District Disaster Managemen t Plan

(DDMP)

Year – 2024

District – Gir Somnath

** As Per Section 24(1) of the Gujarat Disaster Management Act, 2003 and Section 31 of the Disaster Management Act, 2005

DISASTER MANAGEMENT PLAN: DISTRICT-Gir Somnath

Preface:

In recent years, the Government of Gujarat has been giving increased focus towards the Disaster Management and related aspects. As a part of Disaster Risk Management, all the Villages, Taluka and City in the Gir Somnath district have prepared their Disaster Management Plans and will be updated every year.

The District Disaster Management Plan is a summary document giving the details about the hazards, its history, vulnerability analysis, risk assessment and flood management strategy and mitigation plan. It also outlines the flood response plan, warning system, communication system, search, rescue and relief operations and contingency plans.

While preparing a District Disaster Management Plan [DDMP] for Gir Somnath District, the data collected at various levels were collated and on top of that was added the Line department data. All this is possible with the in-house developed IT system 'State Disaster Resource Network [SDRN]' which is launched on the Gujarat State Wide Area Network [GSWAN]. It gives information access to all the officials at Taluka, District and state Secretariat level.

We have tried to include the District related information, Risks and Preparedness against risks, responses at the time of disasters as well as Disaster Management and strategy during the disaster etc for Gir Somnath District. This Plan will update periodically, and also we will improve it through our draw backs, errors and new lessons learnt.

I hope that this document shall go a long way in helping the district administration in tackling the disaster situations in a systematic and smooth manner.

Signature of District Authority :- - SD -

Resident Additional Collector
Gir Somnath

Name of District Authority	:-	R.G. Aal (G.A.S)
Date of Plan (submit)	:-	08/04/2024

List of Abbreviation

APMC	Agricultural Produce Market Committee
AE	Assistant Engineer
AH	Animal Husbandry
ATI	Administrative Training Institute
ATS	Anti Terrorist Squad
ATVT	Apno Taluko Vibrant Taluko
BPL	Below Poverty Line
BRC	Block Resource Centre
CBO	Community Based Organization
CDHO	Chief District Health Officer
CDPO	Child Development Project Officer
CHC	Community Health Center
CRC	Community Resource Centre
CRF	Calamity Relief Fund
CSO	Civil Society Organization
DCMG	District Crisis Management Group
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plan
DDMO	District Disaster Management Officer
DDO	District Development Officer
DEOC	District Emergency Operation Centre
PGVCL	Paschim Gujarat Vij Company Limited
DISH	Directorate of Industrial Safety and Health
DM	Disaster Management
DPO	District Program Officer
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DSO	District Sports Officer
DSP	Deputy Superintendent of Police
Dy. Eng.	Deputy Engineer
Dy SP	Deputy Superintendent of Police
EMRI	Emergency Management & Research Institute
ESR	Elevated Surface Reservoir
EWS	Early Warning System
Ex. Eng.	Executive Engineer
FCI	Food Corporation of India
FPS	Fair Price Shop
FWP	Food for Work Program
GDCR	General Development Control Regulation
GEB	Gujarat Electricity Board
GIDM	Gujarat Institute of Disaster Management
GLR	Ground Level Reservoir
GMB	Gujarat Maritime Board
GoI	Government of India

GPs	Gram Pranchayats
GSDMA	Gujarat State Disaster Management Authority
GWSSB	Gujarat Water Supply and Sewerage Board
HFA	Hyogo Framework for Action
HHs	Households
HPC	High Powered Committee
HQ	Head Quarter
HRVC	Hazard, Risk, Vulnerability and Capacity
IAY	Indira Aawas Yojana
IMA	Indian Medical Association
ICS	Incident Commander
ICS	Incident Command System
IDNDR	International Decade for Natural Disaster Reduction
IEC	Information Education Communication
IMD	Indian Meteorological Department
ISDR	International Strategy for Disaster Reduction
ISR	Institute for Seismic Research
ITI	Industrial Training Institute
IWMP	Integrated Watershed Management Program
LCMG	Local Crisis Management Group
LO	Liaison Officer
MAH	Major Accident Hazard
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MHA	Ministry of Home Affairs
MLA	Member of Legislative Assembly
Mm	Mili Meter
MP	Member of Parliament
NCC	National Cadets Corps
NCCF	National Calamity Contingency Fund
NDM	National Disaster Management
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
NDRF	National Disaster Response Force
NEC	National Executive Committee
NFSM	National Food Security Mission
NGO	Non Government Organization
NIDM	National Institute of Disaster Management
NRDWP	National Rural Drinking Water Program
NRHM	National Rural Health Mission
NSS	National Service Scheme
NYK	National Yuva Kendra
PCPIR	Petroleum Chemical and Petrochemical Special Investment Region
PDS	Public Distribution System
PHC	Primary Health Center
PI	Police Inspector

PMGY	Pradhan Mantri Gramodyan Yojna
PRIs	Panchayati Raj Institutions
R & R	Recovery & Reconstruction
R&B	Roads & Buildings
RTO	Regional Transport Office
SC	Scheduled Caste
SDM	Sub District Magistrate
SDMA	State Disaster Management Authority
SDRF	State Disaster Response Fund
SDRN	State Disaster Response Network
SE	Superintending Engineer
SEOC	State Emergency Operation Centre
SFO	Sub Focal Officer
SEZ	Special Economic Zone
SHGs	Self Help Groups
SMC	School Management Committee
SMS	Short Message Service
SOP	Standard Operating Procedure
SRPF	State Reserve Police Force
SRT	Special Response Team
SSA	Sarva Shiksha Abhiyan
ST	Scheduled Tribe
S& R	Search and Rescue
Supt. Eng.	Superintendent Engineer
SWO	Social Welfare Officer
TDMA	Taluka Disaster Management Authority
TDMC	Taluka Disaster Management Committee
TDMP	Taluka Disaster Management Plan
TDO	Taluka Development Officer
TEOC	Taluka Emergency Operation Centre
THO	Taluka Health Officer
TNA	Training Needs Assessment
TSC	Total Sanitation Campaign
TSO	Taluka Supply Officer
ULB	Urban Local Body
UNDP	United Nations Development Programme
UNFCC	United Nations Framework Convention on Climate Change
VDMP	Village Disaster Management Plan
VIPs	Very Important Persons
VVIPs	Very Very Important Persons
WASMO	Water and Sanitation Management Organization

Index

PART - 1

Chapter 1

- **Introduction:**

At the district level, the district administration is the focal point to manage any disaster or eventuality. It is therefore, imperative to equip and train the district disaster management committee and disaster management team headed by the District Collector/ Magistrate/ Deputy Commissioner.

The district administration is also required to prepare a District Disaster Management Plan based upon the type of disasters likely to affect the district. The actual day –to day function of administering preparedness, response, and mitigation is the responsibility of the District Collector/ Magistrate/ Deputy Commissioner along with the DDMC and the DDMTs.

The previous disaster management plans of the Gir Somnath district are mainly disaster specific contingency plans. Those plans reveal following facts:

i) Plan document is too voluminous to be easily understood by users.
ii) The command and control of relief efforts is not optimal
iii) Integration of response is not effective
iv) The mitigation, prevention and preparedness aspects are not addressed.

Secondly, separate plans for each disaster have produced multiple documents with considerable duplication, which would work against potential users reading and knowing any of the plans.

Recognizing the fact that most tasks and actions before and following a disaster are common at the district level, the Gir Somnath district administration has used a multi-disaster approach while developing disaster management plan for the district.

Aims and Objectives

- To determine the risk and vulnerabilities associated with various hazards.
- To identify the hazardous areas and to create appropriate strategies to address the issues in these areas
- To develop appropriate strategies for effective prevention and mitigation of disasters
- To build the capacity of people working in the field of disaster management
- To define and assign roles and responsibilities to various stakeholders associated with disaster management for pre disaster and post disaster phases.
- To develop and maintain arrangements for accessing resources, equipment, supplies and funding in preparation for disasters
- To defines the risks and Vulnerabilities of the citizens of the district to different disasters.
- To Identifies the private and public sector parties with prime and supporting responsibilities to reduce or negate these vulnerabilities
- To Mainstreaming disaster management concerns into the developmental planning process
- To Defines actions to be taken by these parties to avoid or mitigate the impact of possible disasters in the district

Scope of the Plan:

The District Disaster Management and Response Plan for Gir Somnath District have been prepared for its operation by various departments and agencies of the district and other Non-governmental Agencies expected to participate in disaster management. This plan provides for Vulnerability Assessment and Risk Analysis, Preventive Measures, Mainstreaming disaster management concerns into Developmental Plans, Preparedness Measures, Response Mechanism, and Partnership with Stakeholders, Financial Arrangement, Roles and Responsibilities of the various agencies interlinks in disaster management and the scope of their activities. An elaborate inventory of resources has also been formalized.

Disaster Risk Reduction Post-2015

Post 2015, there has been a significant shift from the approach of Managing Disasters to Managing Risk. The three landmark global agreements viz. – the Sendai Framework for Disaster Risk Reduction2015-30 (SFDRR), Sustainable Development Goals (SDG) and the Paris Agreement (CoP 21)set thestage for future global action on Disaster Risk Reduction (DRR), sustainable development and climate change.

Sendai Framework of Actions for Disaster Risk Reduction 2015-2030

The Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR) was adopted at the Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Japan in March 2015. The SFDRR is a document that outlines four priorities for action to achieve 7 targets, which in turn would lead to one outcome which is- a substantial reduction of disaster risk and losses in lives, livelihoods, health, the economy of persons, businesses, communities and countries. India is a signatoryto the Sendai Framework for a 15-year, voluntary, non-binding agreement that recognizes that the State has the primary role in reducing disaster risk, but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

The Four priorities of action are:-

1. Understanding Disaster Risk
2. Strengthening Disaster Risk Governance to Manage Disaster Risk
3. Investing in Disaster Risk Reduction for Resilience
4. Enhancing Disaster Preparedness for Effective Response and to 'Build Back Better' in Recovery, Rehabilitation and Reconstruction

The seven global targets are: -

A. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015

B. Substantially reduce the number of affected people globally by 2030, aiming to lower theaverage global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015

C. Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by2030

D. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing theirresilience by 2030

E. Substantially increase the number of countries with national and local disaster risk

reductionstrategies by 2020

F. Substantially enhance international cooperation to developing countries through adequateand sustainable support to complement their national actions for implementation of this Framework by 2030

G. Substantially increase the availability of and access to multi-hazard early warning systemsand disaster risk information and assessments to the people by 2030

Sustainable Developmental Goals

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in September 2015 as a universal call to action to end poverty, protectthe planet and ensure that all people enjoy peace and prosperity by 2030. The 17 SDGsare integrated—that is, they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. To make the 2030 Agenda a reality, broad ownership of the SDGs must translate into a strong commitment by all stakeholders to implement theglobal goals.

Paris Agreement on Climate Change Action and Disaster Risk Reduction (CoP 21)

The CoP 21 the Paris Climate Conference held in December 2015 led to a new international climate agreement, applicable to all countries, aiming at "holding the increase in the global average temperature to well below 2°C above-industrial levels and pursuing efforts to limit the temperatureincrease to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change". The Paris Agreement recognized the need for loss and damage associated with the effects of climate change. The agreement identified areas of cooperation central to DRR and called for investments to address the underlying risk drivers associated with rising greenhouse gas (GHG) emission levels and to inspire innovation and low-carbon growth.

The State Disaster Management Plan (SDMP) has tried to envisage coherence across the states.

Efforts for DRR, sustainable development, and the actions in response to climate change.

Prime Minister's 10-Point Agenda towards Disaster Risk Reduction

The Prime Minister, Shri Narendra Modi, listed a Ten -Point Agenda in his inaugural speech at the Asian Ministerial Conference on Disaster Risk Reduction 2016, held in New Delhi in November2016 (AMCDRR), which has also been incorporated in the SDMP. The ten key elements consist of the following:

1. All development sectors to imbibe principles of Disaster Risk Management
2. Work towards risk coverage for all-starting from poor households to small and mediumenterprises to multi-national corporations to nation states.
3. Encourage greater involvement and leadership of women in disaster risk

management.

4. Invest in risk mapping globally related to hazards such as earthquakes based on widelyaccepted standards and parameters.
5. Leverage technology to enhance the efficiency of disaster risk management efforts.
6. Develop a network of universities to work on disaster issues.
7. Utilize the opportunities provided by social media and mobile technologies.
8. Build on local capacity and initiative. Response agencies need to interact with thecommunities and make them familiar with the essential drill of disaster response.
9. Ensuring that disaster learning is well documented.
10. Bring about greater cohesion in international response to disasters.

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.

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

Authority for the plan

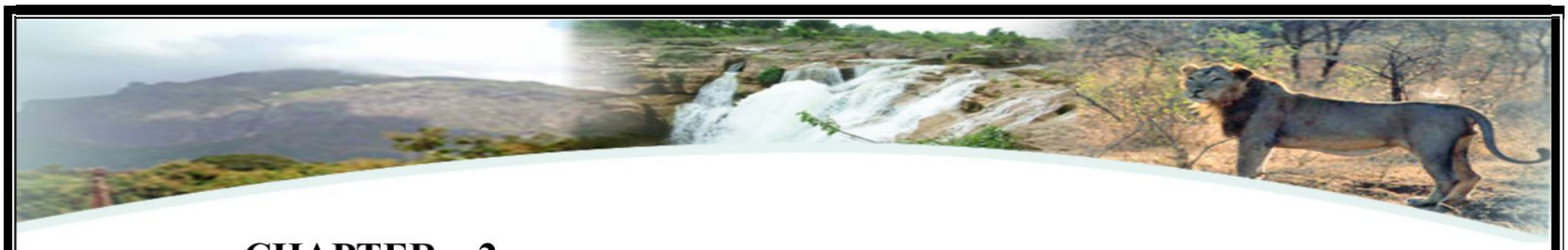
At the district level, District Collector is responsible for responding any disaster situation in consultation with other line departments at district HQ are responsible to deal with all phases of disaster management within district.

Plan review and updation

The District Collector is responsible for the preparation and revision of the District Disaster Management Plan in collaboration with the line departments and other organizations in the district.

Plan maintenance is a dynamic process of updating the plan on a periodic basis. The backbone of maintaining the plan is carrying out mock drills and updating the plan based on the lesson learnt as an outcome of the mock exercise, which consists of identifying the gaps and putting in place a system to fill the same. The District Disaster Management Plan shall be reviewed and updated regularly by annually 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.
- DDMC shall compile its learning and proposed new mechanisms for improvement of the capacity to deal with disasters
- Drills and Rehearsals
- Recommendations from all line Depts. in their Report
- Lessons learnt from any disaster event in other district and state
- Directions from National Disaster Management Authority, GSDMA, Government of Gujarat, Revenue Department etc.



CHAPTER – 2

- **Hazard Vulnerability and Risk Assessment:**

- **TYPES OF HAZARDS THE DISTRICT PRONE TO**

Gir Somanth district is highly prone to multi hazards like Cyclone, earthquake, flood, Accidents. The history of disasters in the district will provide a clear picture of the vulnerability to which the district is prone.

PROBABILITY PERIOD / SEASONALITY OF DISASTERS												
Name of Disaster	Month											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Flood						←	—	—	→			
Cyclone					←	—	—	—	—	—	→	
Drought							←	—	—	→		
Earthquake	←	—	—	—	—	—	—	—	—	—	→	

- **Vulnerability Assessment and Risk Analysis Of District :**

The threat (risk) and possible impact (vulnerability) which can be actualized from these hazards ranges from minor impacts affecting one village to events impacting to larger area.

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

Hazards	**Probability Rating**	**Impact Rating**	**Vulnerability Ranking**	**Vulnerable Areas / Talukas**
Earthquake	3	5	15 (High)	Zone- III : Entire District
High Wind	3	5	15 (V.High)	Veraval, Una, Kodinar, Sutrapada.
Flood	3	3	9 (Moderate)	Veraval, Kodinar, Una, Gir Gadhada
Fire	3	3	9 (Moderate)	Veraval, Talala.
Sea Surge	4	2	8 (Moderate)	Veraval, Una, Kodinar, Sutrapada.
Industrial Accidents	3	2	6 (Moderate)	Veraval, Sutrapada & Kodinar.
Drought	2	3	6 (Moderate)	Entire District
Food Poisoning	2	2	4 (Low)	Any Where in District
Civil Unrest	2	2	4 (Low)	Any Where in District
Epidemics	2	2	4 (Low)	Any Where in District
Building Collapse	2	1	2 (Low)	Any Where in District
Boat Sinking	2	1	2 (Low)	Veraval, Una, Kodinar
Animal Disease	1	2	2 (Low)	Any Where in District
Dam Failure	1	1	1 (Low)	Any Where at Dam sites

- **District's Hazard History, Last Impact and Area Affected :**

Gir Somnath has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, Drought, Cyclones and Earthquake have been recurrent phenomena. Entire District Fall in to Seismic Zone-III for Earth Quack including active Fault Line at Talala and Una, 4 Costal Talukas are prone to Cyclone, 5 Talukas are Prone to Flood, and Entire District is also susceptible to drought.

Sr.	Type of Disaster	Last Impact Month / Year	Intensity	Affected Area / Taluka
1	Drought	1999	Medium	Entire District
2	Earthquake	January-2001	Medium	Kodinar, Una, Sutrapada, Veraval Talala.
3	Civil Unrest	February-2002	Light	Una, Sutrapada, Kodinar, Veraval.
4	Flood	June-2005	Heavy	Una, Veraval, Talala, Kodinar.
5	Cold Wave	January-2008	Light	Talala
6	Heavy Rain	July-2009	Heavy	Veraval- Sutrapada- Una
7	Fire	November-2009	Light	Talala.
8	Boat Sinking	November-2009	Light	Una, Veraval
9	Food Poisoning	January-2010	Medium	Veraval, Una.
10	Heat Wave	May-2010	Light	Talala
	Vayu Cyclone	June-2019	Light	Una, Sutrapada, Kodinar, Veraval.
12	Toukte Cyclone	May-2021	V. Heavy	Una, Gir Gadhada, Veraval, Sutrapada, Kodinar.
13	Biporjoy Cyclone	June-2023	Light	Veraval, Talala, Sutrapada, Kodinar,Una.
14	Heavy Rain	July-2023	Medium	Veraval, Talala

- **1. Drought (1999)**

  Drought occurs in 1999 for District as Half Scarcity was declared for all Talukas.

- **2. Earthquake (January-2001)**

After Earthquake-2001 Relief given to Total 156 Houses under G5 Category for Reconstruction in Gir Somnath District viz. Kodinar (R)-10, Kodinar (U)-78, Sutrapada (R)-4, Una (R)-33, Una (U)-30, Veraval (U)-1.

Lastly, an Earthquake of Magnitude 5.3 was strikes on 20th October – 2011 at 10:48 PM. Epicentre was identified at 13 km SE of Sasangir, in Talala Taluka. Earthquake was felt in major parts of the District. Total 6 Persons were injured due to earthquake in Talala and Veraval Taluka. Total 486 Tent were distributed to structurally damaged houses as an immediate relief. Total 3980 Houses of 27 Villages from 4 Taluka, were surveyed by different Teams and Relief were distributed to Total 2341 Beneficiaries as per following Table.

Sr.	Taluka	Affected Village	Surveyed House	Relief Given	Tent Distributed
1	Talala	15	3946	2315	486
2	Sutrapada	8	28	20	0
3	Veraval	3	5	5	0
4	Una	1	1	1	0
	Total	**27**	**3980**	**2341**	**486**

- **3. Civil Unrest (February-2002)**

After Godhara Communal Riots; Una, Sutrapada, and Kodinar were slightly affected. 1 Death was occur at Una, 9 Beneficiaries were given Financial Assistance for House Damage, 42 Persons were given Financial Assistance for Damage in Professional Equipments and 14 persons were benefited for House Hold Assistance.

There was also an incident of civil unrest reported on 22nd, June 2013 at Satta Bazar and Minarva Chock of Veraval City.

- **4. Flood (June-2005)**

In Year 2005 most of Talukas were affected due to Flood. Damage Report for Effected Taluka, Population, Evacuation, Human-Animal Death, Houses Collapse, Cash Doles and House Hold Relief is as below.

Total Affected Taluka - 5, Affected Villages - 128, Affected Population - 13660.
Total Relief Centres - 12, Total Persons got Shelter - 2994
Total Human Death - 11, Total Animal Death - 67
House Collapse - Huts-2, Pucca House- 9, Kachcha House- 91
House Damaged - Pucca House-99, Kachcha House- 1350
Cash Doles given to Persons – 5, Food Packet Distributed - 5400
House Hold Relief given to - Families-1721, Persons- 6885
Damage of Public Infracture (in Lakh Rs.): Road-609.62, Electricy-21.51, Water Supply-20.00, Agriculture-274.00, Port-1.55, Irrigation-196.20.

- **5. Cold Wave (January-2008)**

Gir Somnath and Many parts of Saurashtra had experienced Severe Cold Wave for continuous 12 days. The Severe Cold Wave had abated and the Average Minimum Temperature was 7.3 Degrees. The Cold Wave was due to intense cold weather in Afghanistan and Pakistan. This was the reason for Temperatures in Gir Somnath went below that in Saurashtra.

- **6. Heavy Rain (July-2009)**

In Year 2009, Veraval- Sutrapada- Una were affected due to Heavy Rain. Damage Report for Human-Animal Death, Houses Collapse, Cash Doles and House Hold Relief is as below.

Total Affected Taluka - 5, Total Human Death - 6, Total Animal Death - 45
Cash Doles given to Persons – 3672 (Rs.2.07 Lakh) for Veraval.
House Hold Relief given to - Families-24895 (Rs. 275.96 Lakh) for Veraval
House Damaged - Fully- 17, Partial- 905
Total Persons Shifted at Shelter - 10470
Total Relief Camp-5, Food Packets Distributed – 37945

- **7. Fire (November-2009)**

Due to the large area Surrounded by Forest of Talala & Gir Gadhda are likely to be affected in Fire most frequently.

- **8. Boat Sinking (November-2009)**

Due to Cyclone "Phayan", all Fishermen were called to return back on port. 2 Boats Named Siv-Sagar (VRC-8497) and Vishwanath (VRC-6618) were Damaged and Sink but all sailors on that boats were safely reach on cost of Veraval and Nava Bandar of Una.

- **9. Food Poisoning (January-2010)**

Major Food Poisoning Cases were handled by Health Department and Administration at MDM Centre Navadra of Veraval and MDM Centre of Dudhala of Una Taluka.

- **10. Heat Wave (May-2010)**

Heat Cave conditions were prevailed in parts of Saurashtra including Gir Somnath for more then 10 days in the month of May holding the Maximum Temperature was more on 40'

Centigrade. Highest Temperature for Talala was Recorded 44.7 on 20th May-10 and Minimum Temperatures was also at near Normal of around 23 to 27 Degrees in most parts of District.

- **11. Vayu Cyclone-2019**

Indian Meteorological dept. had announced threat of cyclone named 'Vayu' in the second week of June-2019 on the costal districts of Gujarat including Gir Somnath district.

Advanced preparatory measures took place by District Collector/ District Administration.

District has conducted a meeting with all the line depts. including coast guard, Manager, Somnath temple. Collector sir reviewed preparations of all the depts. & discussed deeply how to cop up with probable cyclone. Collector sir cancelled leaves of the district & taluka level officials & instructed to be present in their respective HQ.

All the costal villages/areas were alerted & people evacuated to the safe shelters. Administration had arranged food, water, sanitation etc. at the shelters, also deployed police party to secure assets of evacuated people.

- **12.Toukte Cyclone-2021**

Indian Meteorological dept. had announced threat of cyclone named 'Toukte' in the second week of May-2021 on the costal districts of Gujarat including Gir Somnath district.

2021 - Cyclone "Tauktae" was the Extremely Severe Cyclonic Storm which hit the Saurashtra coast.

It made landfall on the coast of Una Taluka in Gir Somnath at 9 pm on May 17, 2021, with a wind speed of 135 to 146 kmph.

- **13. Biporjoy Cyclone(June-2023)**

During June - 2023 "Biporjoy" cyclone passed in Ariabian sea. Wind velocity was high but cyclone passes appoxymately 120 km away from Gir somnath District, So losses due to winds speed was comparatively moderate and also moderate rain fall occured in Gir Somnath district.

Animal Death, Houses Collapse and Cash Doles Relief is as below.
Total Affected Taluka - 3, Total Animal Death - 1
Cash Doles given to Persons – 1030 (Rs.1.38 Lakh)
House Damaged - Fully-10, Partial- 106
Total Persons Shifted at Shelter - 2978
Food Packets Distributed – 5981

- **Heavy Rain (July-2023)**

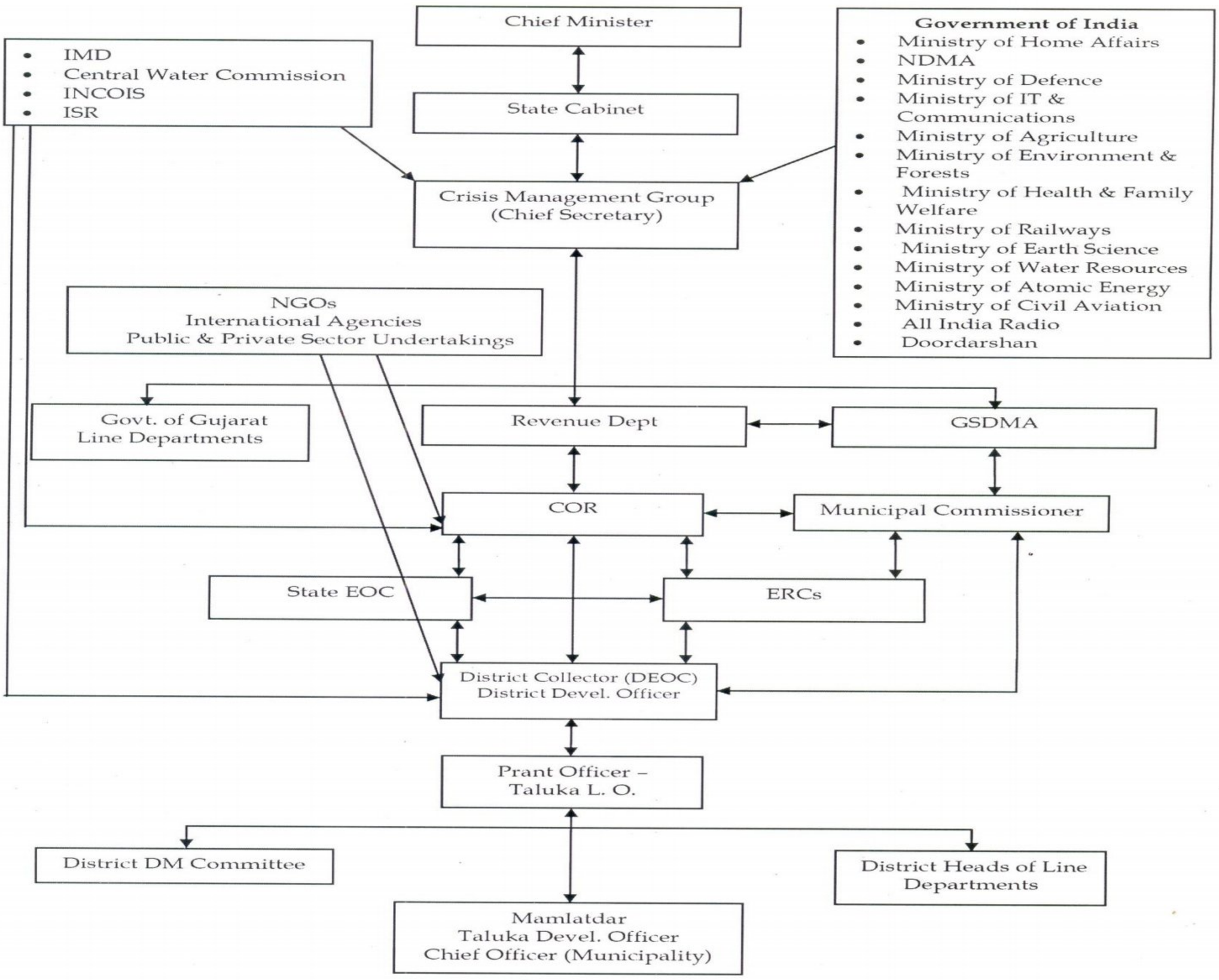
In Year 2023, Veraval- Talala were affected due to Heavy Rain. Damage Report for Human-Animal Death, Houses Collapse, Cash Doles and House Hold Relief is as below.
Total Affected Taluka - 2, Total Human Death – 2, Animal Death - 230
Cash Doles given to Persons – 1020 (Rs.8.12 Lakh)
House Hold Relief given to - Families-17893 (Rs.382.41 Lakh)
House Damaged - Fully-10, Partial- 106
Total Persons Shifted at Shelter - 842
Food Packets Distributed – 1150

CHAPTER - 3

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)).

DM Structure in the State



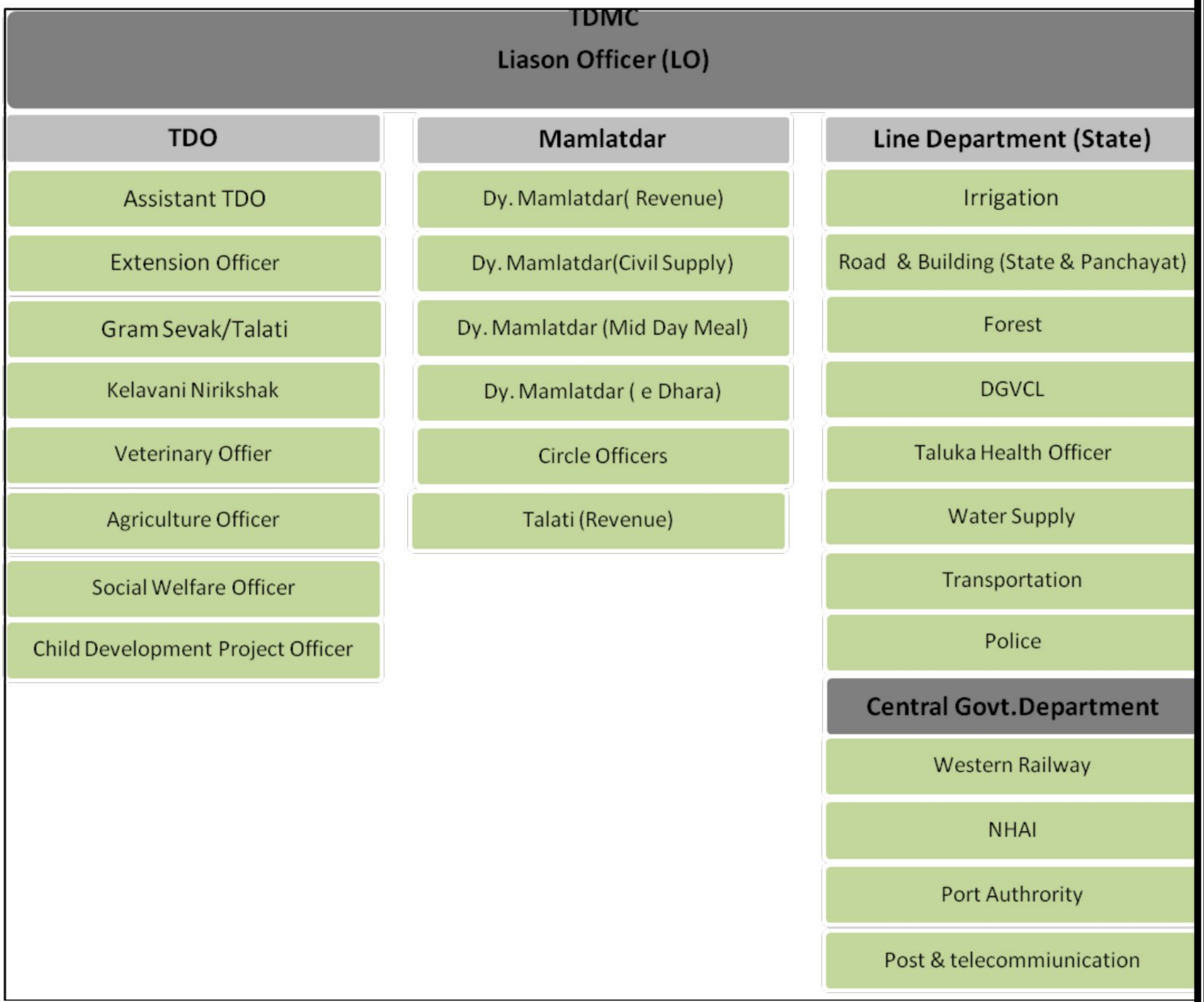
District Disaster Management Committee

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.

DDMC: -District Disaster Management Committee:

Sr. No.	Designation	Position in DDMC
1	Collector/ District Magistrate	Chairmen
2	District Development officer	Member
3	District Superintend Police	Member
4	Resident Additional Collector	Member
5	District Supply Officer	Member
6	Exe. Engineer-R&B State	Member
7	Exe. Engineer-R&B Panchayat	Member
8	Exe. Engineer-R&B State Irrigation	Member
9	Superintending Engineer- PGVCL	Member
10	District Home guard commandant	Member
11	Superintendent Civil Hospital	Member
12	Port Officer	Member
13	District forest Officer	Member
14	District Program Officer (GSDMA)	Member
15	Dy. Director-Information Department	Member
16	District Municipality Officer	Member
17	Regional Officer-GPCB	Member
18	District Agriculture Officer	Member
19	All S D M	Member
20	Regional Transport officer	Member
21	Divisional Controller-State transport	Member
22	District Education Officer	Member
23	District Primary Education officer	Member
24	NGO Member	Member
25	Media Person	Member
26	Suggested by DDMC	Member

TDMC: - Taluka Disaster Management Committee:



Block/Taluka level Disaster Management Committees will be constituted and will be headed by Mamlatdar as the case may be Officers from different departments and representatives of local panchayat body will be members of this Committee. The Committee will look into all the aspects of disaster management including mitigation preparedness, response and relief. Following member is club in TDMC.

Sr. No.	Detail
1	Dy.Collector/ Dy.D.D.O. (Liaison Officer of Taluka)
2	Mamlatdar
3	Taluka Development Officer
4	Dy. Executive Engineer- R & B (State)
5	Dy. Executive Engineer- R & B (Panchayat)
6	Dy. Executive Engineer – Irrigation
7	Dy. Executive Engineer –GEB
8	Dy.Executive Engineer – Water Supply

9	Junior Engineer-Telecom
10	Medical Officer (Mother PHC)
11	Police Inspector/ Police Sub Inspector
12	Taluka Home Guard Commandant
13	Taluka Kelvani Nirikshak
14	Godown Manager- Civil Supply Corporation
15	Depot Manager – S.T.
16	Port Officer
17	Range Forest Officer (Head Quarter)
• Non- Government Members	
18	President-Taluka Panchayat
19	M.P.
20	M.L.A.
21	Chairman- Social Justice Committee (Taluka Panchayat)
22	Woman Member - Taluka Panchayat
23	NGO Representative

CDMC: -City Disaster Management Committee:

In each City / Nagarpalika, there shall be a Disaster Management Committee which will oversee all activities in disaster management. The ULB will also constitute a City Disaster Management Team consisting of officials and non-officials and organize training for them to be able to discharge their duties properly.

Sr. No.	Department
1	Dy.Collector/SDM/Dy.DDO
2	Chief Officer
3	Chief fire officer
4	Mamlatdar
5	Town planning Head
6	Dy.Exe.Engineer-R&B state
7	Dy.Exe.Engineer-state-Irrigation
8	Dy.Exe.Engineer- PGVCL
9	Dy.Exe.Engineer-GWSSB
10	Junior Engineer Telecom
11	Medical Officer-C.H.C.
12	Medical Officer Municipality Health Centre
13	Head Transport committee
14	PI/PSI
15	Taluka Homeguard Commandent
16	Education Officer Municipality Education committee
17	Project Coordinator-UCD
18	Port officer
19	Range forest officer-Extension

• **Non Governmental Member**	
20	President Municipality
21	Member of Parliament
22	Member of Legislative assembly
23	Chairman- Standing Committee committee
24	Chairman-Water Supply committee
25	Chairman City planning committee
26	Chairman Construction Committee
27	Women Member of Municipality
28	Scheduled caste Member of municipality
29	Local N.G.O.
30	Other-Decide By CDMC

VDMC: - Village Disaster Management committee

Each village shall have a Disaster Management Committee consisting of officials and nonofficials. The Committee will be constituted to oversee by the gram sabha. The Committee will be responsible for awareness generation, warning dissemination, community preparedness plan, adoption of safe housing practices and organizing and cooperating relief in post disastersituations. The members are...

Sr. No.	Detail
1	Sarpanch-Chair Person
2	Talati cum Mantri
3	Primary Principal
4	Health Worker
5	Anganwadi Worker
6	President Seva Co operative
7	President Milk cooperative
8	Community Representative
9	Community Representative
10	Community Representative
11	Fair price shop holder

3.6 Incident Response System in the Gir Somnath District

1. Disaster Response and District Incident Command System

The response to disasters in the district will be organized according to the Incident Command System as adapted 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 Gir Somnath 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.

2. ICS-Basic Functions

The basic functional descriptions for key elements in the district Incident command System is describe below. Not all these functions need to be filled (activated) in every disaster. However, the ensemble of these functions represents all the key tasks, which need to be accomplishes in a well-planned manner and execute in effective and cost efficient disaster response effort.

I. Incident Commander :

Responsible for overall management of an incident based on clearly stated mandate from higher authority and based on focused objectives responding to the immediate impact of the incident.
An Incident Commander, who can be assist by a Dy. Incident Commander, leads the Incident command. In each incident will have as many as many commanders and other staff as there are shifts in the incident operation. Shifts will normally not exceed 12 hours at a time and should be standardized to 8 hours each as soon as possible after the start of the incident.

II. Command Staff Units

A) Safety unit:

Responsible for ensuring the safe accomplishment of all activities undertaken in response to the incident . This task is accomplishes through developing incident specific safety guidance documents, reviewing and advising on the safety of plans and monitoring actual operations to ensure safety of personnel and survivors.

B) Protocol and Liaison unit:

Responsible for all official visits as well as liaison between the incident command and organizations providing personnel or material support being used to manage the incident. The first point of contact for NGOs and others coming to the disaster as well as responsible for managing coordination meetings (some of which may actually be held by taskforces or sections).

C) Public Information Unit:

Responsible for all media and public information tasks related to the incident. To accomplish its task, the unit can have the following sub units:

- **Public inquiries**: To handle non media requests for information
- **Outgoing public information**: To handle public information dissemination

- **Public opinion feedback**: To collect information from the public.
- **Media center:** To provide a single point of contact for all media involved in the incident.
- **Press release and media access**: Produce all releases and provide a single point of contact to arrange media access to the incident.
- **Monitoring and Feedback:** To monitor media reports and provide feedback to the incident management on coverage of the incident and to also take corrective measures and issue contradictions if required.

III. Law and Order Section

Responsible for assuring the execution of all laws and maintenance of order in the area affected by the incident . The law and order section incorporates law and order task force that may be create to deal with a disaster.

Police functions: As determined by the normal mandate for and special duties assigned to the police service

Home guard: As determined by the normal mandate for and special duties assigned to the home guard

Volunteers: Supporting police and home guards in non-enforcement tasks, such as patrolling, monitoring and evacuations

IV. Operation Section

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 Gir Somnath 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.

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.

V. Planning Section

Responsible for collecting and analyzing information and developing plans to address the objectives set to address the incident. The overall work of the planning section will include efforts undertaken by any planning and coordination taskforce which is established as part of the response to a disaster. Units under the section include:

1. Assessment and planning
2. Resources and Requirements
3. Management information system
4. Documentation
5. Demobilization and
6. Technical specialists

VI. Logistic section

Responsible for all task and functions related to provision of material and other resources needed for operations and the physical and material support and operation of the incent management team. This section include transportation taskforce established to support disaster operations. Logistics tasks are through the following units:

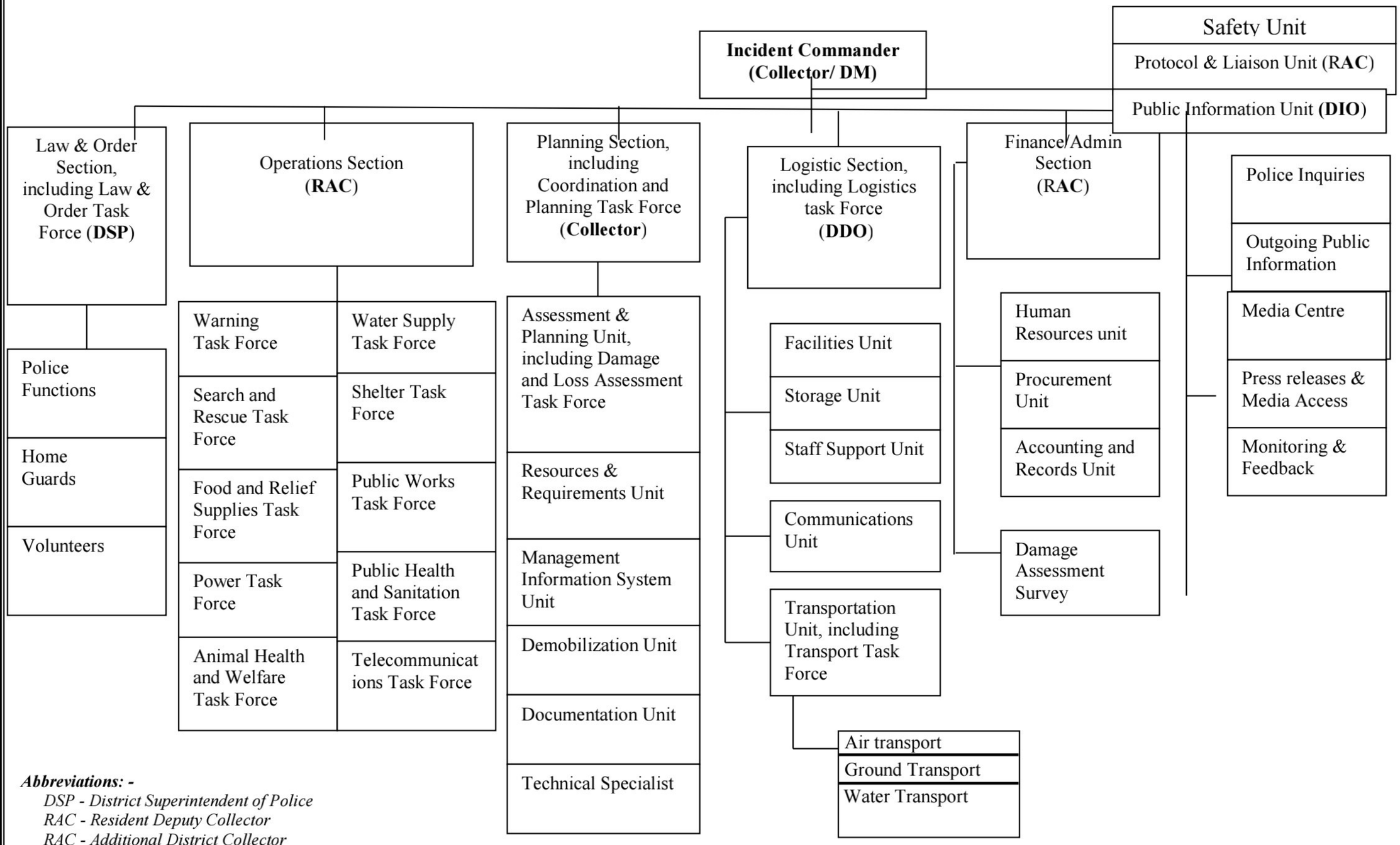
1. Storage and supply
2. Facilities
3. Staff support
4. Communications
5. Transportation (include ground, air water)

VII. Finance and Administration

Responsible for managing all financial and administrative tasks related to incident field operations. These tasks may, but would not usually include disbursement of financial aid to those affected by an incident . The task of this section are accomplished through following units: 1. Human resources

2. Procurement
3. Accounting and records

Incident Command Structure – Gir Somnath- District



Abbreviations: -

DSP - District Superintendent of Police
RAC - Resident Deputy Collector
RAC - Additional District Collector
DDO - District Development Officer
DIO - District Information Officer

Task force, supporting organizations ICS section matrix

Sr.	Task Force	Taskforce Leader	Supporting members / Organizations	ICS Section Unit
1.	Planning and Coordination	Collector/ DM	DDO, DSP, RAC, SDM and Mamlatdar	Planning
2.	Administration & Protocol	RAC	DDO, DSP, RAC and Mamlatdar	Finance & Administration
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. Mamlatdar, 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	Dy. Collector Civil Defense	Mamlatdar, TDO, Police, Executive Engr., Fire Brigade, 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. En. Water Works	Dy. Ex. Engr., Talati, Mamlatdar, TDO, Health, Dy. Engr.	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. GEB	Ex. Engr., Dy. Engr. Technical, GEB, Transport	Operation
15	Public Health & sanitation	Chief district health Officer (CDHO)	Supt. Hospital, PHCs, CHCS, Municipality, Fire Brigade, Civil Defense, R&B, NGOs, Doctors, TDO, Mamlatdar	Operation
16	Animal Health & Welfare	Dy. Director Animal Husbandry	Veterinary Inspector, NGOs	Operations

3.9 EOC setup and facilities available with the location

District Emergency Operation Centers/Control Rooms (DEOC)

The District Control Room is located at Near Bhada office, opposite New Swaminarayan Temple. 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	Telephones	3
2	Handheld Radios and Base Stations	1
3	Satellite Telephone	1
4	PC with GSWAN Internet and web site facilities	4
5	Marker board -	1
6	Conference table	1
7	A copy of Disaster Management Plan	2
8	Drawings showing Disaster information	10
9	Other relevant documents of district information	--
10	Chairs	16
11	Fax machine	1
12	Printer	4

- **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 Task Force Operation Rooms (TFOR)**

The following facilities are maintained inside TFCR:

- Telephones
- Facsimile

- Satellite Phone (no immediately) - it is desirable.
- Hand held Radios/Base Stations
- Marker board (1)
- A copy each of Disaster Management Plan and Task Force Plan
- Other relevant documents, if any

- **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.

3.10 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.

Telephones

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

3.11 Alternate EOC available and its location

The Gir Somnath District Control Room is located at Veraval Collector office, 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.

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.

Right use of Communication facility

- Telephones/ Hot Lines shall be used wherever possible to avoid congestion of Radio communication.
- Personnel who use Radios should be acquainted with the operation of the equipment, various channels, code words, length of speech, etc.

3.12 Public and private emergency service facilities available in the district

Gir Somnath district has 5 Fire station in Respective 6 Municipality and in addition the district has one Emergency Response Center located Rajkot District. This emergency service are fully equipped by various equipment and train personal which are use in search and rescue operation during disaster situation.

3.13 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 programmers

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. Each 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.

Hazard wise Structural and Non- structural Mitigation Measures

Hazard: Flood

Table No. : 4.1

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	2019-20
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	2019-20
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	2019-20
Desalting of water bodies like river and ponds	Irrigation DDO Rural Development	MGNREGA and Land Development	2019-20

Table No. : 4.1

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.: 4.3
Structural Mitigation Measures for Cyclone

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/Program	Time Frame
Plantations (mangroves) and Shelter Belt in the Coastal Area	Cyclone prone villages Gir Somnath district	Forest department, Port Authority, DIC, TDO, Rural development department, GEC	Departmental schemes, MGNREGA Integrated coastal zone management	2016-17
Identification and repair/ retrofitting of houses and buildings unsafe for cyclone		R & B (District Panchayat)	Departmental Scheme	Regularly

Table No.: 4.4
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 villages In Gir Somnath 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	2016-17
Enforcing strict compliance to coastal regulation zone and awareness regarding hazard		Department of Environment & Forest Depart. Fishing GEC	Integrated Coastal Zone Management CRZ Regulation	2016-17
Registration of fishing boats		Fisheries Department	CRZ Regulation	2016-17
Regulate and issue orders for poor quality hoardings/buildings or any other objects		R & B Department		2016-17

Hazard: Earthquake

Table No. : 4.5
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	Earthquake prone 6Taluka under zone 3 In district	R & B (State and Panchayat), DDO, Rural department	TP 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		Area Development Authority	TP plan	Regularly

Table No. : 4.6
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	EQ prone 6 Taluka under zone 3	R & B (State and Panchayat), DDMC, TDMC, CDMC	DRM, DRR, special training programme	Regularly
Registration of trained and certified mason		R & B (State and Panchayat), DDMC	--	Regularly
Strict enforcement guideline of seismic safety for government rural housing, urban development structure		DDO, DDMC, CDMC, TDMC, VDMC	Rural housing schemes	Regularly
Mock-drills for Schools, Hospitals, Public Buildings and trainings for mason, engineers and architects		DDMC, Schools	DRM, NSSP, DRR, DM regulation	Regularly

Hazard: Drought

Table No. : 4.7
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	Drought prone Taluka in district	Forest, Rural Development, Panchayat	Departmental Scheme, MGNREGA	2019-20
Rain Water Harvesting storage tanks at household level and public buildings		GWSSB, (WASMO), Rural Development	MGNREGA, Swajaldhara	2019-20
Structures for water harvesting & recharging like wells, ponds, check dams, farm ponds, etc		DDO, Rural development, irrigation department	MGNREGA, Watershed program, Other schemes	2019-20
Development of fodder plots/ banks		DDMC, Forest department , animal husbandry department	Development plan	2019-20
Repair and maintenance, de-sitling of water sources, check dams, hand pumps etc.		Irrigation, Rural Development	MGNREGA, Watershed	2019-20

Table No. :4.8

Non-Structural Mitigation Measures for Drought

Non-Structural measures	Locations/ coverage area	Implementing Departments	Convergence with agency/ program	Time Frame
Listing/developing shelf of work for drought proofing/scarcity works including Identification of potential sites of water bodies	Drought prone Taluka in district	Rural Development	MGNREGS	2019-20
Farmer education to practice drought resistant crops and efficient water use		Agriculture & horticulture department	Departmental schemes	2019-20
Set up control mechanism for regulated water use (ponds, small dams, check dams) on the early unset.		Panchayats		Regularly

<u>Hazard : Industrial (Chemical)</u>

Table No. 4.9

Industrial (Chemical) Structural Measures

(in coordination with LCG, DCG district and state level authorities)

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.: 4.10

Industrial (Chemical) Non-Structural Measures

(in coordination with LCG, DCG, district and state level authorities)

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/ industries	DISH and LCG	Various Industrial act	Industrial 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 factory to immediate step	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. At Taluka level Local Crisis Management Group (LCG) is formed for coordination of activities and executing the operations.

Hazard: Tsunami

Table No. 4.11
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	Tsunami prone villages	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. : 4. 12
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	Tsunami prone villages	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

Special projects programs for preventing the disasters

1. Disaster Risk Management Programme (DRM)

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. National School Safety Programme:

A national school safety programmer is pilot project of NDMA and Government of India. Under a, project Gir Somnath and Jamnagar are selected from Gujarat state and 200 school selected from Gir Somnath District. NSSP project focus of School safety and done various activity like Capacity building of Teacher, student, Awareness programme at school level on Disaster management, conducting hazards wise mock drill, preparation of school disaster management plan etc.

Gujarat Initiative School Safety Programme- I

Initiative (GSSI) – I & II. The pilot programs were designed for promoting a culture of disaster safety in schools and reduce risk through structural and non-structural measures in the schools One hundred and fifty schools were selected from the cities of Ahmadabad (100), Jamnagar (15) and Vadodara (35) cities on basis of the school's disaster vulnerability, number of students and willingness to implement the suggested measures. The following activities were conducted in each of the project schools:

- School management was first approached and a presentation was made about why and how the concerned school can work on school safety
- A School Safety Committee was formed with the help of school administration
- A three-day programme on orientation of the school disaster management committee on school disaster management planning
- Orientation about basic disaster awareness to coordinators and members of the school task forces
- Detail training of the task force members on task force skills such as activities to be done for search and rescue, first aid, etc
- Imparting lessons on emergency response in each classroom
- Conducting mock drill and holding a debriefing meeting to evaluate the mock drill

Gujarat School Safety Initiative – I is completed in all the 152 schools, covering training of 1,00,000 students (primary and secondary standards) and 1,500 teachers in the basics of disaster management. School based DM plans were prepared for all the 152 schools. Earthquake drills were conducted in 80 schools attended by around 40,000 students and 640 teachers. As part

of the long-term sustainability of the program, an assessment of non-structural mitigation measures was completed and school safety clubs have been opened in all the project schools. A short play on disaster awareness was also organized in 68 schools.

Gujarat School Safety Initiative – II

This initiative was designed for creation of cadre of master trainers and a pool of trained teachers at district level in disaster risk reduction across all the 25 districts of the State. It was designed for creating a pool of 100 Master Trainers (4 from each district). These master trainers would provide training to 625 teachers (25 from each district). Twenty five model schools were selected & School DM Plans were prepared involving the trained teachers. It was planned that trainings will be conducted for 1,000 teachers and 7,500 students in model schools.

3. National Cyclone Risk Mitigation Project (NCRMP):

Gujarat being prone to cyclones, it is the topmost priority of the State Government to reduce the effect of cyclone and minimize the loss to property and lives in the coastal regions of the State through creation of suitable infrastructure. Gujarat has therefore been included in the NCRMP initiated by the National Disaster Management Authority and funded by the World Bank. Under NCRMP project various activities were carried out like Construction of cyclone shelter for selected area. In Gir Somnath district 29 village are select for this project.

Structural: Structural Mitigation Measures

a. Retrofitting of Buildings: Gir Somnath district come in Zone III in Earthquake. In There are mainly four major types of constructions:

Category A:	Adobe, fieldstone Masonry Buildings
Category B:	Brick Construction Masonry Buildings
Category C:	R. C. C. Construction
Category X:	Traditional & Conventional Construction

The buildings of Category A are very weak and may be damage even due to a lower intensity earthquake. There is a need for detailed assessment of buildings, which are vulnerable and may cause losses to life. Assessment of these buildings will help to evolve a strategy for their retrofitting.

After assessment of vulnerability of buildings the priority for structural mitigation has to be defined. Generally, public buildings are given first priority because they are lesser in number and at the time of disaster, people can take shelter in these public buildings. Some examples of important buildings are hospitals, clinics, communication buildings, fire and police stations, water supply, cinema halls, meeting halls, schools and cultural buildings such as museums, monuments and temples. The second priority goes to other type of buildings like housing, hostels, offices, warehouses and factories.

b. Construction control: The best protection against earthquake is a strong built environment. The quality of buildings, measured by their seismic resistance is of fundamental importance. Minimum design and construction standards for earthquake and flood resistant structures legislated nationally, are an important step in establishing future minimum levels of protection for important structures. India now has building codes and regulations for seismic and flood resistant design. In building by-laws and the Seismic Code must be enforce by the municipal, Area Development Authority and Panchayat bodies.

Non-structural:

Land use planning: Damage to a building depends primarily upon the soil conditions and topology of the area. Gir Somnath district comes under High risk zone in terms of earthquake (Zone 3)

Training and awareness programmers: Mitigation also includes training of people for making the houses safe from earthquakes and floods. Training modules have to be prepared for different target groups viz. engineers and masons about safe building practices and general 'do's and don'ts' for public.

Mitigation strategies

The mitigation strategy for Gir Somnath district involves the following elements:

- Further growth of human settlements in the low-lying areas should be check through land-use planning. Such areas are vulnerable not only from flood hazards but are also vulnerable to earthquake liquefaction, which may increase the damage manifold. The department of Town and Country Planning will take care of seismic hazards while preparing the development plans for the district;
- Appropriate building codes will be making applicable for new engineered & non-engineered constructions, and should be strictly enforce by local body. The Municipal Corporation of local area will ensure the construction as per Indian Standard Building Codes;
- Infrastructure department will do the retrofitting of public buildings under their maintenance charge. Generally, PWD, Rural Engineering Services and Housing Board maintain the public buildings. The expenditure for such retrofitting will be taken care under maintenance head.
- Community awareness will be rising regarding seismic resistant building construction techniques and seismic retrofitting of existing buildings. Housing Board will be the nodal agency to provide training through workshops and demonstrations. PWD and RES will support MPHB in these efforts;
- Community awareness will be raised regarding 'do's and don'ts' in the event of an earthquake with the involvement of Panchayati Raj institutions and CBOs. Revenue department will be the nodal agency for this activity.

CHAPTER – 5

Preparedness Measures:

Formation of Person 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.

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 lock 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

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.

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 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 mentioned:

- 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 phases viz. Rapid Damage Assessment and Detailed Damage Assessment.

Activation of Incident Response System in the District and identification of quick response team

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.

Identifying Risks

A prudent 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 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 keep 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 adjustors, 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.

SDRN 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. for SDRN updation are base work and it updates regularly.

India Disaster Resource Network (IDRN) : -

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.

Community Warning System, Education, Preparedness, DRM Programme: -

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 form 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.

Gir Somnath 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. 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.

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-Early Warning System (EWS)

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.

Early Warning Action Plan

Type of Action	Flood	Cyclone	Chemical and industrial accidents	Tsunami
Existing EWS	Irrigation department /dam authority/ IMD ↓ Collector ↓ Mamlatdar/TDO ↓ Villages	IMD ↓ Collector ↓ Mamlatdar/TDO ↓ 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 (Y/N)	Yes	Yes	No (Team to be formed and trained)	No (Team to be formed and trained)
Villages covered	All risk prone villages			
Villages/ habitation not covered or difficult to access	Communities in remote locations (fisher folk, salt pan workers, maldharis etc) VDMC			
Measures required to improve timeliness and outreach (For example, voice enabled SMS)	Contact of communities in remote locations (fisher folk, saltpan workers, Maldharis etc)			

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.

Warning, alert and warning 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.	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.

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.

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.

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.

Media Management

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. A similar set up is also active at the District Emergency Operation Centre (DEOC).

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 Gir Somnath 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.	Emergency 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.

Sr.	Emergency Taskforce	Functions
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.

Other Departmental plan incorporated in DMRP

Each Department and Government agency involved in Disaster Management and Mitigation will:

- Designate a Nodal officer for emergency response and will act as the contact person for that department/agency
- Ensure establishment of fail-safe two-way communication with the state, district and other emergency control rooms and within the organization.
- Emphasis on communication systems used regularly during LO with more focus on the use of VHFs with automatic repeaters, mobile phones with publicized numbers, VHF radio sets etc. It should be remembered that SAT phones fail during prolonged emergencies and electric failure if the phones cannot be re-charged.
- Work under the overall supervision of the IC / the District Collectors during emergencies.

Agriculture

Prevention Activities:

- Awareness generation regarding various plant diseases, alternate cropping practices in disaster-prone areas, Crop Insurance, 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 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.
- 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
- 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.

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:

1. Management of control activities following crop damage, pest infestation and crop disease to minimize losses.
2. Collection, laboratory testing and analysis of viruses to ensure their control and eradication
3. Pre-positioning of seeds and other agro inputs in strategic points so that stocks are readily available to replace damage caused by natural calamities.
4. 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 activities where crops have been damaged.
5. 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

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

For 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 disseminate 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.

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 might lead to fires, building collapse. 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 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, 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 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 Response Activities.
- 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 effectives 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 up 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 & relief distribution teams to ensure 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 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.

State Disaster Response 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

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:

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, power supply and sanitation facilities

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 repairer, 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 coordinate 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.

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.

No.	Key Person/ Establishment	Contact No	Address
1	DEOC Collectorate Control Room	02876- 1077/285063-64	Collector Office-District Emergency Operation centre
2	DDO	02876-282255/ 285250	District Panchayat
3	Police	02876-222250	S.P. Office, Gir Somnath

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

Activity/Action **Period**	**Estimate of Duration** **Short-Term**	**Estimate of Duration** **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 Arrangements:

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

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.

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.

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.

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

CHAPTER – 9

Maintenance of Plan :

- **Authority for maintaining and reviewing the plan:**

(According to ACT 31 of 2005, The Disaster Management Act, 2003, Chapter IV, District Plan.)

31. District Plan.-

(1) There shall be a plan for disaster management for every district of the State.

(2) The District Plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National Plan and the State Plan, to be approved by the State Authority.

(3) The District Plan shall include-

(a) the areas in the district vulnerable to different forms of disasters;

(b) the measures to be taken, for prevention and mitigation of disaster, by the Departments of the Government at the district level and local authorities in the district;

(c) the capacity-building and preparedness measures required to be taken by the Departments of the Government at the district level and the local authorities in the district to respond to any threatening disaster situation or disaster;

(d) the response plans and procedures, in the event of a disaster, providing for-

(i) allocation of responsibilities to the Departments of the Government at the district level and the local authorities in the district;

(ii) prompt response to disaster and relief thereof;

(iii) procurement of essential resources;

(iv) establishment of communication links; and

(v) the dissemination of information to the public;

(e) such other matters as may be required by the State Authority.

(4) The District Plan shall be reviewed and updated annually.

(5) The copies of the District Plan referred to in sub-sections (2) and (4) shall be made available to the Departments of the Government in the district.

(6) The District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government.

(7) The District Authority shall, review from time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

Schedule for updation of plan

Every year as a part of pre monsoon DDMC will update plan in the month of May-June and revise in the month of October-November every year. Plan Maintenance is a dynamic process of updating pal on a periodic basis.

Hazards	Revisions 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

Annexure

ANNEXURE – 1

DISTRICT PROFILE:

- **History of Gir Somnath**

Gir Somnath is at south-western of Gujarat state & west-central of India. The District is located on 20.03° to 21.95° North latitude and 70.09° to 71.20° east longitude shows location on an interactive map. It lies on the costal belt and consisting the most Famous Somnath Temple and the Forest of Talala Gir of the Kathiawar Peninsula.

Accession of Gir Somnath & Junagadh to India

Earlier district has come into existence form date 19/4/1949 by merger of Junagadh and surrounding Deshi Rajwadas. In these Rajwadas Junagadh, Manavadar, Mangrol, Bantwa and Sardargadh were prominent. After the reorganization of Districts in 1997, the area of Junagadh was 8881.8 sq.k.m. As Porbandar District was split from Junagadh and came in existence from dated 02-10-97, then after total area of Junagadh District was 8782.07 sq. k.m.

Again in 2013 Gir Somnath District is come in to exixtance from 15-08-2013 by spliting the Junagadh District. Total area of newly fomed Gir Somnath district is 3754.50 Sq. Km.

- **Introduction of Gir Somnath**

As per administrative view, this district is distributed in Veraval and Una Subdivisions. Among these 2 sub-divisions there are 7 taluka. In east Amreli district, in north Junagadh district and in southern and western direction it is covered by Arabian Sea. District is at top in natural beauty with Gir's forests, mountains region and wide groups of rivers flowing through them. District is world famous for its Asiatic lions. According to Vedas, India's first among 12 Jyotirlings "Kal Bhairav" is present in Somnath Temple in Gir Somnath district. Besides this Bhalka tirth and Dehotsarg are also religious and historically important places are in District.

Water reserves

The seven major perennial rivers of the Gir region are Hiran, Shetrunji, Datardi, Shingoda, Machhundri, Godavari and Raval. The four reservoirs of the area are at four dams, one each on Hiran, Machhundri, Raval and Shingoda rivers, including the biggest reservoir in the area, the Kamleshwar Dam, dubbed 'the lifeline of Gir'.

- **History of Somnath Temple and Timeline**

The Somnath Temple located in the Prabhas patan near Veraval in Saurashtra, on the western coast of Gujarat, is one of the twelve Jyotirlinga shrines of the God Shiva. Somnath means "The Protector of Moon God". The Somnath Temple having been destroyed many times by various kings and rulers. Most recently it was rebuilt in November 1947, when Sardar Vallabhbhai Patel visited the area for the integration of Junagadh and mooted a plan for restoration. After Patel's death, the rebuilding continued under K. M. Munshi, another minister of the Government of India.

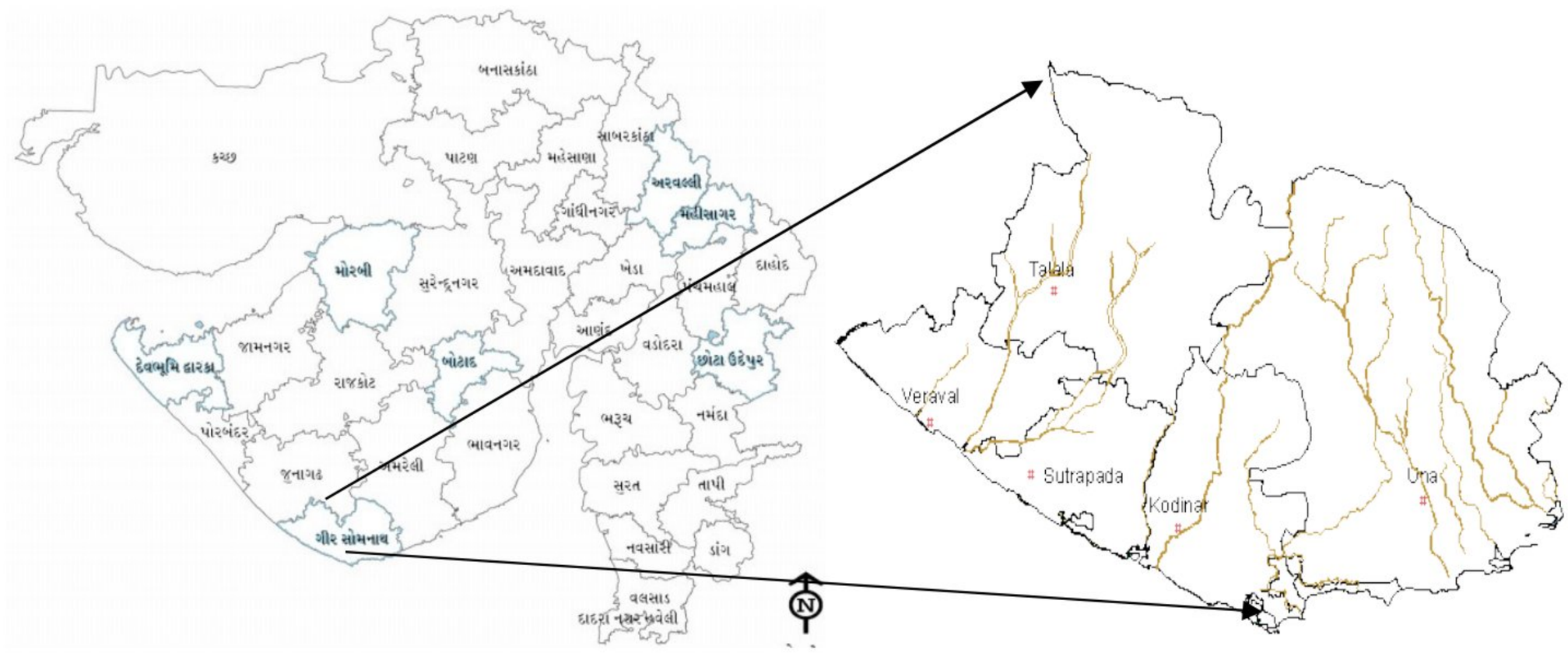
The Deputy Prime Minister of India, Sardar Vallabhbhai Patel came to Junagadh on November 12, 1947 to direct the stabilization of the state and at the same time ordered the reconstruction of the Somanath temple. When Sardar Patel, K. M. Munshi and other leaders of the Congress went to Gandhi with the proposal of reconstructing the Somnath temple, Gandhi blessed the move, but suggested that the funds for the construction should be collected from the public and the temple should not be funded by the state. He expressed that he was proud to associate himself to the project of renovation of the temple But soon both Gandhi and Sardar Patel died and the task of reconstruction of the temple continued under K. M. Munshi, who was the Minister for Food and Civil Supplies in the Nehru Government.

Architecture of Somnath

The present temple is built in the Chalukya style of temple architecture or Kailash Mahameru Prasad Style and reflects the skill of the Sompura Salats, one of Gujarat's master masons. The temple's shikhara, or main spire, is 150 feet in height, and it has a 27 foot tall flag pole at the top.

The temple is situated at such a place that there is no land in straight-line between Somnath seashore till Antarctica, such an inscription in Sanskrit is found on the Arrow-Pillar called Baan-Stambh erected on the sea-protection wall at the Somnath Temple. This Baan-Stambh mentions that it stands at a point on the Indian landmass, which happens to be the first point on land in the north to the south-pole on that particular longitude.

- **Location of District:**



- **Administrative Break up:**

Gir Somnath District Sub Division Wise Setup			
Veraval Sub Division		**Una Sub Division**	
Taluka	**No. of Villages**	**Taluka**	**No. of Villages**
Veraval (Rural) Veraval- (City)	55	Una	78
Talala	46	Gir-Gadhada	58
Sutrapada	47	Kodinar	61

The New District "GIR SOMNATH" comes into existence with the Rules and Orders made by the Government of Gujarat under the Gujarat Acts of Revenue Department Notification publish in The Gujarat Government Gazette dated 13th August, 2013 with No. GHM/2013/70/M/PFR/102013/139/L.1:- In exercise of the powers conferred by section 7 of the Gujarat Land Revenue Code, 1879 (Bom. V of 1879) and in supersession of all the previous notification so far as they relate to the constitution of Junagadh district, the Government of Gujarat, with effect from the 15th August, 2013.

As on now with present district, there are 7 talukas having 345 Census villages situated in Gir Somnath district. Out of them there are 392 inhabited and 92 are uninhabited villages. As per political formation, Gir Somnath district have 5 Municipalities and 329 Village Panchayats, out of them 44 Village Panchayats are group village panchayats.

- **Land formation**

This district is situated in the periphery of Gir's famous forest. This district is being agriculturally oriented. District's large portion of population is engaged in agriculture and animal rearing. In this district, Buffaloes are reared in gir forest. By adopting this business, the wealthy people at gir forest sanctuary are given agriculture land by the state government. In spite of all in colonies in ration of organizing colonization is done in forests, by living in jurists, the activity of the forest people can be considered a speciality.

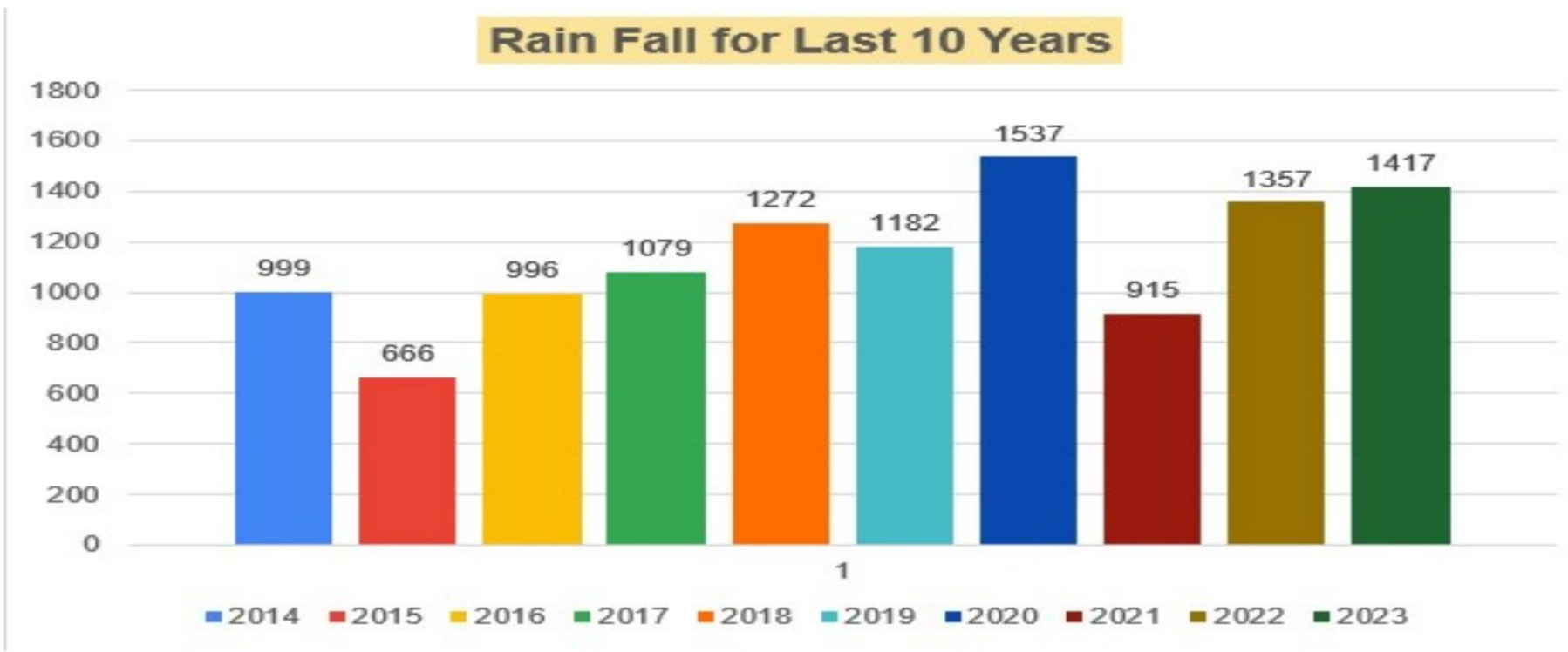
The Land of Gir Somnath is fertile and proportion of production of grains is much more, but the people have no proper planning to get higher productivity of grains. During the Farming season, they are habituated to do more expenditure for getting more productions. Due to that they create some circumstances of financial crisis. Thus, the percentage of farmers who depend on agriculture is very less who can be considered as self reliant. The Land of District mainly can be classified in 5 types; 1. Black Soil proper for Cotton, 2. Medium Black Soil, 3. Fertile Soil, 4. Chunna Patthar wali Jamin (Lime Stone Soil) and 5. Kharashwali Jamin (Salinity Soil).

- **Rainfall**

During the Monsoon season rain is brought by seasonal winds. Rain lashes it in June's last week till September's last week. Normally, on an average there is 1200 to 1500 mm of rain fall reported in District. The average proportion of rain is higher in gir forest. The average consideration of rainy days is normally between 33-38 days for rains. Moreover rain also comes irregularly. Gir Somnath District's last 10 year's average Rain Fall is 1239 mm.

* Taluka Wise Rain Fall Details available at Annexure

Average Rain Fall for Last 10 Years – Gir Somnath District.

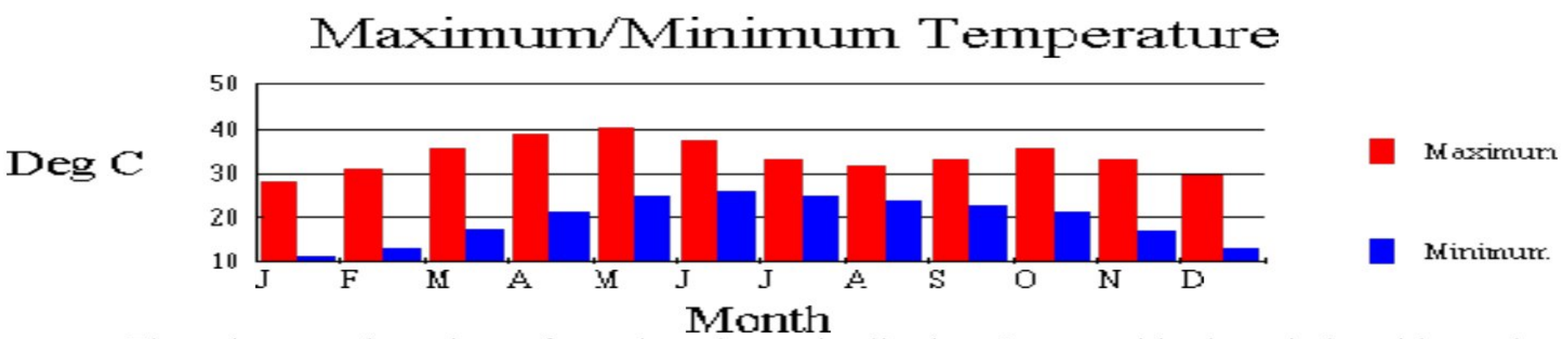


- **Rivers and Dams:**

The Most Popular rivers of Gir Somnath District are (1) Hiran, (2) Saraswati, (3) Shingoda, (4) Machhundri and (7) Raval are flowing through district.

There are total 9 Small and Medium size Dams available under observation of Irrigation (State) Branch. Detail of all Dams is mentioned in Annexure-13.

- **Weather and Temperature**



There is a much variety of weather shown in district. On one side there is humid weather because of river banks and on the other side there is warm and dry weather because of levelled grounds. In year 2022, the maximum temperature was recorded as 42.8 c^{o} while the minimum temperature was recorded as 10.1 c^{o}. The temperature difference depends upon the geographical circumferences.

- **Fishing & Port:**

Gir Somnath District has total 110 km. long costal belt. It Starts on boundary of Amreli, from Sayed Rajpara village of Una Taluka and is up to Vadodara Dodiya village of Veraval Taluka ending at the boundary of Junagadh district. Some good quality fishes are caught from ocean like, pamphlet Chhapari, Paplet, Palvo, Charaki, Dhol, Magra, Jinga etc. The production of Dry fish is carried out in Mul-Dwarka, Saiyad-Rajapara and Nava Bandar villages of district.

Navabandar and Sayed Rajpara of Una Taluka, Veraval, Dhalmej, Sutrapada, and Hirakot are some busiest fish landing centres situated on the costal belt. Brackish water prawns cultivation is also developed in some region of District. At present Prawns cultivated in Kotada, Ghoghala and Vanankbara costal villages. The muddy land of villages like Manekpar, Vasod, Olvan, Paladi, Tad, Bhigarana, Kob and Chikhali provide feasible sites for prawn's cultivation on the coast.

In year 2020-21, fishermen were having 9890 mechanical and 257 non-mechanical boats for catching fishes with production of fishes was 281405 metric tones. Gujarat Ambuja cement has developed captive jetty at Muldwarka for their cement plant. The main cargo handled at the jetty is coal, cement and clinker. Taluka wise list of coastal villages is attached in Annexure-.

- **Livestock details:**

Taluka	Cattle	Buffalo	Sheep	Goat	Horse	Donkey	Camel	Dog	Rabbit	Total
Veraval	27979	38529	3857	4463	10	7	0	1,476	2	76323
Kodinar	39168	27105	4204	10559	17	11	0	2,095	175	83334
Sutrapada	36182	32267	4155	10250	33	0	28	1,728	-	84643
Gir Gadhda	51300	46596	4252	11923	19	0	0	3,718	3	117811
Talala	12649	13597	61	2331	30	0	11	965	40	29684
Una	45248	35864	5957	9637	69	1	0	3,889	-	100665

** Livestock details of the District according to 20th Livestock Census-2019 of Gujarat State.

There are 1 veterinary Polyclinic, 20 dispensary, 4 First Aid Veterinary centres, 6 ICDP Sub Centres and 15 Mobile Veterinary Dispensaries (1962) and 1 Karuna Ambulance provides services at animal servicing centre with total 62620 animals provided treatment in year 2023-24.

- **Forest**

Total area of the District is 3754.5 sq km out of that total 1230 sq km of land is covered by forest, which is known as gir forest. Main outcome through forest region is construction wood like saag and bamboo and some fruits like Custard Apple, Rayan, Timbru, Karmada etc. are obtained through this area.

The Sasan Gir Lion Sanctuary is home of some 300 Asiatic lions. The sanctuary was created in 1913 to provide protection to the largest surviving groups of the Asiatic lions. It was given the status of the sanctuary in 1965.

The Sasangir National Park accommodates the wild animals like chinkara, wild boar, striped hyena, jackal, common langur, porcupine, hare, black buck and other animals. The Kamleshwar Dam in Sasangir Wildlife Sanctuary is home to the marsh crocodile commonly seen in the river. There is also the only crocodile-breeding farm in this national park at Sasan.

- **Population: (as per census 2011) (***abstract)

Taluka	Total	Male	Female	Total SC	Total ST	0-6 Years	Above 65
Talala	135731	69833	65898	10451	7672	15016	9558
Patan-Veraval	322492	164466	158026	26790	5798	39228	13756
Sutrapada	141968	72091	69877	14588	1042	18121	6165
Kodinar	228809	115684	113125	35346	1142	28503	11177
Una/GirGadhda	388477	197952	190525	26647	2107	54075	14846
Total	**1217477**	**620026**	**597451**	**113822**	**17761**	**154943**	**55502**

According to population survey of 2011 for Gir Somnath district, Total population of district is 12.17 lakhs. Out of that there are 6.20 lakh males and 5.97 lakh are females. The Literacy Rate of Gir Somnath is 63.1 % and Growth rate is 17.08 %.

Total Population of Scheduled Caste in Gir Somnath District is 1.13 lakhs and Population of Scheduled Tribe in Gir Somnath District is 17,761. According to population survey data-2011, the growth rate of 5 Taluka in Gir Somnath district for decades (2001-2011) is 17.08%. There is an urban population in all 5 Taluka of District. Detail Census is available in Annuxure-2, 3, 4, 5.

- **Agricultural Land and Cultivation**

During 2020-21, agricultural availability against total land was 194549 hectares. As per use of land there is 6% Forest, 10.10% pasture land, 5.16% non-agricultural use, 15.09% non cultivable land and 4.12% cultivable land.

During the Kharif season main crops are peanut, millet, reasame and Juwar while in Ravi season wheat, Cotton and Millet are major crops. Large scales of Mangos "Ambas" are sawing as “Bagayat” at Talala Taluka. The mango of this area is famous all over the world as “Kesar”.

The total area cultivated in District during the year 2020-21 for Kharif and Ravi season can be bifurcated as: 6469 hectares of area for Millet, wheat were in 89625 hectares of land utilised in Kharif Season. While for Ravi Season it was bifurcated as: Ravi Juwar is cultivated in 1580 hectares of land, Groundnut and maize crops were in 97230 hectares of land and sugarcane was cultivated in 12583 hectares of land.

- **Industry.**

There are 4 Major and over 40 medium scale industries are in district, involved in sectors such as; Cement plants, edible oil, refinery plants and fish processing units. Under law of factory act 1948, total no of registered factories are 21 and due to it total 14524 persons get employment. Industries like Peanut oil's mills, sugar factories and soda ash factories are situated in Kodinar, Sutrapada, Veraval Taluka. There are over 6,000 Small Scale Industries operating in district at various sectors that includes food products, chemicals, electrical equipments, textiles and repairing & servicing. 3,018 Units of SSI related to repairing & servicing are located in district followed by food products industry with over 503 units. Most of the small scale industries are located in Veraval, Kodinar and Una talukas of the district.

- **Transportation - Roads, Railway, Airport.**

The Total length of National Highways passed from district is 165 km. (National Highway 8D a length of 116 km, connecting district with Junagadh and Rajkot, a length of 96 km, National Highway 8E passes through the district connecting it to Bhavnagar and Amreli district. The district is also connected to Jamnagar and Porbandar through NH 8E (Ext.), with a total length of 43 km). District has total 423 km of State highways. District has total 166 km of railway lines includes 66 km of broad gauge, which is directly connected with 27 villages and 3 Cities. The district has also a domestic airport located at DIU connecting it to Porbandar, Rajkot, Ahmedabad and Mumbai.

- **Electrification.**

Approximately all villages covered under Jyotigram Yojna including all urban areas where electricity is supplied. In year 2019-20 total 20240 kilo watt electricity was consumed in district. Among it 48.36 % was used for industrial purpose, 5.38 % for Vari home and general lightening and 28.06 % use was for household, while 7.34 % was for other use. There are total 13 sub-stations in the district including 2 sub-stations of 220 KV, 3 substations of 132 KV and 9 substations of 66 KV each.

- **Mine Minerals**

Lime stone, Challa & Boxite are the main minerals of the district. In year of 2020-21 production of Chuna pathar was registered as 8907451 Metric Tonne, where as production of marble was registered as 1349250 metric tones. The general minerals like House construction stone, black stone, common sand, moram, etc were registered as 6275172 metric tones.

- **Educational facilities**

There are total 852 Primary Schools viz, 555 Government local body and 297 Granted / Non Granted primary Schools. There are Total 274 Secondary / Higher Secondary viz. 28 Govt., 8 Local Body and 238 Granted/Non Granted Schools. Total 53 Colleges are registered in District includes Somnath Sanskrit University for education on Yoga, Veda, Puran, Jyotish etc subjects.

- **Medical and health services**

Health sector of Gir Somnath has 1 Civil Hospital and 7 community health centres available in various talukas. District has total 29 running primary health centres. Patients are getting primary treatment, health and family welfare related services along with other health facilities through 5 Urban Health Centers, 29 primary health centres & 173 sub-health centres. There are total 9 Ambulance available with 108-EMRI for at least one at each Taluka for attending Health Emergencies.

ANNEXURE – 2

Action Plan for Earthquake:

Action Plan for Earthquake covers all phases of earthquake management right from mitigation, preparedness, emergency response, relief to recovery.

Earthquake

An earthquake is a series of vibrations on the earth's surface caused by the generation of elastic (seismic) waves due to sudden rupture within the earth during release of accumulated strain energy. The point on the fault where slip starts is the Focus or Hypocenter and the point vertically above this on the surface of the Earth is the Epicentre. The depth of focus from the epicentre, called as Focal Depth, is an important parameter in determining the damaging potential of an earthquake. Distance from epicentre to any point of interest is called epicentre distance.

Earthquake Measurement

Magnitude is a measure of amount of energy released in an earthquake. It is most commonly measured on Richter scale. The earthquake magnitude is determined by use of a seismograph, an instrument that continuously records ground vibrations. An increase of one unit represents an increase of ground shaking by ten times and energy released by thirty two times. Generally, earthquakes of magnitude greater than 5 cause damages while major earthquakes measure 7 or more on Richter scale.

Earthquake Preparedness & Capacity Building:

1. Ensure an updated database of critical resources (equipments, life saving facilities, trained personnel, etc.) available in the district is in place.
2. Ensure that local authorities in the district are involved in developing their own earthquake management plans.
3. Ensure that District EOC is fully functional and communication systems are in order.
4. Ensure that open and safe places in the district are identified for mass evacuation.
5. Ensure that site for helipad is identified at key locations in the district.

Earthquake Recovery

Detailed Damage and Need Assessment must be conducted before commencing reconstruction and rehabilitation activities. The primary objective of post earthquake damage assessment and need analysis is to provide a clear, concise picture of post disaster situation, to identify damage caused to different sector and to develop strategies for rehabilitation, reconstruction and recovery.

Repair and Restoration

Respective departments should carry out timely repair and restoration of the related infrastructure, facilities, services, etc. This shall aid in quickly resuming the essential services they provide. GoG shall coordinate with national and international NGOs, donor agencies and other government bodies to prioritise restoration of critical infrastructure.

Activation of District and Local Level Control Rooms

At district level, nodal centre for coordination and communication is District Emergency Operation Centre (DEOC). DEOC and TEOCs will get fully activated in case of L1 emergency.

ANNEXURE – 3

Action Plan for Heatwave:

Heat-wave is a condition of atmospheric temperature that leads to physiological stress, which sometimes can claim human life. Heat-wave is defined as the condition where maximum temperature at a grid point is 3˚C or more than the normal temperature, consecutively for 3 days or more. World Meteorological Organization defines a heat wave as five or more consecutive days during which the daily maximum temperature exceeds the average maximum temperature by five degrees Celsius. If the maximum temperature of any place continues to be more than 45° C consecutively for two days, it is called a heat wave condition.

Key strategies

The heat-wave action plan is intended to mobilize individuals and communities to help protect their neighbours, friends, relatives, and themselves against avoidable health problems during spells of very hot weather. Broadcast media and alerting agencies may also find this plan useful. Severe and extended heat-waves can also cause disruption to general, social and economic services. For this reason, Government agencies will have a critical role to play in preparing and responding to heat-waves at a local level, working closely with health and other related departments on long term strategic plan.

 Establish Early Warning System and Inter-Agency Coordination to alert residents on predicted high and extreme temperatures. Who will do what, when, and how is made clear to individuals and units of key departments, especially for health.

 Capacity building / training programme for health care professionals at local level to recognize and respond to heat-related illnesses, particularly during extreme heat events. These training programmes should focus on medical officers, paramedical staff and community health staff so that they can effectively prevent and manage heat-related medical issues to reduce mortality and morbidity.

 Public Awareness and community outreach Disseminating public awareness messages on how to protect against the extreme heat-wave through print, electronic and social media and Information, Education and Communication (IEC) materials such as pamphlets, posters and advertisements and Television Commercials (TVCs) on Do‟s and Don‟ts and treatment measures for heat related illnesses.

 Collaboration with non government and civil society: Collaboration with non-governmental organizations and civil society organizations to improve bus stands, building temporary shelters, wherever necessary, improved water delivery systems in public areas and other innovative measures to tackle Heat wave conditions.

Identification of Color Signals for Heat Alert:

Red Alert (Severe Condition)	**Extreme Heat Alert for the Day**	**Normal Maximum Temp increase 6° C to more**
Orange Alert (Moderate Condition)	**Heat Alert Day**	**Normal Maximum Temp increase 4° C to 5° C**
Yellow Alert (Heat-wave Warning)	**Hot Day**	**Nearby Normal Maximum Temp.**
White (Normal)	**Normal Day**	**Below Normal Maximum Temp.**

ANNEXURE – 4

Action Plan for Cyclone:

A long coastline of about 1600 km of flat coastal terrain, shallow continental shelf, high population density, geographical location and physiological features of its coastal areas makes Gujarat, extremely vulnerable to cyclones and its associated hazards like storm, high velocity wind and heavy rains.

Cyclones are huge revolving storms caused by winds blowing around a central area of low atmospheric pressure. In the northern hemisphere, cyclones are called hurricanes or typhoons and their winds blow in an anti-clockwise circle. In the southern hemisphere, these tropical storms are known as cyclones, whose winds blow in a clockwise circle.

Familiarization with terminology – cyclone

Sr.	Types	Wind speed in the center (km/hour)
1	Low pressure area	Less than 31 kmph
2	Depression	31-51 kmph
3	Deep Depression	52-62 kmph
4	Cyclonic storm	63-87 kmph
5	Severe Cyclonic storm	88-117 kmph
6	Very severe Cyclonic storm	118-221 kmph
7	Super Cyclonic storm	More than 222 kmph

Cyclone Forecasting and Warning

In case of cyclones, 72 hours advance warning of various levels of certainty are provided by the IMD. This system is well established and the Gujarat State EOC and ERCs gear up emergency operations soon after the first warning is received.

Cyclone Alert

It is issued at least 48 hours before the commencement of the bad weather when the cyclone is located beyond 500 km from the coast. It is issued every three hours.

Cyclone Warning

It is issued at least 24 hours before the commencement of the bad weather when the cyclone is located within 500 km from the coast. Information about the most likely time/place of landfall is indicated in the bulletin. Confidence in estimation increases as the cyclone comes closer to the coast

Cyclone Response

Response includes not only those activities that directly address the immediate needs, such as 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.

ANNEXURE – 5

Action Plan for Fire:

The primary role of fire services has been to attend to fire incidents. Besides fire fighting, fire department also attends to other emergencies such as building collapse, road traffic accidents, human and animal rescue etc., and other special service calls. Some fire services also attend medical emergencies for transportation of casualties through ambulances maintained by them.

Fire Starts when a flammable/combustible material is exposed to a source of heat in collaboration with a sufficient quantity of oxygen. Fire can be extinguished by removing any one of the elements of the fire triangle. Fire can be natural or man-made.

Triangle of fire

Types of fire

TYPES OF FIRES – A, B, & C:

Type A - Cloth, paper and wood that produce **A**sh

Type B - Gasoline, oil, and other combustible/flammable material placed in a **B**arrel.

Type C - Electrically energized fires involving equipment and **C**ircuits or **C**urrent

There are many reasons which causes fire such as accidents, electrical short-circuit, carelessness, etc. Further, Gujarat is highly industrialized State which increases the vulnerability. Fire causes huge losses of life and property every year. And yet, with some precaution, most fires can be prevented and damage minimized.

TYPES OF EXTINGUISHERS:

Pressurized Water (P/W)- These are normally found in residence halls where cloth, paper, and wood are the most common hazards. They are metallic colored and hold approximately 2 ½ gallons of water. They are capable of discharging a distance of 25’ – 30’ for approximately 1 minute.

Dry Chemical (ABC) or (BC) – These are normally found in cars, laboratories, and other places where gasoline, oil, and other combustible/flammable liquids are used. They are usually red in color and are capable of spraying 10’ – 15’ for approximately 30 seconds.

Carbon Dioxide (CO2) – These are normally found only in electrical or mechanical rooms where electricity is the hazard. They are used to put out electrical fires while the equipment is still energized. The carbon dioxide extinguishers are red in color, have no gauge to indicate amount of contents, and are limited to a spray distance of 5’ – 10’ for about 10 seconds.

Halon - These extinguishers were used for computer room fires in the past, but there use now is questionable because of health risks associated with the halon agents in a fire situation. Amherst College no longer uses this type of extinguisher or extinguishing agent.

Fire Services in Gujarat are under the respective concerned municipal corporations.

ANNEXURE – 6

Action Plan for Flood & Flash Flood:

Gujarat has seen many damaging floods. Almost all major rivers in the state pas through a wide stretch of very flat terrain (often more than 50 km) before reaching the sea. These flat low lands of lower river basins are prone to flooding.

The one-day Probable Maximum Precipitation (PMP) is often higher than the average annual rainfall in most parts of Saurashtra and Kachchh. Occasional cyclones and depressions also cause heavy rainfall in large parts of Saurashtra, Kachchh, central and northern Gujarat.

The cities of Ahmedabad, Surat and Bharuch are also located on the flat alluvial plains of large rivers and are prone to flooding.

The Figure shows that almost all parts of Gujarat are flood prone, irrespective of the size of the catchment. It has to be noted that the flood prone villages classified by Flood control Cell is based on the settlements affected.

The Flood risks in Saurashtra are lower than the flood risks in the South Gujarat plains. The relatively flat plains in the lower basin areas with hilly catchments in the upper parts of South Gujarat accentuate flood risks.

The flood prone river sections were identified by the flood prone village map. The Flood prone river sections in Saurashtra extend to the upper basins. This is due to the presence of dams in the upper basins, which have to resort to emergency discharge during heavy rainstorms. Flood prone river sections presented in picture

In Saurashtra, the valley areas are the only arable lands due to presence of shallow rock in higher elevations of the basin. Even small valleys are used for agriculture and hence any flooding in these zones impacts the residents and settlements.

Flood Prevention, Preparedness and Mitigation

Floods being the most common natural disaster, people have, out of experience, devised many ways of coping with them. However, encroachments into the flood plains over the years has aggravated the flood problem and a need to take effective and sustained measures has been felt. Various measures, structural and non-structural, have been taken by the central and state governments and as a result, considerable protection has been provided to the people.

However, more efforts are required in this direction and there is a need to put in place a techno-legal regime to make structures flood-proof and regulate the activities in the flood plains of the rivers. Flood forecasting and warning and Decision Support System (DSS) will be established on a scientific basis taking into account the latest technological developments in the world.

ANNEXURE – 7

Action Plan for Lightning and Thunderstorm:

Thunderstorm and Lightning are hazardous and cause risk to life and public property. There are potentially hazardous for aviation sector as well in addition to transport, power, communication and other socio-economic sectors. Lightning being the flow of electric charges, any electrically conductive body can be affected by lightning. Hence the electrical appliances if operated during lightning period can be affected by lightning. Similarly, the living beings coming in contact with lightning directly or indirectly through electrical conductors can be affected, often leading to death.

In India every year more than 2500 people die due to lightning. Mostly Rural and forest areas are vulnerable with tall trees and water bodies. Majority of the lightning victims are the people working on the field in rural area. Lightning is also a major cause of electrical power breakdowns, and forest fires. It can also cause damages to communication and computer equipment, and aircrafts.

Thunderstorm is a small-scale phenomenon and has a life cycle of up to only three hours. It has a dimension of 2 km to 20 km, and therefore, its detection is difficult. Automatic weather stations (AWS) provide some basic parameters such as wind speed, wind direction, relative humidity temperature, pressure etc.

Preparedness and Mitigation Measures

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

Vulnerability assessment of buildings, structure/infrastructure, lifelines, economy and people should be undertaken:

The occurrence of thunderstorm and or squall is a natural hazard over which man has no control at present. Its prediction with respect to precise time, place or intensity of occurrence is still not feasible. But this natural hazard gets converted into a disaster to the society. Enough experience has been gained worldwide and researches carried out in India which gives us confidence to minimize the damages human casualties and loss of cattle heads due the onslaught of thunderstorm and or squall.

Protection against Lightning — Lightning Shields

Lightning shields are the most commonly employed structural protection measures for buildings and other structures. The lightning shield consists of installation of a lightning conductor at a suitably high location at the top of the structure. The conductor is grounded using a metal strip of suitable conductance. The grounding of the conductor is also specially designed to ensure rapid dissipation of the electrical charge of lightning strike into the ground.

ANNEXURE – 8

Action Plan for Tourism Place / Mass Gathering Events:

Celebrations and festivals in India are part of our cultural and religious diversity. India being the second most populated country in the world with diverse religious heritage has vast number of festivals that are celebrated on grand scale. Many of them are celebrated at national level, regional or state level.

Religious pilgrimage is highly prone to human stampedes as it is comprised of huge crowd including women, elderly people and children. The availability of limited open space, uneven topography and high density of pilgrims together make the festival venues a stampede hotspot. Human stampede at festival gatherings may happen due to the following reasons

Rush and Surge of people: People may try to enter into a special place for better view/participation in the functions which results in jostling, suffocation, failure of confining walls, barriers and gates.

Accidents: Collapse of temporary or permanent structures, accidents on bridges, vehicle accidents

Natural or human induced hazards: slope failure, heavy rain, slippery surfaces, fire, intentional acts etc.

Rumors: Spread of rumor about an accident, man-animal conflict, terror attack, stampede or a calamity near to the venue

Long Queue Discomfort: People standing in tightly packed queues for long hours will create discomfort among individuals and they may try to escape from the queues.

Disaster preparedness process for religious mass gatherings should begin with the event planning stage. The event organizer shall take up the design and execution of safety components with the help of safety agencies and services.

Festival Safety -Preparations

Coordinating religious mass gatherings require additional man power, resources, facilities and support from other agencies or experts. Proposed site for mass gatherings need to be assessed for additional facilities based on the expected crowd size and crowd behavior. Event organizers may utilize the service of disaster management experts for effective planning and implementation of preparedness measures.

Risk Assessment

The mass gathering organizer has to submit a risk assessment statement and venue lay out map along with the event proposal form. The venue lay out map should contain services and utilities proposed and arranged at the venue, fire hydrant points, police control room, emergency operation centre, medical facilities, crowd flow pattern, crowd management facilities etc.

Crisis Communication Plan

Crisis Communication plan act as the fundamental coordination mechanism for event organizer and emergency services. The event organizer is responsible to establish a crisis communication system for the venue that should include a system to address the public, and a system for internal communication.

Onsite Response Plan

Identify the agency or department that is responsible for each hazard. Prior permission from the agencies must have taken while specifying the responsibilities of each agency. For effective emergency response, the festival venue may be classified as sectors and sector wise responsibilities may be assigned. Locate fire units and first aid teams at important locations for major events.

Resource Inventory

Include emergency contact details and resources which are required to meet a festival emergency

ANNEXURE – 9

Action Plan for Drought:

Drought or a distressed situation caused by lack of rainfall is a deadly natural environmental hazard. It is directly related to one of the basic requirements of any form of life (i.e. water, air and food) that is, water and is indirectly related to food because crops and other plants and animals exclusively depend on water. Droughts resulting from accumulative effect of water scarcity cause extensive and enormous damage to agriculture and natural vegetation and therefore cause famine and starvation to human and animal population of the region concerned.

According to India Meteorological Department (I.M.D.), the drought in India is a situation occurring in any area when the mean rainfall of a year is less than 75% of the mean annual rainfall. I.M.D. classified drought in two broad categories:-

Severe Drought: When the deficiency of rainfall exceeds 50% of the normal rainfall.

Moderate Drought: When the deficiency of rainfall is between 25% and 50% of the normal rainfall.

Meteorological Drought: Meteorological drought is a situation when the actual rainfalls do not arrive in time or less than the climatologically expected rainfall over a wide area.

Hydrological Drought: Hydrological Drought is associated with marked depletion of surface water and consequent drying up of lakes, rivers and reservoirs except deep geological aquifers.

Agricultural Drought: Agricultural drought occurs when the soil moisture is inadequate to support a healthy growth of crops to the stage of maturity.

IMPACT OF DROUGHT

Drought is somewhat different from the other major natural disasters. Floods, earthquakes and cyclones start in a comparatively sudden manners, having a relatively short duration and are restricted to local influence.

Drought in contrast starts slowly, having long duration, being of the creeping and pervasive nature, covers vast areas. Floods, cyclones and earthquakes are disasters associated with extreme events, drought is the extreme hydrologic result of the non-occurrence or less than normal mean rainfall of an area. Basically drought is a slow evolution that seldom causes dramatic losses of human life (except in famine) but it effect is long lasting in economic sector for the region and its people.

Drought management in Gujarat

Relief Manual (2016–17) under Gujarat Land Revenues Rules for assessment of crop-losses in terms of scores (1 to 12 scores).

The assessment is carried out for each village by the *Annawari* committee which includes a chairperson: a Circle Inspector and members (village heads, important persons of the villages, farmers' representatives etc.). The committee estimates yields from three plots representing good, medium and poor crop conditions in a village by actual harvest. The estimated *Annawari Report* is published and feedback, objections and grievances from the villagers may be submitted within 15 days. After the objection period is over, the committee submits the report to Sub-divisional Magistrate who sends it to the District Collector to finalize the decision. Whenever there is a serious shortage of drinking water, crop failure, very abnormal rainfall, high inter-spell duration and so on, the state governments immediately shoot off a letter to the central government asking for relief. The Ministry of Agriculture sends a team to assess the problem and sanctions money to the states.

ANNEXURE – 10

Action Plan for CBRN:

Chemical, Biological, Radiological and Nuclear (**CBRN**) Threats. '**CBRN**' is the abbreviation commonly used to describe the malicious use of Chemical, Biological, Radiological and Nuclear materials or weapons with the intention to cause significant harm or disruption. A CBRN incident differs from a hazardous material incident in both scope and intent.

Chemical

The main types of chemical weapons are:

- Nerve agents, which attack the central nervous system. Examples include types of pesticides called organophosphates; sarin; and VX.
- Blister agents, which cause burns and blisters both inside and outside of the body. Examples include the mustard gases.
- Incapacitating agents, which are designed to hurt a large number of people, and make it impossible for them to fight back, but without killing them. Examples include tear gas and pepper spray.

Biological

The goal of biological weapons is to get as many people sick with infectious diseases as possible. Types of biological weapons include:

- Bacteria, like the bacteria that cause anthrax and plague
- Viruses, like the ones that cause smallpox, Ebola, and the flu
- Toxins (poisons made by living things), like ricin, botulism toxin, and aflatoxin

Radiological

A radiological weapon is any kind of weapon that spreads radiation. For example:

- A dirty bomb (a regular bomb which spreads radioactive material)
- Poisoning food or water supplies with radioactive contamination

Nuclear

A nuclear weapon releases a huge amount of energy in a nuclear explosion. Nuclear weapons can kill everyone in a city, and make many other people who survive sick with radiation poisoning.

Line of Communication and Responsibility for the State

- For metropolitan areas, the Incident Commander for all nuclear hazards shall be the Commissioner of Police. For other areas it will be the District Magistrate (DM). DEOC / District Magistrate/ Commissioner of Police shall inform the State Emergency Operation Center (SEOC), the Commissioner of Relief (COR) and GSDMA.
- The COR or GSDMA shall convene an immediate meeting of the Crisis Management Group under the Chief Secretary.
- COR shall inform National Emergency Operation Center (NEOC) and if required coordinate with Bhabha Atomic Research Center (BARC) for specialized support.
- The Commissioner of Police in a metropolitan area and the District Magistrate in others shall review the situation and activate coordination, command and control.
- Commissioner of Health (COH) shall place medical and para-medical teams if required at the disposal of the Incident Commander.
- The Fire Brigade as well as personnel/vehicles/equipments from GSDMA's Emergency Response Centers (ERCs) will report to the Incident Commander.
- Commissioner of Relief (COR) shall also coordinate immediate evacuation of potentially affected civilians with the CP, Municipal Commissioner and Collector.
- Chemical Biological Nuclear and Radiological team (CBRN) shall be formed and deployed to ground zero by the incident commander.

ANNEXURE – 11

Action Plan for Epidemics:

District crisis group is a multi-sectoral group and comprises of different government departments, the group is headed by District Collector and senior/ junior factory inspector is a member secretary.

Chief district medical officers {CDMO} and Chief District health officers {CDHO} are members of this group. As per the guidance from the Commissionerate of Health, Medical Services and Medical Education, CDMO and CDHO of each district are to prepare a Contingency Plan for Medical Relief in Disaster so as to meet any adverse event in future limit immediate and delayed consequences of such a Disaster.

Activities to be carried out on strikes of any Disasters in District:

- PHC team will rush to affected village and start curative services as well as preventive and control measure of an outbreak.
- At the site team will carry out house to house surveillance.
- Team will guide and give health education regarding disease, and for prepare dispose of night soil, house hold garbage etc.
- Along with curative and control Measure team will carry out focal spry of insecticide and disinfectant in affected family and surrounding 50 House.
- Team will carry out super dose chlorination of all pre identified sources of potable water in the affected village also distribute chlorine tablet for domestic use.
- Team will prepare program for regular chlorination through Health worker and Panchayat Machinery.
- Male Health supervisor made responsible for checking the chlorination He is instructed to maintain register of R.C. test and asked to report regular.
- To maintain sanitary condition, Retail shop of food and food preparation, Fruit shop, Ice-cream and Cold drink shop must be check up.
- Team will take water sample, food sample, blood, urine, stool as per necessity and if possible carry out laboratory analysis on the spot or will send the sample to Baroda laboratory with special Messenger.
- If it is necessary team will carry out vaccine immunization.
- With the help of Panchayat machinery Health Worker / supervisor make it possible to dispose, spoil food.
- Medical officer are instructed to take active support of youth forums, Mahila Mandal, Gram Panchayat and other NGO in their jurisdiction.
- Male supervisor made responsible for reporting of all activity carried out to the district health officer.
- If it is necessary other medical team and logistic will deputed from non-affected area.

ANNEXURE - 12

General Population of Gir Somnath District as per Census-2011.

Sr	Name	House hold	Total Population	Male	Female	Literacy Rate	Working Population	Non Worker
1	Talala	26193	135731	69833	65898	67.1	60390	75341
2	Patan-Veraval	56757	322492	164466	158026	65.2	114429	208063
3	Sutrapada	24327	141968	72091	69877	62.6	56355	85613
4	Kodinar	40094	228809	115684	113125	65.2	85823	142986
5/6	Una-Gir Gadhda	68953	388477	197952	190525	58.8	158539	229938
	Total	**216324**	**1217477**	**620026**	**597451**	**63.1**	**475536**	**741941**

ANNEXURE - 13

Vulnerable Population of Gir Somnath District (As Per Census-2011)

Sr	Name	Population 0-6 Years	Above 65 - Old Age Persons	BPL Families	Handicap Persons	Blind Persons	Total SC	Total ST
1	Talala	15016	9558	8359	370	271	10451	7672
2	Patan-Veraval	39228	13756	4926	1137	338	26790	5798
3	Sutrapada	18121	6165	8172	924	210	14588	1042
4	Kodinar	28503	11177	6695	295	47	35346	1142
5/6	Una-GirGadhda	54075	14846	9728	70	20	26647	2107
	Total	**154943**	**55502**	**37880**	**2796**	**886**	**113822**	**17761**

ANNEXURE - 14

Area, Population Density, Inhabited, Uninhabited Villages of Gir Somnath District

Sr.	Name of Taluka	Area in Sq. Km.	Population Density	Total Villages			City
				Inhabited	Uninhabited	Total	
1	Talala	951.60	134	68	31	99	1
2	Patan-Veraval	360.98	777	55	0	55	1
3	Sutrapada	326.72	375	47	0	47	1
4	Kodinar	536.80	369	63	0	63	1
5/6	Una/Gir Gadhda	1578.40	210	159	61	220	1
	Total	**3754.50**	**373**	**392**	**92**	**484**	**5**

ANNEXURE - 15

Bifurcation of Populated Villages as Population of Villages

Sr.	Name of Taluka	Populated Villages	Villages Population						
			Less then 200	200 to 499	500 to 999	1000 to 1999	2000 to 4999	5000 to 9999	More then 10000
1	Talala	46	17	5	6	20	18	2	0
2	Patan-Veraval	55	0	0	6	25	21	3	0
3	Sutrapada	47	0	1	9	20	13	3	0
4	Kodinar	61	1	2	11	22	17	9	1
5/6	Una-Gir Gadhda	153	21	8	30	46	47	5	2
	Total	**392**	**39**	**16**	**62**	**133**	**116**	**22**	**3**

ANNEXURE - 16

Rain Fall Detail of Gir Somnath District 2014-2023 in MM

Sr.	Taluka	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1	Gir Gadhada	854	806	1075	844	1404	895	1508	702	1038	837
2	Kodinar	1250	720	1147	1423	1600	1205	1557	716	1624	1322
3	Sutrapada	949	407	806	1226	1187	1282	1589	1066	1970	1760
4	Talala	1113	563	1116	1101	1116	1623	1924	1175	1274	1828
5	Una	909	942	1079	780	1340	1097	1288	653	982	1070
6	Veraval	920	560	750	1098	982	987	1353	1179	1251	1684

ANNEXURE - 17

Detail of Coastal Villages within 10 km Range from Coast

Sr	Taluka	Coastal Village	Name of Costal Villages
1	Una	17	Manekpur, Saiyad Rajpara, Simar, Kheda, Senjaliya, Rajput Rajpara, Nava Bandar, Nandan, Naliya Mandavi, Kob, Anzar, Olvan, Tad, Paldi, Bhigran,Vansoj, Khajudra, Dudhala, Dandi, Kalapan, Rampara, zankharvada, khtrivada, Lerka, Sokhda, Revad, Madhgam, Sonari, Bhadasi, Kajardi, Siloj, Motadesar, Delwada, Khan, Kothari, Sanakhada, Amodra, Sultanpur, Garal, Sanjavapur, Motha, Gangda.
2	Kodinar	08	Velan, Kaj, Sarakhadi, Chhara, Panadar, Chauhan ni Khan, Muldwarka.
3	Sutrapda	07	Kanjotar, Dhamlej, Prasnavada, Kadvar, Vadodara (Zala), Sutrapada, Lati.
4	Veraval	08	Kajali, Bhalpara, Patan, Veraval, Dari, Navapara, Adri, Vadodara Dodiya.
	Total	**40**	

ANNEXURE – 18

Health Facilities available in Gir Somnath District

Information	Numbers
Taluka	06
Primary Health Centre (PHC)	29
Mobile Comprehensive Health Care Unit	02
Mobile Health Unit (Sagar Khedu) Sutrapada	01 (EMRI 108)
Mobile Medical Unit – Kodinar	01 (EMRI 108)
Community Health Centre (CHC)	06
Sub District Hospital	01
District Hospital	01
Grant in Aid Hospital	02 R.N.Vala Hospial Kodinar Mehta Hospital Una
Villages	386 (5 City Areas)
Sub Centre	173
GVK-EMRI-108 Ambulance Spots	09

(A) Taluka wise Detail of C.H.C., P.H.C. and Sub centres of district.

Sr	Taluka	Name of C.H.C.	Name of P.H.C.	Name of Sub Centres
1	Veraval Civil 244298	Sub District Hospital 243077	1.Govindpara 75678 84385	Govindpara, Umrala, Inaj, Bhalpara-1, Savni, Patan Vadi, Prabhas patan
			2.Adri 8238042857	Adri-1, Adri-2, Vadodra Dodiya, Chatroda, Vavdi, sidokar, simar
			3.Ajotha 75678 84383	Ajotha, Badalpara, Bij, Kajli, Bhalpara- 2 & 3
			4.Pandva 75678 84392	Pandva, Indroi, Rampara, Khandheri, Navdra,
			5. Dari 75678 84386	Dari, Chhatroda, Deda, Dabhor, Vavadi Adri
2	Sutrapada	Sutrapada 02876-263360	1.Thareli 75678 84389	Amrapur, Gorkhmadhi, Umbri, Lati, Lodhva-1, Lodhva-2, solaj
			2.Dhamlej 75678 84390	Dhamlej, Dhamlej Bandar, Rakhej, Singsar
			3.Prasali 75678 84387	Prashli, Moradiya, Rangpur, Ghantiya, Mahobatpara.
			4. Prashnavada 7574885340	Prashnavda, Vavdi (Sutra), Vadodra (Jhala), Kadvar-Hirakot, Sutrapada Bandar, Sutrapada–1, 2
3	Talala	Talala 02877-222502	1.Dhava 7574885338	Talala-1, 2, 3, Gundaran, Ambalash, Ghunsiya, Dhanej, Maljinjava, Semarvav, Chitravad, Borvav, Chitrod
			2.Ankolvadi 75678 85533	Ankolwadi, Surava, Madhavpur, Bhimdeval, Rasulpara, Javantri, Vadala. Pikhor, Hadmatiya, Moruka,

Sr	Taluka	Name of C.H.C.	Name of P.H.C.	Name of Sub Centres
4	Una	Una 02875-222044	1.Samter 75678 85889	Samter, Kandhi, Garal, Umej, Gaeaj, Nakej, Amodra, Kansari, Bhacha, Bhadiyadar,
			2.Sanakhada 75678 85884	sankhda, Gangada, Untavada, Khatrivada, Nana Samdhiyala, Moti Moli, Nariyeli Moli, dadiya,
			3.Navabandar 8238042853	Navabandar-1, Navabandar-2, Navabandar-3, kalpan, Khajudra, Anjar, Vasoj, Allwan, Dandi
		Simar 02875-282344	4.Delvada 75678 84374	Delvada-1, Delvada-2, Delvada-3, Moth, Dudhada, Simar, Saidrajpara-1, Saidrajpara-2, Vasigpur, Khapad
			5.Tad 75678 85883	Tad, Kob, Kajaradi, Paladi, Simasi,Dhebha, siloj, alampur, Nathad, Kesariya, Chikhli
5	Gir Gadhada	Gir Gadhada 02875-243737	1.Jamvala 82380 99479	Jamvala, Thordi, Kodiya, Vadviyala, 11 V, 9 Nes
			2.Fulaka 75678 85885	Sanvav, kanekiya, Fulka, Kareni, Sonpara
			3.Dhokadava 75678 85886	Dhokadava-1, Dhokadava-2, Mitli, Junaugla, Tulsishyam
			4.Fatsar 75678 85884	Fatsar, Khilavad, Juna Ugla, Kandhi, Nitli, Tulsishyam, 14 V, 13 Nes
			5.Harmadiya 75678 85887	Harmadiya, Pichhavi, Gir Gadhada-1, Gir Gadhada-2
6	Kodinar RN Vala 02795-221609	Dolasa 02795-283322	1. Dolasa 75678 85060	Dolasa, Adavi, Moti Fagani, Nanavada, Kodinar-1, Kodinar-2, Kodinar-3, Kodinar-4,
			2.Velan 75678 85059	Velan -1, Velan-2, Madhvad, Kaj, Sarakhadi, Kandodar,
		Kodinar 02795-221529	3.Ghantvad 75678 85062	Ghantvad, Nagadla, Valadar, Sedhaya, Chhachhar
			4.Panadar 75678 85061	Panadhar, Gohilni khan, Muldwarka, Chara, Pedhwada,
			5. Vithalpur 75678 85116	Vithalpur, Vadnagar, Alidar, Chara, Sedhaya
			6. Sindhaj 7567884160	Sindhaj, Devalpur, Gir Devli, Ronaj, Mitiyaj

(B) <u>Detail of Mobile Dispensaries of District:</u>

Sr. No	Location :
1.	Mobile Comprehensive Health care unit, Tulsishyam, Ta- Una. – 9898575286
2.	Mobile Comprehensive Health care unit, Velan, Ta- Kodinar. – 9879877122

(C) <u>Details of Ambulance services available in District (Taluka Wise) :</u>

Sr.	Taluka	Name of Office	No. of Ambulance	Contact No.
1	Veraval	Veraval Hospital	1	243077
		C.H.C. Patan	1	239852
		Veraval Municipality	2	220101/220/290
		Red Cross Hospital, Veraval	1	223456
2	Una	C.H.C. Una	1	222044
		Municipality Una	1	222220
		Maheta Hospital Bhavnagar Road, Una	1	221482

Sr.	Taluka	Name of Office	No. of Ambulance	Contact No.
3	Gir gadhada	C.H.C. Gir Gadhada	1	243737
4	Talala	C.H.C. Talala	1	222502
		Sugar Factory Talala	1	222412
5	Kodinar	C.H.C. KODINAR	1	02795-221529
		Ramashibhai Narshibhai Vala Hospital	1	222841/891
		Municipality Kodinar	1	223446/411
6	Sutrapada	C.H.C. Sutrapada	1	263360
		G.H.C.L. Sutrapada	1	263401

(D) <u>Details of EMRI-108 Ambulance services available in District (Taluka Wise) :</u>

Sr	Segment Name	Address / Location.
1	Veraval	Jilla Panchayat Guest House, Nr. Railway Station, Veraval.
2	Kodinar	R.N. Vala Trust Hospital, Veraval Road, Kodinar.
3	Dolasa	PHC Campus, Dolasa, Ta. Kodinar.
4	Una	Jilla Panchayat Guest House, Tower Chowk Una.
5	Gir Gadhda	Reliance Petrol Pump, Gir Gadhda. Ta. Una.
6	Simar	Nr. Gram Panchayat, Simar, Ta. Una.
7	Talala	Jilla Panchayat Quarter, Tower Chowk, Sasan Road, Talala.
8	Sutrapada	Shiv Sagar Primary School, Beside Taluka Panchayat, Kodinar Road, Sutrapada..
9	Prachi	Jilla Panchayat Guest House, Kodinar-Veraval Road Prachi.

<u>ANNEXURE – 19</u>

General Terminology Used in Weather Bulletins

(A). Intensity of Rainfall Terminology Used

Sr. No.	Rain in mm"(24 hrs)	Terminology
1	0.1.mm to 2.4 mm"	Very light rain
2	2.5 mm to 7.5 mm"	Light rain
3	7.6 mm to 34.9 mm"	Light to Moderate rain
4	35.0 mm to 64.9 mm"	Moderate rain
5	65.0 mm to 124.9 mm"	Heavy rain
6	Exceeding 125 mm"	Very Heavy rain

(B) Special distribution of weather phenomenon

Sr. No.	Percentage Area Covered	Terminology Used
1	1 to 25	Isolated
2	26 to 50	Few Places
3	51 to 75	Many Places
4	76 to 100	At most Places

ANNEXURE – 20

Resources Provided by Govt. at Various Levels.

(A) Rescue Kits / Ropes / Generators

Sr.	Name of Taluka	Life Saving Jacket	Life Buoy	200 Feet Ropes	100 Feet Ropes	Generator
1	Mamlatdar-Gir Gadhda	10	10	1	3	1
2	Mamlatdar-Kodinar	7	6	4	6	1
3	Mamlatdar-Sutrapada	6	10	1	3	1
4	Mamlatdar-Talala	10	10	0	0	1
5	Mamlatdar-Una	30	110	2	2	0
6	Mamlatdar-Veraval	60	40	6	13	0
	Total	**123**	**186**	**14**	**27**	**4**

(B) Fire Fighter / Water Browsers / Boat / De-Watering Pump Details

Sr.	Name of Nagar Palika	Fire Fighter	Water Browsers	Boat	De Watering Pump	Portable Emergency Light	Fire Bullate
1	Veraval-Patan Nagar Palika	2	2	1	5	2	3
2	Una Nagar Palika	1	1	-	3	2	1
3	Kodinar Nagar Palika	2	1	-	-	2	1
4	Sutrapada Nagar Palika	-	-	-	-	2	-
5	Talala Nagar Palika	-	-	-	-	2	-
6	Collectorate-Gir Somnath	-	-	1	-	3	-
	Total	**5**	**4**	**2**	**8**	**13**	**05**

ANNEXURE – 21

Rain Gauge Machines available each Taluka.

Sr.	Name of Taluka	Type of Rain Gauge	Place / Office
1	Veraval Rural	Simple Measure	Mamlatdar Office, Veraval Rural.
2	Veraval City	Automatic	IMD Weather Station Office, Veraval.
3	Sutrapada	Simple Measure	Mamlatdar Office, Sutrapada.
4	Talala	Simple Measure	Mamlatdar Office, Talala.
5	Kodinar	Simple Measure	Mamlatdar Office, Kodinar.
6	Una	Simple Measure	Mamlatdar Office, Una.
7	Gir Gadhada	Simple Measure	Mamlatdar Office, Gir Gadhada.

ANNEXURE – 21

Details of Minor & Medium Irrigation DAMs with Villages Located Under Catchments and Down Stream Area...

Sr	*Taluka*	*Name of DAM / Scheme*	*Place of DAM*	*Type of DAM*	*Longi tude*	*Lati tude*	*Height of DAM (Mtr.)*	*Total Door*	*Flow Capacity (Cusecs)*	*Wire less*	*Catchments & Down Stream Area Villages*
1	Gir Gadhada	Shingoda	Jamvala	Medium	71.12	20.79	18.80	6	3309.000	Yes	[Jamvada of Una], [Ghantwad, Kodinar, Muldwarka, Chhachhar, Dudana, Ronaj, Sugala, Nana Itchvad of Kodinar]
2	Gir Gadhda	Raval	Chikhalkuba	Medium	71.00	20.79	19.00	6	2760.000	Yes	Garala, Kanek, Barada, Manekpur, Motha, Samter, Chikhalkuba, Dhokadava, Jasadhar, Kandhi, Mahobatpara, Mota Samadhiyala, Padapadar, Patapur, Rameshwar, Sanyapur, Umej
3	Gir Gadhada	Machhundri	Kodiya	Medium	71.18	20.77	10.00	-	5506.000	Yes	Chachakvad, Navabandar, Rajpara, Rampara, Una, Delvada, Don, Fatsar, Gundla, Itvaya, Zankharvad, Zudvadali, Karapan, Kodiya, Men
4	Una	Khilavad	Khilavad	Small	70.88	20.76		-		No	Khilavad, Gundala
5	Una	Farera	Fareda	Small	71.07	20.73		-		No	Gir-Gadhada, Sanvan, Dhrabavad, Simasi, Kandiya, Leraka, Chikhali, Kaneri
6	Una	Rupen	Shana Vankiya	Small	71.30	21.01		-		No	Vankiya, Timbi, Sanaradi, Khatrivad
7	Kodinar	Pichhavi	Pichhavi	Small	70.85	20.87		-		No	Hadmatiya, Pichhavi, Pichhava
8	Talala	Hiran - 1	Sasan	Medium	70.6	21.18	12.96	-	1034.000	Yes	Galiyavad, Ramrechi, Sangodra, Talala, Bhalchhel, Kamleshwar, Nes, Ganduri nes, Borvav, Chitravad, Chitrod, Sasan, Virpur of Talala], Maliya, Veraval
9	Talala	Hiran – 2	Umrathi	Medium	70.45	20.99	8.84	7	3559.000	Yes	Umrethi, Maljinjva of Talala], [Navadra, Sonariya, Badalpara, Kajali, Mithapur, Prabhas patan, Mandor, Bherala, Ishwariya, Indroi, Savani of Veraval]

ANNEXURE – 23

Latitude - Longitude of Taluka Hq. and City Places.

Sr.	Name of Taluka	North Latitude	East Longitude	Distance from District HQ. in (Km.)	Distance from Ocen in (Km.)
1	Veraval (M)	20.91	70.37	0	2
2	Patan (Somnath)	20.89	70.40	4	1
3	Talala (M)	21.05	70.52	26	23
4	Sutrapada (M)	20.84	70.48	15	2
5	Kodinar (M)	20.79	70.70	42	5.5
6	Una (M)	20.81	71.04	84	10
7	Gir Gadhada	20.92	70.91	78	23
8	Sasan GIR	21.17	70.59	41	36

ANNEXURE – 24

Indicators: (A) Important Websites:

Web Link	In Concern to
http://sdrn.gsdma.org	State Disaster Resource Inventory for Gujarat.
http://www.gsdma.org/	Gujarat State Disaster Management Authority.
https://girsomnath.nic.in https://girsomnath.gujarat.gov.in	Collectorate Gir Somnath
http://junagadhdp.gujarat.gov.in/junagadh/index.htm	District Panchayat – JND.
http://www.spjunagadh.gujarat.gov.in/spjunagadh/default.aspx	Police Department JND.
http://www.idrn.gov.in/	India Disaster Resources.
http://www.imd.gov.in/section/satmet/dynamic/insatsector-irc.htm	Satellite Image.
http://www.imd.gov.in/section/nhac/distforecast/junagadh.htm	Weather Forecast.
http://imd.gov.in/section/seismo/dynamic/PRLMNEW1.HTM	Recent Earthquake India.
http://isr.gujarat.gov.in/Latest_EQ.html	Earthquakes in Gujarat.
http://ptwc.weather.gov/?region=3	Tsunami Warning.

(B) Sources of Information:

1. Departmental Disaster Management Plan of District level Agencies.
2. Flood Memorandum of Irrigation Branch, Junagadh.
3. Statistical outline of District Statistics Department, District Panchayat, Junagadh.
4. Incident Command System Training Materials.
5. Officer's Training Materials of Gujarat Institute of Disaster Management.
6. State / India Disaster Resource Network Inventory.
7. Weather Station, Agriculture University, Junagadh.
8. Various Emergency Operation Files of Collector Office, Junagadh and Gir-Somnath.
9. District Inspector of land records (DILR) and BISAG.
10. Off Site Emergency Plan of Industrial Safety and Health Department.
11. Village / City / Taluka Disaster Management Plans.
12. The Gujarat State Disaster Management Act, 2003.
13. Wikipedia website online contents through http://en.wikipedia.org
14. DEOC, Gir Somanth

ANNEXURE – 25

List of Chemicals and their Antidotes

Sr.	Chemicals	Antidotes
1	Acid & Sulphur Oxide	Sodium Hydro- Carbonate (4% Conc.) Milk, Lime Juice, Milk of Magnesia.
2	Ammonia	Skin: Wash with Lactic Acid, Apply soframycin. Eye:Benoxynate Novacin-0.4% Conc. Throat : Smelling Ethanol or Ether
3	Benzene, Zylene, Toluen	Wash the skin area plenty of water if affected. Fresh air / Oxygen, 0.1 mg/kg slowly through injection rest in bed. Don't apply Epinefrin, Ifridin etc. Don't apply milk, vegetable oil or alcohol.
4	Bleaching Solution	Milk, Ice cream, eggs, milk of magnesia, aluminium hydroxide gel. Do not give acid antidotes.
5	Boric acid and boron deritives	Epicake solution and activated charcoal. If vomited give 5% dextrose through injection.
6	Bromates or Cosmetics	Sodium thio sulphate 1ml/ kg 10% solution through injection.
7	Cadmium	Calcium dysodium editate through injection.
8	Carbon monoxide	Pure oxygen through mask. 20% mennytole (1gm/ kg) prednisolon 1 mg/kg through injection.
9	Cyanides and thio cynates insecticides	Methelene blue or kelocynere injection. If go through respiration smelling amaile nitrite (3% solution) and sodium thio sulphate (25% solution) through injection.
10	DDT (Helogenated Insecticides)	Epicake syrup, Activated charcoal, saline cathartic diazepam (10 mg slowly through injection, wash the skin through water and soap). Give pure oxygen if problem in respiration.
11	Di- chloro methane	Hydrocortisone (200mg at every 4 hrs.) Aspirin and if pneumonia gives antibiotics.
12	Ethanol	2 gm sodium bi carbonate in 250ml water. Diazepam 10mg through injection. I injury in eye or skin wash plenty of water.
13	Heavy metal compounds	Activated carbon.
14	Hydrogen sulphide, others sulphides and Marcaptans.	Put the patients at clean air or pure oxygen. Smelling the drops or Ether or Ethanol. Amyl nitrite or Sodium Nitrite, pyridoxine 25mg/ kg or 10% Urea 1 gm/ kg through injection.
15	Iodine & its compounds	Milk, epinefin, 1% sodium thio sulphate solution 100ml by oral.
16	Irons salts	Concentrative dyferoxemine therapy.
17	Magnesium Salts	Calcium gluconate 10% solution 1ml/kg through injection.
18	Manganese	Calcium editate
19	Naphthalene	Keep the urinal Alkaline by giving the Sodium bicarbonate at evey four hour. Furosemide 1 ml/ kg in liquid.
20	Nitrogen Oxide	Prednision or prednisolon 5 mg at every 6 hours.
21	Phosphours, Phosgene and phophide	Calcium gluconate 10% of 10 ml through injection, 5% glucose in water, travesty (10% invert sugar) through injection.
22	Potassium permanganate	Hot milk, methelene blue (1% solution), ascorbic acid (5% solution)
23	Silica and asbestoses dust	Dust level should be minimize, use airline respirator, dust collector and local ventiliation.
24	Tobacco and Nicotine	Do vomiting, Etropin (full dose), if problem in respiration give pure oxygen.

Contact Directory

1. Gujarat State's District Level Emergency Contact Nos.

Sr.	District Name	Code No.	Collector		DDO		SP		RAC	DEOC
			Office No	Mobile	Office	Mobile	Office	Mobile	Mobile	Office
1	Ahmedabad	079	27551681	9978406201	25506487	9978406226	26891168	9978406342	9978405173	27560511
2	Amreli	02792	222307	9978406202	222313	9978406227	222333	9978405063	9409390773	230735
3	Anand	02692	262271	9978406203	264110	9978406228	260027	9978405064	9978405175	243222
4	Aravalli	02772	250200	9978405935	241544	9978406496	248666	9978405978	9727756393	-
5	Banaskantha	02742	257171	9978406204	254060	9978406229	257015	9978405065	9978405176	250627
6	Bharuch	02642	240600	9978406205	240603	9978406230	223633	9978405066	9978405177	242300
7	Bhavnagar	0278	2428822	9978406206	2426810	9978406231	2520050	9978405067	9978405178	2521554
8	Botad	02849	271301	9978405931	271375	9978406493	251416	9978405988	9727758035	-
9	Chhota Udepur	02669	233003	9978405937	296202	9978406468	233101	9978405977	7574953262	-
10	Dahod	02673	239001	9978406207	293066.00	9978406232	222300	9978405068	9978405179	239277
11	Dang	02631	220201	9978406208	220254	9978406233	220248	9978405021	9978447801	220347
12	Devbhumi Dwarka	02833	232803	9978405933	235947	9978406492	0 233223	9978405976	9727763794	-
13	Gandhinagar	079	259030	9978406209	259030	9978406234	23222618	9978405070	9978405181	23256639
14	Gir Somnath	02876	231301	9978405934	285255	9978406495	222101	9978405974	9727756448	285064
15	Jamnagar	0288	2555869	9978406210	2553901	9978405639	2554203	9978405639	9978405210	2553404
16	Junagadh	0285	2630100	9978406211	2635315	9978406236	2635633	9978405250	9978405211	2633448
17	Kheda	0268	2553356	9978406212	2557262	9978406237	2550150	9978405072	9978405597	2553356
18	Kutch	02832	250020	9978406213	250080	9978406238	280233	9978405690	9978405212	252347
19	Mahesana	02762	222211	9978406214	222301	9978406239	222122	9978405074	9978405213	222220
20	Mahisagar	02674	250664	9978405936	250945	9978406497	254001	9978405980	9727763950	-
21	Morbi	02822	240701	9978405932	222580	9978406470	243480	9978405975	9727759674	-
22	Narmada	02640	222161	9978406216	299001	9978406241	222167	9978405076	9978405188	224001
23	Navsari	02637	244999	9978406215	244399	9978406240	233888	9978405075	9978405187	259401
24	Panchmahal	02672	242800	9978606217	253377	9978406242	242812	9978405077	9978405189	242536
25	Patan	02766	233301	9978406218	232936	9978406243	230104	9978405078	9978405190	224830
26	Porbandar	0286	2221800	9978406219	2243803	9978406244	2211222	9978405079	9978405191	2220800
27	Rajkot	0281	2479351	9978406220	2477008	9978406245	2446333	9978405080	9978405218	2471573
28	Sabarkantha	02772	241001	9978406221	242350	9978406246	247333	9978405081	9978405219	249039
29	Surat	0261	2652525	9978406222	2422160	9978406247	2241301	9427015535	9978405220	2465112
30	Surendranagar	02752	282200	9978406223	283752	9978406248	282100	9978405083	9978405224	283400
31	Tapi	02626	224460	9978405364	222141	9978405263	220070	9978405488	9978405415	223332
32	Vadodara	0265	2433000	9978406224	2432027	9978406249	2412255	9978406094	9978405196	2427592
33	Valsad	02632	253613	9978406225	253184	9978406250	254222	9978405085	9978405253	243238

2. District Level Emergency Contacts: STD Code - (02876)

Sr.	Designation	Office	Fax	Email ID
1	Collector	240001	285300	collector-girsomnath@gujarat.gov.in
2	DDO	249250	249255	ddo.girsomnath@gmail.com
3	DSP	222250	222110	sp-gir@gujarat.gov.in
4	Resi. Add. Collector	240003	285300	collectorgirsomnath@gmail.com
5	DRDA	245271	-	drdagirsomnath@gmail.com
6	DSO	240011	240002	dsogirsomnath@gmail.com
7	SDM- Veraval	243322	221672	sdmveraval@gmail.com
8	SDM- Una	02875 226600	226555	sdmuna123@gmail.com
9	Dy. DDO (Revenue)	249249	249255	dyddogs@gmail.com
10	CDHO	244298	-	cdho.health.girsomnath@gmail.com
11	DEO	221095	221095	girsomnathdeo@gmail.com
12	DPEO	244500	-	girsomnathdpeo@gmail.com
13	Asst. Dir. Information	240108	240109	mahitigirsomnath@gmail.com
14	Disaster Control Room	285063/64	285300	dismgmt-girsomnath@gujarat.gov.in

3. Taluka Level Emergency Contacts:

Sr.	Taluka	STD Code No.	Mamalatdar		TDO		Police Station	
			Office	Fax	Office	Fax	Office	Fax
1	Veraval Rural	02876	244299	244999	220267	245865	242040	242040
2	Veraval City	02876	243777	243777	--	--	242040	242040
3	Talala	02877	222222	223232	222221	222221	222233	222233
4	Sutrapada	02876	264071	264071	263911	263111	263337	263337
5	Una	02875	222039	222339	221622	223635	223394	222045
6	Kodinar	02795	221244	222325	221524	222325	221504	221504
7	Gir Gadhada	02875	243100	243100	221622	223635	243321	243321

4. City Level Emergency Contacts:

Sr	NagarPalika	Office	Fax	E-Mail ID
1	Una	02875 – 221666	222053	np_una@yahoo.co.in
2	Veraval	02876 – 220290	244947	np_veraval@yahoo.co.in
3	Talala	02877 – 223111	222264	nptalala@yahoo.com
4	Sutrapada	02876 – 263016	264110	np_sutrapada@yahoo.co.in
5	Kodinar	02795 – 221411	220912	np_kodinar@yahoo.co.in

5. List of Trained Men Powers (Aapda Mitra) – Gir Somnath DISTRICT

5.1. (Aapda Mitra) Trained in Year – 2018 Batch

Sr.	Name of Aapda Mitra	M / F	Swimmer	Taluka	Contact No.
1	gangaben kanabhai chuhan at.khajudra	F	Yes	Una	9824851316
2	sanjaybhai dadubhai sankhat at.utwada	M	Yes	Una	7096968604
3	Bhojubha mulubhai sankhat at.utwada	M	Yes	Una	9624798219
4	sonalben khatubhai bhaliya	F	Yes	Una	7698597714
5	kanchanben jilubhai gohil	F	Yes	Una	9737365268
6	rahulbhai jilubhai jadav	m	Yes	Una	
7	Dilipbhai ratilalbhai at.velan	M	Yes	Kodinar	9824141449
8	Bhanabhai Rajabhai at.malsram	M	Yes	Kodinar	9228385341
9	Dineshbha Lakhabhai At.kaj	M	Yes	Kodinar	9228326542
10	kumar bhgvanbhai At.chara	M	Yes	Kodinar	9275218847
11	aswinbhai hamirbhai At.chara	M	Yes	Kodinar	7359543852
12	maheshsankar ramsankar At.sandhridhar	M	Yes	Kodinar	9925135949
13	Nikitaben jivabhai Vala	F	Yes	Veraval (R)	9898151086
14	Dipikaben Dhirubhai Jadav	F	Yes	Veraval (R)	9898151086
15	Parmar Shitalben bhikhubhai	F	Yes	Veraval (R)	9898151086
16	vanitaben msldebhai solanki	F	Yes	Veraval (R)	9898151086
17	Jankiben Laxmanbhai Rathod	F	Yes	Veraval City	9228310462
18	divyaben narendrabhai rathod	F	Yes	Veraval City	9924647628
19	Laxmiben Laxmanbhai Solanki	F	Yes	Veraval City	9426415536
20	Jentibhai Alabhai makvana	M	Yes	Veraval City	8758289467
21	karsanbhai nagabhai chudasma	M	Yes	Veraval City	7046621126
22	kantibhai Ramsibhai	M	Yes	Veraval City	9624350416
23	shashita m.pathan	F	Yes	Talala	8140930703
24	arunbhai anilbhai vadhvana	M	Yes	Veraval City	9924945816
25	jay ypogeshbhai joshi	M	Yes	Veraval City	7284996428
26	rajubhai hirabhai chavada	M	Yes	Veraval City	8511118308
27	rameshbhai pithabhai vala	M	Yes	Veraval City	7874438045
28	jigar yogeshbhai joshi	M	Yes	Veraval City	7016828804
29	shubham girishbhai naina	M	Yes	Veraval City	9998603909
30	pankajbhai narendrbhai solanki	M	Yes	Veraval City	9924992945
31	vivek babubhai beradiya	M	Yes	Veraval City	9265850420
32	jay kaushikbhai bhatt	M	Yes	Veraval City	9687924428
33	amitbhai surajbhai chudasama	M	Yes	Veraval City	9106816244
34	nilesh sureshbhsai chudasama	M	Yes	Veraval City	6352484050
35	sanjay oghadbhai bheda	M	Yes	Veraval City	7028080552
36	prakash danabhai muchal	M	Yes	Veraval City	7285066703
37	naresh veljibhai vaghela	M	Yes	Veraval City	70462996428
38	jitesh bhupat vaghela	M	Yes	Sutrapada	9824555524
39	rajesh parbatbhai	M	Yes	Sutrapada	9824821103
40	govind somabhai vanavi	M	Yes	Sutrapada	9409669524
41	devashi menasi banbhaniya	M	Yes	Sutrapada	97141553933
42	rameshbhai karashanbhai chudasama	M	Yes	Sutrapada	9726117461
43	meramanbhai naranbhai sevra	M	Yes	Sutrapada	9724672195

5.2. (Aapda Mitra) Trained in Year – 2019 Batch

Sr.	Name of Aapda Mitra	Father Name	M/F	Mobile No.	Taluka	Village
1	Gitaben	Laxmanbhai	F	8155836649	Sutrapada	Bhuvavada
2	Bheniben	Pasabhai	F	9723320443	Sutrapada	Kadvar
3	Ravinaben	Kesurbhai	F	7359360017	Sutrapada	Kadvar
4	Mukeshbhai	Devjibhai	M	9228437385	Veraval	Veraval
5	Ashokbhai	Sureshbhai	M	9998214521	Veraval	Veraval
6	Kapil	Bhanuprasad	M	9904247076	Veraval	Veraval
7	Hansaben	Nareshbhai	F	6352969003	Talala	Bhimdeval
8	Dineshbhai	Dhirubhai	M	9227387972	Kodinar	Kodinar
9	Piyushbhai	Samatbhai	M	9099827575	Sutrapada	Visodar
10	Raghuvirsinh	Mahipatsinh	M	9624779727	Kodinar	Khasriya
11	Jitendra	Vajubhai	M	9558386086	Kodinar	Kaj
12	Bhagvanbhai	Mandanbhai	M	9904292242	Sutrapada	Kadvar
13	Hasmukhbhai	Babubhai	M	8530819764	Gir Gadhda	Gir Gadhda
14	Vikarmsinh	Jilubhai	M	8153813913	Una	Untvada
15	Nikunj	Khodubhai	M	7046416301	Una	Untvada
16	Bharatbhai	Dilubhai	M	6356651615	Una	Untvada
17	Ghnshyambhai	Gigubhai	M	9081780331	Una	Untvada
18	Harshaben	Kanabhai	F	9408066642	Talala	Rampara
19	Manjulaben	Hirabhai	F	7096898610	Kodinar	Fadariya
20	Labhuben	Palabhai	F	9274034713	Kodinar	Kodinar
21	Dineshbhai	Vasabhai	M	8153020931	Sutrapada	Bosan
22	Hasmukhbhai	Naranbhai	M	9737687315	Una	Untvada
23	Rajeshkumar	Sureshbhai	M	8160794977	Talala	Gundaran
24	Ushaben	Vashrambhai	F	8238984994	Kodinar	Ronaj
25	Kamleshbhai	Lakhabhai	M	8460803252	Una	Una

5.3. Taluka Wise Summary Break up of Aapda Mitra Availability.

Name of Taluka	Total Aapda Mitra	Name of Taluka	Total Aapda Mitra
Gir Gadhada	**01**	**Una**	**12**
Kodinar	**12**	**Veraval Rural**	**07**
Sutrapada	**12**	**Veraval City**	**20**
Talala	**4**	--	--
District Total	**68**		

District Emergency Operation Centre,
Gir Somnath

At. Inaj, Ta. Veraval, Dist. Gir Somnath. 362269

Ph. : 02876- 285063
- 285064 , 1077

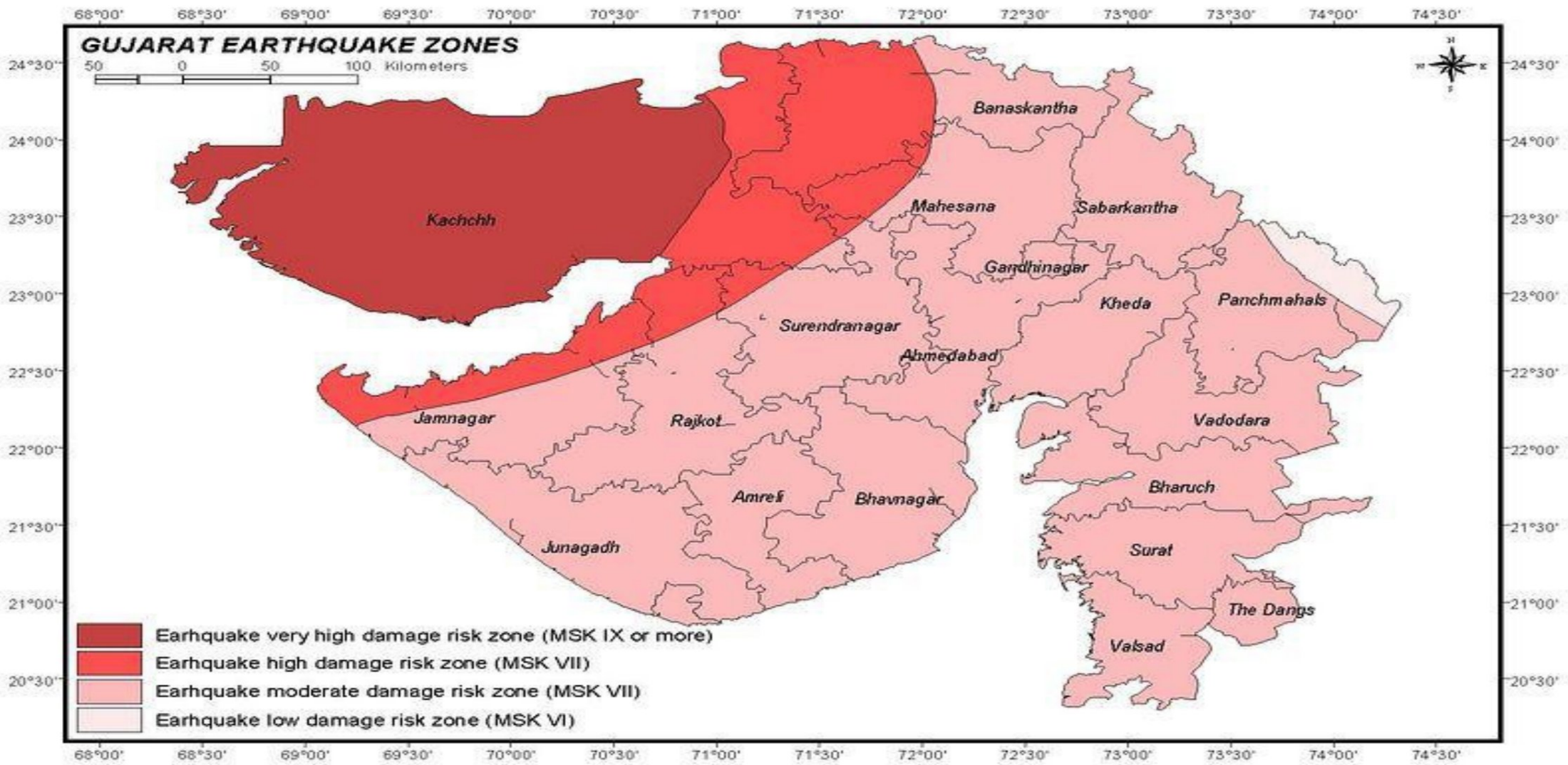
Fax : 02876 - 285300

E-Mail : dismgmt-girsomnath@gujarat.gov.in

Updaetd as on: 08-04-2024

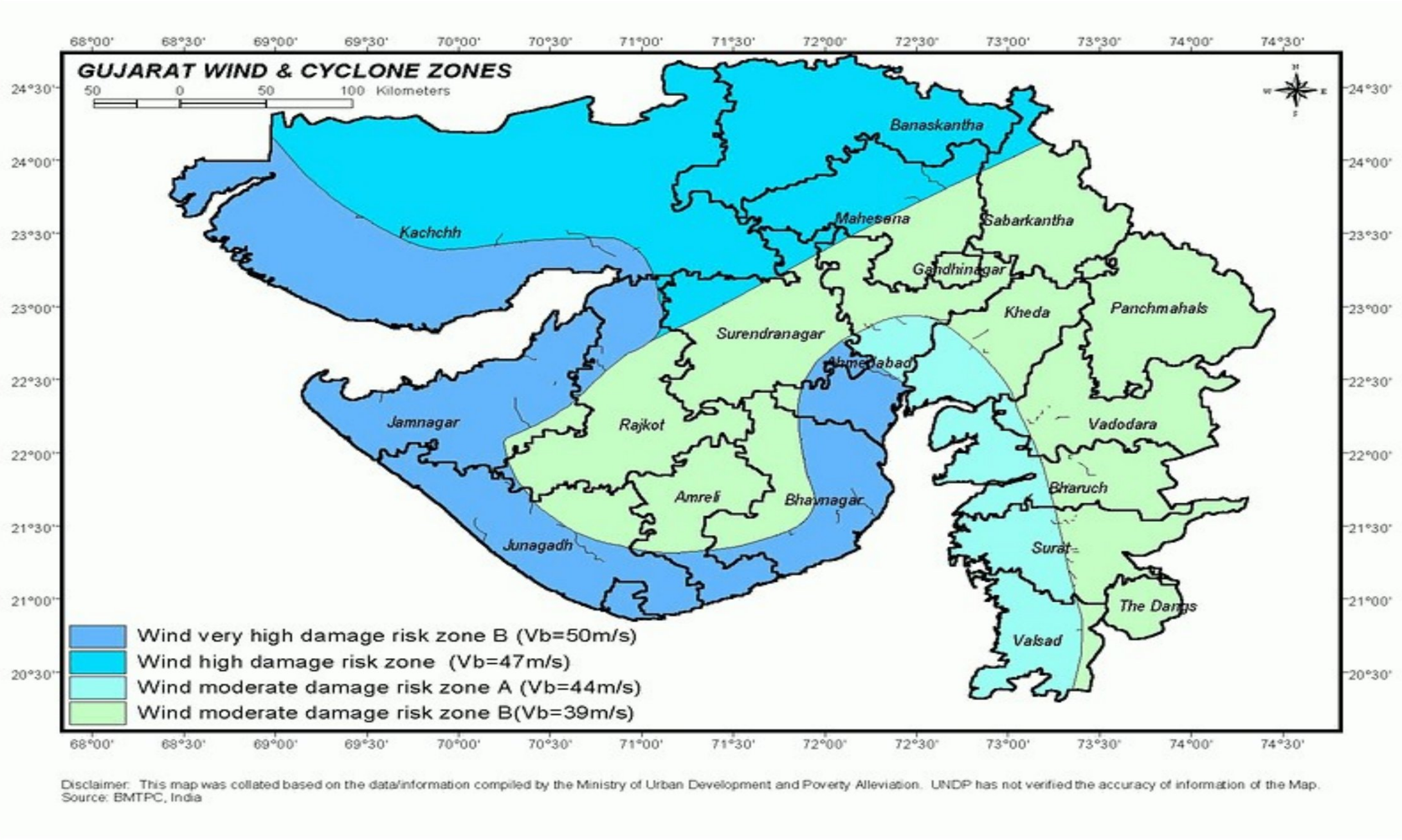
Hazard Maps

Map Showing Gujarat Earthquake Zones



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

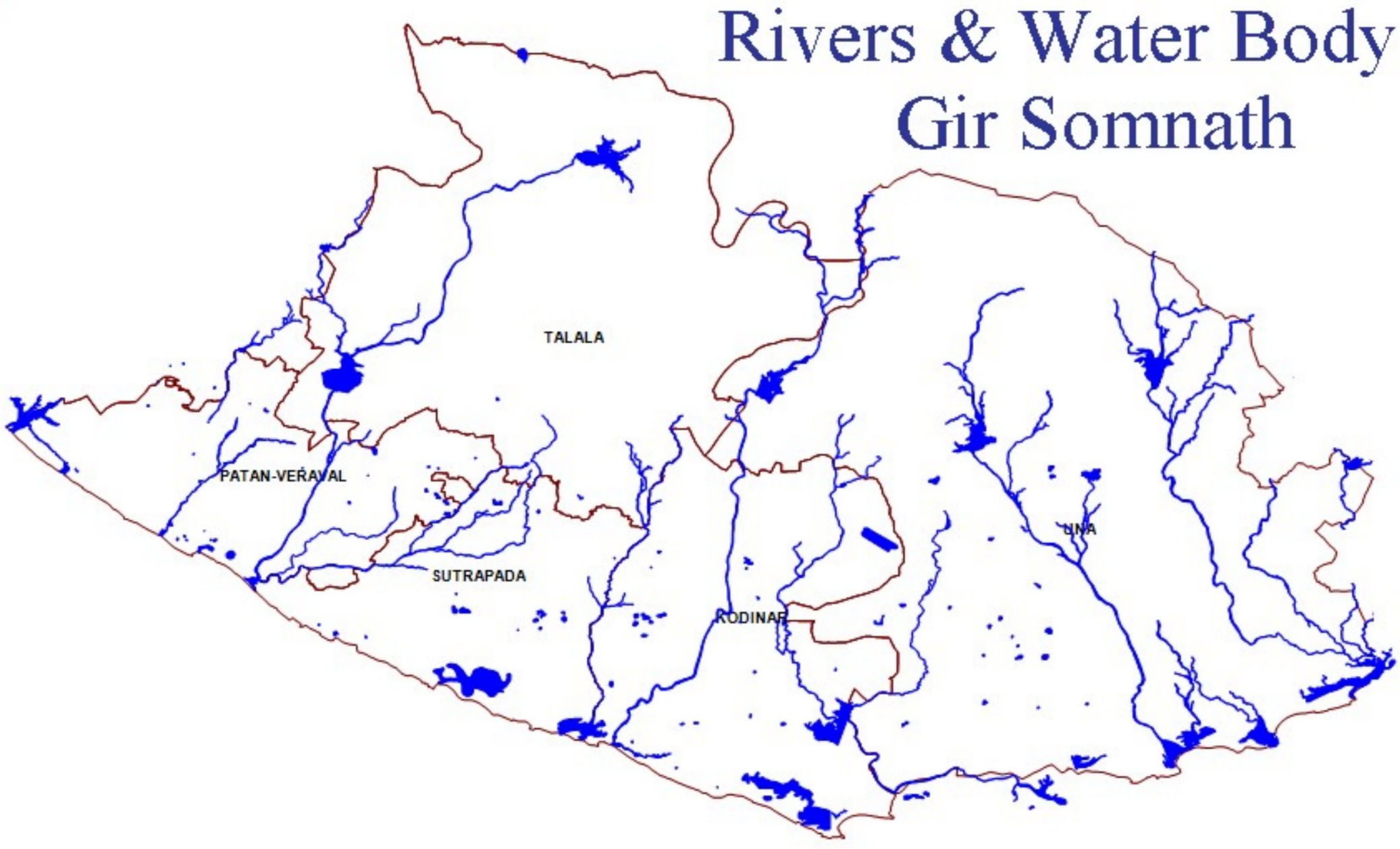
Map Showing Gujarat High Wind and Cyclone Zones



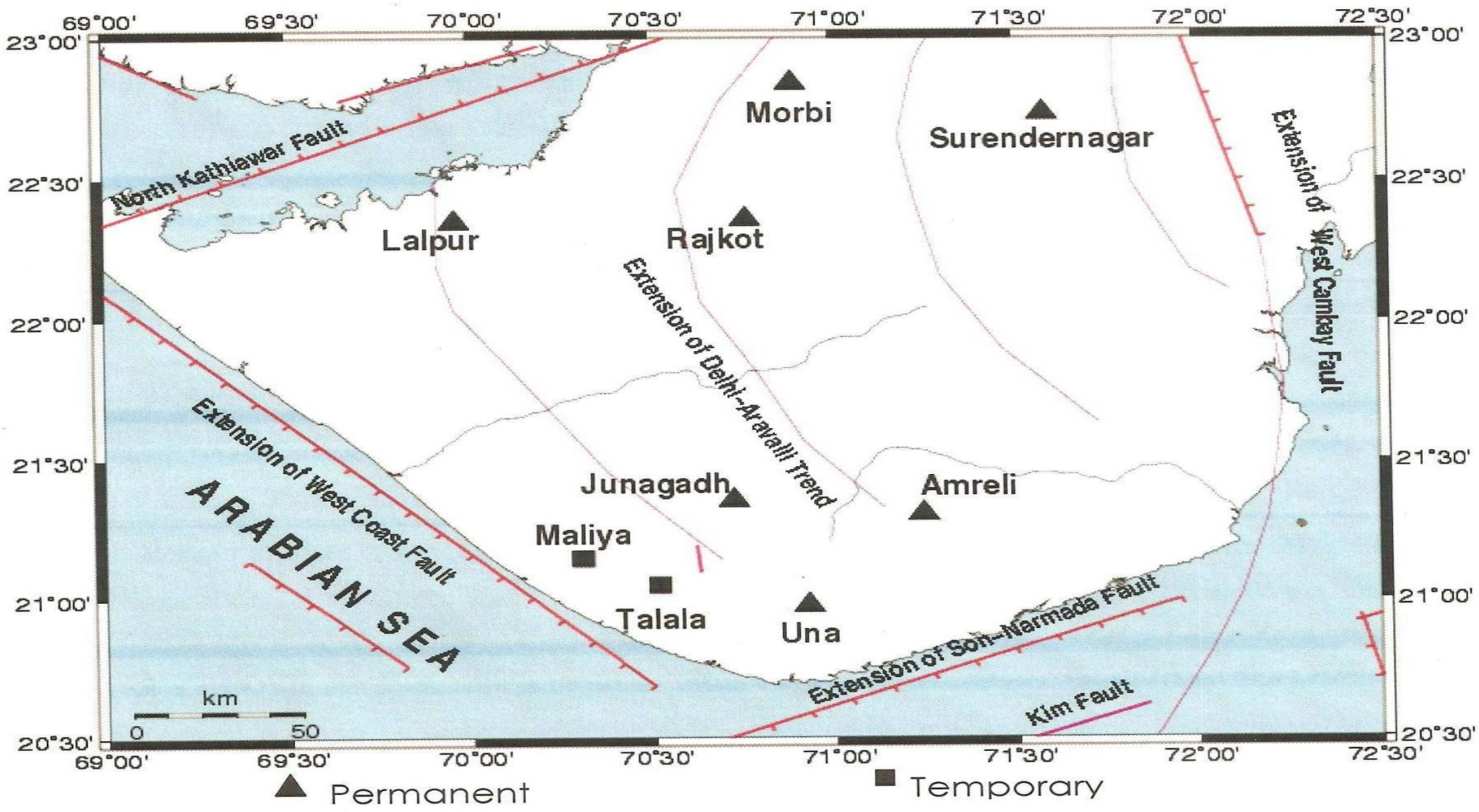
Disclaimer: This map was collated based on the data/information compiled by the Ministry of Urban Development and Poverty Alleviation. UNDP has not verified the accuracy of information of the Map.
Source: BMTPC, India

Map Showing Administrative Boundry and Network.

Map Showing Irrigation Dams, Rivers and Water Body.



Map Showing Earth Quack Fault Lines.



Map Showing Health Facilities of Gir Somnath District.

Courtesy: Mukesh Jadav, DDMO, Gir Somnath