

Area & Administration

Sr.No.	Name of District	Name & No. of Nagarpalika	Name & No. of Taluka	Taluka wise No. of Villages
	Bhavnagar	(6 Nagarpalika)	(10 Taluka)	(705 Villages)
1		Mahuva	Mahuva	118
2		Talaja	Talaja	117
3		Sihor	Sihor	80
4		Palitana	Palitana	82
5		Gariyadhar	Gariyadhar	48
6		Vallabhipur	Vallabhipur	60
7			Bhavnagar (Rural)	60
8			Ghogha	47
9			Umralla	43
10			Jesar	41

Bhavnagar town is District Head quarter and has one Municipal Corporations in the State out of 8 Municipal Corporations. There are 10 Talukas (Bhavnagar, Ghogha, Umralla, Jesar, Mahuva, Talalja, Sihor, Palitana, Gariyadhar and Vallabhipur), 6 Nagarpalikas (Mahuva, Talalja, Sihor, Palitana, Gariyadhar and Vallabhipur).

Departmental Information (linkages with other stakeholders)

Port (Gujarat Maritime Board)

Out of 1600 Kms. Length of Coastal line of Gujarat the coastal belt of Bhavnagar District blessed with 152 Kms. There are 4 ports in the Bhavnagar District, 2 cargo ports and 2 fisheries ports.

Fisheries (Fisheries department)

There are 16 fishing villages. Entire Coastal area is active in fishing activity.

Total 14 fishing societies have been registered in the district, out of which 09 are active.

Salt pan

Due to large seashore in the District, Salt Industries has developed very well. There are 30 Salt factories in the district and occupies 38444 acres of land. Annual production of Industrial and table salt is around 35 Lacks tones.

Transportation

- 1) The district has 987 Kms. length of State Highway, 3847 Kms. length of pakka roads connection to approximately 700 villages / towns in the district. Kachchha roads are of 1843 kms. And 108 villages accessible only in fair weather.

Out of the total 824 inhabited villages, 633 villages are connected by State Road Transport facilities.

- 2) Total length of railway track is 282.68 kms. In the District of broad gauge, and 34 railway stations are on the district.

Gariyadhar, Vallabhipur, Ghogha, and Talaja talukas have not the railway facilities.

- 3) District has airport facility too

Animal Husbandry (Live Stock)

There are total 11 Veterinary hospital and 11 Dispensaries in the District. There is total 1007027 animals in district as per 2012.

Education

The district has 75.52% literacy rate. The district has total 1039 Primary schools, 347 Secondary and Higher Secondary Schools and 1 university (there is more than 25 colleges under the Bhavnagar university).

Annexure-2

Industries of District

There are 723 factories registered under the Indian factories Act and approximately 2.00 lacks persons are employed in these factories. Besides the district is known for Diamond and Handicrafts.

There are 9651 small-scale industries registered and employing 47291 people.

Bhavnagar has 5 MAH industries. IOCL, Alang Ship Breaking Yard, Sun petrochemical provate ltd are the LPG user industries. Exel Corps ltd. using Mithenol, Toluin, Hydrogen, Solvent C-IX and Formaldehyd and Nirma Ltd. using Clorine. So District is very high chances of risk of loss of property due to leakage of gases and fire.

Industries have their own Onsite Emergency Management Plans to deal with onsite emergencies and the other major units like IOCL, Excel crop care, Nirma and Alang etc. has developed their Disaster Management Plans.

No. MAH industries in Bhavnagar District

Sr. No.	Name of MAH industries	Chemical being utilized by the industries
1	Excel Crop Care Ltd. 6/2 Ruvapari Road Bhavnagar	1. Mithenol 2. Toluin 3. Hydrogen 4. Solvent C – IX 5. Formaldehyd
2	Indian Oil Corporation Tagadi	LPG
3	Ship Recycling Industrial Association (india) Oderaka, Ghogha	LPG
4	Sun fire Petrochemical Private Ltd. survey no. 34, vadiya, Taluka: Sihor	LPG
5	Nirma Ltd., Kalatalav, Bhavnagar	Clorine

Details of Alang-Sosiya Ship Recycling Yard

Background:

The ship breaking industry performs two major roles. It adjusts Ship tonnage for the shipping industry by way of disposal of old ships and it also supplies substantial quantities of re-rollable and scrap steel. It also increases the availability of some finished material/ products which otherwise would have to be produced by the iron and steel industry using the natural ore. Thus, the ship breaking industry helps in conservation of natural resources.

In India till 60's ship breaking activity was confined mainly to dismantling of small barges and coastal wrecks. The activity grew as a full-fledged industry by 1979 when the Government of India recognized it as a Manufacturing Industry. Though ship-breaking activities are carried out at West Bengal (Kolkata), Kerala (Beypore, Azical), Maharashtra (Mumbai) and Gujarat (Sachana) etc. however the main centre lies on the west coast of Gulf of Cambay at Alang-Sosiya, Bhavnagar, Gujarat. The large tidal range and other geomorphological characteristics of the beach at Alang make it an ideal location for the ship breaking industry. As many as 173 plots are developed by Gujarat Maritime Board along a 10 km long coast with total breaking potential of 3-5 MMTA.

MATERIALS OBTAINED ON RECYCLING OF SHIP:

During the recycling of ship, precious material is obtained which can be used either directly or after altering it. Some of the important materials obtained due to ship dismantling are:

- Steel plates, pipes, beams, angles, channels etc.
- Engines, D.G. Set, A.C. Unit and spare parts.
- Refrigerators, washing machines, TVs etc.
- Wood (doors, panels, furniture)
- Cables (Copper and Aluminum cables)
- Glass wool, Thermocol, PUF etc.
- Oils (Furnace oil, lubricating oil, transformer oil, diesel)
- Lead acid batteries.
- Gear boxes, machineries, pumps, valves etc.

BREAK UP OF MAJOR END PRODUCTS OF SHIP RECYCLING:

The percentage wise break up of important end products shows that only 2-3% waste is generated thereby proving it environment friendly process of getting steel.

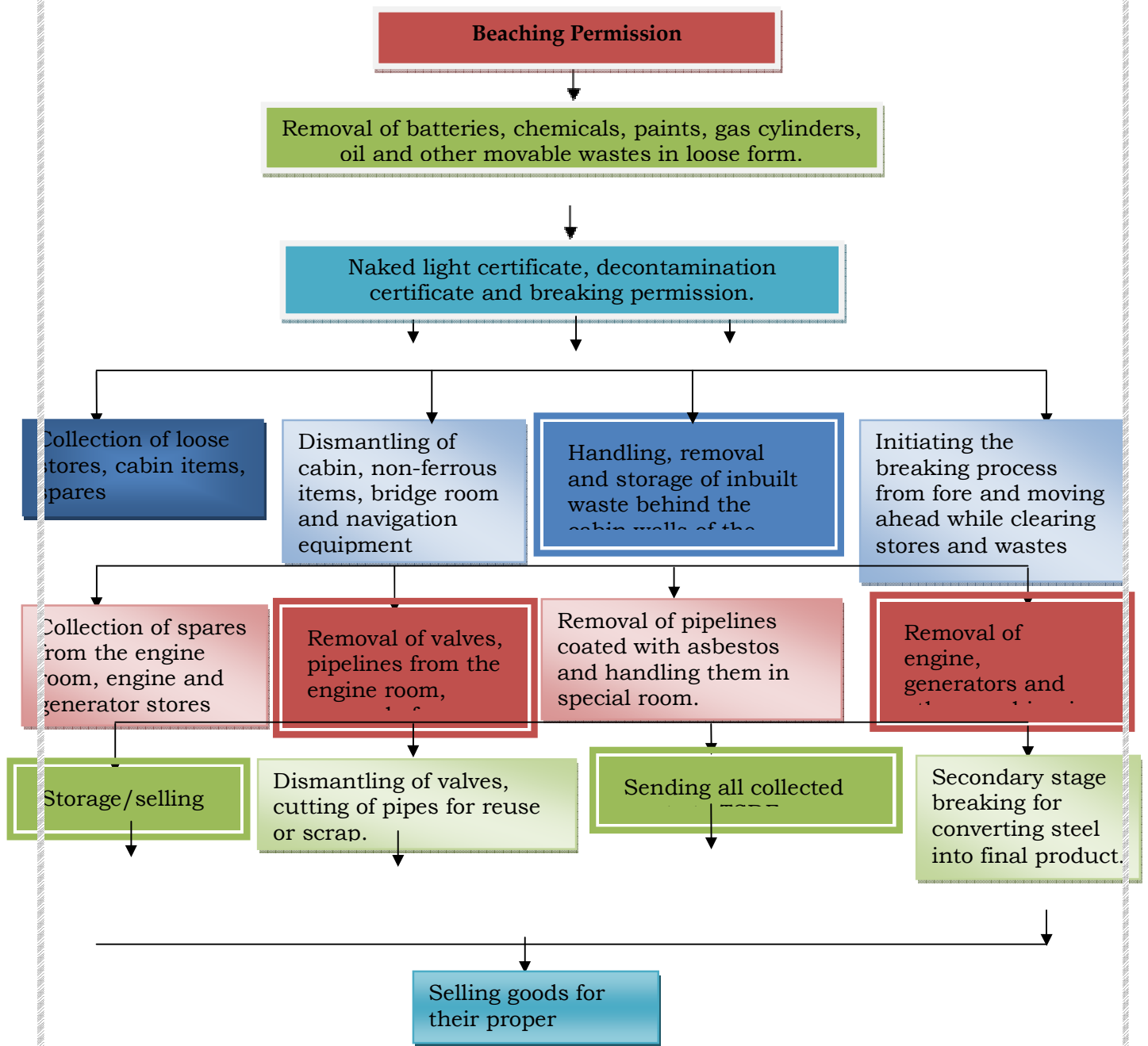
Re-roll able scrap	: 70 - 80 %
Melting scrap	: 6 - 10 %
Non-Ferrous scrap	: 0.25 - 0.75 %
Machinery & other material	: 4 - 5 %
Furniture	: 1 %
Weight loss	: 8 - 10 %
Solid disposable waste	: 2 - 3 %

TYPE OF SHIPS COMING FOR RECYCLING ACTIVITY

Committee of Technical Experts in its report categorized ships in to 1) Ships of special concern and 2) General ships. However mainly following type of ships comes to Alang for dismantling.

- 1) Bulk Carrier (Cargo)
- 2) Tankers (Oil, Chemical, LPG etc.)
- 3) Passenger Ships (RORO Passenger/ Big Passenger liner)
- 4) Factory Ships (Fish/Cement Factory)
- 5) War ships
- 6) Research vessel
- 7) FPSO/Offshore fixed or floating Platforms

Ship Recycling Process:



HAZARDOUS WASTE MANAGEMENT:

The following activity leads to generation of hazardous/non-hazardous wastes

Removal of oil : used oil/waste oil

Cleaning of oil tanks : oily sludge/oily rags/contaminated oily sand

Dismantling of cabins/passage : waste asbestos/glass wool/ thermocol/floor tiles/ glass pieces

Dismantling of pipes : waste asbestos/glass wool/PUF

Removal of cables: pieces of waste cables

Removal of Lead acid batteries: used batteries

Cutting of massive pieces of vessels : paint chips

Cutting of large pieces of plates in to smaller pieces: paint chips/scale

The Hazardous waste management scenario was observed to have improved significantly, as compared to the previous years, on account of the following measures:

Removal of oil:

Ship Recycler submits the tentative schedule of removal of oil to Regional Office, Bhavnagar. During the period of removal of oil, GPCB officials monitor the facility ensuring no leakage of oil. Used oil recovered from ships is sold to the oil reprocessing units registered with CPCB and copy of manifest is submitted to Regional Office.

Cleaning of oil tanks:

Oily sludge is sent to common incinerator facility where as oily rags and contaminated oily sand is disposed off to TSDF site.

Various types of oils in the ship:

Type of oils	Source	density	Flash point	Application
Fuel Oil	Engine	0.94	110	Sold as fuel oil
Marine gas Oil (Diesel)	Generator set	0.87 0.84	230+10	Sold as fuel oil
Lubricating oil	Various mechanical/ Hydraulic system	0.87	Total Base number 7-13	Sold as lube oil
Used oil	Sump tank	0.90 to 0.92	180 Water contaminant 2 to 50%	Disposed to Re Refining units
Waste oil	(Heavy fuel bottom tank) (Gas oil bottom tank)	0.94 0.80		Disposal to re refining units/incineration depending on the quality

4. Handling of asbestos: Following practice was adopted prior to Hon'ble Supreme Court order dtd.6/9/2007. Pipe and other parts containing asbestos is dismantled from the ship and brought to the asbestos handling area at the plot. The Pipe/parts containing asbestos is made wet by spraying the water on it and than Scrapped off to minimize the generation of air borne asbestos fiber. Waste asbestos thus generated is solidified in the cement pipe with the help of cementing material before disposal to the TSDF site. On site handling & solidification facility is provided in all the operative plots.

Many of the Plots have provided special asbestos handling facility (negative pressure system) containing facility of providing negative air, HEPA filter system along with air pollution control measures and a waste water treatment.

Proper collection, segregation, storage and disposal of pieces of glass wool, thermocol, floor tiles and other wastes including waste cables/rubber tubes, etc. to a secured land fill site at Alang.

Stopping haphazard dumping of solid/hazardous waste generated from the ships.

The landfill site at Alang developed by GMB is commissioned in October 2005 and made operational in March-06. It is expected to cater to the solid/hazardous waste disposal requirement for around 5 years. This site is outsourced by GMB to GEPIL, Surat for operation and maintenance for the period of three years which is further extended for another two years. So far about 6760 tons of waste is received at this site. These contain 185 MT of ACM/asbestos waste.

The ship breaking units at Alang-Sosiya had disposed around 3868 MT of such wastes up to February 2006 at the Naroda TSDF site. Till August-08, 4922 MT of hazardous & non-hazardous waste is received whereas 1838 MT of MSW is received at the site. The waste segregation and storage facilities for these wastes are provided on plots basis. The recoverable sheets of glass wool, asbestos containing material (ACM) and thermocol are recovered and sold for reuse.

Hazardous Waste/Solid Wastes from Ship Recycling Yard and its disposal methodology:

Sr. No.	Waste/Waste stream	Mode of disposal	Remarks
HAZARDOUS WASTE			
1	Oily sludge	Disposal by selling at TSDF or by incineration	
2	Asbestos	Disposal at TSDF	
3	Paint Chips	Disposal at TSDF	
4	Used Oil	Disposal by selling to registered re-refiners	
5	Waste Oil	Disposal by selling registered re-refiners or by incineration	
6	Used Batteries	Disposal by selling to Registered Recyclers	
SOLID WASTE			
1	Cementing Material	Disposal by selling to end users	Unusable pieces of tiles and other cementing material goes to TSDF
2	Iron scaling	Disposal by selling to end users	Unsellable goes to TSDF
3	Chicken mesh	Disposal by selling to end users	Unsellable goes to TSDF
4	Cardboard & packing Material	Disposal by selling to end users	Unsellable material goes to TSDF
5	Glass	Disposal by selling to end users	Unsellable broken glass pieces goes to TSDF
6	Rexene	Disposal by selling to end users	Unsellable small pieces goes to TSDF
7	PVC & Plastic & Cable	Disposal by selling Registered recycler	Unsellable small pieces goes to TSDF

Annexure-3

Disaster History of District

Year	Description
1982	On 8 th November 1982 Bhavnagar faced a tropical cyclone of the speed of 150 kms / hours. Instead of it there was heavy rain in the district on 7 th and 8 th November 2004. Because 250 mm rain falls in two days there was the situation of flood in the rivers that cause the death of 125 people at the site of Kalubhar dam in Gadhada Taluka. Same day 25 people felt in the grip of death of Umratal Taluka. In the same cyclone the Kashmir of Saurashtra MAHUVA lost its beauty because thousands of trees fell down and there was heavy loss of human being, resources, property and livestock.
1999	Again the Bhavnagar District copied a cyclone of 80-100 kms / hour with heavy rain. It's taken the 5 innocent people in the grip of death.
2000	In August – 2000 the topple of Bhavnagar experienced the earthquake. The epicenter of the quake was near to the 8 kms far from circuit near Malanka village. From August 2000 to 25 th January – 2001 the people of Bhavnagar experienced 175 to 200 light earthquakes. Because of the waves of those quakes there was heavy loss of buildings in the Bharatnagar area of Bhavnagar.-
2001	The destructive earthquake of 26 th January 2001 badly affected the Bhavnagar district. Because of earthquake 4 people and one cattle dead and 24 people were injured. In the same earthquake 9752 kuchcha and pukka houses were partially damaged and 239 house were totally damaged.
2002	In Bhavnagar district during 6 th June 2002 to 30 th June 2002 the heavy rain created flood in Palitana, Bhavnagar and Sihor Taluka of the district, during the flood 19147 people were affected and 8 people were dead and there was heavy loss of buildings and property in Bhavnagar, Sihor and Palitana Taluka.
2007	During this session heavy rain became the main cause of flood. Seven taluka of the Dist. were adversely affected city and total 40 people dead in different area within district. Similarly other adjoining taluka were also affected. There was heavy loss public and private property.
2015	There was heavy rain in district and it cause of flood. It affected whole district especially some area of Palitana city and Talaja city and also 4 villages of Gariyadhar and Jeasar taluka. 8 people were dead and there was heavy loss of property. Administration also done evacuation during flood situaion.

Annexure-4

Rainfall Data of last 10 Years

Sr. No.	Taluka	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	Bhavnagar	997	519	952	687	532	1324	651	672	668	659
2	Ghogha	655	460	595	612	443	917	516	451	631	503
3	Umralla	712	448	651	465	416	773	596	682	542	566
4	Jesar							420	675	753	546
5	Mahuva	544	494	763	585	259	1055	542	592	778	750
6	Talaja	811	374	850	634	354	969	466	493	697	637
7	Sihor	884	438	865	582	353	983	458	554	499	471
8	Palitana	694	462	714	667	446	830	354	627	639	735
9	Gariyadhar	566	251	618	414	251	685	359	366	604	370
10	Vallabhipur	680	245	882	594	515	851	540	581	660	613
	Total	6543	3691	6890	5240	3569	8387	4902	5693	6471	5850

Annexure-5

Dam Details of District

S.N.	Name of the Dam	Village Name	Taluka	District	Capacity (In feet)	Danger point (In foot)	No. of Villages affected
1	2	3	4	5	6	7	7
1	Shetrunji	Nani Rajasthali	Palitana	Bhavnagar	34.00	41.00	
2	Hanol	Hanol	Palitana	Bhavnagar	12.30	12.30	
3	Kharrodam	Sonpari	Palitana	Bhavnagar	21.70	22.14	
4	Rajaval	Mandavda	Palitana	Bhavnagar	22.14	27.81	
5	Malpara	Mandavda	Gadhada	Bhavnagar	16.73	16.73	1
6	Kalubhar	Rajpipla	Gadhada	Bhavnagar	21.80	26.30	4
7	Bhimdad	Bhimdad	Gadhada	Bhavnagar	28.30	36.28	
8	Limbali	Limbani	Gadhada	Bhavnagar	12.12	14.23	
9	Ghelaitariya	Itaria	Babra	Amreli	25.00	31.00	
10	Ghelasomnath	Somalpura	Jasdan	Rajkot	25.75	30.75	
11	Malgarh	Bhadli	Jasdan	Rajkot	25.75	30.75	
12	Ranghola	Ranghola	Umralla	Bhavnagar	30.00	31.00	2
13	Goma	Goma	Botad	Bhavnagar	20.00	27.50	3
14	Sukhbhadar	Nana Bhadla	Sayala	Surendra-Nagar	26.60	30.43	2
15	Kaniyad	Kaniyad	Botad	Bhavnagar	11.15	11.15	
16	Malan	Mota Khutavada	Mahuva	Bhavnagar	34.00	34.00	2
17	Rojki	Thoran	Mahuva	Bhavnagar	32.50	38.50	3
18	Bagad	Khumbharia	Mahuva	Bhavnagar	16.60	26.56	3
19	Hamirpara	Hamirpara	Talaja	Bhavnagar	17.50	17.50	
20	Khodiyardam	Dhari	Dhari	Amreli	65.00	65.00	
21	Lakhanaka	Lakhanka	Ghogha	Bhavnagar	30.30	32.80	
22	Pingali	Pingali	Talaja	Bhavnagar	51.30	51.30	

Annexure-6

Details of Health Facilities

Sr. No.	Name of CHC	Name of Taluka	Code No.	Telephone No. (O)
1	Vartej	Bhavnagar	0278	2445642
2	Koliyak	Bhavnagar	0278	2884341
3	Ghogha	Ghogha	0278	2882126
4	Talaja	Talaja	02842	222266
5	Datha	Talaja	02842	283330
6	Thaliya	Talaja	02842	284432
7	Mota Khutvda	Mahuva	02844	287441
8	Jesar	Jesar	02845	281476
9	Bagdana	Mahuva	02844	284470
10	MAHUVA Municipal.Hospitals	Mahuva	02844	223109
11	PALITANA Mansinhji.Hospital	Palitana	02848	252175
12	Gariyadhar	Gariyadhar	02843	252970
13	Vallabhipur	Vallabhipur	02841	222449
14	Umarala	Umarala	02843	235236
15	Shihor	Shihor	02846	222063

Sr. No.	Taluka	Name of THO	Mobile No.	TELEPHONE NO (O)
1	Bhavnagar	Dr. B.P. Boricha	9727779796	0278-2510246
2	Ghogha	Dr. B.P. Boricha	9727779796	0278-2510246
3	Gariyadhar	Dr. P.V. Revar	9727779653	02848-243483
4	Palitana	Dr. P.V. Revar	9727779653	02848-243483
5	Mahuva	Dr. Chandrakant Kanjariya	9727779654	02844-227660
6	Jesar	Dr. Chandrakant Kanjariya	9727779654	02844-227660
7	Sihor	Dr. P.K. Singh	9727779658	02846-224839
8	Talaja	Dr. Chhaya Lakhani	9727779659	02842-223095
9	Umralla	Dr. P.K. Singh	9727779657	02841-222543
10	Vallbhipur	Dr. P.K. Singh	9727779657	02841-222543

Annexure-7

List of Vulnerable villages with Contect details

The details of coastal villages

S N	Taluka	Village		Name of Talatimantri	Mobile No.	Name of Sarpanch	Mobile No.
		SN	Name				
1	Bhavnagar	1	Kalatalav	M.H.Sedani	9408208073	-	
		2	Hathab	D.H.Jogdiya	9824753826	D.M.Gohil	9574884311
		3	Narmad	M.H.Sedani	9408208073	S.J.Rathod	9924329994
		4	Koliyak	V.B.Dave	898003993	G.J.Solanki	9574555707
		5	Jashvantpur	-		V.S.Chudasa ma	-
		6	Kotda	-		H.R.Parmar	9979207387
		7	Kheta khatli	M.H.Sedani	9408208073	S.J.Rathod	9924329994
		8	Ganeshgadh	A.V.Khasiya	9099435335	N.V.Jambuc ha	9979906113
2	Ghogha	1	Kuda	R.P.Baraiya	7878731949	R.P.Gohil	9638656568
		2	Ghogha	-		Ansarbhai Rathod	9824882355
		3	Avaniya	R.K.Mer	8980882389	R.R.Gohil	9714439093
3	Mahuva	1	Nicha kotda	D.A.Vaishanav	9624010246	M.R.Bhil	-
		2	Dayal	K.M. Raval	9426463127	G.D.Chauha n	-
		3	Kalsar	-		A.U.Goswam i	-
		4	Naip	K.R.Upadhyay	9374576831	J.Z.Makwan a	-
		5	Nikol	-		N.D.Bhaliya	9726979268
		6	Vaghnagar	V.C.Suchak		U.P.Kalsariy a	9979602374
		7	Katpar	S.J.Gaha	9687819183	M.V.Jadav	-
		8	Khared	-		S.P.Kavad	9924672899
		9	Gadhda	M.M.Solanaki	9726237836	J.S.Bhaliya	9426912386
		10	Gujarda	-		S.N.Chauha n	9824870943
		11	Dudheri	V.H.Dhapa	9726241085	M.B.Bhaliya	9904487689
		12	Doliya	G.P.Jani	9727508446	D.C.Bhaliya	9909395414
		13	Padhiyarka	N.A.Gohil	9328988292	R.B.Baraiya	9723780544
4	Talaja	1	Alang	R.R.Bhatt	9723975649	G.A.Gohil	9725523958
		2	Mithivirdi	J.V.Dabhi	9978231793	V.M.Dihora	9016283848
		3	Sartanpar	A.S.Velani	9737237165	L.V.Chudasa ma	9723738070
		4	Reliya	A.M.Baraiya	9426851045	V.D.Bhaliya	9359054645
		5	Gadhula	A.M.Baraiya	9426851045	A.V.Batiya	9904487303

		6	Zanzmer	A.A.Dhandhlya	9726723988	N.G.Makwana	9925943655
		7	Methala	N.B.Joshi	9426246291	G.G.Baraiya	9978331949
		8	Madhuvan	N.B.Joshi	9426246291	P.J.Rathod	9825732080
		9	Juna- rajpara	-		M.S.Makwana	9924883346
		10	Tarasra	J.N.Sarvaiya	9428854455	L.V.Vegad	8347338993

The details of water logging villages

S N	Taluka	Village		Name of Talatimantri	Mobile No.	Name of Sarpanch	Mobile No.
		SN	Name				
1	Bhavnagar	1	KalaTalav	M.H.Sedani	9408208073	-	
		2	Velavadar	-		M.B.Baraiya	-
		3	Keta Khatli	M.H.Sedani	9408208073	S.J.Rathod	9924329994
		4	Narmad	M.H.Sedani	9408208073	S.J.Rathod	9924329994
		5	Paliad	T.H.Pandaya	9426463655	N.C.Dabhi	9016484950
		6	Devalia	T.H.Pandaya	9426463655	V.P.Parmar	-
		7	Jasvant Pura	-		V.S.Chudasma	-
		8	Kotda	-		H.R.Parmar	9979207387
		9	Sanesh	A.M.Vankani	9638732129	M.V.Chudasma	-
		10	Ganeshgadh	A.V.Khasiya	9099435335	N.V.Jambucha	9979906113
		11	Saviakot	H.G.Kambad	9327199763	-	
		12	Madhia	A.M.Vankani	9638732129	B.G.Rathod	8530352688
		13	Savainagar	H.G.Kambad	9327199763	H.B.Gadhavi	9601190379
		14	Bhadbhid	A.V.Khasiya	9099435335	S.R.Shiyaliya	9909139267
		15	Adhelai	D.P.Vaghela	8866344016	V.L.Dumdiya	9537098038
		16	Rajgadh	-		G.K.Dhola	9429640430
		17	Mithapar	S.V.Lukha	-	G.H.Dhameliya	9727092094
2	Sihor	1	Bhangadh	D.P.Dave	9724141435	J.P.Chudasma	9979527122
		2	Ukhrala	J.T.Dabhi	9427754009	N.S.Gohil	9998312550
		3	Navagam Mota	S.J.Prabtani	9409141628	K.B.Rathod	8690111090
3	Gariyadhar	1	Bhamaria	V.B.Sodhatar	9714285132	A.D.Bhalala	7567022464
		2	Sarambhada	-		L.N.Kargar	9727215505
4	Umrala	1	Ratanpar	-		J.D.Gohil	9724263697
		2	Chogath	V.M.Saikh	9998613713	D.R.Gopani	9879135359
		3	Tarpala	V.P.Rathod	7359156824	S.K.Dungarani	9825205860
		4	Hadmatala	V.P.Rathod	7359156824	S.M.Gohil	9426450366

5	Mahuva	1	Katpar	S.J.Gaha	9687819183	M.V.Jadav	-
		2	Gadhda	M.M.Solanaki	9726237836	J.S.Bhaliya	9426912386
		3	Khared	-		S.P.Kavad	9924672899
		4	Sathra	-		U.D.Dhapa	9724774227
		5	Nikol	-		N.D.Bhaliya	9726979268
6	Talaja	1	Valar	A.S.Gohil	9712115098	P.A.Sarvaiya	9428637980
		2	Sartanpur	A.S.Velani	9737237165	L.V.Chudasma	9723738070
		3	Tarasara	J.N.Sarvaiya	9428854455	L.V.Vegad	8347338993
		4	Gorakhi	J.M.Rav	9924810507	M.D.Vegad	9723234050
		5	Mangela	-		V.A.Bhevaliya	9978774281
7	Jesar	1	Pa	J.K.Jadeja	9978895662	B.H.Sarvaiya	9723241571
		2	Ranigam	S.K.Bavaliya	9274485555	H.D.Khuma n	9925670494

The details of river affected villages

S N	Taluka	Village		Name of Talatimantri	Mobile No.	Name of Sarpanch	Mobile No.
		SN	Name				
1	Bhavnagar	1	Shedhavadar	H.A.Chudasma	9426957799	V.R.Jasani	9898575214
		2	Fariyadka	B.R.Sanchapra	9574177672	N.H.Unech a	-
		3	Vartej	D.R.Parmar	9427753551	D.S.Gohil	-
		4	Undavi	H.B.Gohil	9979958303	R.R.Sanga	9825197333
		5	Adhevada	A.B.Pandya	9978997011	L.A.Sarvaiy a	9377111908
		6	Malanka	K.B.Bhat	9428995592	J.D.Baraiy a	-
		7	Kala talav	M.H.Sedani	9408208073	-	
		8	Narmad	M.H.Sedani	9408208073	S.J.Rathod	9924329994
		9	Kheta Khatli	M.H.Sedani	9408208073	S.J.Rathod	9924329994
		10	Paliyad	T.H.Pandaya	9426463655	N.C.Dabhi	9016484950
		11	Devaliya	T.H.Pandaya	9426463655	V.P.Parmar	-
		12	Jashvantpur	-		V.S.Chuda sama	-
		13	Kotda	-		H.R.Parma r	9979207387
2	Ghogha	1	Lakhanka	M.M.Baraiya	9409468741	N.G.Hitaliy a	7990693827
		2	Odarka	N.S.Bhagora	9724739962	K.C.Gohil	9904444957
		3	Kareda	R.D.Gohil	9099299399		
		4	Garibpura	-			
3	Vallabhipur	1	Nasitpur	-		B.S.Mer	9723259772
		2	Totniyana	B.V.Savani	9879569779	D.V.Solank i	9737884884
		3	Monpur	-		R.M.Gohil	9586709020
		4	Pipaliya	G.V.Vegad	9909521401	C.J.Chauh an	9978040942

		5	Navagam {Gayakvadi}	K.C.Parmar	7878442524	A.M.Dumd iya	9974585387
		6	Kanpur	H.D.Pavara	9428787111	V.S.Mori	9925006392
		7	Jalalpur	B.V.Savani	9879569779	A.D.Solank i	8140537466
		8	Juni Rajashthali	M.P.Jadeja	8866321107	A.Y.Gohil	9775212275
		9	Navi Rajashthali	M.P.Jadeja	8866321107	V.J.Rathod	9909083769
		10	Pati	-		D.P.Gohil	9904562781
		11	Juna Rampar	D.V.Kubavat	7041247009	D.L.Chauh an	7069459010
		12	Chamardi	S.D.Palaniya	9974190021	R.R.Mer	9737380056
		13	Nava Rampar	D.V.Kubavat	7041247009	M.G.Avani ya	9924594687
		14	Dared	B.B.Gohil	8140674047	R.K.Nayani	9726379647
		15	Mevasa	J.P.Rana	7359763707	B.A.Bagadi ya	9979457234
		16	Loliyana	-		H.D.Katpra	8128812838
		17	Kheta Timbi	M.R.Dodiya	9426451313	K.B.Parma r	9904263935
		18	Pachhegam	-		M.J.Gohil	9909521868
		19	Rajapara Bhal	V.J.Parmar	8866605241	A.P.Parmar	9409139344
4	Palitana	1	Nani Rajashali	A.D.Baraiya	9898272135	A.B.Trivedi	9723638180
		2	Maydhar	V.L.Bhat	8140210743	P.K.Peddy	7878772020
		3	Lapaliya	K.K.Vala	8758717088	P.S.Baraiy a	9723750074
		4	Medha	-		P.D.Phaga	7265945851
		5	Lakhavad	V.L.Bhat	8140210743	B.P.Mori	9429412757
		6	Moti Paniyani	D.G.Parmar	9375280108	G.L.Vaghel a	9989004663
		7	Bhutiya	R.D.Vankar	9426329567	M.J.Bhutiya	9552140666
		8	Nani Paniyani	D.G.Parmar	9375280108	R.K.Gonda liya	9909697020
		9	Mandavada	A.L.Baraiya	8758035832	M.K.Chau han	9727944396
		10	Anida	A.L.Baraiya	8758035832	K.R.Gohil	9974753644
5	Gariyadhar	1	Gujarda Juna	-		C.M.Lukhi	9909585474
		2	Thansa	A.A.Vaghela	9586885208	L.H.Vora	9586711724
		3	Satpada	A.R.Parmar	9712018645	H.M.Kathir iya	9825529247
6	Jesar	1	Ranigam	S.K.Bavaliya	9274485555	H.D.Khum an	9925670494
		2	Karjala	-		B.J.Chauh an	9726887156
		3	Shantinagar	S.G.Vala	7878474869	K.V.Patdiy a	9427559206
		4	Bila	H.V.Asari	7046180115	R.P.Radadi	9428078123

		5	Itiya	-		ya J.M.Parma r	9898500511
		6	Kobadiya	-		L.S.Bham mar	9601313657
		7	Beda	R.C.Gorsiya	9426951181	B.S.Makwa na	9825446908
		8	Bhanvadiya	R.C.Gorsiya	9426951181	J.R.Makwa na	8980616252
7	Umrala	1	Bhojavadar	H.P.Khimsuriy	7435882337	K.J.Gohil	9979449308
		2	Chogath	V.M.Saikh	9998613713	D.R.Gopan i	9879135359
		3	Dhamanka	-		M.V.Makw ana	9909521544
		4	Vangdhra	J.R.Pandya	9664725472	H.M.Gohil	-
		5	Tarpala	V.P.Rathod	7359156824	S.K.Dunga rani	9825205860
		6	Ratanpar	-		J.D.Gohil	9824263697
		7	Samdhiyala	P.R.Gohil		D.B.Gohil	7623830340
		8	Hadmatata	V.P.Rathod	7359156824	S.M.Gohil	9426450366
		9	Timba	G.A.Savani	7878401054	U.V.Makw ana	7698968198
		10	Ranghola	K.A.Chudasam	9016045163	K.S.Bhoj	9428993413
		11	Piprali	-		M.D.Chau han	9904061905
		12	Malpara	U.S.Patel	9426701746	G.N.Gohel	9723196261
		13	Langala	P.M.Rathod	8980578793	H.V.Kerasi ya	9428078033
		14	Zanzmer	-		M.J.Humb al	9925449299
		15	Dharuka	D.K.Solanki	9924162061	M.B.Ratho d	9925449366
		16	Dambhaniya	G.A.Savani	7878401054	B.B.Baraiy a	9904752701
		17	Devaliya	M.U.Mundhava	8155809504	-	
8	Mahuva	1	Samdhiyala	H.D.Kamliya	9712632852	S.A.Kobad	9737777719
		2	Sendarada	P.A.Rathod	9429006275	J.Y.Gohil	9974818016
		3	Kantasar	V.L.Vaghela	9558656688	Aljibhai	9510926531
		4	Vadli	-		R.A.Hadiya	9879628370
		5	Bhadrod	S.M.Bhat	9427752720	M.S.Katriy a	-
		6	Khatsura	D.M.Kalsariya	9426854483	Z.S.Rathod	-
9	Talaja	1	Juni Kamrol	M.N.Gohil	9427331299	K.G.Sarvai ya	9323596944
		2	Lilivav	R.B.Baraiya	9737365347	M.N.Khasi ya	9904644191
		3	Shobhavat	A.G.Gohil	9909395975	A.M.Vagha siya	9327606060
		4	Navi Kamrol	M.N.Gohil	9427331299	G.A.Sarvai ya	9428787872

Annexure-8

List of Hospital (District Code No. 0278)

Sr. No.	Hospital	Fone Number	Contact person	Mobile Number
1	Sir T. Hospital	102,2423250	Dr.M.P.Singh	9979207040
2	P.N.R.Hospital	2431150,2431160	Pradip Bhat	9375757176
3	Tapibai Ayurvedik Hospital	2423941	Dr. Kishorsinh Chudasama	9426470163
4	ESI Hospital	2424664		
5	Rammantra Mandir Hospital, Kaliyabid	2569100, 2564191		
6	Rammantra Mandir Hospital, Vijayrajnagar	2524690		
7	Santilal Shah Hospital	2205851, 2208794	Ramnikbhai Pandya	9426475377
8	Bajrangdas Bapa Hospital	2512353, 2521001		
9	V.C. Lodhavalala Hospital	2513152, 2424179	V.D.Shah	9376091418
10	Sitaram General Hospital	2573999,		7878111280
11	Railway Hospital	2445502		
12	Bhavnagar Medical College	2516516, 2511511		
13	Bhavnagar Ayurved College	2424142		
14	Vivekanand Homeopethic College	2470057	Girishbhai Patel	9825207801
15	Anandvatika Bhagini Mandal Hospital	2561366, 2563796, 2560039	Jyotiben Gandhi	

Annexure-9

List of Ambulance (District Code No. 0278)

Sr. No.	Name of organization	Contact Number	Number of Ambulance
1	Fire and Emergency Services	101, 2424814/15	2
2	Sir T. Hospital	102, 2423250	4
3	Diomand Association	2513454, 9898464747	1
4	Redcross Society	2430700, 2424761	1
5	Shri Ram Mantra Mandir Hospital	2569100, 2564191	1
6	Shri Bajrangdas Bapa Hospital	2521001, 2512353	2
7	Om Meru Nursing Home	9429974005 (Dharmendrasinh)	2
8	Samarpan Seva Trust	9925684581, 9638102416	1
9	Sitaram Hospital	9879801112	1
10	ESI (Kamdar Rajya)	2424664	1
11	Friends' Group	9824209997	1
12	Ibrahim Sarv. Trust	9879009999, 9825205091	1
13	Jivan Rekh (With ICU)	5549554, 9825105457	1
14	Railway Hospital	2445502	1
15	Emergency 108	079-108	4
16	Samarpan Hospital	9825108108	1

Annexure-10

List of Blood Bank (District Code No. 0278)

Sr. No.	Name	Contact Number
1	Bhavnagar Blood Bank	2205668
2	Sir T. Hospital Blood Bank	2423250
3	Bambhaniya Blood Bank	2411744

Annexure-11

List of NGOs (District Code No. 0278)

Sr. No.	Name	Contact Person	Contact Number
1	Chember of Commerce	Maheshbhai Bhatt	2244279, 9825206833
2	Indian Redcross Society	Pratapbhai shah	2427286, 9824020899
3	Bhavnagar Blood Bank	Dr. N.N. Vaishnav	2511755, 9825207660
4	Gujarat Ship Recycling Association	Jivrajbhai Patel	2428696, 9825205434
5	Diomand Association	Vithalbhai Mendapara	2429391, 9426210351
6	Shri P.N.R. Society for Relief	Anantbhai Shah	9328286402
7	Shri Ram Mantra Mandir Trust	Bhupatbhai Zaveri	2422205, 9428787918
8	Sai Seva Samaj	B.J.Udaviya	9998423450, 9427202408
9	Jwel Star	Nayanbhai Golkiya	9978349970
10	Engineers Association	Ravjibhai Pandaya	9825132772, 9825309825
11	Ramjibhai Monabhai Trust	Odhavajibhai Patel	
12	Sardar Patel Snatak Mitra Mandal	Dr. M.R.Kanani	2426218, 9825205331
13	Golibar Hanumanji Mandir	Pujya Madanmohandasji Bapu	
14	Mavtar Senior Citizen Councelling Centre	Vibhavariben Dave, Vijaybhai Dave	2565018, 9426463146
15	Shishuvihar	Nirmalbhai Vakil	2568823
16	Nand Kunvarbaa Balashram	Anilaben pandya	2445521
17	Om Shri Mastarambapu Sanshthan Seva Trust	Himatbhai kanadiya	
18	Ramvadi		
19	Shaishav	Falgunbhai Sheth	9825209679
20	Youth Hostel Association of India		9426450410
21	Smt. Bhanuben Parekh Smarak Trust	Gujaraben Dave	
22	Bhavnagar Jilla Bharat Scout guide Sangh	Virendrabhai Bhatt	9426253071
23	Vision 2000 Nature Calamity Trust	Girishbhai Shah	
24	Sadbhavana Trust	Bhartendubhai Dave	2212401

25	Shri Apang Parivar Kalyan Kendra	Dinkarbhai Mehta	2202574
26	Lions Club of Bhavnagar	Maheshbhai Dave	2513709
27	Shri Bhavnagar Mahila Sangh	Naliniben Jadeja	
28	Bhavsetu	Vijaybhai Parekh	
29	Balwantray Maheta Mahavirnagar Vikas Trust	Gijubhai Joshi	2432304, 2201135
30	Bhavnagar Mahila Mandal	Nilambariben Vora	
31	Navjivan Society	Sister Manjula A.P.	2519188
32	Anveshan Pritishthan	Dr. Ramnik Bhatti	2560906
33	Matangi Shaikshanik and Aarogyadham trust	Natubhai Vora	2519500
34	Darbargadh ward Navjavan Sangh	Virendra D. Shah	2437150
35	Shri NCR Bhatt, Anoaupacharik Shikshan and Mahila Udhayog Sahasikata Vikas Kendra	Namrataaben Pandaya	2470944
36	Shri Vivekanand Reachers and Training Institute	Mahendrabhai Pandaya	2510625-26
37	Mahalaxmi Mahila Mandal	Minakshiben Patel	
38	Chandanvadi Cheritable Trust	Lataben Shah	
39	Shahid Bhagatsinh Uvak mandal		
40	Bhukamp Surkasha Samiti	Mukundbhai Parikh	2566929
41	Sweemer Association	Bulbulbhai Vyas	3299309
42	Gujarat Rajya Swatantra Sainik Samaj	Rasikbhai Pandaya	
43	Civil support army	Rasendubhai Bhatt	
44	Bhavnagar Kutch Samaj	Mahendrabhai Shah	2569405, 9426209820
45	Vande Matram Seva Sangh	Kishorbhai Bhatt	9426941366
46	Doctor Association	Bharatbhai Trivedi	9825205464
47	Drug Bank	Harshadbhai Acharaya	9824032772
48	Nehru Yuva Kendra Sangathan	Rajanikant Suthar	9824979371
49	Citizen Couseling	Narendrabhai Panara	9898518775

Annexure-12

List of Gaushala/Panjarapol (District Code No. 0278)

Sr. No.	Taluka	Gaushala		Panjarapol	
		Name	Number of Animals	Name	Number of Animals
1	Bhavnagar	Mahajan Gaushala	70	Panjarapol Bhavnagar	150
		Akasharvadi Gaushala	59		
		Kamghenu Gaushala	160		
		Sadguru Gaushala, Sidsar	42		
2	Ghogha			Samdhiyala Panjarapol	3054
3	Talaja	Mahajan Gaushala, Talaja	102		
		Gram Dakshinamurti, Manar	80		
		Lok Niketan Trust, Bela	28		
		Nil Kanth Mahadev Gaushala, Dharadi	75		
		Sundar Van Gaushala, Makhniya	42		
		Kal Bhairav Gaushala, Rojiya	80		
		Mahajan Gaushala, Gopnath	15		
4	Mahuva	Mahuva Gaurakshak Sabha	186	Gopal Trust	95
		Doshi Bhanaji Devaji, Bhanavav	126	Mahuva Panjarapol	480
		Kailash Gaushala, Talgajarada	99	Anandji Kalyanji, Chhapariyali	3402
5	Palitana	Pranav Hemgiri Gaushala	307	Girivihar Panjarapol	2750
		Surajben Kantilala Gandhi, Valukad	80		
		Adarsh Gaushala	13		
		Sidhachal Jivdaya, Sarod	110		
		Anandji Kalyanji	35		
6	Gariyadhar	P.M. Mangukiya	227	Mahajan Panjarapol	481
		Gurudat Gaushala, Motivavadi	36		
		Gurudat Gaushala, Parvadi	60		
7	Sihor	Monghiba Gaushala	120	Mahajan Panjarapol	174
		Lokseva Trust Gaushala, Valaval	45		
		Gram Dakshinamurti, Ambala	42		
		lokharati Gaushala, Sanosara	108		
		Gurukul Gaushala, Songadh	35		
		Jayarambapu Gaushala, Usarad	50		
8	Vallabhipur	Bhholanath Gaushala, Navagam Dhal	19	Punamchand Vithaldas Doshi	250

Annexure-13
List of Community Hall (District Code No. 0278)

Sr. No.	Name of Community Hall	Address	Contact Number
1	Shri modh vanik gnati nana tadani vadi	High court road, Bhavnagar	
2	Shri modh chaturvediy chuntha samvay gnati mandal	Vadala talavadi, Bhavnagar	
3	Shri shamji gopalaji raval audichya vidhyarthi bhavnan	Takhteshvar plot, vaghavadi road, Bhavnagar	
4	Shri gujarat audichya sidhpura sampraday brahaman gnati nagarpol	Bhagatalav, Bhavnagar	
5	Shri dasa ghoghari porvad gnati, Chakubag vadi	Opp: Bhid bhanjan mahadev, Bhavnagar	
6	Shri rajput gnatini vadi	opp: Gov. Qaurters. Navapara, Bhavnagar	
7	Shri bhavnagar delvadiya kapol gnati	Amrutvadi, Diwanpara road, Bhavnagar	
8	Shri bhavnagar shrimali soni gnati trust	Sherdipithna delama, desaifali, Bhavnagar	
9	Shri bhavnagar ghoghari lohana mahajan mandal	Khargate, Bhavnagar	
10	Shri bhavnagar samast gurjar sutar gnatini vadi	Shri vishwakarma mandir, Bhavnagar	
11	Shri brahama kshtriya panchni vadi	Station road, Bhavnagar	2510448
12	Leuva kanabi gnatini vadi	Vadava paliyadhar chauk, near vijay taukiz, Bhavnagar	2420630
13	Ratilal vithaldas gosaliya jain bhavan	Meghani circle, Bhavnagar	
14	Shri variya chovisi prajapati gnatini vadi	Prabhudas talav, Bhavnagar	
15	Shivshakti hall	Sarpattani road, crescent, Bhavnagar	
16	Anand hall	Ramnagar, Kaliyabid, Bhavnagar	
17	Doctor hall	opp: mahila college, Bhavnagar	
18	Shri dasa shrimali sthanakvasi jain gnatini vadi	Masjid chauk, navapara, Bhavnagar	
19	Shri bhavnagar dasa shrimali Kanthibandh vanik gnatini vadi	Ghogha gate, Bhavnagar	
20	Shri modh agiyaras brahaman gnatini vadi	Near alka taukiz, Bhavnagar	2426255
21	Shri jalavadi rami mali gnatini vadi	Piparvali sheri, navapara, Bhavnagar	

22	Lakhubhai hall	Ramnagar, Kaliyabid, Bhavnagar	
23	Sahakar party plot graphed	Vijayrajnagar, behind nilambaug hotel, Bhavnagar	
24	Jagad ambe party plot	Sir pattani road, cresen, Bhavnagar	
25	Shri sihor sampraday audichya agiyaras brahaman gnatini vadi	Ramvadi, opp bhidbhanjan mahadev, Bhavnagar	2420406
26	Shri bhavnagar ghoghari kapol gnatini vadi	Opp railway station, Bhavnagar	2432506
27	Shri ghogha bhavnagar vadnagara nagara brahamn gnatini vadi	Near nilkanth mahadev mandir, bhagatalav, Bhavnagar	
28	Luharvadi	Sutarvad, near railway station, Bhavnagar	
29	Luharvadi	Near ranika bhang karkhana, Bhavnagar	
30	Shrimali brahaman gnatini vadi	Diwanpara road, Bhavnagar	2425959
31	Rotery club society of bhavnagar hall	Ghogha circle, Bhavnagar	
32	Dipak hall	Atabhai road, Bhavnagar	
33	Meladima hall	Hadanagar, Bhavnagar	
34	Shri modh agiyaras brahaman gnatini vadi	Near alka taukiz, Bhavnagar	
35	Shri alvatani gujarat leuva patidar gnatini vadi	Dhajagaravali sheri, Kanabivad, Bhavnagar	
36	Shri andhariya kachhiya gnatini vadi	Paliyadhar, Vadava, Bhavnagar	
37	Memam moti jamatkhana hall	Jogivad tanki, Bhavnagar	
38	Shri swetambar visha shrimali odhad ramjini vadi	Panavadi road, vadava, Bhavnagar	
39	Shri modh chaturvediy rajgor samvay	Haluriya chauk, Bhavnagar	2430647
40	Shri bhavnagar dasa zarola vanik gnatini vadi	Opp Bartan library, Bhavnagar	
41	Shri lokagachchh jain sangh	Opp Bhidbhanjan, Bhavnagar	
42	Shri dasa shrimali jain sangh swetamber	Hajur payaga road, Bhavnagar	
43	Shri parekh mota tadani vadi	Opp darbari kothar, Bhavnagar	
44	Shri desai sai sutarvadi	Matava chauk, Bhavnagar	
45	Shri gohilvad vanand gnatini vadi	Kalanala, Uparkot, Bhavnagar	
46	Shri mochi gnatini vadi	Near vadava jain derasar, Bhavnagar	
47	Shradhavadi	Masjid chauk, navapara, Bhavnagar	
48	Shri modh chaturvediy chuntha samvay gnatini vadi	Vadava talavadi, charbati cauk, Bhavnagar	

Annexure-14

List of Ham Radio Operator (District Code No. 0278)

Sr. No.	Name	Address	Contact Number
1	Rajeshbhai Vyas	Suhas Bunglow, Parimal Chauk, Bhavnagar	2429349, 2430904
2	Dr. B.U.Tekani	Swagar Complex, Jail Road, Bhavnagar	2422388, 2211588
3	Dr. Jagdish Oza	Valsalya, behind Filter, Bhavnagar	2563125, 2563823, 2569100
4	Dr. Mayank Modi	Panchkutir, Merubaug, Bhavnagar	2425425
5	Lalitbhai Divakar	Gurukrupa, Opp: Merubaug, Bhavnagar	-
6	Dr. Bhattanagar	Head of Phisics	9428222401

Annexure-15

List of Cable Operator (District Code No. 0278)

Sr. No.	Name	Address	Contact Number
1	So Lucky Cable	Ghogha Circle, Bhavnagar	2227222
2	C.C.N. Cable	Kalanala, Bhavnagar	2524163, 6541234, 8758751234
3	Sunny Cable	Crescent, Bhavnagar	3056315
4	Braham Cable	Bhavnagar	9428078151

Annexure-16

List of Media Person (District Code No. 0278)

Sr. No.	Name	Contact Number
1	Show Time News	2201199, 2427777
2	City News	2200210
3	News Time	2431111, 2203122
4	ETV Gujarati	2518600, 2447373
5	Hello Saurashtra News	9426211806
6	Zee Alfa	2524500
7	Duridarshan Ahmedabad	2515001, 2569577
8	Samay Media News	2525222
9	Stya Media	2414004
10	Asian News International	9426901212, 9428009955
11	Sky News	2202275
12	City Watch News	3007172, 2203999
13	Nidar News	2414733
14	IBN 7	2203999, 6540208
15	UNI	2423572

Sr. No.	Name	Contact Number
1	Saurashtra Samachar	2422577, 2516558
2	Gujarat Samachar	2430555, 2431199
3	Sandesh	2519941, 2519942
4	Divya Bhaskar	2516558, 2516559
5	Fulsab	2561299
6	Times of India	9879372149
7	Ajkal	2470177, 2470188
8	Saurashtra Aspas	2513777,
9	Sanj Samachar	2512828
10	Pagdandi	2421133
11	Akila	2560105
12	Lokraj	9978227463
13	Jay Hind	2512828
14	Avadh Times	3007172
15	Saurashtra Kesari	9375888666

Annexure-17

List of Private Travels (District Code No. 0278)

2 X 3 Seater

Sr. No.	Name	Address	Contact Number
1	Shakti Travels	Near Rubber Factory, Bhavnagar	9375555959
2	Ghanshyam Travels	Panvadi Chauk, Bhavnagar	9925513650
3	Baba Tours and travels	Panvadi Chauk, Bhavnagar	9879640376
4	Gurukrupa Travels	Opp: Pil Garden, Jashonath Circle, Bhavnagar	9824343909
5	Gaurang Travels	Nyaldas Complex, Bhavnagar	9427753588
6	Jay Shri Khodiyar Travels	Opp: Jain Derasar, Shashtinagar, Bhavnagar	2424400
7	Ganesh travels	Opp: Jain Derasar, Shashtinagar, Bhavnagar	9825054099
8	Shiv Sagar Travels	Opp: Vithalvadi Petrol Pump, Bhavnagar	9427248890
9	Akshay Travels	Jashonath Chauk, Bhavnagar	9825592456
10	Safari Travels	Sant Kanvarram Chauk. Kalanala, Bhavnagar	992508848
11	Modern Travels	Sant Kanvarram Chauk. Kalanala, Bhavnagar	9424287676
12	Mahida Travels	Opp: Kesarbai Masjid, Navapara, Bhavnagar	9426971346
13	R.A. Travels	Opp: Kesarbai Masjid, Navapara, Bhavnagar	9427413892
14	India Travels	Opp: Barten Library, Diwanpara, Bhavnagar	9898001314
15	Navrang Travels	Navapara, Bhavnagar	
16	A-D-Amin Travels	Opp: S.T. Stand, Bhavnagar	2423554
17	Gayatri Travels	Gayatrinagar, Parth Society, Bhavnagar	9426461527
18	Jay Bhavani Travels	Near Vartej Petrol Pump, Bhavnagar	9824859666
19	Avani Travels	Opp: S.T. Workshop, Chitra, Bhavnagar	9879536162

2 X 2 Seater

Sr. No.	Name	Address	Contact Number
1	Maya Travels	Near Bhidbhanjan Mandir, Bhavnagar	2425217
2	Rajdhani Travels	Madhavdarshan, Waghavadi Road, Bhavnagar	2432535
3	Tanna Travels	Rubber Factory Road, Bhavnagar	2425218
4	Gujarat Travels	Sir Pattani Road, Near Shivshakti Hall, Bhavnagar	2431786
5	Toter Travels	Crescent Circle, Bhavnagar	2513759
6	Sunny Travels	Opp: Jain derasar, Crescent, Bhavnagar	2429045
7	Laxmi Travels	Nilambaug Circle, Bhavnagar	2420892
8	R.K. Travels	Opp: Madhav Complex, Shashtrinagar, Bhavnagar	2439686
9	New Limda Travels	Sant Kanvarram Chauk, Bhavnagar	2427409
10	Sitaram Travels	Kalanala, Bhavnagar	2512211
11	Madhuli Travels	Diamond Chouk, Bhavnagar	2201282
12	Bindiya Travels	Opp: S.T. Stand, Bhavnagar	2514384
13	Parbat Travels	Opp: S.T. Stand, Bhavnagar	2428798
14	Ashapura Travels	Opp: S.T. Stand, Bhavnagar	2421818
15	Motor sangh	Opp: Collector office, Bhavnagar	2423572

Annexure-18

List of Private Water Tenker (District Code No. 0278)

Sr. No.	Name	Contact Number	Number of WT	Capicity (Liter)
1	Filter Vibhag, BMC	2424816	1	10000
2	Ramapir Water Supply	9427751466	1 9	10000 5000
3	Rajhansh Water Supply	982519733	4	10000
4	Shiv Water Supply	2430732, 2430131, 9426912628	1 3 3	10000 5000 1000
5	K.K.Water Supply	9909606959	2	5000
6	Amidhara	982580140	2	5000
7	Sitaram Water Supply	9904312994	5	5000
8	Jalpari	9328507373	4	5000
9	Sitaram	9824995031	2	5000
10	Mahendrabhai	9725579615	1	5000
11	Dhirubhai	9879867131	1	5000
12	Yograjsinh	9879565327	1	5000
13	Gautambhai	9978526434	1	5000
14	Joshankarbhai	9725260072	1	5000
15	Lalajibhai	9429234173	1	5000
16	Ajitbhai	9824186825	3	5000
17	Mehulbhai	9426385623	1	5000
18	Mukeshbhai	9428990927	1	5000
19	Vinubhai	9925914530	1	5000
20	Vajabhai	9825592676	2	5000
21	Sukhubha	9586463572	2	5000
22	Jamsangbhai	9924672223	2	5000
23	Dhirubhai	9426253190	4	10000

Annexure-19

List of Private Transport (District Code No. 0278)

Sr. No.	Name	Phone Number	Mobile Number
1	Jaypur Golden pvt. ltd.	2429967	9824222672
2	Ahmedabad Trasport	-	9826208518
3	Narayanji Peraj Transport	2516601	9824086601
4	Bharat Carring Corporation	2432613	9377106866
5	India Road Carring Corporation	2427264	9377113476
6	New Khodiyar Transport	2429489	9825206448
7	Malhotra Roadlines	3014499	9826901134
8	Hindustan Cargo Moovers	2518030	-
9	Hill Motors Transport Co.	2424446	9377422461
10	New Mahesh Transport	2428872	9879006825
11	Nondhanvadar Transport	2428095	9825205328
12	V.R.L. Logistic ltd.	2426638	9426910801
13	Jamnagar Transport Co.	2428584	-
14	Khodiyar Transport Co.	-	9328177363
15	Rajeswari Transport	2510155	9824248686
16	New Bhavnagar Transport	2516667	9825205696
17	V-Trans (India) ltd.	2424203	9375606300
18	Navayug Transport Corpo.	2423017	9825278677
19	Shri Khodiyar Transport Co.	2524310	9824289999
20	Gujarat Goods Service	2436080	9377111960
21	Associated Road Carrieres ltd.	3299268	-
22	New Ahmedabad Transport	2436269	-
23	Savani Transport	2424981	9377100710
24	Katariya Transport	2428338	-
25	Viraj Transport	2420419	6825207791
26	Gautam transport	2434922	9426917475
27	Devendrasinh Gohil	-	9429095317
28	Pujanbhai Maru	-	9426475777
29	Khengarbhai Maru	-	8306078910

Annexure-20

List of Petrol Pump (District Code No. 0278)

Sr. No.	Name of Petrol Pump	Address	Contact Person	Contact Number
1	Satyanarayan Petroleum	Opp: Jilla Panchayat, Bhavnagar	Dilipsinh Ghanshyamsinh	2430051
2	Company Pump	-	Natavarlal	2511896
3	Bhavnagar Motor Sangh	Opp: Collector Office, Bhavnagar	Bakulbhai Chaturvedi	2425271
4	Swastik Auto Centre	Talaja Road, Bhavnagar	Navalkishor Thakkar	2564718
5	Maru Auto Mobiles	Juna Bandar, Bhavnagar	Pareshbhai Maru	6546002
6	Bhavnagar Sahakari Petrol Pump	Vithalvadi, Bhavnagar	Balwantray Badheka	2425269
7	Shri Bajarangdas Motor Sangh	Vithalvadi, Bhavnagar	Vanrajsinh jadeja	2439726
8	Kathiyavad Motor Sangh	Near Bus Stand, Bhavnagar	Natavarlal	2524892
9	Chitra	Desainagar, Bhavnagar	Batukray Nhanalal	2445712
10	Ramdev Petrol Pump	Chitra, Bhavnagar	Lalajibhai tejabhai	2444505
11	Hindustan Petrol pump	-	-	2567272
12	Planet	Dilbahar water Tank Road, Bhavnagar	Swetaben G.	-
13	Sai Petroleum	Atabhai Road, Bhavnagar	Bansal Rajkumar	-

Annexure-21

List of Kerrosine Diller (District Code No. 0278)

Sr. No.	Name of Agent	Address	Contact Person	Contact Number
1	Saurashtra Petroloum	Topnaka, Bhavnagar	B.B.Gandhi	2516775
2	Sohilraj Agency	Sakarbaazar, Bhavnagar	N.S.Thakkar	2516584
3	Mehta Auto Mobiles	Railway Station, Bhavnagar	N.R.Mehta	3005725
4	Mohanlal Brothers	Danapith, Bhavnagar	Rasikbhai Vora	2516007
5	T.C.Brothers	Danapith, Bhavnagar	R.V.Parekh	2424736
6	Thakkar Brothers	Danapith, Bhavnagar	Pravinchand Harjivandas	3014761
7	Honest Petroloum	Railway Station, Bhavnagar	S.H.Chandarana	2427373
8	Natavarlal&Sons	Railway Satation, Bhavnagar	N.B.Bhayani	2511896
9	R.T.Brothers	Manimahel, Station Road, Bhavnagar	A.B.Jani	2566601
10	Rameshwar	Juna Bandar, Bhavnagar	Mayurbhai Kanjibhai	-

Annexure-22

List of LPG Gas Diller (District Code No. 0278)

Sr. No.	Name of Diller	Address	Contact Person	Contact Number	
				Phone	Mobile
1	H.K. Kamdar&Sons	-	Anopsinh	2518505	9427559100
2	Bhavnagar Sahakari Hat	Waghavadi Road, Bhavnagar	Mashrufbhai	2517520	9426966756
3	Jayshakti Inden Gas	Subhashnagar, Bhavnagar	Bhagavanbhai	2203446	9825755085
4	Dipti Gas Agency	Bordi Gate, Bhavnagar	Rajanbhai	2203722	9426949290
5	Sitaram Gas Agency	Bordi Gate, Bhavnagar	Jitubhai	2521269	9924741133
6	Yogi Krupa Gas Agency	Shashtrinagar, Bhavnagar	Prabhudasbhai	2422370	9824982828
7	Shiv Prathmik Gas	Shashtrinagar, Bhavnagar	Harishbhai	2413213	9426212365
8	Krishana Gas Agency	Kalanala, Bhavnagar	Hareshbhai	2422958	9978458898
9	Rajdip Gas Agency	Shashtrinagar, Bhavnagar	Dilipsinh	2510768	9898156579
10	Astha Gas Agency	Desainagar, Bhavnagar	Chetnaben	2445233	992516417
11	Sweta Inden Gas Agency	Ghogha Jakat Naka, Bhavnagar	Nileshbhai	2572345	9426819171
12	Shri Bajarangdasji Inden Gas Agency	Kaliyabid, Bhavnagar	Jitubhai	2573124	9033730010

Annexure-23

List of Rescue Equipment Suppliers (District Code No. 0278)

Sr. No.	Name	Address	Contact Person	Contact Number
1	Kamal Industries	Ruvapari Road, Jamnakund, Bhavnagar	Miteshbhai	2514339, 9426253270
2	Star Fire Fighters	Vithalvadi, Bhavnagar	-	9067628313
3	Sidhi Fire Service	31, Lalapark, Jalaram Society, Bhavnagar	Bharatbhai	9898330083
4	Kanadiya Fire&Safety	Shihor GIDC	-	-
5	Navin Fire Safety	Eva Complex, Opp: Gulista, Bhavnagar	Ketanbhai	9825580782
6	Kazi Enterprize (Boats)	Alang	Ramzanbhai	8460110110

Annexure-24

List of Resources Available with Government

Equipment available with District Collector

Sr.No.	Item Name	Number of Items	Remarks
1	Portable inflatable Emergency Lighting System	2	
2	Life Jacket	50	
3	Life Buoy	50	
4	PP Ropes 26 MM (100ft)	8	
5	PP Ropes 26 MM (200ft)	4	

Equipment available with BMC

Sr.No.	Item Name	Number of Items	Remarks
1	Portable inflatable Emergency Lighting System	7	
2	Motorcycle Mounted Water Mist	1	
3	Trolley Mounted Water Mist	5	
4	Water Browser	1	
5	Mini Fire Tender	1	
6	Life Jacket	120	
7	Life Buoy	120	
8	PP Rope (100ft)	24	
9	PP Rope (200ft)	12	
10	FRP Boat	1	
11	Rubber Boat	1	

Equipment available with Nagarpalika

Sr.No.	Name of Nagarpalika	Portable inflatable Emergency Lighting System	Motorcycle Mounted Water Mist	Water Browser	Mini Fire Tender
1	Gariyadhar	2	1	1	1
2	Mahuva	2	1	1	1
3	Palitana	2	1	1	1
4	Sihor	2	1	1	1
5	Talaja	2	1	1	1
6	Vallabhipur	2	0	1	0

Equipment available with Alang Fire Station

Sr.No.	Item Name	Number of Items	Remarks
1	Water tander	2	
2	Form tender	1	
3	Bouser	4	

Annexure-25

List of Resources Available with Corporate Sector

Equipment available with Nirma Company

Sr.No.	Item Name	Number of Items	Remarks
1	Water tander	1	

Equipment available with Excel Company

Sr.No.	Item Name	Number of Items	Remarks
1	Mini fire fighter	1	

Annexure-26

List of Private JCB Suppliers (District Code No. 0278)

Sr. No.	Name	Address	Contact Number	Number of JCB
1	Mahendrabhai Parmar	Kaliyabid, Patel Park, Bhavnagar	9879678480	15
2	Dharmendrasinh Gohil	Ghogha Road, Shivaji Circle, Bhavnagar	9904569567	4
3	Chhanubha Gohil	Malpar	9998313131	3
4	Jitubhai Parmar	Kaliyabid, Patel Park, Bhavnagar	9428108406	3
5	Zaadubhai	-	9725497632	2
6	Ashokbhai Baraiya	Ghogha Road, Pragati Hall, Bhavnagar	9426910953	2
7	Shyambhai Chauhan	Bhangali Gate, Talaja Road, Bhavnagar	9428052429	2
8	Natubhai Rathod	Akwada, Near Sitaram Hospital, Bhavnagar	9879916515	2

Annexure-27

List of Private Crain Suppliers (District Code No. 0278)

Sr. No.	Name	Contact Number	Number of JCB
1	Jaswantsinh	9825205583	5
2	Karansing Sardarji	9426211553	1
3	Mustakbhai	9427262771	1
4	Shahidbhai	9898086263	4
5	Punabhai	9426211553	5
6	Maheubkha Mahmadbhai	9424704321	3
7	Gafarbhai Aarab	9824220819	2
8	Salimbhai Sadikbhai	9825212621	7
9	Harunbhai	9327753627	3
10	Imtiyazbhai	9824538932	2

Annexure-28

List of Private Gas Cutter Suppliers (District Code No. 0278)

Sr. No.	Name	Contact Number
1	Abbdulabhai Solanki	9904765292
2	Sohilbhai Bilakhiya	9825131292
3	Akilbhai Solanki	9904485055
4	Rameshbhai Dabhi	7405538481
5	Mukeshbhai Rameshbhai	9979329156
6	Laxmanbhai Parmar	9173563182
7	Iqbalbhai Mehatar	8401322932
8	Ashwinbhai Parmar	9824212268

Annexure-29

List of Private Generator Suppliers (District Code No. 0278)

Sr. No.	Name	Address	Contact Person	Contact Number
1	Zen Engineering	32, Suryadarshan Complex, Near Rubber Factory Circle, Bhavnagar	Ketan Mehta	9825307900
2	Nigam Electricals	Simdhar Flate, Near Madhavdeep, Bhavnagar	Paresh J. Pandya	9824242122, 2221332
3	Gandhi Electric Store	Lalagar Bavano Math, Bhagatalav, Bhavnagar	Harshadbhai Gandhi	9427211521, 2425467, 2513046
4	Sigma Engineering	182, Madhavdarshan, Waghavadi Road, Bhavnagar	Vyasbhai	9825205934, 2436943, 2433434, 2429865, 2436943
5	Rahul Electric	1, Chandramani, Jail Road, Bhavnagar	Goradhanbhai Baraiya	9824397391
6	Baraiya Sound and Light	Mepanagar, Beh-Railway Hospital, Bhavnagar	-	9824390971

Annexure-30

Contact detail of PRI Member (District Code No. 0278)

Sr. No.	Name	Designation	Contact Number
1	Smt. Bharatiben Shiyal	MP	9825211699
2	Shri Jitubhai Vaghani	MLA	9825207804 2573800
3	Shri Vibhavariben Dave	MLA	9978555888 2517777
4	Shri Sanjaysinh Sarvaiya	President, District Panchayat	9824129293
5	Shri Nimuben Bambhaniya	Mayor, BMC	9825566302 2429492,2511600

Annexure-31

Contact detail of HG,NCC,NSS,RSS,NUK,SG and DJF (District Code No. 0278)

Sr. No.	Name	Address	Contact Person	Contact Number
1	Homegaurd Office	Near S.T., Panwadi, Bhavnagar	-	2423011
2	6 Gujarat Bt. NCC	Jail Ground, Beh.-A Division, Bhavnagar	-	2424995
3	3 Gujarat Girls Bt. NCC	Opp: Gulista Ground, Bhavnagar	-	2565336
4	3 Gujarat Neval Unit	Near Mother Care, Waghavadi Road, Bhavnagar	-	2565396
5	3 Gujarat Air Unit	Crescent Circle, Above SBI Bank, bhavnagar	-	2515393
6	NSS	University Campus, Waghavadi Road, Bhavnagar	Dr. A.A. Khan	2560091, 2560081, 9824495817
7	RSS	Sumeru Complex, Limdi Chaouk, Bhavnagar	Dineshbhai Khatsuriya	9428495860
8	Youth Hostel	Jail Road, Bhavnagar	Dr.Tejasbhai	9426454100
9	Scout Guide	Shishuvihar Highschool, Bhavnagar	Jayeshbhai Dave	9824220688
10	District Judo Faderation	2059, Talaja Road, Bhavnagar	Bijendu Mehta	9426348595

Annexure-32

Contact detail of Swimmers

Public Volunteers

Sr. No.	Name	Contact Number	Sr. No.	Name	Contact Number
1	A.R.Ranpura	9601102584	12	Mukeshbhai Dasadiya	9825165874
2	K.L.Jani	9898577539	13	P.K.Patel	9428181622
3	A.B.Dodiya	9427559512	14	Atulbhai Rathod	9427262555
4	C.S.Jambucha	9898201194	15	Hetrajsinh Zala	9426025007
5	P.B.Gohil	9898606868	16	Vivekbhai Parmar	9033333628
6	P.R.Gohil	2423089	17	Chandulal Chudasama	9974526505
7	T.I.Khambhati	9828589395	18	Viratbhai Jani	9924115493
8	A.N.Vaghani	9426550579	19	Jayeshbhai Kanada	9427558920
9	N.N.Vaghani	9426550579	20	J.R.Chudasama	8733009225
10	Vijaybhai Alani	9638100843	21	L.M.Solanki	9723480338
11	Dilipbhai Ranpura	9879912616			

Fire & Emergency Services

Sr. No.	Name	Designation	Contact Number	
			Office	Mobile
1	Pradyumansinh Jadeja	Station Fire Officer	2424814/15	9825204004
2	Rajendrasinh Gohil	Sub Fire Officer	2424814/15	9828222153
3	Anilkumar Rathod	Junior Clerk	2424814/15	8000763246
4	Kalubhai Khambhaliya	Junior Clerk	2424814/15	9428222164
5	Ghanshyamsinh Vala	Junior Clerk	2424814/15	9328176877
6	Kantibhai Chudasama	Fireman	2424814/15	9428222157
7	Gumansinh Zala	Fireman	2424814/15	9426144616
8	Anvarmiyan Saiyad	Fireman	2424814/15	9427135565
9	Rambhai Karmatiya	Fireman	2424814/15	9426163305
10	Hareshbhai Dholakiya	Fireman	2424814/15	9979620620
11	Jivrajbhai Gilatar	Fireman	2424814/15	9428222167
12	TApubha Zala	Fireman	2424814/15	9426163028

Apadamitra

Sr. No.	Name	Designation	Contact Number	
			Office	Mobile
1	Vikrantbhai M. Bhatt	Male Homegaurd	2423011	8000815546
2	Pareshbhai H. Trivedi	Male Homegaurd	2423011	9904175095
3	Jitendrabhai B. Parmar	Male Homegaurd	2423011	9724304809
4	Omdevsinh B. Jadeja	Male Homegaurd	2423011	9712157515
5	Ramilaben S. Dhandhalaya	Female Homegaurd	2423011	9904634823
6	Sharadaben G. Bambhaniya	Female Homegaurd	2423011	8487947320
7	Poojaben J. Rathod	Female Homegaurd	2423011	8156038936
8	Vanitaben H. Nandava	Female Homegaurd	2423011	9974793052
9	Varshaben G. Sohara	Female Homegaurd	2423011	8401326584
10	Renukaben R. Gohil	Female Homegaurd	2423011	8460961317

Annexure-33

Contact detail of State and National Government

Sr. No.	Name	Contact Detail	
		Phone	Fax
1	Ministry of Home Affairs, New Delhi	011 23092923, 011 23093054, 011 23092885, 011 23093897	011-23092763, 011-23093750
2	State Emergency Operation Center, Gandhinagar	07923251914, 07923251900, 07923221902	07923251916
3	PS, RD-COR & Secy (SEOC)	07923251926	07923251912, 07923251916
4	Irrigation Department, Gandhinagar	07923220954, 07923248735, 07923248736	07923240553
5	R&B Department, Ahmedabad	07926305296, 07926303490	-
6	Health Commissioner, Gandhinagar	07923253343, 07923250818	07923253343, 07923250818
7	Home Department, Gandhinagar (State Control)	07923252957, 07923252958	07923252075
8	DGP, Police Bhavan, Gandhinagar (State Control)	07923246328, 07923246330, 07923246331	07923246329
9	Gujarat Maritime Board, Gandhinagar	07923238346, 07923238348	07923234704
10	IMD (Seismo), New Delhi	011-24611842	011-24611792
11	IMD (MET), Ahmedabad	07922865012	07922865449
12	GSRTC, Ahmedabad (Central Office)	07925454102	07925453280

Annexure-34

Contact detail of Army,Airforce,Coust Gaurd, NDRF,SDRF

Sr. No.	Name	Place	Contact Detail	
			Phone	Fax
1	Army Exchange	Ahmedabad	079 22856251	-
2	Air Force Exchange	Gandhinagar	07923242600	-
3	Coust Guard	Gandhinagar	07923243147	07923241717
4	NDRF	Gandhinagar	07923201551	07923202540
5	SDRF	Gandhinagar	07923254376,07923254414	07923259444

Annexure-35

Contact detail of Collector office (District Code No. 0278)

Sr. No.	Name	Designation	Contact Number	
			Office	Mobile
1	Shri Harshad Patel	Collector	2428822	9978406202
2	Shri U.N.Vyas	Resident Additional Collector	2421881	9978405178
3	Shri G.V.Miyani (I/C)	DSO	2428908	7567021670
4	Shri J.J.Kanojiya (I/C)	Dy. Collector, MDM	2421880	9978774459
5	Shri Yogesh Thakkar	Dy. Collector, Election	2421819	9978405281
6	Shri K.N.Kancha (I/C)	Dy. Collector, Stamp Duty	2420547	8460289125
7	Shri B.H.Talati	Dy. Controller, Civil Defence	2521555	9925228838
8	Shri G.V.Miyani (I/C)	Khas Jamin Sampadan Adhikari	2427305	7567010346
9	Shri J.B.Dholiya	Chitnis to Collector	2425683	9426262728
10	Shri J.J.Kanojiya	Additional Chitnis to Collector	2425683	9978774459
11	Shri J.B.Vaghamashi	District Planing Officer	2421878	9979310710
12	Shri Dimpal M.Teraiya	District Project Officer-GSDMA	2521554	9824438275
13	Shri K.S.Limbani (I/C)	Mamlatdar, Disaster Management	2521555	8000284545
14	Shri D.I Chauhan	DIO-NIC	2429633	9428810100
15	Shri Jayesh Vayada	Ass. Bhustarshasatri	2423826	9824506952
16	Shri H.R.Joshi	Mamlatdar-Supply	2443688	9427306393 9428408835
17	Shri Darshan Mehta	Legal Officer	-	9374814531
18	Shri D.A.Gohil	Research Officer	2421878	9426212366
19	Shri K.N.Kancha	PRO	2425683	8460289125
20	Shri Hiralben Thakkar	Dy. Mamlatdar, Social Defence	-	9898695748

Annexure-36

Contact detail of District Panchayat (District Code No. 0278)

Sr. No.	Name	Designation	Contact Number	
			Office	Mobile
1	Shri Varunkumar Baranval	District Development Officer	2426810	9978406231
2	Shri C.D.Rathava	Dy.DDO (Ravanue)	2433868	7567017325
3	Shri C.C.Patel	Dy.DDO (Mahekam/Dev.)	2428864	7567017390
4	Shri C.C.Patel	Dy.DDO (Panchayat)		7567017390
5	Shri M.P.Pandya	Director,DRDA	2427535	7567032839
6	Smt.R.M.Chaudhari	Chitnis	-	9428827712
7	Shri H.F.Patel	CDHO	2423665, 2512794	9727779661
8	Shri P.A.Pathan	Epidemic Medical Officer	2515172	9727229690
9	Shri H.H.Chaudhari (I/C)	DPEO	2523582	7567803017
10	Shri B.L.Madiya	Execitive Engineer (R&B)	2422548	9426417856
11	Shri H.R.Raval	Executive Engineer (Irrigation)	2430155	9825285593
12	Dr. V.A.Jogadiya	District Ayurvedik Officer	2439951	9925028663
13	Shri S.R.Kosambi	District Agriculture Officer	2439931	7600530340
14	Smt. Chhayaben Amrani	PO,ICDS	2519411	8780257747
15	Shri D.H.Bhatt	Social Welfare Officer	2516766	9427202752
16	Shri M.R.Vora	Dy.Director, Animal Husbundary	2524376	9825670282

Annexure-37

Contact detail of DSP Office (District Code No. 0278)

Sr. No.	Name	Designation	Contact Number	
			Office	Mobile
1	Shri Amitkumar Vishwakarma	IGP	2510810	9978406282
2	Shri P.L.Mall	DSP	2520050	9978405067
3	Shri M.H.Thakar	Dy.SP	2518091	9978407983
4	Shri D.D.Chaudhari	Dy.SP	2513717	9978407982
5	Shri A.M.Saiyad	Dy.SP	2513721	9825305116
6	Shri H.M.Solanki	PI, LIB	2513718	8758714514
7	Shri Z.G.Chauhan	PI, ACB	2420980	9429647002
8	Shri D.M.Mishra	PI, LCB	2513719	9879842303
9	Shri M.A.Rathod	PI, CPI	2562909	9426135183
10	Shri U.K.Makava	PI, CID Crime	2517225	9099939100
11	Shri V.J.Farnandise	PI, CID IB	2427473	9925288818
12	Shri D.D.Parmar	PSI, SOG	2521234	9099054082
13	Shri M.A.Selat	PSI, GRD	-	9687629865
14	Shri V.A.Sengal	PSI, City Traffic	2518090	9879814239
15	Shri V.A.Sengal (I/C)	PSI, Highway Traffic	2518090	9879814239
16	Shri V.D.Chavada	PSI, MT	2513724	9824622432
17	Shri V.M.Dave	PSI, MOB	2433511	9979864323
18	Shri N.J.Sarvaiya	PSI, Mounted Unit	2510596	9825417417
19	Shri R.N.Gamit	PSI, Band Dep.	2525858	9879129135
20	Shri S.H.Khamal	PSI, QRT	-	9824252545
21	Shri P.D.Gohil	PSI, BDDS	-	9327444500

Annexure-38

Contact detail of BMC (District Code No. 0278)

Sr. No.	Name	Designation	Contact Number	
			Office	Mobile
1	Shri M.A.Gandhi	Municipal Commissioner	2510532	9978405532
2	Shri N.D.Govani	Dy.Commissioner(Admin)	2439292	9898701071
3	Shri J.A.Rana	Dy.Commissioner(General)	2439797	9825466966
4	Shri F.M.Shah	Ass.Commissioner	2511605	9979945333
5	Shri S.J.Chandarana	City Engineer	2511665	9925855999
6	Shri Chetan Vyas(I/C)	Chief Fire Officer	2424814	9825606021
7	Shri Jigneshbhai Trivedi	Shashnadhikari	2515646	7567231333
8	Dr.R.A.Sinha	Medical Officer, Health	-	9727776890
9	Shri Ushaben Vaghela	Mamlatdar, MDM	2433881	9426145113
10	Smt.Jagrutiben Joshi	CDPO-1	2421111	9427939094
11	Smt.Ritaben Dave	CDPO-2	2424044	9426145824
12	Shri D.S.Karmata	PRO	-	9879565688
13	Shri R.K.Jogarana	Legal Officer	-	9825746629
14	Shri M.V.Kureshi	Election Cell	-	9727776884
15	Shri D.M.Pandaya	Flood Cell	-	9825324572
16	Shri Dimpal M.Teraiya	PO-GSDMA (I/C)	2521554	9824438275
17	Shri P.J.Chudasama	Exicutive Engineer (Elec./Mic.)	2424817	9925009293
18	Shri R.G.Shukla	Exicutive Engineer (SWM)	-	9909911616
19	Shri V.N.Pandit	Exicutive Engineer (Estate)	-	9825419008
20	Shri M.R.Kukadiya	Exicutive Engineer (Planing)	-	9429946972
21	Shri M.D.Makwana	Exicutive Engineer (Roads)	-	9909911910
22	Shri Dushyantbhai Pandaya	Exicutive Engineer (Drainage)	-	9825324572
23	Shri R.G.Parikh	Exicutive Engineer (Building)	-	9426993785
24	Shri C.B.Vyas	Exicutive Engineer (Light)	-	9825606021
25	Shri V.P.Gohil	Exicutive Engineer (Filter)	-	9825289222
26	Shri C.C.Devmurari	Exicutive Engineer (WW)	-	9879525199
27	Shri K.K.Gohil	Garden Suprentendent	-	9898491914

Annexure-39
Contact detail of DDMC Members (District Code No. 0278)

Sr. No.	Designation	Name	Contact Number	
			Office	Mobile
1	Collector/ District Magistrate	Shri Harshad Patel	2428822	9978406202
2	District Development Officer	Shri Varunkumar Baranval	2426810	9978406231
3	District Superintend of Police	Shri P.L.Mall	2520050	9978405067
4	DCF, Forest	Dr.Mohan Ram	2428644	8511624496
5	Resdential Additional Collector	Shri U.N.Vyas	2421881	9978405178
6	District Supply Officer	Shri G.V.Miyani	2428908	7567021670
7	District HomeGuard Commandant	Shri D.D.Chaudhari	2423011	9978407982
8	Exe. Engineer-R&B State	K.S. Doshi	2423383	9825438954
9	Exe. Engineer-R&B Panchayat	B.L. Madiya	2422548	9426417856
10	Exe. EngineerR&B State Irrigation	S.G. Patel	2421727, 2515737	9909960156
11	Exe. Engineer-Water Supply	J.K. Bodar	2566446	9878406853
12	Superintending Engineer- PGVCL	A.G.Parikh	2433043	9879203840
13	Superintendent Civil Hospital	Dr. Vikas Sinha	2423250	9879579193
14	CDHO	Dr. H.F.Patel	2423665	9727779661
15	District Agriculture Officer	S.R.Kosambi	2439931	7600530340
16	Dy.Director Animal Husnundary	M.R.Vora	2524376	9825670282
17	District Primary Education officer	H.H. Chaudhari	2426629	9909970212
18	District Educatin Officer	A.B.Prajapati	2439954	9909971655
19	Port Officer	Sudhir Chadhdha	235621	9925153073
20	Airport-Director	Sudha R. Murli	2212971	9427211500
21	DRM-Railway	Rupa Shrinivashan	2445475	9724097000
22	Divisional Controller-State Transport	B.R.Dindor	2422699	9998953211
23	Regional Transport Officer	P.R. Rana	2424293	9429299999
24	Regional Officer-GPCB	Shri Modi	2524108	9427318615
25	Dy.Director-DISH	P.M.Mistri	2428473	9426325759
26	Dy. Director-Information Department	Sharad Bumbaniya	2424994	9913615298
27	Dy. Controller –Civil Defense	B.H.Talati	2521555	9925228838
28	District Munivipality Officer/ Chief Fire Officer	Chetan Vyas	2430061	9825606021
29	NGO Member	-	-	-
30	Media Person	-	-	-
31	All S D M	-	-	-

Annexure-40

Contact detail of Other Important Office (District Code No. 0278)

Sr. No.	Designation	Name	Contact Number	
			Office	Mobile
1	Ass.Director, Fisheries	R.B.Bajpayi	2427567	8141441353
2	Depot Manager, Bhavnagar	A.A.Sersiya	2423966	9998953215
3	Secratary, Redcross	Varshaben Lalani	2427286	9824124271
4	Manager Circuit House	-	2560451, 2560452	-
5	Manager, Majiraj Guest House	-	2422520, 2422521	-
6	Manager, Pathikashram	-	2423997	-
7	Bhavnagar University	-	2426519	-

Annexure-41

Contact detail of All SDM

Sr. No.	Name	Officer Name	Taluka Code No.	Fone No.	Mobile No.
1	Mahuva (Jesar)	J.M. Tuvar	02844	222765	7567010268
2	Talaja	Dr. Rajendra Patel	02842	222260	7567010274
3	Sihor (Umralla, Vallabhipur)	P.L. Zankat	02846	222103	7567010355
4	Palitana (Gariyadhar)	M.P. Patel	02848	243350	7567010276
5	Bhavnagar (Ghogha)	G.V. Miyani	0278	2428701	7567010346

Annexure-42

Contact detail of All Mamlatdar

Sr. No.	Taluka Name	Officer Name	Taluka Code No.	Fone No.	Mobile No.
1	Mahuva	R.L. Kaneriya	02844	223042	7567001646
2	Talaja	S.J. Chaudhari	02842	222042	7567001823
3	Sihor	D.V. Ambaliya	02846	222009	7567001683
4	Palitana	D.V. Ambaliya (I/C)	02848	243326	7567001737
5	Gariyadhar	Smt. M.N. Joshi	02843	252922	7567001910
6	Vallabhipur	H.S. Chauhan	02841	222435	7567001868
7	Bhavnagar (Rural)	K.M. Sampat	0278	2421885	7567001743
8	Ghogha	J.T. Makwana	0278	2882323	7567001895
9	Umralla	K.M. Ninama	02843	235230	7567001922
10	Jesar	R.L. Kaneriya (I/C)	02845	281400	9727769875

Annexure-43

Contact detail of All TDO

Sr. No.	Taluka Name	Officer Name	Taluka Code No.	Fone No.	Mobile No.
1	Mahuva	Natubhai Boricha	02844	223968	7567018926
2	Talaja	P.B. Gohil	02842	222036	7567018948
3	Sihor	V.G. Pandya	02846	222029	7567012759
4	Palitana	B.D. Gohil	02848	242451	7567012714
5	Gariyadhar	P.R. Chudasama	02843	252934	7567012743
6	Vallabhipur	G.K. Vala	02841	222423	7567012766
7	Bhavnagar (Rural)	Bharatsinh Vaghela	0278	2421898	7567012852
8	Ghogha	Shri Parmar	0278	2882339	7567019728
9	Umrala	R.B.Visani	02843	235596	7567012707
10	Jesar	R.S.Gosai	02845	223968	9427248421

Annexure-44

Contact detail of All Chief Officer

Sr. No.	City Name	Officer Name	Taluka Code No.	Fone No.	Mobile No.
1	Mahuva	J.C. Solanki	02844	222318	9909200281
2	Talaja	V.B. Vansiya	02842	223173	9825836275
3	Palitana	J.L.Dave	02848	242555	9426245770
4	Gariyadhar	B.R.Baral	02843	250053	9879008536
5	Sihor	B.R.Baral	02846	222024	9879008536
6	Vallabhipur	S.J. Sadhu	02841	222432	9925263066

Annexure-45

Contact detail of All Fire Station

Sr. No.	Fire Station	Taluka Code No.	Contact Detail		
			Phone No.	Name	Mobile No.
1	BMC	0278	2515515, 2424878, 2424814, 2424815	Pradyumansinh Jadeja	9825204004
2	Alang	02842	235147, 222250	P.D.Vyas	9925037626
3	Mahuva	02844	222318	Jayeshbhai	9428493776
4	Talaja	02842	223173	Sidhrajsinhbai	9426648101
5	Sihor	02846	222024	Mukeshbhai	9979620722
6	Palitana	02848	242555	Dilubha	9824882488
7	Gariyadhar	02843	250053		
8	Vallabhipur	02841	222432	Rajbha	9712968968

Annexure-46

Contact detail of All Police Station

Sr. No.	Police Station	Taluka Code No.	Fone No.
1	Mahuva	02844	223099
2	Talaja	02842	222033
3	Sihor	02846	222060
4	Palitana	02848	243301
5	Gariyadhar	02843	252999
6	Vallabhipur	02841	222431
7	Bhavnagar(R)	0278	2541633
8	Bhavnagar(C)	0278	2525858
9	Ghogha	0278	2882333
10	Umralla	02843	235233
11	Jesar	02845	281433

Annexure-47

Contact detail of Liasan Officers 2018

Sr. No.	Name of taluka	Designation	Name	Contact Number	
				Office	Mobile
1	Bhavnagar (C)	SDM, Bhavnagar	G.V. Miyani	2428701	7567010346
2	Bhavnagar(R)	Dy.DDO (Mahekam/Dev.)	C.C.Patel	2428864	7567017390
3	Ghogha	District Planing officer	J.B.Vaghamashi	2421878	9979310710
4	Palitana	SDM, Palitana	M.P. Patel	243350	7567010276
5	Gariyadhar	Dy.DDO (Ravanue)	C.D.Rathava	2433868	7567017325
6	Mahuva	SDM, Mahuva	J.M. Tuvar	222765	7567010268
7	Jesar	Dy. Controller Civil Defence	B.H.Talati	2521555	9925228838
8	Talaja	SDM, Talaja	Dr. Rajendra Patel	222260	7567010274
9	Sihor	SDM, Sihor	P.L. Zankat	222103	7567010355
10	Vallabhipur	DPEO	H.H.Chaudhari	2523582	7567803017
11	Umralla	Dy.Director, (Viksati Jati)			

Maps

State Map Shoving Bhavnagar District



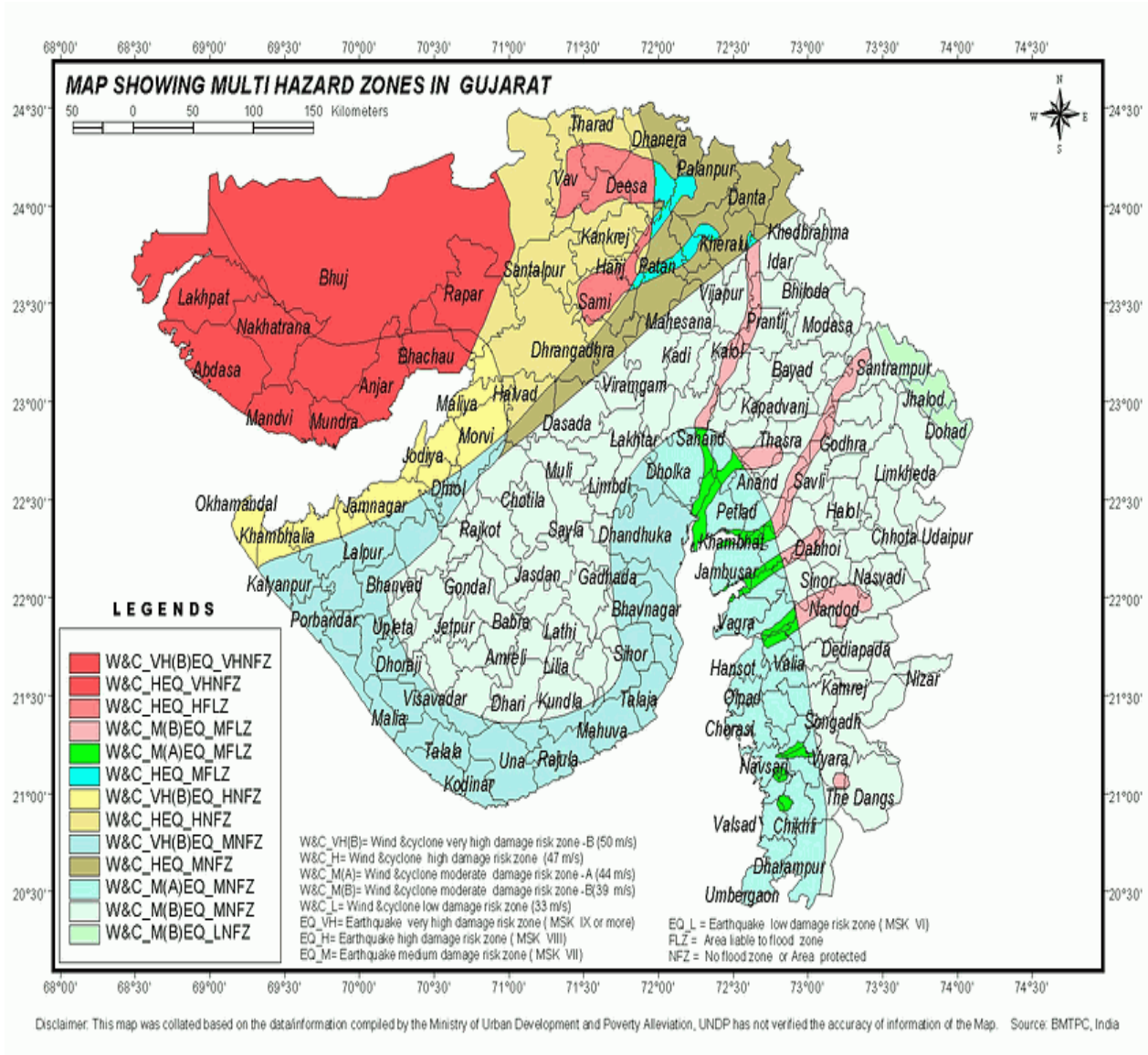
Bhavnagar District Map



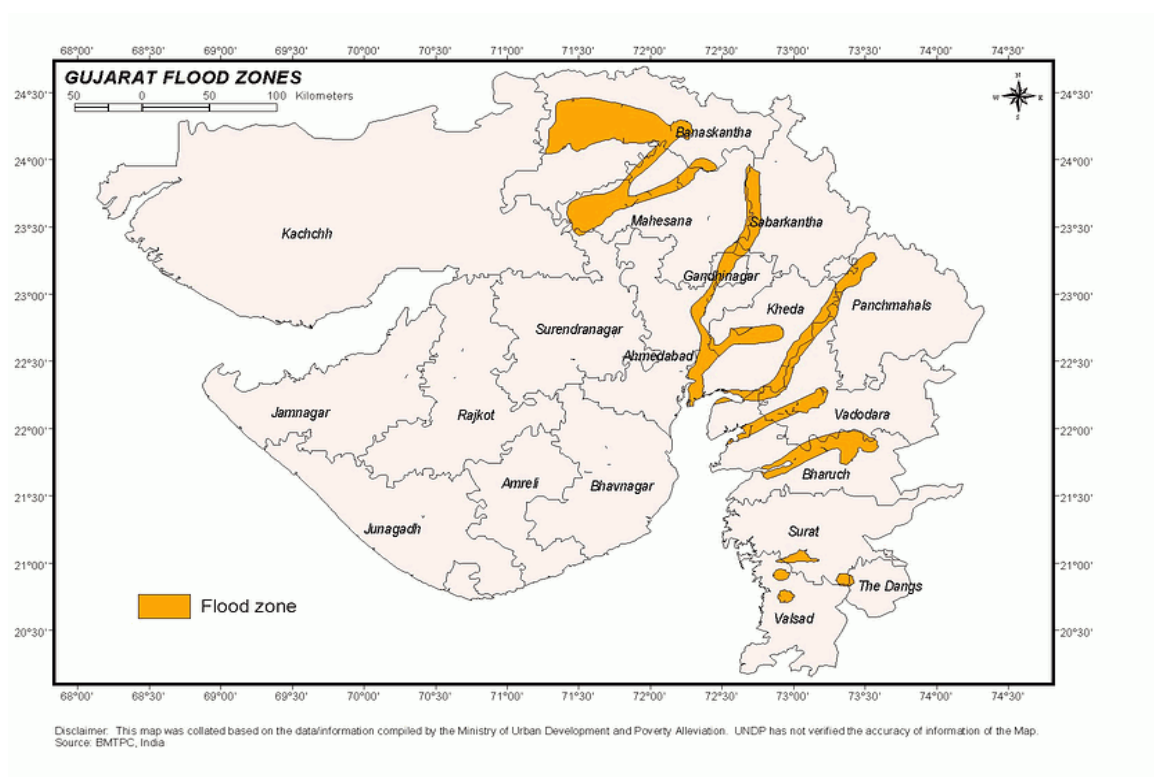
Hazard Maps

Gujarat multy hazard Map

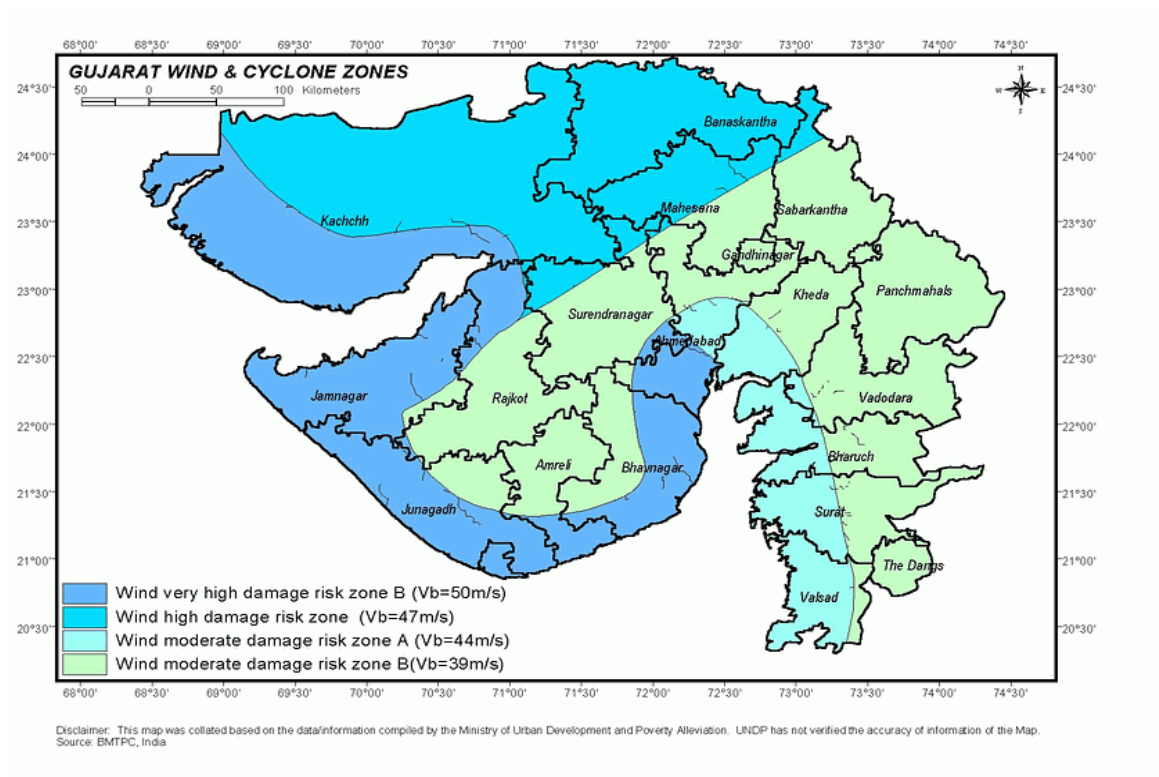
Multi - Hazard Map Of Gujarat



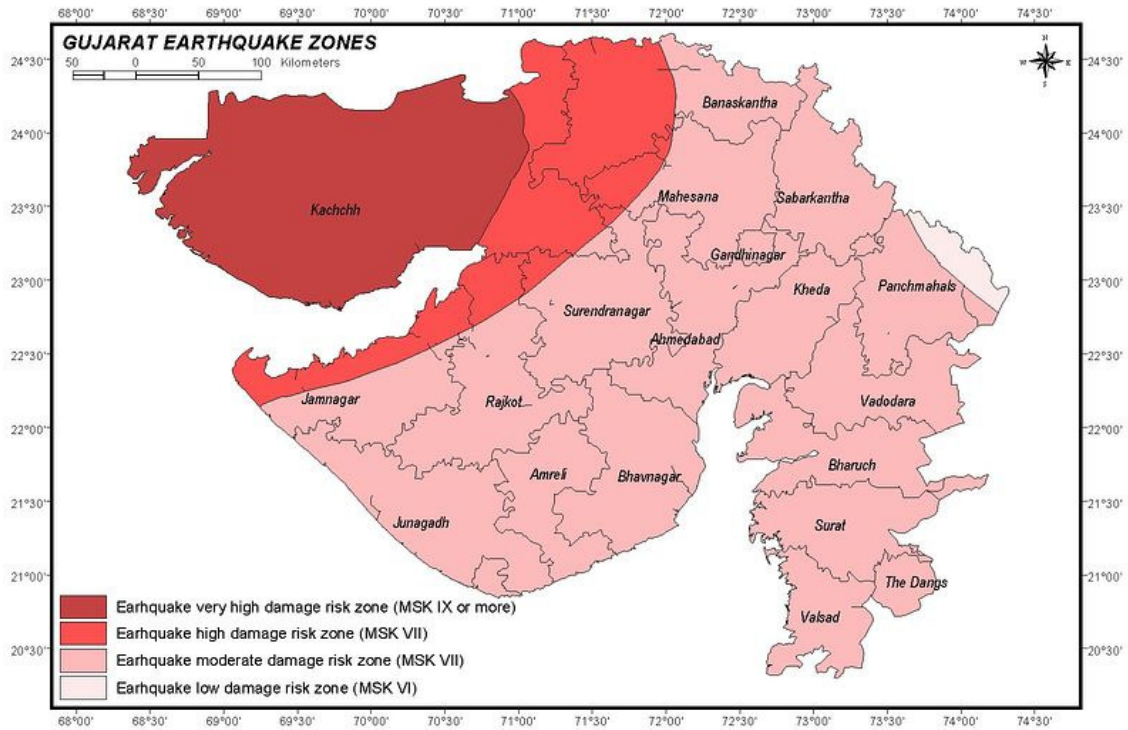
Gujarat Flood zone hazard Map



Gujarat cyclone zone hazard map



Gujarat Earthquake zone hazard map



Disclaimer: This map was collated based on the data/information compiled by the Ministry of Urban Development and Poverty Alleviation. UNDP has not verified the accuracy of information of the Map. Source: BMTPC, India

Dos and Don'ts in various disasters

Cyclone Safety

A cyclone is a storm accompanied by high-speed whistling and howling winds. It brings torrential rains.

Where does a cyclone come from?

A cyclonic storm develops over tropical oceans like the Indian Ocean and Bay of Bengal and the Arabian Sea. Its strong winds blow at great speed, which can be more than 118 kilometers per hour.

What are the visible signs of a cyclone?

When a cyclonic storm approaches, the skies begin to darken accompanied by lightning and thunder and a continuous downpour of rain.

How does a cyclone affect us?

- A cyclone causes heavy floods.
- It uproots electricity supply and telecommunication lines. Power supply shuts down and telephones stop functioning.
- Road and rail movements come to halt because floods damage rail tracks and breach roads. Rail movements are also disrupted because of communication failure.
- The inclement weather conditions also disrupt Air services. Seaports stop work due to high winds, heavy rains and poor visibility. Sometimes ships overturn or are washed ashore. The high speed winds bends and plucks out trees and plants.
- A cyclone tears away wall sidings and blows off roofs of houses.
- Houses collapse and people are rendered homeless. In villages kachha houses get blown away. The speeding winds cause loose metal and wooden sheets to fly turning them to potential killers. Broken glass pieces can cause serious injuries.
- The floodwaters can take time to recede.
- The floodwaters can turn the fields salty.

- Bridges, dams and embankments suffer serious damages.
- Floods wash away human beings and animals and make water unfit for drinking. There can be outbreak of diseases like Cholera, Jaundice or Viral fever due to intake of impure water. Water gets contaminated because of floating corpses of animals and human beings and mixing of sewage stored food supplies, gets damaged.

Which areas are exposed to a cyclone in Gujarat?

In Gujarat, the Saurashtra-Kachchh region experiences a cyclone. The port towns of Veraval, Porbandar, Jamnagar, Dwarka, Okha, Kandla and Bhavnagar and other minor port towns suffer most.

Does a cyclone follow a particular path?

It is often difficult to predict where a cyclone will strike. When it starts moving from oceans (in Gujarat it is Arabian Sea) towards the land area, a cyclone can change track and hit areas other than those anticipated earlier.

Has any early warning system been evolved for the occurrence of a cyclone?

Yes. In India, the Indian Meteorological Department has developed a four-stage warning system for a cyclone.

How does the system operate?

This warning is about the possibility of a cyclone when a low pressure depression develops in oceans. For Gujarat, the development of such a depression in the Arabian Sea is indicative of a cyclone attack.

▪ The Alert stage

This warning is given 48 hours prior to the time when a cyclone is expected to hit the land.

▪ The Warning stage

This is the stage when a cyclone gets formed. The warning is given 24 hours before the anticipated time of arrival of a cyclone.

▪ Cyclone arrival

This warning is issued 12 hours before a cyclone is due to hit the land. The warning gives information about cyclone and will continue until the winds subside. In sea ports, danger signal are hoisted about the impending cyclone.

From where can people access cyclone storm warnings?

Warnings about storms, their intensity and the likely path they may take are regularly broadcasted by radio and television network continuously until the storm passes over.

What to do before and during a cyclone

- Have your dwellings checked before a cyclone season starts and carry out whatever repairs that are needed.
- Talk to children and explain about cyclones without scaring them.
- Create storm awareness by discussing effects of a cyclonic storm with family members so that everyone knows what one can and should do in an emergency. This helps to remove fear and anxiety and prepares everyone to respond to emergencies quickly.
- Keep your valuables and documents in containers, which cannot be damaged by water.
- Keep information about your blood group.
- Keep lanterns filled with kerosene, torches and spare batteries. These must be kept in secure places and handy.
- Make plans for people who are either sick, suffer from disabilities, aged and children.
- Store up at least seven-day stock of essential food articles, medicines and water supply.
- Keep blankets & clothes ready for making beds. Also keep cotton bandages and several copies of photographs of family members in case they are needed for identification purposes after the storm.
- Store some wooden boards so that they can be used to cover windows.
- Keep trees and shrubs trimmed. Remove damaged and decayed parts of trees to make them resist wind and reduce the potential for damage. Cut weak branches and make winds blow through.
- All doors, windows and openings should be secured.
- Continue to listen to warning bulletins and keep in touch with local officials. Keep radio sets in working condition. Battery powered radio sets are desirable.
- Evacuate people to places of safety when advised.

- Take steps to protect your assets.
- Store extra drinking water in covered vessels.
- Remain calm.

What one should not do during a Cyclone attack?

- During the storm do not venture out unless advised to evacuate.
- If you have a vehicle and wish to move out of your house, leave early before the onset of a cyclone. It is often best to stay at home
- Avoid remaining on the top floor of dwellings. Stay close to the ground.

Earthquake safety

- Tell the facts about earthquake to your family members
- Construct new buildings with earthquake resistant method and strengthen the old buildings
- Insure your house and family members
- Take the training for first aid and fire fighting
- Do not keep cots near the glass window
- Do not keep heavy and fragile things in the selves
- Do don't hang photo frames, mirrors, or glasses up your bed
- Keep your important documents, some cash and necessary articles ready in a bag
- Get your house insured before the earthquake
- Identify special skills of neighbor (medical, technical) so that it can be utilized in emergency

During Earthquake

- Do not panic
- If already inside, than Stay indoors! Get under a heavy desk or table and hang on to it.
- If fire breaks out, drop on the floor and crawl towards the exist
- If you are out doors during the quake, keep away from buildings, trees and electricity lines. Walk towards open places, in a calm and composed manner.
- If you are driving, quickly but carefully move your car as far out of traffic as possible and stop. Do not stop on or under a bridge or overpass or under trees, light posts, power lines, or signs. Stay inside the car until shaking stops
- If you are in a school, get under a desk or table and hold on

After the Earthquake

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

Flood Safety

Do's and Don'ts after flood

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

- Rescue work should be undertaken immediately after flood situation as per the instruction. Do not follow any shortcut for rescue work.
- Do not try to leave the safe shelter to go back home until the local officials declare normalcy after flood and instruction to return home are not given.

Tsunami

The phenomenon Tsunami is a series of traveling ocean waves of extremely long length generated primarily by earthquakes occurring below or near the ocean floor:

Following safety measures needs to be learnt before, during and after the occurrence of tsunami:

Before

- Be familiar with the tsunami warning signals. People living along the coast should consider an earthquake or a sizable ground rumbling as a warning signal. A noticeable rapid rise or fall in coastal waters is also a sign that a tsunami is approaching.
- Make sure all family members know how to respond to a tsunami. Make evacuation plans. Pick an inland location that is elevated.
- After an earthquake or other natural disaster, roads in and out of the vicinity may be blocked, so pick more than one evacuation route.
- Teach family members how and when to turn off gas, electricity, and water
- Children should be taught in advance about the evacuation plans
- Prepare emergency kit beforehand. The emergency kit should contain Flashlight and extra batteries, battery-operated radio and extra batteries, First aid kit
- Emergency food and water, Essential medicines etc

During

- Listen to a radio or television to get the latest emergency information, and be ready to evacuate if asked to do so.
- If you hear a tsunami warning, move at once to higher ground and stay there until local authorities say it is safe to return home.
- Move in an orderly, calm and safe manner to the evacuation site
- Stay away from the beach. Never go down to the beach to watch a tsunami come in.
- If you can see the wave you are too close to escape it.
- Return home only after authorities advise it is safe to do so.

After

- Stay tuned to a battery-operated radio for the latest emergency information.
- Help injured or trapped persons.
- Stay out of damaged buildings. Return home only when authorities say it is safe.
- Enter your home with caution. Use a flashlight/torch when entering damaged buildings. Check for electrical shorts and live wires. Do not use appliances or lights until an electrician has checked the electrical system.
- Open windows and doors to help dry the building.
- Shovel mud while it is still moist to give walls and floors an opportunity to dry.
- Check food supplies and test drinking water.
- Fresh food that has come in contact with flood waters may be contaminated and should be thrown out

Fire safety

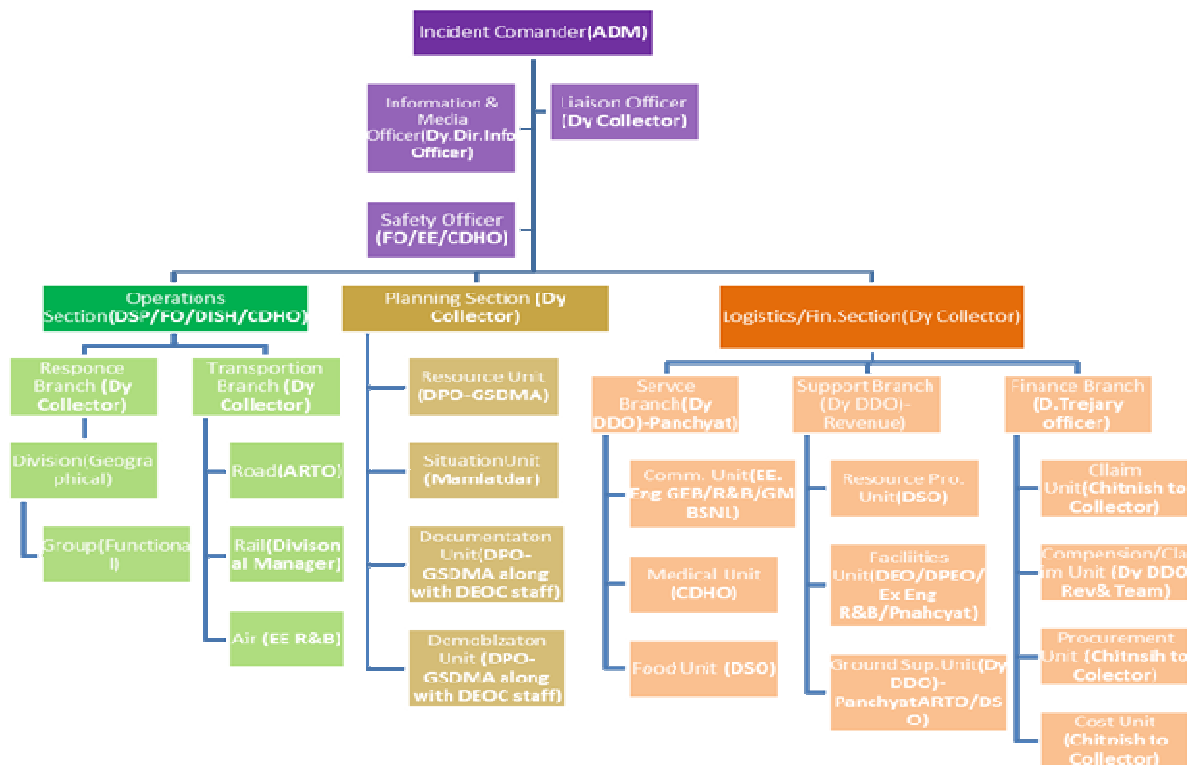
Dos

- Buy Fireworks from the licensed shop.
- Keep fireworks in a closed box
- Store crackers away from source of fire or inflammation
- Follow all safety precautions issued with the fire works
- Go to open spaces like playgrounds, fields
- Light them at arm's length using a taper.
- Stand back while lighting the crackers
- Discard used fireworks in a bucket of water
- Keep buckets of water and blankets ready, in case a firebreaks out.
- Wear thick cotton clothes for maximum safety from fire.
- If clothes catch fire, Stop, Drop and Roll
- In case of uncontrolled fire wrap the victim in a blanket, till it stop.
- In case of burns splash tap water (not ice water), the process may be repeated till the burning sensation reduces.
- If fingers or toes are burned, separate them with dry, sterile, non-adhesive dressings.
- Make sure the burn victim is breathing, if breathing has stopped or if the victim's airway is blocked then open the airway and if necessary begin rescue breathing.
- Elevate the burned area and protect it from pressure and friction.
- Cover the area of the burn with a moist sterile bandage, of clean cloth (do not use blanket or towel for healing burns).
- Consult the doctor as soon as possible for the proper medication
- Consult an ophthalmologist immediately in case of eye injuries.
- Do contact at the Fire Brigade (Tel.No. 101), for getting the details of the doctors on duty during the festival.

Don'ts

- Don't burn crackers in crowded, congested places, narrow lanes or inside the house.
- Don't let children burst crackers unaccompanied by an adult
- Don't put fireworks in your pocket or throw them
- Don't cover crackers with tin containers or glass bottles for extra sound effect
- Don't dare to examine unburst crackers...leave it!! Light a new cracker
- Don't show the Dare-devilry of lighting crackers on own hands.
- Don't use fireworks inside a vehicle
- Avoid long loose clothes, as they are fast in catching fire
- Don't remove burnt clothing (unless it comes off easily), but do ensure that the victim is not still in contact with smoldering materials.
- Don't apply adhesive dressing on the burnt area.
- Don't break the burst blister

Gujarat State Disaster Management Authority



**District Emergency Operation Center
District Collector Office
Bhavnagar**