

GUJARAT STATE DISASTER MANAGEMENT PLAN

VOLUME 2



2022-23

GUJARAT STATE DISASTER MANAGEMENT AUTHORITY
Block No. 11, 5th Floor, Udhog Bhavan, Gandhinagar

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Abbreviations

AAI	Airport Authority of India
ACWC	Area Cyclone Warning Centre
Addl. DGP	Addl. Director General of Police
AERB	Atomic Energy Regulatory Board
AIR	All India Radio.
AMCDRR	Asian Ministerial Conference on Disaster Risk Reduction
ANSS	Advanced National Seismic System
ASC	Amateur Seismic Center
AWS	Automatic Weather Stations
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Sidha, Homeopathy
BARC	Bhabha Atomic Research Centre
BASE	Building Assessment And Structural Surveillance
BIS	Bureau of Indian Standard
BISAG	Bhaskaracharya Institute for Space Applications and Geo-Informatics
BMTPC	Building Materials and Technology Promotion Council
BPL	Below Poverty Line
BPR	Bottom Pressure Recorder
BRO	Border Road organization
CAPF	Central Armed Police Forces
CBO	Community Based Organizations
CBRI	Central Building Research Institute
CBRN	Chemical, Biological, Radiological and Nuclear
CCA	Climate Change Adaptation
CCD	Climate Change Department
CCG	Central Crisis Management Group
CDEF	Civil Defense Emergency Force
CDHO	Chief District Health Officer
CDMA	Code Division Multiple Access
CDO	Central Design Organization
CEO	Chief Executive Officer
CFO	Chief Fire Officer
CHC	Community Health Center
CMG	Crisis Management Group
CoH	Commissioner of Health
COR	Commissioner of Relief
CP	Commissioner of Police
CRZ	Coastal Regulation Zone
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
CWC	Central Water Commission
CWCs	Cyclone Warning Centres
CWDS	Cyclone Warning Dissemination System
DAE	Department of Atomic Energy
DC	District Collector

DCF	Deputy Conservator of Forest
DCG	District Crisis Management Group
DCR	District Control Room
DDO	District Development Officer
DEOC	District Emergency Operation Centre
DEOC	District Emergency Operation Centre
DFO	District Forest Officer
DG	Director General
DGHS	Directorate General of the Health Services
DGP	Director General of Police
DIG	Deputy Inspector General
DISH	Director Industrial Safety & Health
DM	District Magistrate
DM	Disaster Management
DMP	Disaster Management Plan
DoR	Director of Relief
DP&S	Directorate of Purchase and Stores
DPIIT	Department of Promotion of Industry and Internal Trade
DPO	District Project Officer
DPR	Detailed Project Report
DRM	Disaster Risk Management
DRMP	Disaster Risk Management Programme
DRR	Disaster Risk Reduction
DST	Department of Science & Technology
EFC	Expenditure Finance Committee
EHRA	Earthquake Hazard and Risk Assessment
EMS	Emergency Medical Services
EMSA	Emergency Medical Services Authority
EOC	Emergency Operation Centre
ERC	Emergency Response Center
ERTs	Emergency Response Teams
ESF	Emergency Support Function
F&E Dept.	Forest and Environment Department
F&ES	Fire and Emergency Services
GACC	Global Anthropogenic Climate Change
GACC	Global Adaptation Climate Change
GAD	General Administration Department
GDCR	General Development Control Regulations
GDP	Gross Domestic Product
GEB	Gujarat Electricity Board
GERI	Gujarat Engineering Research Institute
GIDC	Gujarat Industrial Development Corporation
GIDM	Gujarat Institute of Disaster Management
GIS	Geographic Information System
GMB	Gujarat Maritime Board
GMCSL	Gujarat Medical Corporation Services Limited
GoG	Government of Gujarat

GoI	Government of India
GPCB	Gujarat Pollution Control Board
GSDMA	Gujarat State Disaster Management Authority
GSI	Geological Survey of India
GSM	Global System for Mobile Communications
GSRTC	Gujarat State Roads Transport Corporation
GSWAN	Gujarat state Wide Area Network
GUVNL	Gujarat Urja Vikas Nigam Limited
GWSSB	Gujarat Water Supply & Sewerage board
HAZCHEM	Hazardous Chemicals
HBJ	Hazira-Bijapur-Jagdishpur
HF/VHF	High Frequency/Very High Frequency
HoD	Head of Department
HQ	Headquarter
HRVA	Hazard Risk and Vulnerability Assessment
HRVCA	Hazard Risk Vulnerability and Capacity Assessment
HWB	Heavy Water Board
ICG	Indian Coast Guard
ICMR	Indian Council of Medical Research
IDRN	India Disaster Resource Network
IEC	Information, Education and Communication
IIPH	Indian Institute of Public Health
IMD	India Meteorological Department
INCOIS	Indian National Centre for Ocean Information Services
IND	Improvised Nuclear Device
INSAT	Indian National Satellite System
IOC	Indian Oil Corporation
IRCS	Indian Red Cross Society
IRIS	Incorporated Research Institute for Seismology
IRS	Incident Response System
IRT	Incident Response Team
ISR	Institute of Seismological Research
ISRO	Indian Space Research Organization
ICT	Information and Communication Technology
ITCS	Information Communications Technology System
JSSK	Janani Shishu Suraksha Karyakram
KAPS	Kakrapar Atomic Power Station
LCG	Local Crisis Management Group
LPA	Long Period Averages
MAFW	Ministry of Agriculture and Farmers Welfare
MAH	Major Accident Hazard
MCA	Ministry of Corporate Affairs
MoEF&CC	Ministry of Environment, Forests and Climate Change
MFIN	Microfinance Institutions Network
MFRs	Medical First Responders
MHA	Ministry of Home Affairs
MHFW	Ministry of Health and Family Welfare

MHIPE	Ministry of heavy Industries and Public Enterprises
MHUA	Ministry of Housing and Urban Affairs
MLA	Member of Legislative Assembly
MoA	Ministry of Agriculture
MoC & F	Ministry of Chemicals and Fertilizers
MoC & I	Ministry of Commerce and Industry
MOCA	Ministry of Civil Aviation
MoD	Ministry of Defence
MOES	Ministry of Earth Sciences
MoF	Ministry of Finance
MoLE	Ministry of Labour and Employment
MOM	Ministry of Mines
MoP & NG	Ministry of Petroleum and Natural Gas
MOR	Ministry of Railways
MOSPI	Ministry of Statistics and Program Implementation
MoSRT & H	Ministry of Shipping, Road Transport and Highways
MP	Member of Parliament
MRTH	Ministry of Road Transport & Highways
MSDS	Material Safety Data Sheet
MSK	Medvedev–Sponheuer–Karnik scale
MSZ	Makran Subduction Zone
NBC	National Building Codes
NCC	National Cadet Corps.
NCCR	National Centre for Coastal Research
NCMC	National Crisis Management Committee
NDMA	National Disaster Management Authority
NDMF	National Disaster Mitigation Fund
NDRF	National Disaster Response Force
NDRF	National Disaster Response Fund
NDRMF	National Disaster Risk Mitigation Fund
NEC	National Executive Committee
NEIC	National Earthquake Information Center
NFHS	National Family Health Survey
NGO	Non Government Organization
NGRI	National Geophysical Research Institute
NHAI	National Highway Authority of India
NIC	National Information Center
NIDM	National institute of Disaster Management
NIO	North Indian Ocean
NIOT	National Institute of Ocean Technology
NPCIL	Nuclear Power Corporation of India Ltd
NSRA	Nevada Seismic Research Affiliates
NSS	National Service Scheme
NSSP	National School Safety Programme
NWRWS	Narmada Water Resources Water Supply
NYK	Nehru Yuva Kendra
ONS	Observational Network Stations

PCR	Police Control Room
PESO	Petroleum and Explosive Safety Organization
PFZ	Potential Fishing Zones
PGA	Peak Ground Acceleration
PHC	Primary Health Center
PMNRF	Prime Minister's National Relief Fund
PMO	Prime Minister's Office
PMS	Probable Maximum Surge
PPP	Public private Partnership
PRI	Panchayati Raj Institutions
PS	Principal Secretary
QCI	Quality Council of India
QRMT	Quick Reaction Medical Team
R & B Dept.	Roads & buildings Department
R & R	Rehabilitation & Reconstruction
RD	Revenue Department
RDD	Radiological Dispersal Device
RED	Radiation Exposure Device
RGN	Rain-Gauge Network
RMSA	Rastriya Madhyamik Shiksha Abhiyan
RMSC	Regional Specialised Meteorological Centre
RSBY	Rashtriya Swasthya Bima Yojana
RSO	Radiological Safety Officer
RTA	Road Transport Authority
RTSMN	Real Time Seismic Monitoring Network
RWA	Resident Welfare Associations
SAR	Search and Rescue
SCG	State Crisis Management Group
SCMC	State Crisis Management Committee
SDG	Sustainable Development Goals
SDMA	State Disaster Management Authority
SDMF	State Disaster Mitigation Fund
SDMP	State Disaster Management Plan
SDRF	State Disaster Response Force
SDRF	State Disaster Response Fund
SDRMF	State Disaster Risk Mitigation Fund
SDRN	State Disaster Response Network
SED	Site Emergency Director
SEOC	State Emergency Operation Centre
SFAC	Standing Fire Advisory Committee
SIRD	State Institute of Rural Development
SJ&ED	Social Justice and Empowerment Department
SMS	Short Messaging Service
SOG	Standard Operations Guide
SOP	Standard Operating Procedure
SPIPA	Sardar Patel Institute of Public Administration
SRPF	State Reserve Police Force

SSNNL	Sardar Sarovar Narmada Nigam Limited
SST	Sea Surface Temperature
SWP	Single Wire Protocol
TEOC	Taluka Emergency Operation Centre
UD & UHD	Urban Development & Urban Housing Department
UDA	Urban Development Authority
UDD	Urban Development Department
UFDM	Urban Flood Disaster Management
UHC	Urban Heath Centers
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
UNDRR	United Nations Office for Disaster Risk Reduction
UNOEIWG	UN General Assembly Open-Ended Intergovernmental Working Group
UTs	Union Territories
VSAT	Very Small Aperture Terminal
WALMI	Water and Land Management Institute
WAN	Wide Area Network
WASMO	Water and Sanitation Management Organization
WE&CDD	Women and Child Department
WHO	World Health Organization
WRD	Water Resource Department

Chapter 1 : Action Plan for Earthquake

1.1 Introduction

This Actions plan addresses the measures to be taken directly during or immediately after an earthquake in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the affected people.

Indian subcontinent is among the world's most disaster prone areas due to its unique geo-physical and socio economic conditions. In total 59% of the land is prone to the earthquake in which 10.9% is liable to severe earthquakes Medvedev–Sponheuer–Karnik scale(MSK)IX, 17.3% is liable to MSK VIII, 30.4% land is liable to MSK VII.

The Earthquake Vulnerability Atlas of India reveals that 19% of the total area in Gujarat is at a very high risk for earthquake, i.e. seismic zone V. Another 13% area of the State is at a high risk for earthquake, i.e. seismic zone IV. As such, Gujarat State has a long history of earthquakes and in the recent past, it witnessed a major earthquake (6.9 on Richter scale) which had caused widespread loss of human lives and property.

The Chapter 8 in Volume 1 of this SDMP mentioned the roles, functions and responsibilities of Emergency Support Functions (ESFs) that have a key role to play during the Response.

Further, SDMP gives emphasis on well-being of the economically weaker and socially marginalized sections, persons with disability, women, Children, Scheduled Castes, Scheduled Tribes and minorities as they tend to suffer more during disasters. The SDMP forbids all forms of discrimination – be it based on sex, caste, community, descent or religion – in any aspect of disaster risk management.

1.2 Declaration of Earthquake Disaster

The Clause 32 of Gujarat State Disaster Management Act, 2003 provides for the State Government to declare any area where earthquake has occurred as disaster affected area on the recommendations of the State Relief Commissioner or the District Collector. The purpose of declaration of disaster is to organize effective response and mitigating the earthquake effects. Such a declaration provides wide powers and responsibilities to the State Relief Commissioner and the District Collectors in order to handle the incident effectively.

1.3 Institutional Mechanism of the State Government for Response

Gujarat has developed a well-organized administrative structure for earthquake response in the State. Particularly, in the aftermath of 2001 earthquake in the State, the management of earthquake has undergone a quantum change. The Gujarat State Disaster Management Authority has also formulated a well defined policy for the Reconstruction and Rehabilitation of earthquake in the state. The State government has undertaken long term capacity building initiatives to deal with future earthquakes; the focus of the government has now broadened to include earthquake risk reduction, mitigation and preparedness also, along with response & relief.

The Revenue department is primarily responsible for emergency response and relief in the State, while the Gujarat State Disaster Management Authority (GSDMA) is designated as the nodal agency for formulation of policies, long term planning, coordination and monitoring body for Prevention and mitigation, reduction and preparedness for disasters in the State.

The Institute of Seismological Research (ISR), under the Department of Science and Technology, is established to carry out seismological research and monitoring activities. In addition, a network of Seismological Observatories and Strong Motion Accelerographs has been established under the operational control of ISR for constant seismological monitoring and prediction. As a result of this network, it has been possible to locate even micro earthquakes of magnitude < 3 on Richter scale. These are useful to scientists for statistical analysis and knowing the sites of ongoing seismicity.

The institutional mechanism established in the State for management of disasters is given in Chapter 3 of Vol. 1. The composition of the State Emergency Operation Centre (SEOC) along with its staff structure has also been laid down¹.

1.4 Trigger Mechanism

An earthquake of magnitude 5 or more is likely to cause deaths and injuries to human beings and damage to all kinds of property, both private and public. Unfortunately there is very little warning available before the earthquake. Therefore, planning should cater for a quick response at all levels to reduce the effects of the earthquake to the minimum.

The Revenue Department of the State will be the nodal department for formulating, controlling, monitoring and directing measures for earthquake preparedness, organizing rescue, relief and rehabilitation. All other concerned departments should extend full cooperation in all matters pertaining to the management of the earthquake whenever it occurs.

The occurrence of an earthquake may be reported by the Indian Meteorological Department (IMD) / National Geophysical Research Institute (NGRI) / Institute of Seismological Research (ISR) to the Commissioner of Relief by the fastest means. The State Crisis Management Committee (SCMC) under the chairmanship of the Chief Secretary should be activated immediately on the occurrence of any major earthquake.

Besides these, the SEOC also receives reports on the earthquake from ISR, district and taluka levels. On receipt of the information, the SEOC verifies the authenticity of the reports and will inform the real situation to concerned authorities. The State Government may, by notification published in the official gazette and in any one or more newspapers having widest circulation in the area, declare such area to be disaster affected area under Gujarat State Disaster Management Act, 2003, Section 32 (2) (a)).

1.5 Response Mechanism

1.5.1 Information and Reporting

The agencies which provide information to the SEOC about the occurrence of an earthquake in the State are:

- a. Indian Meteorological Department (IMD), Ahmedabad / New Delhi
- b. Institute of Seismological Research (ISR)
- c. Sardar Sarovar Narmada Nigam Ltd (SSNNL)
- d. National Geophysical Research Institute (NGRI)
- e. District Emergency Operation Centre (DEOC)
- f. Taluka Emergency Operation Centre (TEOC)
- g. Police Control Rooms
- h. Fire Brigade Control Rooms
- i. Any other agency/ individual

The SEOC should be activated for emergency response on the occurrence of any major earthquake. The SEOC should initiate following activities:

- a. State EOC should report the occurrence of a major earthquake to the following:
 - i. Commissioner of Relief
 - ii. ACS (Revenue)
 - iii. Chief Executive Officer, Gujarat State Disaster Management Authority
 - iv. Chief Secretary of the State
 - v. Members of Crisis Management Committee
 - vi. Chief Minister
 - vii. Ministers, Revenue & Disaster Management
 - viii. National Disaster Management Authority EOC at MHA, GoI
 - ix. Vice Chairman, National Disaster Management Authority (NDMA)
 - x. Member Secretary, MHA
- b. State EOC to verify the authenticity of the information from authorized scientific agencies as well as district and Taluka control rooms.
- c. State EOC to alert state first responders/search and rescue machinery for emergency response.
- d. State EOC to contact its regular and emergency staff to report immediately.
- e. All Secretaries of the State Departments to be contacted to remain available in the EOC immediately.
- f. State EOC to remain in constant touch with control rooms at national, district and taluka level.
- g. Overall management of state EOC shall be taken over by the Commissioner of Relief.

- h. Management of media (Press/TV Channels/Government Press Notes) to be carried out by the Secretary (Information & Broadcasting) with special emphasis on rumour control. He shall maintain constant liaison with Commissioner of Relief.

On receipt of information, COR to:

- i. Contact all member of Crisis Management Group to inform them about the venue and time of first meeting (chaired by Chief Secretary) to assess the situation and decide the course of action to be adopted by the State Government
- ii. Issue instructions to all departments to ensure that all state government employees to report for duty immediately in order to execute their responsibilities as mentioned in their departmental Earthquake Management Plan.
- iii. Instruct all line departments to ensure their duty officers to remain available round the clock in state EOC with full updated information of the activities of their departments.
- iv. Prepare and submit daily situation report to Government of India, Chief Secretary, Principal Secretary (Revenue), Chief Executive Officer, Gujarat State Disaster Management Authority etc.
- v. If necessary depute senior state level officers to worst affected talukas for effective implementation and supervision of Relief Operation.
- vi. Mobilize additional manpower from the departments to the affected district / talukas for supporting the Relief Operation. They should be provided Task Force Action Plans of the concerned talukas / district prepared earlier.

1.5.2 Restoration of Critical Services

- a. Establishment of Emergency Communication
- b. Restoration of Transportation (Rail, Road & Air)
- c. Restoration of power and electricity
- d. Supply of safe drinking water
- e. Restoration of essential lifeline infrastructure

1.5.3 Search, Rescue and Medical Assistance

- a. Identification of areas where SAR Teams, SDRF and Aapda Mitra to be deployed
- b. Coordination of SAR teams for their quick deployment in allotted areas
- c. Provision of quick transport of SAR teams to affected areas
- d. The department of Roads and Buildings to evolve a mechanism for clearing access routes and debris in order to facilitate search and rescue operations
- e. Mobilization of specialized equipment and machinery to affected areas
- f. Cordoning of affected areas with control of entry and exit
- g. Traffic Management by establishment of traffic points and check-posts
- h. The Home Department to evolve a mechanism for providing security of properties of government and public in the affected areas.
- i. Setting up of field hospitals in the affected areas and deployment of mobile hospitals
- j. Arrangements to be made for quick transportation of injured victims to the hospitals
- k. Secretary (Health) to evolve a mechanism for speedy treatment of casualties

1.5.4 Emergency Relief

- a. Establishment of Temporary shelters for evacuees
- b. Ensuring provision of essential services
- c. Arrangement for food, clothing, blanket/bedding, drinking water, sanitation and hygiene, lighting arrangements and essential medicines
- d. Establish a mobilisation centre at the airport/railway station for the movement of relief supplies within the state.
- e. Deploy special transportation for the movement of relief supplies within the state
- f. Make arrangements to receive and distribute relief and emergency supplies received from different parts of the state and country
- g. Coordinate transportation (air, rail, road, water) with state and Central ministries/ departments/ agencies
- h. Arrange alternative means of transportation to reach relief supplies to the affected locations if normal transport cannot reach
- i. Deployment of mobile hospitals in affected areas for treatment of victims
- j. Providing counselling services to the earthquake victims and their relatives
- k. Arrangement for providing transport facility to send dead bodies of non-locals to their natives. The administration should also ensure Law and Order during shifting of the dead bodies
- l. Ensure establishment of communication link between the affected people and their relatives outside

1.5.5 Task & Responsibility Matrix for Emergency Response Phase : Standard Operating Procedures (SOP)

A Task and Responsibility Matrix for Emergency Response Phase (first 72 Hours of the incident) is given below:

Standard Operating Procedures (SOP)

Time Frame	Task	Responsibility
0 + 15 Minutes	1. Report the occurrence of earthquake to COR, ACS (RD), CEO - GSDMA, Heads of all line departments, Chief Secretary, Minister (DM) and Chief Minister's Office and National Disaster Management EOC at MHA, GoI	In-charge SEOC
0 + 30 Minutes	2. Verify the authenticity of the incident from agencies like IMD, ISR, DEOCs, TEOCs, Police and Fire Brigade control rooms and find magnitude of disaster and immediate impacts	In-charge SEOC
	3. In case of L-2 level event, take overall management of SEOC	COR/ DOR
	4. Deploy Emergency Rescue Vehicles to affected areas for establishing communication link	
	5. Activate ERCs for prompt mobilisation teams and resources to affected areas	
	6. Hold planning meeting of HODs (all line depts.) in SEOC	
	7. Instruct duty officers of line departments to report in SEOC and hold meeting for further plan of action/ instruction	
	8. Request for the services of NDRF and Armed forces, if required	
	9. If required, inform GAD to ensure that all State Govt. employees report for emergency duties within half an hour	
	10. Establish alternate communication link through Satellite Phones, HF/ VHF set, HAM Radio, VSAT, etc. in SEOC, DEOCs, TEOCs	
0 + 1 Hour.	11. Mobilise Search & Rescue teams and equipment of Fire Emergency Services, Home Dept., R&B, etc. to affected areas	COR
	12. Deploy medical teams and paramedics to the affected areas	
	13. Deploy rapid assessment team to affected areas	
	14. Make arrangements for aerial survey of the affected areas	
	15. Contact BISAG, NRSC, ISRO and Ministry of Defence for aerial / satellite imageries of the affected areas	

	16. Instruct local administration to evacuate population at risk to safer sites	
	17. Instruct concerned authorities or agencies to shut down critical operations	
	18. Contact Chief Secretary for deciding on time and venue for holding Crisis Management Group (CMG) meeting at the earliest	
	19. Inform all CMG members to attend CMG meeting in designated venue to assess situation and review emergency measures	
	20. Enforce evacuation from unsafe structures to pre-decided safe evacuation sites	Home Dept., District Collector, Municipal Commissioners
	21. With help of local authorities, local agencies, volunteers, RWAs, ensure that people do not go back to unsafe structures unless instructed as safe	
	22. Provide security in affected areas and maintain law and order situation to prevent incidents of thefts and stampede	
	23. Establish alternate communication links through HF, VHF, HAM, Satellite Phones, etc.	Dept. of Science & Technology
	24. Issue alert for secondary shocks/ disseminate critical information by SMS through service providers	
	25. Restore essential services like power, water supply, telecommunication of critical infrastructure like hospitals, SEOC, Sachivalya, Raj Bhawan, Control Rooms, AIR, Doordarshan, relief camps and temporary shelters, etc. on priority basis	COR, GUVNL, GWSSB, DOT, Energy & Petrochemicals
	26. Restore essential services or arrange for alternative facilities like power, water supply and telecommunication to the affected area	
	27. Assess the conditions of road, rail and air communication link for quick mobilization of emergency responders and teams and resources to affected areas and take follow up actions	Port & Transport, R&B Dept., COR
	28. Establish media management / information cell for public information, guidance and rumour control	Information Dept.
	29. Instruct district information officers to establish information centre near affected areas to provide guidance to volunteers and aid agencies	

0 + 2 Hours	30. Delegate responsibilities for organizing rescue and relief operations as per outcomes of CMG and planning meet	Chief Secretary/ COR
	31. Depute senior State Level officers to the affected areas	
	32. Inform Secretaries of all depts. to provide necessary logistics support to emergency operation task forces	
	33. Activate Operations Section of IRS for Emergency Response Operation	COR
	34. If required, seek assistance from neighbouring states, Central Govt. or external agencies	
	35. Set up separate desks for each operation task force and NGO coordination desk in the SEOC for coordinating emergency operations	
	36. Contact private / public sector agencies in the State to assist in emergency rescue and relief operations	
0 + 3 Hours	37. Make suitable transport arrangement for mobilization of quick response teams to the affected areas	Port & Transport Dept., Civil Aviation Dept.
	38. Maintain constant touch with the control room of MHA, NDMA, ERCs, DEOCs and TEOCs	COR, SEOC
	39. Arrange for press / media release for rumour control and public information and guidance	COR, Information Dept.
	40. Make necessary arrangement for treatment of injured and mass casualty management	Health Dept.
	41. Restore & ensure serviceability of communication towers in affected area through respective service providers	Dept. of Science & Technology, DOT
0 + 6 Hours	42. Establish relief coordination centre at airport, railway station, etc. for arrival of Search & Rescue and Medical Teams coming for humanitarian aid	COR
	43. Arrange for a logistic plan and warehouse for receipt & management of relief material	
	44. Instruct to cordon affected areas and setting up of check posts to control entry and exit	Home Dept.
	45. Ensure mechanism to prevent human trafficking	

	46. Open access routes and manage traffic for mobilization of equipment, machinery and volunteers to the affected areas	Home Dept., Port & Transport Dept., R&B Dept.
	47. If required, establish temporary access routes & disseminate route maps to all EOCs, control rooms and information cells	
	48. Conduct aerial survey to understand scale of damage and impacts	COR/ Head, Quick Assessment Task Force
	49. Establish information centres at the arrival and departure points especially at the airports, railway stations and interstate bus terminus	Information Dept.
0 + 12 Hours	50. Hold review meetings with duty officers in every 12 hours	DOR
	51. Prepare rapid need assessment report for planning of relief operation and mobilization of resources to the affected areas	
	52. Mobilize relief materials i.e. tents, food materials, water, essential medicines, blankets, etc. to the affected districts and talukas	DOR, District Collectors, Municipal Commissioners, Line Deptts
	53. Establish relief centres, temporary shelters and godowns near affected areas & ensure provision of basic facilities like food, water, medical aid, toilets, etc.	
	54. Provide food and other relief material to relief camps, community kitchens, etc.	Food & Civil Supply
	55. Provide water tankers to affected areas, relief camps, temporary shelters, community kitchens, etc.	Water Supply Dept
	56. Arrange to shift people from evacuated sites to temporary shelters	Port & Transport Dept.,
	57. Arrange road, rail and air transport at State / District headquarters for dispatch of relief materials to the affected areas	
	58. Set up field hospitals near the affected areas	Health Dept.
	59. Arrange to shift injured persons to field hospitals	
	60. Ensure medical aid to injured cattle	Animal Husbandry Dept.

	61. Provide security to relief camps, godowns, evacuated structures, medical camps, etc.	Home Dept.
0 + 24 Hours	62. Instruct to set up coordination centres at the Resident Commissioner's Office in New Delhi and other Metro Cities as well	COR
	63. Prepare and circulate the situation report	DOR, Dy. Collector (DM) at SEOC
	64. Coordinate with Operation Task Forces mobilized to the affected areas	
	65. Organise media briefing twice a day at pre-determined intervals	COR, Information Dept.
	66. Depute additional officers and supporting staff to affected areas from non-affected areas	COR, Revenue Dept.
	67. Identify and declare unsafe structures in earthquake affected areas	R & B Dept.
0 + 48 Hours	68. Ensure safety and security of personnel deputed in affected areas for emergency response operation	Home Dept.
	69. Arrange for identification, photograph, post mortem and maintenance of records for disposal of dead bodies	
	70. Earmark storage points for medical supplies at affected sites	Health Dept.
	71. Arrange information centre at shelter site for maintaining records of victims and to provide guidance to relatives, NGOs, etc.	COR, DOR
	72. Ensure following procedures before disposal/ handing over of dead bodies: <ul style="list-style-type: none"> • Photographs of dead bodies are taken • Identification of dead bodies is done • Post mortem wherever necessary and possible is carried out • Handing over dead bodies of persons known/ identified to their relatives • Disposal of unclaimed and unidentified dead bodies 	Revenue Dept., District Collector, Municipal Commissioners, Health Dept & Local Authorities
	73. Ensure mechanism for complaints regarding missing persons and initiate search in shelters, hospitals and police records	Home Dept., COR
	74. Arrange for transportation of dead bodies to their native places if so required	Port & Transport Dept., Health Dept.,

	75. Arrange for transportation of injured animal	Animal Husbandry Dept.
0 + 72 Hours	76. Arrange for dignified disposal of unidentified and unclaimed dead bodies	Home Dept.
	77. Arrange for disposal of unidentified and unclaimed animal carcasses	
	78. Arrange for transportation of injured from field hospitals to base hospitals	Health Dept. , Transport Dept.
	79. Activate short and interim relief measures	COR, Line Depts.
	80. Arrange for distribution of cash doles to the victims	COR

1.6 Immediate relief

1.6.1 Short-Term Relief Measures

- a. Provide temporary shelter to affected people
- b. Evacuation site should be safe and easily accessible
- c. Continue to provide essential services to the affected people i.e. food, water, clothing, sanitation and medical assistance
- d. The COR to ensure relief measures are provided in the relief camp are as per the Minimum standard of relief defined by the state government which includes –
 - i. Special emphasis on Hygiene and sanitation aspects should be given in relief camp sites.
 - ii. Separate area should be earmarked within the relief camp for storage of relief materials
 - iii. Adequate manpower and transport facilities for the camp site
 - iv. Arrangements to be made for trauma management
 - v. Mobile medical units to be sent to remote areas with a view to provide medical assistance to the victims/injured
 - vi. Information centre should be established by the administration

1.6.2 Interim Relief Measures

- a. Arrangements to be made for identification and maintenance of the records of dignified disposal of dead bodies in the affected areas.
- b. Arrangements to be made to record the complaints of all persons reported missing. Follow up action in terms of verification of the report also needs to be made.
- c. Sub-divisional magistrates to be empowered to exempt the requirement of post-mortem in case of mass casualties. Revenue Dept. may depute additional SDMs to expedite disposal of the dead bodies in dignified manner.
- d. Unclaimed/unidentified dead bodies to be disposed of at the earliest after keeping their records.

- e. Additional manpower to be deployed in the affected areas for supplementing the efforts of the local administration.
- f. Separate Cell to be established at state/district/talukas level to coordinate with the NGOs and outside donor/aid agencies.
- g. Regular meetings of the different stakeholders/departments should be organized at state level for sharing of information, developing strategies for relief operations.
- h. Information & Broadcasting Dept. to coordinate with the media to play a positive role in disseminating appropriate information to public and the government in order to facilitate the speedy recovery.

1.6.3 Assessment of Damage / Loss and Relief Needs

- a. The COR to issue instructions to the district collectors for the damage and loss assessment
- b. Adequate manpower, vehicles, stationery etc should be provided to supplement the efforts for need/-damage and loss assessment
- c. Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries
- d. Arrangements for debris removal and its appropriate disposal
- e. Arrangements for distribution of gratuitous relief and cash doles
- f. Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons
- g. Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property assessment
- h. As reconstruction of houses will take a long period, arrangements to be made to provide interim shelters to the affected
- i. Identification of the site for interim shelter
- j. Allocation of areas to the affected families
- k. Providing essential services at the interim shelter sites such as water, power, drainage / sanitation, PDS shops, etc.
- l. Distribution of shelter materials to individual families

Chapter 2 : Action Plan for Cyclone

2.1 Introduction

Tropical cyclone, generally known as ‘cyclone’, is the term used globally to cover tropical weather systems in which winds equal or exceed ‘gale force’ (minimum of 34 knot, i.e., 62 kmph). These are intense low-pressure areas of the earth-atmosphere coupled system and are extreme weather events of the tropics. Although the North Indian Ocean (NIO) Basin (including the Indian coast) generates only about seven per cent of the World’s cyclones, their impact is comparatively high and devastating, especially when they strike the coasts bordering the North Bay of Bengal. As per broad scale assessment of the population at risk, nearly one third of India’s population is vulnerable to cyclone related hazards. Climate change with the resultant sea-level rise and expected increase in severity of cyclones can significantly increase the vulnerability of the coastal population.

The coastal states and union territories (UTs) in the country, encompassing 84 coastal districts which are affected by tropical cyclones. Four states (Tamil Nadu, Andhra Pradesh, Odisha and West Bengal) and one UT (Puducherry) on the east coast and one state (Gujarat) on the west coast are highly vulnerable to cyclone disasters². The tropical cyclones are classified according to their wind speed which is as per table as shown below.

Gujarat comes in the region of tropical cyclone with the longest coast line of 1600 km in the country which makes it highly vulnerable to Cyclone and associated hazards. The accompanying hazards consist of high speed winds, storm surges, and torrential rainfall. Most of the cyclones that have affected the State are generated in the Arabian Sea. They hit the coastal part of Saurashtra and the southern part of Gujarat. Thus, fourteen coastal districts of Gujarat are at a very high risk of Cyclone. The purpose of this action plan is to develop a quick response at all levels to reduce the effects of cyclone with an effective coordinated disaster risk reduction approach.

Table: Classification used in India for tropical cyclones

S. No.	Type	Wind Speed	
		km per hour (kmph)	Knots
1.	Low Pressure area	Less than 31	Less than 17
2.	Depression	31 to 49	17 to 27
3.	Deep Depression	50 to 61	28 to 33
4.	Cyclonic Storm	62 to 88	34 to 47
5.	Severe Cyclonic Storm	89 to 118	48 to 63
6.	Very Severe Cyclonic Storm	119 to 221	64 to 119
7.	Super Cyclone	More than 221	More than 119

Note: One kmph = 0.54 knot; one knot = 1.852 kmph

2.2 Associated Authority

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

² NDMP 2019.

2.3 Disaster Declaration

The Gujarat State Disaster Management Act, 2003 (section 32) provides for the State Government to declare any area where Cyclone has hit as disaster affected area on the recommendations of the State Relief Commissioner or the District Collector. The purpose of declaration of disaster is to organize effective response and mitigating the Cyclone effects. Such a declaration provides wide powers and responsibilities to the State Relief Commissioner and the District Collectors in order to handle the incident effectively.

2.4 Four Stage Warning System for Tropical Cyclones

a. Pre-Cyclone Watch (Before 72 hours)

It is issued when a depression forms over the Arabian Sea / Bay of Bengal irrespective of its distance from the coast and is likely to affect Indian coast in future. The pre-cyclone watch is issued by the IMD and is issued at least 72 hours in advance of the commencement of adverse weather. It is issued at least once a day.

b. Cyclone Alert (Before 48 hours)

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.

c. Cyclone Warning (Before 24 hours)

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 time /place of landfall is indicated in the bulletin. The probable estimation of its landfall and severity increases as the cyclone approaches closer to the coast.

d. Post Landfall Outlook (Before 12 hours)

It is issued 12 hours before the cyclone landfall, when the cyclone is located within 200 Km from the coast. More accurate and specific information about time /place of landfall and associated bad weather is indicated in the bulletin. In addition, the information regarding expected damage due to cyclone is also included as a warning in this bulletin.

2.5 Warning Dissemination Process

1. Cyclone/flood forecasting is generally the responsibility of the India 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 in India to communicate cyclone warnings to community and important officials in areas likely to be affected directly. There are 19 Cyclone Warning Dissemination System (CWDS) stations in Gujarat.
2. After getting information from IMD, warning dissemination is responsibility of the 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, District administration and DG Police. Warning messages are transmitted to all districts and talukas. District Collectors are provided with satellite phones and Ham radios 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.

2.6 Plan Activation

The cyclone response structure will be activated on the receipt of cyclone warning by the Indian Meteorological Department (IMD). The occurrence of a cyclone may be reported by the IMD to the Commissioner of Relief/GSDMA by the fastest means. The Commissioner of Relief (COR) will activate all the Departments for emergency response including the State EOC, District EOC and ERCs. He will issue instructions to include the following details:

- Specify exact resources (in terms of manpower, equipments and essential items from key dept. /stakeholders) required
- The type of assistance to be provided
- The time limit within which assistance is needed
- Details of other Task/Response Forces through which coordination should take place

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)).

Once the situation is totally controlled and normalcy is restored, the COR declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

2.7 Roles and Responsibility :

Standard Operating Procedure (SOP)

Time Frame	Task	Activity	Responsibility
Time = 0 – 72 Hrs.	Warning Receipt and Dissemination	<ol style="list-style-type: none"> 1. Inform ACS / PS (Revenue), CEO (GSDMA), Crisis Management Group, Hon. CM, Hon. Minister (DM), NDMA, Ministers and Secretaries of all line depts. as per the warning of IMD 2. Inform & instruct relevant District Collectors to activate District Control Room at full strength 3. Alert state response teams for deployment 4. Remain in constant touch with control rooms at National & State Level. 5. Instruct and alert heads of departments of the key line departments to activate their departmental plan and SOPs for Cyclone response 	CoR
	Interdepartmental Coordination	<ol style="list-style-type: none"> 6. Instruct all State Government officers and employees in the State to report to their respective Head for emergency duties (Only if the warning is of a level 2 disaster or as per the decision taken in the meeting of the Crisis Management Group headed by Chief Secretary) 	COR/ DOR

		<p>7. Alert the District Collectors of districts not likely to be affected to be prepared for providing the following to the districts likely to be affected:</p> <ul style="list-style-type: none"> ○ Additional manpower ○ Additional resources <ul style="list-style-type: none"> - Vehicles, Machinery & Equipment - Relief material 	
	Establishment of Lines of Communication	<p>8. Activate alternative communication equipments i.e. satellite phones, HF/VHF sets, Ham radio, VSAT in SEOC, DEOCs, TEOCs and ERCs</p> <p>9. Establish communication links with ERCs and Search & Rescue Teams in all Municipal Corporations and alert them to be in stage of readiness</p> <p>10. Establish communication links with villages likely to be affected as per the contact details available in SDRN</p>	COR/ DOR
Time = 0 – 48 Hrs	Review of situation and reporting	<p>11. Establish contact with IMD, CWC, ACWC, ISRO and the defense ministry of GoI for aerial / satellites imageries of the latest Cyclone threat</p> <p>12. Get the latest weather report from IMD/other international websites to know the exact location of Cyclone and the likely site where the landfall will take place</p> <p>13. After reviewing the weather report and satellite images issue instructions and orders for emergency response to areas likely to be affected</p>	Revenue Dept./ COR
	Management of EOC, ERCs and Cyclone Response	<p>14. Take over full command of SEOC and ERCs</p> <p>15. Instruct line departments to depute representatives at the State and District EOCs</p> <p>16. Hold a meeting with leaders of task forces and entrust them their tasks</p> <p>17. Arrange emergency meeting with State Crisis Management Group to devise a plan of action</p> <p>18. Arrange dissemination of information through various means of communication such as Radio, TV, Cable Network, SMS about Cyclone Warning to districts/areas which are likely to be hit by Cyclone.</p>	COR

		19. Alert teams to remain in readiness- Evacuation, Emergency Medical Services, Search & Rescue, Fire & Emergency Services, NDRF, Police, Home Guards, SRPF, Army, Air Force	
		20. Impose restriction on all transport activities heading towards coastal areas that are likely to be affected by Cyclone	Port & Transport Dept.
		21. Impose restriction to or alert all vessels in high sea through display of signals on respective ports, AIR broadcasts, coastal weather bulletins, etc.	Gujarat Maritime Board/ Coastal Radio Station/ Port Authorities
	Cyclone Response to Coastal Areas (Likely to be Affected)	22. Based on the warning issued by IMD, pin point the districts and villages likely to be affected by cyclone and start the procedure for identifying safe places/shelters for evacuation in those villages	Revenue Dept., Transport Dept. and Dist. Collectors, Municipal Commissioner
		23. Prepare route maps for safe place and evacuation shelters	
		24. Village wise data of safe shelters for evacuation available on SDRN should be referred and the District Collectors/Village level officers should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site	
		25. Make transport arrangement for mobilization of all emergency response teams	
		26. Make logistic arrangements for response teams	
		27. Ensure arrangements are in place to evacuate fishermen and salt workers if needed	Commissioner of Fisheries, Industries Dept.
		28. Ensure safety of tourists visiting beaches along the coastline	Tourism Dept.
		29. Cordoning off coastal areas for restricting entries of rail or road traffic	Home Dept., Dist. Collectors,
		30. Ensure law and order is maintained in areas likely to be affected	
		31. Ensure that all critical activities (mainly industrial production) in areas likely to be affected are shutdown	Line Depts., Industries and Mines Dept.
		32. Ensure that the schools and colleges are closed in areas likely to be affected by Cyclone and associated hazards	Education Dept.
		33. Ensure availability & serviceability of cyclone shelters issued in schools	

		34. Ensure dissemination of information to remote areas by local means 35. Ensure that local helplines are opened and effectively managed for public information, guidance and rumor control 36. Ensure that the information to public and media (AIR/ Doordarshan/ print/ FM) about the progress of Cyclone at periodic intervals is released	Dist. Collector, Information Dept.
		37. Activate Departmental Disaster Management Plan and Departmental SOPs for Management of casualties 38. Ensure availability of QRT & essential medicines	Health Dept.
		39. Issue alert/ warning through mass SMS by establishing liaison with telecom service providers 40. Ensure safety & serviceability of critical communication towers through respective service providers 41. Ensure establishment of alternate communication links like HF, VHF, HAM, Satellite Phones, etc.	Dept. of Science & Technology
		42. Ensure availability of safe drinking water	Dept. of Water Supply
		43. Ensure safety of dams & dewatering in case of heavy rains	Irrigation Dept.
		44. Establish contact with IMD, CWC, ISRO and the defense ministry of GoI for aerial / satellites imageries of the latest Cyclone threat 45. After reviewing the weather report and satellite images, issue instructions and orders for emergency response to areas likely to be affected areas 46. Review and monitor – evacuation from to be affected areas; positioning of search & rescue teams, mobile communication units, quick medical response teams; dissemination of information to vulnerable areas; preparedness measures to be taken by various authorities 47. Keep in touch with National, District and Taluka Control Rooms 48. Release information at appropriate time to media and public regarding response measures organized by the Government	Revenue Dept./ COR Information Dept.
Time = 0 - 24 Hrs	Review of Situation and Reporting		

	Emergency Response Management	<p>49. If reports regarding striking of cyclone are confirmed by IMD and other sources, start the emergency response and relief operations</p> <p>50. Divert the emergency services to areas likely to be affected as per the warning issued by IMD</p> <p>51. Inform the public residing in areas likely to be affected to evacuate through various means such as SMS, AIR, FM Radio, Doordarshan, etc.</p> <p>52. Start evacuation from the likely affected areas through Police support, if necessary</p>	Revenue Dept., COR, Dist. Collector, Home Dept.
		53. Disconnect power supply at the time of striking of cyclone.	Energy and Petrochemical
		54. To confirm & account for the exact number of fishermen in the sea and fishermen that have already reached the shore	GMB/Coast Guard, Commissioner of Fisheries
	Emergency Relief Management	<p>55. Ensure that the Relief Management work planned in the areas likely to be affected by the Cyclone is well organized</p> <p>56. Inform the following agencies to be in a state of readiness for assisting the Cyclone response measures (if required):</p> <ul style="list-style-type: none"> ○ Public sector agencies ○ Private sector agencies ○ NGOs, CBOs ○ Volunteer Organizations <p>57. Request for help (if needed) to MHA/National Disaster Management Authority</p>	COR/ Revenue Dept.
		<p>58. Ensure that the arrangement for basic amenities(shown below) at evacuation/relief centres are made by the respective departments:</p> <ul style="list-style-type: none"> ○ Drinking water ○ Food ○ Clothing ○ Sanitation and hygiene, ○ Lighting ○ Medicines and other Health Care 	COR, Food & Civil Supply Dept., Revenue Dept. & Dist. Collectors, Water Supply Dept., GEB, Health Dept.
		59. Make necessary arrangements for public information/guidance, public opinion and rumor control	Information Dept.
		60. Impose restrictions for transportation in threatened areas	Transport Dept. and Dist. Collector, Home Dept.

Time = 0 Hrs	Disaster Declaration	61. When Cyclone makes a landfall, Cyclone affected Dist. Collectors should send a communication to the State Govt. to declare the area as disaster affected, if necessary, (depending upon the nature and intensity of impact)	COR, Dist. Collector
	Preliminary Assessment, Deployment of Emergency Response Teams and Information Dissemination	62. Send teams to the affected areas to take stock of the effects of Cyclone and associated rain. 63. Send sector wise situation reports to: <ul style="list-style-type: none"> ○ State EOC/COR ○ GSDMA 	District Collector
		64. Deployment of following teams to Cyclone affected areas: <ul style="list-style-type: none"> ○ Emergency Communication Teams ○ Emergency Medical Services Teams ○ Search and Rescue Teams (With Equipment) ○ Preliminary damage Assessment Teams ○ Need Assessment Teams 	COR, Dist. Collector, Municipal Commissioner
		65. Establish communication link with affected districts by activating alternate communication equipments such as Satellite Phones, HF/VHF Sets, Ham Radio, V Set etc., in State/District EOCs and Taluka Control Rooms 66. Arrange dissemination of information about occurrence of Cyclone and areas that are affected by it to media & public.	COR, Dist. Collector, Information Dept.
Time = 0+ 24 Hrs	Mobilization and Deployment	67. Remain in constant touch with IMD for updates on weather forecast for the coming hours and plan accordingly 68. Immediate mobilization of following units/teams to areas affected by Cyclone and associated rains <ul style="list-style-type: none"> ○ S & R Teams of Fire and Emergency Services ○ Quick Medical Response Teams ○ Quick Damage & Loss Assessment Teams ○ Quick Need Assessment Teams ○ Road Clearance Teams ○ Teams for disposal of dead bodies ○ Teams for disposal of carcasses ○ Teams for debris clearance (if any) ○ Teams for maintaining Law & Order in the affected areas 	COR, Dist. Collector, Municipal Commissioner, Key line Dept.

		<ul style="list-style-type: none"> ○ Arrange for S & R teams of Air Force (If required) 	
	Clearance of Access Roads to Reach at The Sites of Affected Areas	<p>69. To survey the access roads/routes leading to the affected areas and manage traffic for mobilization of equipments, machinery and volunteers.</p> <p>70. Identify alternate roads/routes for evacuation of affected people</p> <p>71. Undertake repairing/restoration of damaged roads leading to the affected areas.</p> <p>72. Identify and declare unsafe buildings/structures in Cyclone affected areas.</p> <p>73. Evacuate people from unsafe buildings/structures and shift them to relief camps/sites</p> <p>74. Divert/stop transport activities (Rail + Road) heading towards Cyclone affected areas</p>	R & B Dept. , Transport Dept., Railways, COR
	Necessary Arrangements at Evacuation/ Relief Centres	<p>75. To ensure that necessary arrangements at evacuation/relief centers is made with sufficient availability of:</p> <ul style="list-style-type: none"> a. Food, b. Water, c. Blankets/Clothing d. Medicines e. Lighting f. Sanitation and hygiene etc. <p>76. To ensure necessary security arrangements for the evacuees and the personnel (Emergency responders/relief teams) who are working at Relief Centers and involved in distribution of Relief Materials</p> <p>77. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well</p> <p>78. Arrange for a logistic plan and warehouse for receipt and management of relief material</p>	Revenue Dept., Civil Supply Dept., Collectors, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Power & Energy Dept., GWSSB & Local Authorities, Home Dept.
	Safety of Fishermen and Salt Workers	<p>79. Take immediate actions for safety of fishermen, salt workers and visitors at cyclone affected coastal areas</p> <p>80. Ensure that all the fishermen and salt workers have returned from the sea or those who are in the sea are rescued and evacuated to safer places</p>	COR/DOR, Port and Fisheries Dept., Tourism Dept., Industries Dept.
	Immediate Health and Minimization of Disease Outbreak	<p>81. To establish camp hospitals near the affected areas</p> <p>82. To make transportation arrangements to shift</p>	COR/ DOR, Health Dept.

		<p>seriously injured persons to nearest-camp Hospitals, Taluka and District Hospitals, Regional and State Hospitals</p> <p>83. Ensure that the Hospitals are well prepared to deal with seriously injured persons</p> <p>84. Ensure that the required medical assistance/aid and medicines are provided to the affected people at site as well as at evacuation/relief centers in the affected area and necessary records are maintained</p> <p>85. Take sanitation and epidemic control measures for preventing any water borne disease</p> <p>86. Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals</p> <p>87. Take steps to purify drinking water sources</p> <p>88. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance</p>	
		<p>89. Assess need for fodder if required</p> <p>90. Keep teams ready for carcass disposal (if required)</p>	Animal Husbandry Dept.
	Information to Public and Media	<p>91. Establish Media/Press Centre for media management and information dissemination</p> <p>92. Ensure that the information to media/general public about the response of the State Government is released in an organized manner</p> <p>93. Organize media briefing twice a day at pre-determined intervals</p>	Information Dept., COR
	Other Important Work Related to Immediate Response	<p>94. Prepare quick need assessment report for planning of relief operation</p> <p>95. Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed)</p> <p>96. Prepare situation report and circulate it twice a day in the morning and evening to key Government functionaries</p> <p>97. Maintain constant touch with National, District and Taluka EOCs and other control rooms</p> <p>98. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly</p> <p>99. Conduct aerial survey of affected areas for taking a stalk of the situation</p>	

		<p>100. Prepare quick need assessment report for planning of relief operation</p> <p>101. Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed)</p> <p>102. Prepare situation report and circulate it twice a day in the morning and evening to key Government functionaries</p> <p>103. Maintain constant touch with National, District and Taluka EOCs and other control rooms</p> <p>104. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly</p> <p>105. Conduct aerial survey of affected areas for taking a stalk of the situation</p>	COR
		<p>106. Activate evacuation & relief centers according to needs/situation</p> <p>107. Maintain record of persons admitted at evacuation/relief centres</p>	Revenue Dept. Collector, COR
Time = 0 + 24 to 48 Hrs	Review of Situation and Reporting	108. Establish contact with IMD, CWC, ACWC, ISRO and the defense ministry of GoI for aerial / satellites imageries about further weather condition and plan accordingly	COR
	Restoration of Critical Infrastructure/ Essential Services	<p>109. Ensure that the essential services/critical infrastructure of the affected areas have been restored or alternative arrangement is made for ensuring safety of people and smooth management of emergency response.</p> <p>110. Ensure that key administrative and lifeline buildings are brought back to operation quickly.</p> <p>111. Designate and deploy senior officers (as per the need) to worst affected area/s to oversee rescue/relief operation.</p> <p>112. Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> ○ Power ○ Water ○ Telecommunication ○ Roads ○ Bridges 	COR, Line Depts., Dist. Collectors, Municipal Commissioner
	Disposal of Dead Bodies	<p>113. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <p>a. Photographs of the dead bodies are taken,</p>	Revenue Dept., Dist. Collector, Municipal Commissioner,

		<ul style="list-style-type: none"> b. Identification of the dead bodies is done, c. Post Mortem where ever necessary and possible is carried out, d. Handing over dead bodies of persons known/identified to their relatives, e. Disposal of unclaimed and unidentified dead bodies. 	Home Dept., Health Dept., Local Authorities
		114. Ensure medical aid to injured cattle 115. Disposal of animal carcasses with the help of local bodies/health dept.	Animal Husbandry Dept.
	Public Information and Media Management	116. Ensure that the information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day 117. Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s 118. Establish Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals	COR, Information Dept., Dist. Collector, Municipal Commissioner
	Miscellaneous Rescue and Relief Works	119. Assess the situation and take appropriate action to accelerate the Search & Rescue Operations 120. Depute additional officers and supporting staff to Cyclone affected areas from non-affected areas (if required) to accelerate the rescue and relief operations	COR, Districts Collector, Municipal Commissioner
		121. Ensure that the relief assistance received from outside is centrally received, stored and sent for distribution to Cyclone affected areas according to their need and proper accounts are maintained about both receipt and distribution	COR, Civil Supply Dept.
		122. District Collector to oversee the functioning of relief centres and ensure adequate supply of relief materials	Revenue Dept, Civil Supply Dept.,
		123. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly 124. Arrange for procurement of additional relief material required for relief operations (on the basis of need assessment) 125. Mobilize additional relief material required for relief operations	COR, Dist. Collectors, Civil Supply Dept.
	Time = 0 + 48 to 96 Hrs	Continuous Rescue and Relief Works	

		126. Maintain constant touch with State & Districts EOCs	
		127. Arrangement for transportation of injured from field hospital to base hospital	Revenue Dept., Health Dept. , Transport Dept., Line Deptts.
		128. Arrangement for transport of dead bodies to their native places	
		129. Ensure maintenance of record, timely reporting and information management	
		130. Ensure maintenance of record and information database	
Time = 0 + 96 to 168 Hrs	Continuous Rescue and Relief Works	131. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly	COR
		132. Review the restoration of all the public and essential buildings/ structures in Cyclone affected areas	
		133. Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s	
		134. On receiving the message from IMD about degradation of Cyclone, inform the concern dist. Collector	COR, IMD
		135. Organize a quick rapid visual survey of the affected areas (through a technical team of engineers) to ascertain the safety of the structures and decide on giving the go-ahead to people to move back to their respective houses	COR, Dist. Collectors, Municipal Commissioner, R & B Dept.
		136. After receiving the message of de-warning, ensure that people are moved back safely to their houses	COR, Collector, Police Dept.
		137. Ensure relief disbursement, allotment of funds and grants to line department and district collectors for organizing emergency response, relief and evacuation arrangements	Revenue Dept.

2.8 Immediate Relief

2.8.1 Short-term Relief Measures

a. Search, Rescue and Medical Assistance

- Identification of areas where SAR Teams are to be deployed
- Coordination of SAR teams for their quick deployment in allotted areas
- Provision of quick transport of SAR teams to affected areas
- The department of Roads and Buildings to evolve a mechanism for clearing access routes in order to facilitate search and rescue operations
- Mobilization of specialized equipment and machinery to affected areas

- vi. Cordoning of affected areas with control of entry and exit
- vii. Traffic Management by establishment of traffic points and check-posts
- viii. The Home Department to evolve a mechanism for providing security of properties of government and public in the affected areas

b. Emergency Relief

- i. Establishment of Temporary shelters for evacuees
- ii. Ensuring Arrangement for food, clothing, blanket/bedding, drinking water, sanitation and hygiene, lighting arrangements and essential medicines
- iii. Ensure deployment of mobile hospitals in affected areas for treatment of victims
- iv. Provide counselling services to the cyclone victims and their relatives
- v. Ensure establishment of communication link between the affected people and their relatives outside

c. The COR to ensure the following in the relief camps:

- i. Special emphasis on Hygiene and sanitation aspects should be given in relief camp sites
- ii. Separate area should be earmarked within the relief camp for storage of relief materials
- iii. Adequate manpower and transport facilities for the camp site.
- iv. Arrangements to be made for trauma management
- v. Mobile medical units to be sent to remote areas with a view to provide medical assistance to the victims/injured
- vi. Information centre should be established by the administration

2.8.2 Interim Relief Measures

- a. Arrangements to be made for quick identification and maintenance of the records of disposal of dead bodies in the affected areas **(Home, Revenue, Health Dept., Local Authorities)**
- b. Arrangements to be made to record the complaints of all persons reported missing. Follow up action in terms of verification of the report also needs to be made **(Home Dept.)**
- c. District Magistrates and Sub-Divisional Magistrates to be empowered to exempt the requirement of identification and post-mortem in case of mass casualties. Revenue Dept may depute additional sub-divisional magistrates to expedite disposal of the dead bodies **(Revenue & Home Dept.)**
- d. Unclaimed/unidentified dead bodies to be disposed off with the help of pre-identified voluntary agencies at the earliest after keeping their records **(Home, Revenue, Health Dept. & Local Bodies)**
- e. Additional manpower to be deployed in the affected areas for supplementing the efforts of the local administration **(GAD)**
- f. Separate Cell to be established at state/district/taluka level to coordinate with the NGOs and outside donor/aid agencies **(Revenue Dept.)**
- g. Regular meetings of the different stakeholders/departments should be organized at state level for sharing of information, developing strategies for relief operations. **(Commissioner of Relief & Collectors at District Level)**
- h. Information & Public Relation Dept to coordinate with the media to play a positive role in disseminating appropriate information to public and the government in order to facilitate the speedy recovery

2.8.3 Assessment of Damage/Loss and Relief Needs

- a. The Commissioner of Relief to issue instructions to the District Collectors to provide 'the need assessment' report. The Commissioner of Relief should consolidate the same and to prepare "States Need Assessment Report"
 - b. The Commissioner of Relief to issue instructions to the District Collectors to provide the damage and loss assessment report. The Commissioner of Relief to consolidate the same and to prepare "state's damage and loss assessment report" which will be useful in planning and implementing the relief operation after the disaster for the victims of the disaster
 - c. Adequate manpower, vehicles, stationery etc should be provided to supplement the efforts for need/loss assessment. **(Commissioner of Relief & Revenue Dept.)**
 - d. The relief need assessment report should be provided by the Collectors **(Commissioner of Relief & Collectors)**
 - e. Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries **(R & B Dept., Revenue Dept and Local Bodies)**
 - f. Arrangements for distribution of gratuitous relief and cash doles **(Revenue Dept., Panchayat& Rural Housing Dept., UD&UHD Dept. and Collectors)**
 - g. Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons **(Revenue Dept.)**
 - h. Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property damage assessment **(Revenue Dept and Local authorities)**
 - i. As reconstruction of houses will take a long period, arrangements to be made to provide interim shelters to the affected **(Revenue Dept and Line Departments like Water Supply Dept., GEB, R & B Dept. etc)**
- I. Identification of the site for interim shelter
 - II. Allocation of areas to affected families
 - III. Providing appropriate shelters to the affected families
 - IV. Providing essential services as under in the interim shelter sites like water, transportation, power, road, drainage/ sanitation, school, PDS, health, protection, distribution of shelter materials to individual families, etc.

Chapter 3: Action Plan for Tsunami

3.1 Introduction

This plan will address the response measures to be taken up to reduce the effects of tsunami waves with an effective coordinated way. Tsunamis are a series of waves usually generated by movement of the seafloor. These movements are caused by different types of geophysical phenomena such as earthquakes, landslides and volcanic eruptions. Tsunamis move at a speed equal to the square root of the product of gravity and the depth of the water. The tsunami waves behave very differently in deep water than in shallow water as their speed is related to the water depth. Tsunami waves form only a small hump, barely noticeable and harmless, which generally travels at a very high speed of 500 to 1,000 km/h. The tsunami's speed diminishes as it travels into shallower water to only tens of kilometers an hour, consequently increasing the wave height. Because of this shoaling effect, a tsunami, imperceptible at sea, may grow to be several meters or more in height near the coast forming the large destructive waves.

Gujarat is prone to tsunami risk due to its long coastline and probability of occurrence of near and offshore submarine earthquakes in the Arabian Sea. Makran Subduction Zone (MSZ) -South West of Karachi is an active fault area which may cause a high magnitude earthquake under the sea leading to a tsunami.

The Chapter 8 in Volume 1 of this SDMP mentioned the roles, functions and responsibilities of Emergency Support Functions (ESFs) that have a key role to play during the Response.

Further, SDMP gives emphasis on well-being of the economically weaker and socially marginalized sections, persons with disability, women, Children, Scheduled Castes, Scheduled Tribes and minorities as they tend to suffer more during disasters. The SDMP forbids all forms of discrimination – be it based on sex, caste, community, descent or religion – in any aspect of disaster risk management.

3.2 Associated Authority

The nodal Department for controlling, monitoring and directing measures for organizing response, relief and recovery is the Revenue Department (through Commissionerate of Relief and GSDMA, respectively) of the State. All other concerned line Departments should extend full cooperation in all matters pertaining to the management of the Tsunami disaster whenever it occurs.

3.3 Disaster Declaration

The Gujarat State Disaster Management Act, 2003 (Section 32) provides for the State Government to declare any area where Tsunami have occurred or likely to occur as disaster affected area on the recommendations of the State Relief Commissioner or the District Collector. The purpose of declaration of disaster is to organize effective response in reduction of the Tsunami effects. Such a declaration provides wide powers and responsibilities to the State Relief Commissioner and the District Collectors in order to handle the incident effectively.

3.4 Early Warning

Early warning helps to detect tsunamigenic earthquakes and to monitor tsunamis and to provide timely advisories to vulnerable community through proper communication with help of real time database, vulnerability study and Decision Support System.

Decision Support system is the set of rules to be followed for issue of tsunami bulletins. These rules are appropriately coded in the form of software that automatically generates bulletins by accessing the real-time data from the observing network as well as the model scenario database.



The Tsunami Early Warning Centre (at INCOIS) continuously monitors the seismic activity in the tsunamigenic source regions of the Indian Ocean through the network of national and international seismic stations. This network enables us to detect any tsunamigenic earthquakes within a time period of 10-12 minutes of occurrence. Tsunami bulletins are then generated based on pre-set decision support rules and disseminated to the concerned authorities for action, following the SOP. Thus Early Warning Centre provides 24*7 timely advisories as a part for prevention of a disaster.

Early warning centre helps in:

1. Continuous monitoring of Seismic and sea-level data
2. Use of community level inundation maps which helps in assessing the population and infrastructure at risk as part of early warning

Tsunami Alert, Watch and Advisory Bulletins received at the SEOCs and DEOCs need to be disseminated through the fastest means to the people in the coastal areas likely to be affected.

3.4.1 Warning/ Alert / Watch

Based on earthquake parameters, region's proximity to the earthquake zone (Travel Times) and expected run-up from pre-run model scenarios, warnings to far source regions are issued only after confirmation of tsunami triggering based on real-time water-level observations and correction of scenarios. This reduces possibility of false warnings.

The warning criteria are based on the premise that coastal areas falling within 60 minutes travel time from a tsunamigenic earthquake source need to be warned based solely on earthquake information, since enough time is not available for confirmation of water levels from Bottom Pressure Recorder (BPRs) and Tide Gauges. Those coastal areas falling outside the 60 minutes travel time from a tsunamigenic earthquake source are put under a watch status and upgraded to a warning only upon confirmation of water-level data, e.g. If a tsunamigenic earthquake happens in the coast of the Northern Indonesia, parts of the Andaman & Nicobar Islands falling within 60 minutes travel time of a tsunami wave are put under 'Warning' status. Other areas are put under 'Watch' Status and upgraded to a 'Warning' only if the Bottom Pressure Recorder's or tide gauges reveal significant change in water level. This implies that the possibility of false alarms is higher for areas close to the earthquake source; however for other regions since the warnings are issued only after confirmation of water-level data, the issue of false alarms doesn't arise. To

reduce the rate of false alarms even in the near source regions, alerts are generated by analyzing the pre-run model scenarios, so that warnings are issued only to those coastal locations that are at risk.

3.4.2 Types of TWC Tsunami Bulletin Messages

a. Earthquake Information Bulletin (T+20 Min)

It contains information about origin time, latitude and longitude of the epicenter, name of geographical area, magnitude and depth of an earthquake. This message also contains preliminary evaluation of tsunami potential based on the magnitude. (e.g. earthquake occurring on land or earthquake with $< M\ 6.5$ or earthquake occurring > 100 Km depth or earthquake occurring in very shallow water column, etc. no tsunami is expected; Bulletin is provided to Ministry of Home Affairs (MHA).

b. Tsunami Warning (T+30 Min) (RED)

It contains information about the earthquake and a tsunami evaluation message indicating that tsunami is expected (e.g. For earthquakes with $> M\ 6.5$ occurring in the Ocean within a depth of < 100 Km, a tsunami warning will be issued for those areas falling within 60 minutes travel time from the earthquake source and if expected run up is > 2 m). This is the highest level wherein immediate actions are required to move public to higher grounds. Message also contains information on the travel times and tsunami grade (based on run-up estimates) at various coastal locations from pre-run model outputs. Information provided to Ministry of Home Affairs (MHA) and public.

c. Tsunami Alert (T+30 Min) (ORANGE)

It contains information about the earthquake and a tsunami evaluation message indicating that tsunami is expected (e.g. For earthquakes with $> M\ 6.5$ occurring in the Ocean within a depth of < 100 Km, a tsunami alert will be issued for those areas falling within 60 minutes travel time from the earthquake source and if expected run up is between 0.5 to 2 m as well as for those areas falling above 60 minutes travel time from the earthquake source and if expected run up is > 2 m). This is the second highest level wherein immediate public evacuation is not required. Public should avoid beaches since strong current are expected. Local officials should be prepared for evacuation if it is upgraded to warning status. Message also contains information on the travel times and tsunami grade (based on run-up estimates) at various coastal locations from pre-run model outputs. Information provided to Ministry of Home Affairs (MHA) and public.

d. Tsunami Watch (T+30 Min) (YELLOW)

It contains information about the earthquake and a tsunami evaluation message indicating that tsunami is expected (e. g. For earthquakes with $> M6.5$ occurring in the Ocean within a depth of < 100 Km, a tsunami watch will be issued for those areas falling within 60 minutes travel time from the earthquake source and if expected run up is < 0.5 m and for those areas falling above 60 minutes travel time from the earthquake source and if expected run up is 0.5 to 2 m). This is the third highest level wherein immediate public evacuation is not required, Local officials should be prepared for evacuation if it is upgraded to warning status.

Message also contains information on the travel times and tsunami grade (based on run-up estimates) at various coastal locations from Pre-run model outputs. Information provided to Ministry of Home Affairs (MHA).

e. Tsunami Cancellation (GREEN)

It will be issued if the tsunami warning was issued on the basis of erroneous data or if the warning center determines from subsequent information that only an insignificant wave has been generated. In addition, tsunami warning may be canceled on a selective basis when a significant wave that has been generated clearly poses no threat to one or more of the areas the warning center warns, either because of intervening continents or islands which screen them or because the orientation of the generating area causes the tsunami to be directed away from these areas. To maintain credibility the warning center will use the terminology “non-destructive tsunami” in the cancellation message whenever applicable.

f. Tsunami All Clear (GREEN)

This bulletin indicates that the ‘Tsunami Threat’ is passed and no more dangerous waves are expected.

3.5 Plan Activation

The tsunami response structure will be activated on the occurrence of a major tsunami. The Commissioner of Relief (CoR) will activate all the Departments for emergency response including the State EOC (SEOC). He will issue instructions to include the following details:

- Specify exact resources required.
- The type of assistance to be provided
- The time limit within which assistance is needed
- The state, district or other contact persons/agencies for the provision of the assistance
- Other Task Forces with which coordination should take place

The SEOC and other control rooms at the state level as well as District Emergency Operation Centres (DEOCs) shall 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)).

Once the situation is totally controlled and normalcy is restored, the COR declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

3.6 Roles and Responsibility :

Following are the key emergency response measures when occurrence of tsunami generating earthquake under the ocean is reported:

Standard Operating Procedures (SOP)

Time Frame	Task	Activity	Responsibility
0 to (-) 60 Minutes	Warning Receipt and Dissemination Monitoring seismic activity, provide warnings, based on seismic models and issue periodic bulletins	<ol style="list-style-type: none"> Report the occurrence of Tsunami generating earthquake to following officials: <ul style="list-style-type: none"> - Hon. Chief Minister - Hon. Minister – Disaster Management - <u>MHA</u> & National Disaster Management Authority, GoI. - COR/DOR - Principal Secretary (Revenue) - Chief Executive Officer, GSDMA - Chief Secretary of the State - Members of Crisis Management Group - All concerned District Collectors as well as Control Room DEOCs of the district/s likely to be affected as per preliminary warning of IMD and INCOIS. - Ministers and Secretaries of all line departments Instruct Collectors (of the districts likely to be affected) to activate DEOCs at full strength Alert all response teams in the State for deployment Remain in constant touch with control rooms at National & State Level Instruct and alert all secretary / heads of departments of the key line departments to activate their departmental plan and SOPs for Tsunami response 	INCOIS, ISR, IMD, COR
	Interdepartmental Coordination	<ol style="list-style-type: none"> Instruct all State government officers and employees in the State to report to their respective Head for emergency duties (Only if the warning is of a level 2 disaster or as per the decision taken in the meeting of the Crisis Management Group headed by Chief Secretary) Alert the District Collectors of districts not likely to be affected to be prepared for providing: <ul style="list-style-type: none"> o Additional manpower 	CoR, GAD

		<ul style="list-style-type: none"> ○ Additional resources <ul style="list-style-type: none"> - Vehicles, Machinery & Equipment - Relief material to the districts likely to be affected 	
	Establishment of Lines of Communication	<p>8. Activate alternative communication equipments i.e. satellite phones, HF/VHF sets, Ham radio, VSAT in State EOC and ERCs, District and Taluka control rooms</p> <p>9. Establish communication links with ERCs and Search & Rescue Teams in all Municipal Corporations/Districts and alert them to be in stage of readiness.</p> <p>10. Establish communication links with villages likely to be affected as per the contact details available in SDRN.</p>	CoR
0 to (-) 50 Minutes	Review of situation and reporting	<p>11. Establish contact with IMD, INCOIS, ISRO and the Defence Ministry of GoI for aerial / satellites imageries.</p> <p>12. After reviewing the satellite images, issue instructions and orders for emergency response to areas likely to be affected.</p>	CoR
	Management of EOC, ERCs and Tsunami Response	<p>13. Take over full command of State EOC and ERCs.</p> <p>14. Instruct line departments to depute representatives at the State and District EOCs.</p> <p>15. Hold a meeting with leaders of emergency support functions (as detailed in Vol. 1 of the plan) and entrust them their tasks.</p> <p>16. Ensure that Tsunami information is disseminated to all who are at danger.</p> <p>17. Arrange emergency meeting with State Crisis Management Group to devise a plan of action.</p>	CoR
		18. Arrange dissemination of information through various means of communication such as Radio, TV, Cable Network, SMS about Tsunami to districts/areas which are likely to be hit.	COR
		19. Impose restriction on all transport activities heading towards coastal areas that are likely to be affected by Tsunami.	Secretary Transport
		<p>20. Mobilize following teams:</p> <ul style="list-style-type: none"> ○ Evacuation ○ Emergency Medical Services ○ Search and Rescue 	COR

		21. Mobilize following emergency response forces: <ul style="list-style-type: none"> ○ Fire & Emergency Services ○ NDRF/ SDRF ○ Village Disaster Management Teams ○ Police, Home Guards, Civil Defence ○ State Reserve Police Force ○ Army (if required) ○ Air Force (if required) 	
	Tsunami Response to Coastal Areas (Likely to be Affected)	22. Based on the warning issued by IMD/ INCOIS, pin point the districts and villages likely to be affected by Tsunami and start the procedure for identifying safe places/shelters for evacuation in those villages. 23. Village wise data of safe sheltering for evacuation available on SDRN should be referred and the District Collectors/Village level officers should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site. 24. Make transport arrangement for mobilization of all emergency response teams.	COR, Transport Dept., Dist. Collector, Municipal Commissioner
		25. Ensure arrangements are in place to evacuate fishermen and salt workers if needed.	Ports & Fisheries Dept., GMB, Revenue Dept.,
		26. Ensure safety of tourists visiting beaches along the coastline.	Tourism Dept.
		27. Cordon off coastal areas for restricting entries of rail or road traffic. 28. Ensure law and order is maintained in areas likely to be affected.	Home Dept., Dist. Collector, Municipal Commissioner
		29. Ensure that all critical activities (mainly industrial production) in areas likely to be affected are shutdown.	Line Depts. (GEB, E&F Depart., Industries& Mines etc.)
		30. Ensure dissemination of information to remote areas by means. 31. Ensure that local help lines are opened and effectively managed for public information, guidance and rumour control.	Dist. Collector, Municipal Commissioner, Information Dept.

		32. Ensure that the information to public and media about the progress of Tsunami waves at periodic intervals is released.	
		33. Health Department to activate their Departmental Tsunami Disaster Management Plan and SOPs for Management of casualties	Health Dept.
0 to (-) 15 Minutes	Review and Reporting	<p>34. Review and monitor following activities:</p> <ul style="list-style-type: none"> ○ Evacuation of people from coastal areas likely to be affected ○ Positioning of Search and Rescue Teams ○ Positioning of mobile communication units ○ Positioning of quick medical response teams ○ Mobilization of restoration teams of respective departments ○ Requirement of armed forces in rescue and relief operations ○ Dissemination of information to the vulnerable areas ○ All preparedness measures to be taken by various authorities <p>35. Keep in touch with National, District and Taluka EOCs/Control Rooms</p> <p>36. Release information at appropriate time to media and public regarding response measures organized by the Government</p>	COR, Information Dept.
	Emergency Relief Management	37. Ensure that the Relief Management work in the likely affected areas / districts are well organized.	COR
		<p>38. Ensure that the arrangement for basic following amenities at evacuation/relief centres are made available:</p> <ul style="list-style-type: none"> ○ Drinking water ○ Food ○ Clothing ○ Sanitation and hygiene ○ Lighting ○ Medicines and Health Care 	COR, Civil Supply Dept., Revenue Dept. & Dist. Collector, Municipal Commissioner, Water Supply Dept., GEB, Health Dept.
		<p>39. Inform following agencies to be in a state of readiness for assisting in the Tsunami response measures (if required):</p> <ul style="list-style-type: none"> ○ Public sector agencies ○ Private sector agencies ○ NGOs 	COR

		<ul style="list-style-type: none"> ○ CBOs ○ Volunteer Organizations 	
		40. Request for assistance (if needed) to MHA/National Disaster Management Authority	COR
		41. Make necessary arrangements for public information/guidance, public opinion and rumour control.	Information Dept.
Time = 0 Hrs	Disaster Declaration	42. Record the reports in detail with time, source of reports etc. and declare the area as disaster affected, if necessary, (depending upon the nature and intensity of impact)	COR, Dist. Collector,
	Preliminary Assessment, Deployment of Emergency Response Teams and Dissemination of Information	43. Dist. Collector/s and Municipal Commissioners should send teams to the affected areas to take stalk of the effects of Tsunami.	Dist. Collector, Municipal Commissioner
		44. District Collector/s and Municipal Commissioners should send sector wise situation reports to: <ul style="list-style-type: none"> ○ State EOC /COR ○ GSDMA 	
		45. Deployment of following teams to Tsunami affected areas: <ul style="list-style-type: none"> ○ Emergency Communication Teams ○ Emergency Medical Services Teams ○ Search and Rescue Teams (With Equipment) ○ Preliminary damage and needs Assessment Teams 	COR, Dist. Collector, Municipal Commissioner
		46. Establish communication link with affected districts and towns by activating alternate communication equipments such as Satellite Phones, HF/VHF Sets, Ham Radio, V Set etc., in State/District EOCs and Taluka Control Rooms. 47. Arrange dissemination of information about occurrence of Tsunami and areas that are affected by it to Media & Public	COR, Dist. Collector, Municipal Commissioner, Information Dept.
Time = 0 + 24 Hrs	Mobilization and Deployment	48. Immediate mobilization of following units/teams to areas affected by Tsunami <ul style="list-style-type: none"> ○ S & R Teams of Fire and Emergency Services ○ SDRF ○ Quick Medical Response Teams ○ Quick Damage & Loss 	COR, Municipal Commissioner, Home Dept., Concern line Dept., DSP.

		<ul style="list-style-type: none"> Assessment Teams ○ Quick Need Assessment Teams ○ Road Clearance Teams ○ Teams for dignified management of the the dead ○ Teams for disposal of carcasses ○ Teams for debris clearance (if any) ○ Teams for maintaining Law & Order in the affected areas ○ Arrange for S & R teams of Air Force (If required) 	
	Measures for quick and organized response	49. State EOC, ERCs, the Collectors/ Municipal Commissioners of the affected district should ensure that the following response activities are carried out immediately:	COR, Collector, DSP, Municipal Commissioner, Line Dept.
	a. Clearance of access roads to the affected areas	50. To survey the access roads/routes leading to the affected areas and manage traffic for mobilization of equipments, machinery and volunteers. 51. Identify alternate roads/routes for evacuation. 52. Undertake repairing/restoration of damaged roads leading to the affected areas. 53. Identify and declare unsafe buildings/structures in Tsunami affected areas. 54. Evacuate people from unsafe buildings/ structures and shift them to relief camps/sites.	R & B Dept. , Transport Dept., Dist. Collector, Municipal Commissioner, Railways, COR
	b. Necessary Arrangements at evacuation/relief centres	55. To ensure that necessary arrangements at evacuation/relief centers is made with sufficient availability of: <ul style="list-style-type: none"> a. Food, b. Water, c. Blankets/Clothing d. Medicines e. Lighting f. Sanitation and hygiene etc. 56. To ensure necessary security arrangements for the personals (Emergency responders/relief teams) who are working at Relief Centers and involved in distribution of Relief Materials. 57. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well.	Revenue Dept., Civil Supply Dept., Collector, DSP, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Power & Energy Dept., GWSSB & Local Authorities, Home Dept.

	c. Safety of fishermen and salt workers	<p>58. Immediate actions to be taken for safety of fishermen, salt workers and visitors at Tsunami affected coastal areas.</p> <p>59. Ensure that all the fishermen and salt workers have returned from the sea or those who are in the sea are rescued and evacuated to safer places.</p>	COR, Port and Fisheries Dept., GMB, Tourism Dept., Industries & Mines Dept.
	d. Ensure immediate health and minimization of outbreak of disease	<p>60. To establish camp hospitals near the affected areas.</p> <p>61. To make transportation arrangements to shift seriously injured persons to nearest- a. Camp Hospitals, b. Taluka and District Hospitals, c. Regional and State Hospitals</p> <p>62. Ensure that the Hospitals are well prepared to deal with seriously injured persons.</p> <p>63. To ensure that the required medical assistance/aid and medicines are provided to the affected people at site as well as at evacuation/relief centers in the affected area and necessary records are maintained.</p> <p>64. Take sanitation and epidemic control measures for preventing any water borne disease.</p> <p>65. Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals</p> <p>66. Take steps to purify drinking water sources</p> <p>67. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance.</p>	Health Dept., Transport Dept.
		<p>68. Assess need for fodder if required.</p> <p>69. Keep teams ready for carcass disposal (if required).</p>	Animal Husbandry Dept.
	e. Information to public and media	<p>70. Establish Media/Press Centre for media management and information dissemination</p> <p>71. Ensure that the information to media/general public about the response of the State Government is released in an organized manner.</p> <p>72. Organize media briefing twice a day at pre-determined intervals.</p>	Information Dept., COR

	f. Other important work related to immediate response	<p>73. Prepare quick need assessment report for planning of relief operation.</p> <p>74. Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed).</p> <p>75. Maintain constant touch with National, District and Taluka EOCs and other control rooms.</p> <p>76. Conduct Aerial survey of affected areas for taking a stalk of the situation.</p>	COR
Time = 0 + 24 to 48 Hrs	Restoration of critical infrastructure/essential services	<p>77. Ensure that the essential services/critical infrastructure of the affected areas have been restored or alternative arrangement is made for ensuring safety of people and smooth management of emergency response.</p> <p>78. Ensure that key administrative and lifeline buildings are brought back to operation quickly</p> <p>79. Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> ○ Power ○ Water ○ Telecommunication ○ Roads ○ Bridges 	COR, Line Depts., Dist. Collector, Municipal Commissioner
	Dignified Management of Dead	<p>80. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ul style="list-style-type: none"> ○ Photographs of the dead bodies are taken, ○ Identification of the dead bodies is done, ○ Post Mortem where ever necessary and possible is carried out, ○ Handing over dead bodies of persons known/identified to their relatives, ○ Disposal of unclaimed and unidentified dead bodies. 	Collector, DSP, Muni. Commissioner, Home Dept., Health Dept., Local Authorities
		<p>81. Animal Husbandry Department to ensure medical aid to cattle which are injured</p> <p>82. Disposal of animal carcasses with the help of local bodies/health dept.</p>	Animal Husbandry Dept, Local Authorities, health dept.
	Public Information and Media Management	83. Ensure that information about progress of rescue and relief is provided to media/public in an organized manner at	COR, Information Dept. and Dist.

		<p>least twice a day.</p> <p>84. Establish Help Lines for facilitating communication between the victims and their relatives residing outside the affected area/s.</p> <p>85. Establish Help Lines / Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals.</p>	Collector, Municipal Commissioner
	Miscellaneous rescue and relief works	<p>86. Assess the situation and take appropriate action to accelerate the Search & Rescue Operations.</p> <p>87. Depute additional officers and supporting staff to Tsunami affected areas from non-affected areas (if required) to accelerate the rescue and relief operations.</p>	COR, Districts Collector, DSP, Municipal Commissioner
		88. Ensure that the relief assistance received from outside is centrally received, stored and sent for distribution to Tsunami affected areas according to their need and proper accounts are maintained about both receipt and distribution.	COR, Civil Supply Dept.
		89. District Collector may oversee the functioning of relief centres and ensure adequate availability & supply of relief materials.	Revenue Dept, Civil Supply Dept.
Time = 0 + 48 to 96 Hrs		<p>90. Arrange for procurement of additional relief material required for relief operations (on the basis of need assessment).</p> <p>91. Mobilize additional relief material required for relief operations.</p> <p>92. Maintain constant touch with State & Districts EOCs.</p>	COR, Dist. Collector, Municipal Commissioner, Civil Supply Dept.
		<p>93. Arrangement for transportation of injured from field hospital to base hospital</p> <p>94. Arrangement for transport of dead bodies to their native places.</p>	Revenue Dept., Health Dept., Transport Dept
		<p>95. Ensure maintenance of record, timely reporting and information management.</p> <p>96. Ensure maintenance of record and information database</p>	Line Depts., Dist. Collector, COR
Time = 0 + 96 to 168 Hrs		<p>97. Review the restoration of all the public and essential in Tsunami affected areas</p> <p>98. Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s.</p>	COR

			99. After receiving the message of de-warning, ensure that people are moved back safely to their houses.	COR, Collector, DSP
			100. Organize a quick rapid visual survey of the affected areas (through a technical team of engineers) to ascertain the safety of the structures decide on giving the go-ahead to people to move back to their respective houses.	COR, Dist. Collectors, Municipal Commissioner, R&B
			101. Ensure relief disbursement, allotment of funds and grants to line department and district collectors for organizing emergency response, relief and evacuation arrangements.	Revenue Dept.

3.7 Relief Measures

3.7.1 Short Term Relief Measures

Ensure that all the following identified measures addresses the Minimum standard of relief defined by the state government.

- a. Provide temporary shelter to the affected people
- b. Temporary shelter site should be safe and easily accessible.
- c. Continue to provide essential services (food, water, clothing, sanitation, medical assistance, power, etc.) to the affected people.

The COR, Secretaries of Line Departments and concerned Collectors to ensure the following in the relief camps:

- i. Special emphasis on Hygiene and sanitation aspects should be given in relief camp sites. (Health Dept.)
- ii. Separate area should be earmarked within the relief camp for storage of relief materials. (Civil Supply & R & B Dept.)
- iii. Adequate manpower and transport facilities for the camp site. (Transport Department)
- iv. Arrangements to be made for trauma management. (Health Department)
- v. Mobile medical units to be sent to remote areas with a view to provide medical assistance to the victims/injured. (Health Dept.)
- vi. Information centre should be established by the administration. (I&B Department)

3.7.2 Interim Relief Measures

- a. Arrangements to be made for quick identification and maintenance of the records of disposal of dead bodies in the affected areas (Home, Revenue, Health Dept., Local Authorities).
- b. Arrangements to be made to record the complaints of all persons reported missing. Follow up action in terms of verification of the report also needs to be made. (Home Dept.)
- c. District Magistrates and Sub-Divisional Magistrates to be empowered to exempt the requirement of identification and post-mortem in case of mass casualties. Revenue Dept may depute additional Sub-Divisional Magistrates to expedite disposal of the dead bodies. (Revenue & Home Dept.)

- d. Unclaimed/unidentified dead bodies to be disposed off with the help of pre identified voluntary Agencies at the earliest after keeping their records. (Home, Revenue, Health Dept. & Local Bodies)
- e. Additional manpower to be deployed in the affected areas for supplementing the efforts of the local administration. (GAD).
- f. Separate Cell to be established at state/ district/ taluka level to coordinate with the NGOs and outside donor/aid agencies. (Revenue Dept.)
- g. Regular meetings of the different stakeholders/departments should be organized at state level for sharing of information, developing strategies for relief operations. (Commissioner of Relief & Collectors at District Level).
- h. Information & Public Relation Dept. to coordinate with the media to play a positive role in disseminating appropriate information to public and the government in order to facilitate the speedy recovery. (I& B Dept.)

3.7.3 Assessment of Damage/Loss and Relief Needs

- a. The Commissioner of Relief to issue instructions to the District Collectors to provide ‘the needs assessment’ report. The Commissioner of Relief should consolidate the same and to prepare “States Needs Assessment Report”.
- b. The Commissioner of Relief to issue instructions to the District Collectors to provide the damage and loss assessment report. The Commissioner of Relief to consolidate the same and to prepare “Relief Memorandum” (if necessary) which will be useful in planning and implementing the relief operation after the disaster for the victims of the disaster.
- c. Adequate manpower, vehicles, stationery, etc. should be provided to supplement the efforts for need/ loss assessment. (Commissioner of Relief & Revenue Dept.)
- d. The Relief Memorandum should be provided by the Collectors. (Commissioner of Relief & Collectors)
- e. The damage assessment Performa is also attached in the **Annexure 3**. (COR & Collectors)
- f. Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries. (R & B Dept., Revenue Dept and Local Bodies)
- g. Arrangements for distribution of gratuitous relief and cash doles. (Revenue Dept., Panchayat & Rural Housing Dept., UD&UHD Dept. and Collectors)
- h. Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons. (Revenue Dept.)
- i. Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property damage assessment. (Revenue Dept and Local authorities)
- j. As reconstruction of houses will take a long period, arrangements to be made to provide interim shelters to the affected. (Revenue Dept and Line Departments like Water Supply Dept., GEB, R & B Dept. etc)
 - i. Identification of the site for interim shelter
 - ii. Allocation of areas to affected families
 - iii. Providing appropriate shelters to the affected families

- iv. Providing essential services as under in the interim shelter sites like water, transportation, power, road, drainage/ sanitation, school, PDS, health, protection, distribution of shelter materials to individual families, etc.

Chapter 4 : Action Plan for Flood

4.1 Introduction

Floods are among the most recurrent phenomena and destructive natural hazard causing extensive damage to infrastructure, public and private services, environment and economy. With the growing incidences of climate change across the globe, the frequency and intensity of floods has grown in the State over the years. This may be attributed to unplanned development and increased encroachment of flood plains. The rivers bring heavy sediment load from the catchments. These, coupled with inadequate carrying capacity of the rivers are responsible for causing floods, drainage congestion and erosion of river-banks. Hence, apart from an effective disaster response system, it becomes of utmost importance to have a good flood prevention and mitigation strategy to achieve the objectives of vulnerability reduction.

4.2 Declaration of disaster

The Gujarat State Disaster Management Act, 2003 (Section 32) provides for the State Government to declare any area where flood have occurred or likely to occur as disaster affected area on the recommendations of the State Relief Commissioner or the District Collector. The purpose of the declaration is to organize effective response in mitigating the flood effects.

4.3 Flood Forecasting and Warning

India receives 80 per cent of its annual rainfall during the southwest monsoon season of June to September. Rainfall over the country during this season shows a wide range of spatial variation due to orographic influences and preferential occurrence of rain-bearing systems in certain regions. India has a very extensive raingauge network and rainfall monitoring over the country. The real-time monitoring and statistical analysis of district-wise daily rainfall is one of the important functions of the Hydrometeorological Division of IMD. Based on the real time daily rainfall data, weekly district-wise, sub-divisionwise and state-wise rainfall distribution summaries are prepared regularly by the Rainfall Monitoring Unit. Maps showing weekly and cumulative rainfall figures in 36 meteorological sub-divisions of the country are prepared. This information is very important to many user agencies, particularly for agricultural planning.

Flood Meteorological Offices (FMOs) have been set up by IMD at ten locations including Ahmedabad in Gujarat. During the flood season, FMOs provide valuable meteorological support to the Central Water Commission (CWC) for issuing flood warnings in respect of the Narmada, Tapi, Mahi, Sabarmati, Banas and Damodar Ganga rivers.

Further, a nationwide flood forecasting and warning system covering major inter-state rivers has been established by the Central Water Commission (CWC). The system under CWC is often supplemented by the states that make arrangements for advance warning at other stations strategically important to them. The CWC also extends FF services to such stations at the request of the states concerned. With reliable advance information/warning about impending floods, loss of life and property can be reduced to a considerable extent. People, cattle and valuable assets can be shifted in advance to safer places.

The main components of a national flood forecasting and warning system are as follows:

- Collection of real-time data and prediction of flood severity and time of onset of particular levels of flooding
- Preparation of warning messages, describing what is happening, predictions of what will happen and expected impact and the same must be disseminated properly.
- Interpretation of the predictions and other flood information to determine flood impacts on vulnerable communities
- If predictions fail, the reasons of prediction failure should be communicated to communities in order to establish trust.
- For a flood warning system to work effectively, all these components must be integrated with each other rather than operating in isolation.

4.4 Community Based Flood Forecasting and Warning Systems

It is important that the people in each community receive information as early as possible about the possibility of a flood in their area. The way in which messages are disseminated in communities will depend on local conditions, but may include some or all of the following:

- Media warnings (print and electronic/through SMS/ Social Media)
- Flood warning activities can either be issuing a flood warning message to the target area, raising alert levels through warning signals such as a siren, hitting a gong, steel pipes, church bells, etc
- Dedicated automatic telephone warnings to at-risk properties
- Information about flood and flood condition in communities upstream/downstream from village to village.
- Keep watch and be regularly informed about the river level and embankment conditions in the local area. The monitoring of the river and embankment should be increased as the water level increases and crosses the critical danger level.
- Through use of technology like mass mobile messaging, SMS, YouTube & other social media website

4.5 Involvement of Communities in Data Collection and Local Flood Warning Systems

If communities become involved in data collection for flood forecasting, and the importance of their role is understood, a sense of ownership is developed. Individuals can be appointed for the following tasks:

- a) Taking care of installations/ equipment
- b) Trained as gauge readers for manual instruments (rain gauges, water level recorders)
- c) Radio operators to report real-time observations
- d) Monitoring of hydrological data on a regular basis, daily basis, even without inclement weather condition should be observed.
- e) The involvement of members of the community also helps to prevent vandalism and damage to installations going unreported.

4.6 Procedure for Disseminating Warnings to Remote Areas

Responsibilities need to be defined clearly for lower tiers of administration and the emergency services to have predefined links with communities in remote areas. This should include:

- a) Community stations, FM Radio should be supplied with clear and accurate information
- b) Mass messaging and use of mobile phone operators in information dissemination
- c) Doordarshan and the local cable channels (TV channels & radio Channels including FM radio), Press Bulletin, Fax/Telephone, Social Media
- d) Power failures occur during times of inclement weather particularly during passage of a tropical cyclone/floods over the community and portable transistor radios may proved to be the best form of information in receiving flood warnings
- e) Use of appointed community wardens with direct two-way radio or mobile telephone access to warning agencies and emergency authorities
- f) Local means of raising alarms, for example church bells, sirens, loud hailer, loudspeakers, etc. The latter could be the responsibility of selected individuals or wardens, who need to be provided with equipment and transport, for example motor cycles or bicycles;
- g) Use of high end technology like mass mobile messaging, SMS, use of social media etc., satellite based disaster warning systems like satellite phones, Early Warning Dissemination System

4.7 Trigger Mechanism: Plan Activation

The flood response system will be activated on the occurrence of a heavy rain. The Commissioner of Relief (COR) will activate all the Departments for emergency response including the State EOC. He will issue instructions to include the following details:

- a) Specify exact resources required
- b) The type of assistance to be provided
- c) The time limit within which assistance is needed
- d) The state, district or other contact persons/agencies for the provision of the assistance
- e) Other Task Forces with which coordination should take place

The state EOC 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)). Once the situation is totally controlled and normalcy is restored, CoR declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

4.8 Roles and Responsibility

Following are the key emergency response measures in case of occurrence of floods:

Standard Operating Procedures (SOP)

Time Frame	Task	Activity	Responsibility
0-48 hours	Warning Receipt and Dissemination - Monitoring rainfall activity, provide warnings, based on hydraulic models and disseminate information	<ol style="list-style-type: none"> 1. Report the occurrence of heavy rainfall to following officials: <ul style="list-style-type: none"> - Hon. Chief Minister - Hon. Minister – Disaster Management - MHA & National Disaster Management Authority, GoI. - COR/DOR - Principal Secretary (Revenue) - Chief Executive Officer, GSDMA - Chief Secretary of the State - Members of Crisis Management Group - All concerned District Collectors as well as DEOCs of the district/s likely to be affected as per preliminary warning of IMD and CWC. - Ministers and Secretaries of all line departments 2. Instruct Collectors (of the districts likely to be affected) to activate DEOCs at full strength 3. Alert all response teams in the State for deployment 4. Remain in constant touch with Emergency Operation Centre at National & State Level 5. Instruct and alert all secretary / heads of departments of the key line departments to activate their departmental plan and SOPs for Flood response 	IMD, CWC, COR, Water Resources Department
	Interdepartmental Coordination	<ol style="list-style-type: none"> 6. Instruct all State government officers and employees in the State to report to their respective Head for emergency duties 7. Alert the District Collectors of districts not likely to be affected to be prepared for providing: <ul style="list-style-type: none"> o Additional manpower o Additional resources <ul style="list-style-type: none"> - Vehicles, Machinery & Equipment - Relief material to the districts likely to be affected 	CoR, GAD
	Establishment of Lines of Communication	<ol style="list-style-type: none"> 8. Activate alternative communication equipments i.e. satellite phones, HF/VHF sets, Ham radio, VSAT in State EOC and 	CoR

		<p>ERCs, District and Taluka control rooms</p> <p>9. Establish communication links with ERCs and Search & Rescue Teams in all Municipal Corporations/ Districts and alert them to be in stage of readiness.</p> <p>10. Establish communication links with villages likely to be affected as per the contact details available in SDRN and Village Disaster Management Plans (VDMP).</p>	
0 to (-) 24 Hours	Review of situation and reporting	<p>11. Establish contact with IMD, CWC, BISAG and the Defence Ministry of GoI for aerial / satellites imageries.</p> <p>12. After reviewing the satellite images, issue instructions and orders for emergency response to areas likely to be affected.</p>	CoR
	Management of EOC, ERCs for Flood Response	<p>13. Take over full command of State EOC and ERCs.</p> <p>14. Instruct line departments to depute representatives at the State and District EOCs.</p> <p>15. Hold a meeting with leaders of emergency support functions (as detailed in Vol. 1 of the plan) and entrust them their tasks.</p> <p>16. Ensure that flood information is disseminated to all who are at danger.</p> <p>17. Arrange emergency meeting with State Crisis Management Group to devise a plan of action.</p>	CoR
		18. Arrange dissemination of information through various means of communication such as social media, Radio, TV, Cable Network, SMS about floods to districts/areas which are likely to be hit.	COR
		19. Impose restriction on all transport activities heading towards likely affected areas.	Secretary Transport
		<p>20. Mobilize following teams:</p> <ul style="list-style-type: none"> ○ Evacuation ○ Emergency Medical Services ○ Search and Rescue <p>21. Mobilize following emergency response forces:</p> <ul style="list-style-type: none"> ○ Fire & Emergency Services ○ NDRF/ SDRF ○ Village Disaster Management Teams ○ Police, Home Guards, Civil Defence, Aapda Mitra ○ State Reserve Police Force ○ Arm Forces (if required) 	COR

		○ Air Force (if required)	
	Flood Response to the Areas (Likely to be Affected)	<p>22. Based on the warning issued by IMD/ CWC, pin point the districts and villages likely to be affected by floods and start the procedure for identifying safe places/shelters for evacuation in those villages.</p> <p>23. Village wise data of safe sheltering for evacuation available on SDRN/ VDMPs should be referred and the District Collectors/Village level officers should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site.</p> <p>24. Make transport arrangement for mobilization of all emergency response teams.</p>	COR, Transport Dept., Dist. Collector, Municipal Commissioner
		25. Ensure arrangements are in place to evacuate most vulnerables i.e. person with disability, pregnant women, etc.if needed.	Revenue Dept., WCD, Social Justice Department
		26. Ensure safety of tourists visiting flood affected places.	Tourism Dept.
		27. Cordon off likely affected areas for restricting entries of rail or road traffic.	Home Dept., Dist. Collector, Municipal Commissioner
		28. Ensure law and order is maintained in areas likely to be affected.	
		29. Ensure that all critical activities (mainly industrial production) in areas likely to be affected are shutdown.	Line Depts. (GEB, E&F Depart., Industries & Mines etc.)
		<p>30. Ensure dissemination of information to remote areas by all means.</p> <p>31. Ensure that local help lines are opened and effectively managed for public information, guidance and rumour control.</p> <p>32. Ensure that the information to public and media about the progress of heavy rain at periodic intervals is released.</p>	Dist. Collector, Municipal Commissioner, Information Dept.
		33. Health Department to activate their Departmental flood Disaster Management Plan and SOPs for Management of casualties	Health Dept.

0 to (-) 12 hours	Review and Reporting	<p>34. Review and monitor following activities:</p> <ul style="list-style-type: none"> ○ Evacuation of people from likely to be affected areas ○ Positioning of Search and Rescue Teams ○ Positioning of mobile communication units ○ Positioning of quick medical response teams ○ Mobilization of restoration teams of respective departments ○ Requirement of armed forces in rescue and relief operations ○ Dissemination of information to the vulnerable areas ○ All preparedness measures to be taken by various authorities <p>35. Keep in touch with National, District and Taluka EOCs/Control Rooms</p> <p>36. Release information at appropriate time to media and public regarding response measures organized by the Government</p>	COR, Information Dept.
	Emergency Relief Management	37. Ensure that the Relief Management work in the likely affected areas / districts are well organized.	COR
		<p>38. Ensure that the arrangement for basic following amenities at evacuation/relief centres are made available:</p> <ul style="list-style-type: none"> ○ Drinking water ○ Food ○ Clothing ○ Sanitation and hygiene ○ Lighting ○ Medicines and Health Care 	COR, Civil Supply Dept., Revenue Dept. & Dist. Collector, Municipal Commissioner, Water Supply Dept., GEB, Health Dept.
		<p>39. Inform following agencies to be in a state of readiness for assisting in the flood response measures (if required):</p> <ul style="list-style-type: none"> ○ Public sector agencies ○ Private sector agencies ○ NGOs ○ CBOs ○ Volunteer/ religious Organizations 	COR
		40. Request for assistance (if needed) to MHA/National Disaster Management Authority	COR
		41. Make necessary arrangements for public information/guidance, public opinion and rumour control.	Information Dept.

0 to (+)24 hours	Disaster Declaration	42. Record the reports in detail with time, source of reports etc. and declare the area as disaster affected, if necessary, (depending upon the nature and intensity of impact)	COR, Dist. Collector,
	Preliminary Assessment, Deployment of Emergency Response Teams and Dissemination of Information	43. Dist. Collector/s and Municipal Commissioners should send teams to the affected areas to take stalk of the effects of Floods. 44. District Collector/s and Municipal Commissioners should send sector wise situation reports to: <ul style="list-style-type: none"> ○ State EOC/COR ○ GSDMA 	Dist. Collector, Municipal Commissioner
		45. Deployment of following teams to Flood affected areas: <ul style="list-style-type: none"> ○ Emergency Communication Teams ○ Emergency Medical Services Teams ○ Search and Rescue Teams (With Equipment) ○ Preliminary damage and needs assessment teams 	COR, Dist. Collector, Municipal Commissioner
		46. Establish communication link with affected districts and towns by activating alternate communication equipments such as Satellite Phones, HF/VHF Sets, Ham Radio, V Set etc., in State/District EOCs and Taluka Control Rooms. 47. Arrange dissemination of information about occurrence of flood and areas that are affected by it to Media & Public	COR, Dist. Collector, Municipal Commissioner, Information Dept.
	Mobilization and Deployment	48. Immediate mobilization of following units/teams to areas affected by flood <ul style="list-style-type: none"> ○ S & R Teams of Fire and Emergency Services ○ SDRF ○ Quick Medical Response Teams ○ Quick Damage & Loss Assessment Teams ○ Quick Need Assessment Teams ○ Road Clearance Teams ○ Teams for dignified management of the the dead ○ Teams for disposal of carcasses ○ Teams for debris clearance (if any) ○ Teams for maintaining Law & Order in the affected areas 	COR, Municipal Commissioner, Home Dept., Concern line Dept., DSP.

		<ul style="list-style-type: none"> ○ Arrange for S & R teams of Air Force (If required) 	
	Measures for quick and organized response	49. State EOC, ERCs, the Collectors/ Municipal Commissioners of the affected District(s)/ Municipal Corporation (s) should ensure that the following response activities are carried out immediately:	COR, Collector, DSP, Municipal Commissioner, Line Dept.
	g. Clearance of access roads to reach at the sites of affected areas	50. To survey the access roads/routes leading to the affected areas and manage traffic for mobilization of equipments, machinery and volunteers. 51. Identify alternate roads/routes for evacuation. 52. Undertake repairing/restoration of damaged roads leading to the affected areas. 53. Identify and declare unsafe buildings/structures in Flood affected areas. 54. Evacuate people from unsafe buildings/structures and shift them to relief camps/sites.	R & B Dept. , Transport Dept., Dist. Collector, Municipal Commissioner, Railways, COR
	h. Necessary Arrangements at evacuation/relief centres as per the Minimum Standard of Relief	55. To ensure that necessary arrangements at evacuation/relief centers is made with sufficient availability of: <ul style="list-style-type: none"> a. Food, b. Water, c. Blankets/Clothing d. Medicines e. Lighting f. Sanitation and hygiene etc. 56. To ensure necessary security arrangements for the personals (Emergency responders/ relief teams) who are working at Relief Centers and involved in distribution of Relief Materials. 57. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well.	Revenue Dept., Civil Supply Dept., Collector, DSP, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Power & Energy Dept., GWSSB & Local Authorities, Home Dept.
	i. Ensure immediate health and minimization of outbreak of disease	58. To establish camp hospitals near the affected areas. 59. To make transportation arrangements to shift seriously injured persons to nearest- <ul style="list-style-type: none"> a. Camp Hospitals, b. Taluka and District Hospitals, c. Regional and State Hospitals 60. Ensure that the Hospitals are well prepared to deal with seriously injured persons. 61. To ensure that the required medical assistance/aid and medicines are provided to	Health Dept., Transport Dept.

		<p>the affected people at site as well as at evacuation/relief centers in the affected area and necessary records are maintained.</p> <p>62. Take sanitation and epidemic control measures for preventing any water borne disease.</p> <p>63. Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals</p> <p>64. Take steps to purify drinking water sources</p> <p>65. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance.</p>	
		<p>66. Assess need for fodder if required.</p> <p>67. Keep ready teams for carcass disposal (if required).</p>	Animal Husbandry Dept.
	j. Information to public and media	<p>68. Establish Media/Press Centre for media management and information dissemination</p> <p>69. Ensure that the information to media/general public about the response of the State Government is released in an organized manner.</p> <p>70. Organize media briefing twice a day at pre-determined intervals.</p>	Information Dept., COR
	k. Other important work related to immediate response	<p>71. Prepare quick need assessment report for planning of relief operation.</p> <p>72. Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed).</p> <p>73. Maintain constant touch with National, District and Taluka EOCs and other control rooms.</p> <p>74. Conduct Aerial survey of affected areas for taking a stalk of the situation.</p>	COR
Time = 0 + 24 to 48 Hrs	Restoration of critical infrastructure/essential services	<p>75. Ensure that the essential services/critical infrastructure of the affected areas have been restored or alternative arrangement is made for ensuring safety of people and smooth management of emergency response.</p> <p>76. Ensure that key administrative and lifeline buildings are brought back to operation quickly</p> <p>77. Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> ○ Power ○ Water 	COR, Line Depts., Dist. Collector, Municipal Commissioner

		<ul style="list-style-type: none"> ○ Telecommunication ○ Roads ○ Bridges 	
	Dignified Management of Dead	78. Ensure following procedure is followed before disposal/handing over of dead bodies: <ul style="list-style-type: none"> ○ Photographs of the dead bodies are taken, ○ Identification of the dead bodies is done, ○ Post Mortem where ever necessary and possible is carried out, ○ Handing over dead bodies of persons known/identified to their relatives, ○ Disposal of unclaimed and unidentified dead bodies. 	Collector, DSP, Municipal Commissioner, Home Dept., Health Dept., Local Authorities
		79. Animal Husbandry Department to ensure medical aid to cattle which are injured 80. Disposal of animal carcasses with the help of local bodies/health dept.	Animal Husbandry Dept, Local Authorities, health dept.
	Public Information and Media Management	81. Ensure that information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day. 82. Establish Help Lines for facilitating communication between the victims and their relatives residing outside the affected area/s. 83. Establish Help Lines / Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals.	COR, Information Dept. and Dist. Collector, Municipal Commissioner
	Miscellaneous rescue and relief works	84. Assess the situation and take appropriate action to accelerate the Search & Rescue Operations. 85. Depute additional officers and supporting staff to flood affected areas from non-affected areas (if required) to accelerate the rescue and relief operations.	COR, Districts Collector, DSP, Municipal Commissioner
		86. Ensure that the relief assistance received from outside is centrally received, stored and sent for distribution to flood affected areas according to their need and proper accounts are maintained about both receipt and distribution.	COR, Civil Supply Dept.
		87. District Collector may oversee the functioning of relief centres and ensure adequate availability & supply of relief materials.	Revenue Dept, Civil Supply Dept.

Time = 0 + 48 to 96 Hrs		88. Arrange for procurement of additional relief material required for relief operations (on the basis of need assessment). 89. Mobilize additional relief material required for relief operations. 90. Maintain constant touch with State & Districts EOCs.	COR, Dist. Collector, Municipal Commissioner, Civil Supply Dept.
		91. Arrangement for transportation of injured from field hospital to base hospital 92. Arrangement for transport of dead bodies to their native places.	Revenue Dept., Health & Transport Dept
		93. Ensure maintenance of record, timely reporting and information management. 94. Ensure maintenance of record and information database	Line Depts., Dist. Collector, COR
Time = 0 + 96 to 168 Hrs		95. Review the restoration of all the public and essential in flood affected areas 96. Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s.	COR
		97. After receiving the message of de-warning, ensure that people are moved back safely to their houses.	COR, Collector, DSP
		98. Organize a quick rapid visual survey of the affected areas (through a technical team of engineers) to ascertain the safety of the structures decide on giving the go-ahead to people to move back to their respective houses.	COR, Dist. Collectors, Municipal Commissioner, R&B
		99. Ensure relief disbursement, allotment of funds and grants to line department and district collectors for organizing emergency response, relief and evacuation arrangements.	Revenue Dept.

4.9 Relief Measures

Short Term Measures	Action Taken
Setting up of Shelter/relief camps as per the Minimum Standards of Relief adopted by GoG	<ul style="list-style-type: none"> Disaster affected households shall be provided with necessary tools, equipment and materials for repair, reconstruction and maintenance for safe use of their shelter. Adequate numbers of buildings or open space should be identified where relief camps can be set up during emergency The temporary relief camps should have adequate provision of drinking water and bathing, sanitation and essential health-care facilities.

Distribution of food	<ul style="list-style-type: none"> Free distribution of foods shall be made to avoid hunger and malnutrition. Wherever possible, ration should be stored and dry rations should be distributed for home cooking.
Water	<ul style="list-style-type: none"> Availability of safe drinking water is very challenging particularly during floods. It must be ensured that affected people have adequate facilities and supplies to collect, store and use clear and safe water for drinking, cooking and personal hygiene.
Clothing	<ul style="list-style-type: none"> The people affected by the disaster shall be provided with sufficient clothing, blankets, etc. to ensure their safety and well-being.
Health, Sanitation and Hygiene	<ul style="list-style-type: none"> During post disaster phase, many factors increase the risk of diseases and epidemics because of overcrowding, inadequate quantity and quality of water, poor environmental and sanitary conditions, decaying biological matter, water stagnation and inadequate shelter & food supplies. There should be adequate supply of medicines, disinfectants, fumigants, personal protective equipments, diagnostic kits, portable oxygen cylinders, ventilators etc. to check outbreak of epidemics. It should be ensured that the medicines have not reached expiry date. Sanitation services are crucial to prevent an outbreak of epidemics in post disaster phase.
Impact of floods on vulnerable section of society	<ul style="list-style-type: none"> Children, pregnant women, elderly people, malnourished people, person with disability and people who are ill or immune-compromised, are particularly vulnerable when a disaster strikes, and take a relatively high share of the disease burden associated with emergencies. The most vulnerable members of the community are the elderly and the youngest as they require special assistance

4.10 Interim Relief Measure

- a) Arrangements to be made for quick identification and maintenance of the records of disposal of dead bodies in the affected areas (Home Dept., Revenue Dept., Health Dept. and Local Authorities).
- b) Arrangements to be made to record the complaints of all persons reported missing. Follow up action in terms of verification of the report also needs to be made. (Home Dept.) Hence, Aapda Mitras assists in basic search & rescue operations and also provides help to the district administration for effective disaster response.
- c) District Magistrates and Sub-Divisional Magistrates to be empowered to exempt the requirement of identification and post-mortem in case of mass casualties. Revenue Dept may depute

additional Sub-Divisional Magistrates to expedite disposal of the dead bodies. (Revenue & Home Dept.)

- d)** Unclaimed/unidentified dead bodies to be disposed of with the help of pre identified voluntary agencies at the earliest after keeping their records. (Home Dept., Revenue Dept., Health Dept. & Local Bodies)
- e)** Additional manpower to be deployed in the affected areas for supplementing the efforts of the local administration (GAD). Hence for immediate disaster response youth volunteers like NCC, NYKS, Scouts and Guides, NSS, SDRF, Aapda Mitra, Community, CBO's, NGO's, Volunteers will be augmented and deployed for assisting the district administration.
- f)** Separate Cell to be established at state/district/ taluka level to coordinate with the NGOs and outside donor/aid agencies. (Revenue Dept.)
- g)** Information & Public Relation Dept to coordinate with the media to play a positive role in disseminating appropriate information to public and the government in order to facilitate the speedy recovery. (I. & B. Dept.)
- h)** Regular meetings of stakeholders/departments should be recognised at state level for sharing information, developing strategies for relief operations.(CoR & Collector at district level)
- i)** Ensure promoting private participation in disaster management as they can contribute by providing volunteers or expertise. Also by providing aid in implementation of Risk Transfer arrangements including multi- hazard insurance for life and property. A wide range of corporate and nonprofits organizations assist in disaster-relief activities hence enhancing the capacity of society.

4.11 Assessment of Damage/Loss and Relief Needs

- a)** The Commissioner of Relief to issue instructions to the District Collectors to provide the 'Need Assessment Report'. The Commissioner of Relief should consolidate the same and to prepare 'State's Need Assessment Report'.
- b)** The Commissioner of Relief to issue instructions to the District Collectors to provide the 'Damage and Loss Assessment Report'. The Commissioner of Relief to consolidate the same and to prepare 'State's Damage and Loss Assessment Report' which will be useful in planning and implementing the relief operations for disaster victims.
- c)** Adequate manpower, vehicles, stationery etc. should be provided to supplement the efforts for need/ loss assessment. (Commissioner of Relief & Revenue Dept.)
- d)** The relief need assessment report should be provided by the Collectors. (Commissioner of Relief & Collectors)
- e)** Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries. (R & B Dept., Revenue Dept and Urban Local Bodies)
- f)** Arrangements for distribution of gratuitous relief and cash doles. (Revenue Dept., Panchayat & Rural Housing Dept., UD & UHDept. and Collectors)
- g)** Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons. (Revenue Dept.)
- h)** Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property damage assessment. (Revenue Dept. and Local authorities)

Chapter 5 : Action Plan For Urban Flood

5.1 Introduction

The submergence of usually dry area by a large amount of water that comes from sudden excessive rainfall, an overflowing river or lake, melting snow or an exceptionally high tide are defined as urban floods.

Urban flooding is significantly different from rural flooding as urbanization leads to developed catchments which increases the flood peaks from 1.8 to 8 times and flood volumes by up to 6 times. Consequently, flooding occurs very quickly due to faster flow times, sometimes in a matter of minutes. Urban flooding is caused by the combination of meteorological, hydrological, and human factors. Due to land-use changes, flooding in urban areas can happen very rapidly with large flow. The challenges of Urban Floods Disaster Management tend to be considerably different from that of flooding in other areas.

There has been an increasing trend of urban flood disasters in Gujarat over the past several years whereby major cities in Gujarat have been severely affected. The most notable amongst them are Ahmedabad in 2001, Surat in 2006, and Vadodara in 2019.

Apart from heavy rainfall during monsoons. There are other weather systems also that bring in a lot of rain. Sudden release or failure to release water from dams can also have severe impact. In addition, the urban heat island effect has resulted in an increase in rainfall over urban areas. Global climate change is resulting in changed weather patterns and increased episodes of high intensity rainfall events occurring in shorter periods of time. Cities/towns located on the coast, on river banks, upstream/ downstream of dams, inland cities and in hilly areas can all be affected.

Unplanned development and encroachments of sprawling habitations alongside rivers and watercourses have meddled with the natural streams and watercourses resulting into increasing episodes of urban flood.

5.2 Urbanization and Flood Risk

Clogging of storm-water drains because of silting, accumulation of non-biodegradable wastes and construction debris along with reduced infiltration due paving of surfaces which decreases ground absorption and increases the speed and amount of surface flow. Flash flood Water of Heavy rainfall concentrates and flows quickly through urban paved area and impounded in to low lying area raising the water level

Rapid urbanization combined with a **lack of efficient waste disposal systems** has left several water bodies in the cities in poor condition. Further, **Blocked waterways and reduced width and depth** of canals, along with construction reduce the permeability of the ground.

5.3 Issues in urban flood

Encroachments are major problem in many cities and towns. Habitations started growing into towns and cities alongside rivers and watercourses. As a result of this, the flow of water has increased in proportion to the urbanization of the watersheds. Ideally, the natural drains should have been widened (similar to road widening for increased traffic) to accommodate the higher flows of stormwater. But on the contrary, there have been large scale encroachments on the natural drains and the river flood plains. Consequently the capacity of the natural drains has decreased, resulting in flooding. Improper disposal of solid waste, including domestic,

commercial and industrial waste and dumping of construction debris into the drains also contributes significantly to reducing their capacities. It is imperative to take better operations and maintenance actions

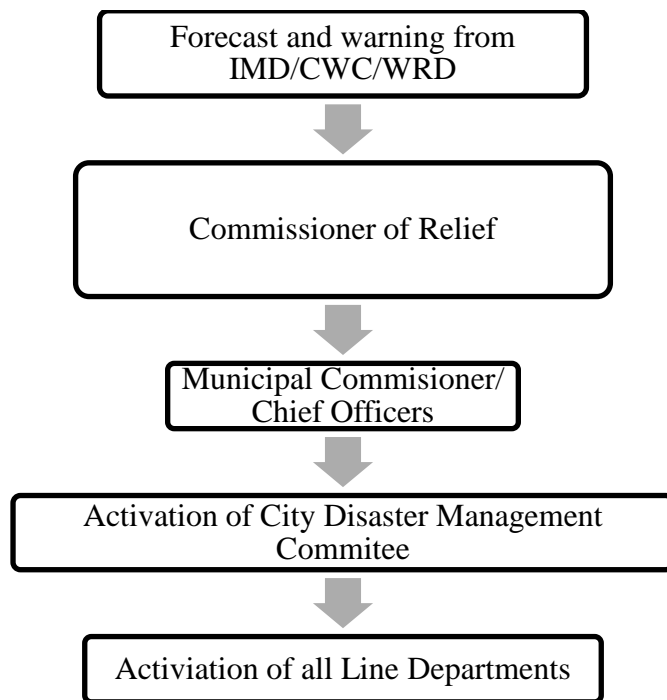
Increasing trend of urban flooding is a universal phenomenon and poses a great challenge to urban planners the world over. Problems associated with urban floods range from relatively localised incidents to major incidents, resulting in cities being inundated from hours to several days. Therefore, the impact can also be widespread, including temporary relocation of people, damage to civic amenities, deterioration of water quality and risk of epidemics.

5.4 Flood Forecasting and Warning

Flood forecasting and warning (FF and W) is an important measure for minimising loss of lives and properties and assists the authorities concerned, for prompt and effective response during and after floods. Urban Flood forecasting requires more understanding of land use land change pattern, meteorological and hydrological conditions. Flood warning systems need to be communicated to the communities at risk by converting forecast information into practice and by sending warning dissemination to people.

- Information regarding heavy rainfall or water release from IMD or irrigation respectively is conveyed to the concerned department / official / control rooms / community members using telecommunication, wireless message, by fax or in written by DEOC at district/**corporation** level.
- While in the city the route has **to be** finalized for early warning, accordingly early warning task force leading by fire brigade personnel, spreads the message **of alert in respective low lying areas**
- Preparation of warning messages, describing what is happening, predictions of what will happen and expected impact and the same must be disseminated properly.
- Interpretation of the predictions and other flood information to determine flood impacts on vulnerable communities

When early warning is declared the head of departments, nodal officers and administrative heads will enforce their own DM plan in action and response activities will be carried out accordingly.



Flow chart for Early Warning and Plan Activation

5.5 Trigger Mechanism: Plan Activation

The response system will be activated on the occurrence of a heavy rain. The Commissioner of Relief (COR) will activate all the Departments for emergency response including the State EOC. He will issue instructions to include the following detail

- Specify exact resources required
- The type of assistance to be provided
- The time limit within which assistance is needed
- The state, district or other contact persons/agencies for the provision of the assistance

The state EOC and other control rooms at the state level as well as district control rooms will be activated with full strength. The State Government will publish a notification in the official gazette, declaring such area to be disaster-affected area under GSDMA Act (Section 32 (2) (a)). Once the situation is totally controlled and normalcy is restored, the COR declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties. The roles and responsibilities are mentioned as below

Standard Operating Procedures (SOP)

Time Frame	Task	Activity	Responsibility
Time = 0 – 72 Hrs.	Warning Receipt and Dissemination	<ol style="list-style-type: none"> 1. Inform COR/ DOR, PS (Revenue), CEO (GSDMA), Crisis Management Group, Hon. CM, Hon. Minister (DM), NDMA, Ministers and Secretaries of all line depts. as per the warning of IMD 2. Inform & instruct relevant Municipal commissioner/ Chief Officer to activate control room at full strength 3. DEOC to be activated for additional support 4. Alert state response teams for deployment 5. Remain in constant touch with control rooms at National & State Level. 6. Instruct and alert heads of departments of the key line departments to activate their departmental plan and SOPs for Urban flood response 	IMD, CWC, NWRWSK Dept. In-charge, SEOC
	Interdepartmental Coordination	<ol style="list-style-type: none"> 7. Instruct all State Government officers and employees in the State to report to their respective Head for emergency duties (Only if the warning is of a level 2 disaster or as per the decision taken in the meeting of the Crisis Management Group headed by Chief Secretary) – Activate IRS 8. Alert the Municipal Commissioner and Chief Officers of the safer areas to be prepared for providing the following to the district —nearby likely affected towns/ cities: <ul style="list-style-type: none"> • Additional manpower • Additional resources • Machinery & Equipment • Relief material 	CoR/ DoR Municipal Commissioner, UD & UHD Line Dept.
	Establishment of Lines of Communication	<ol style="list-style-type: none"> 9. Activate alternative communication equipments i.e. satellite phones, HF/VHF sets, Ham radio, VSAT in SEOC, DEOCs, TEOCs and ERCs 10. Establish communication links with ERCs and Search & Rescue Teams in all Municipal Corporations and alert them to be in stage of readiness 11. Establish communication links with villages likely to be affected as per the contact details available in SDRN 	CoR/ DoR Municipal Commissioner, Commissioner UD &UHD

Time = 0 – 48 Hrs	Review of situation and reporting	12. Get the latest weather report from IMD for rainfall data 13. After reviewing the weather report issue instructions and orders for emergency response to areas likely to be affected	IMD, CWC Revenue Dept./ CoR
	Management of EOC, ERCs and Urban Flood Response	14. Take over full command of SEOC and ERCs 15. Instruct line departments to depute representatives at the State and District EOCs 16. Hold a meeting with leaders of task forces and entrust them their tasks 17. Arrange emergency meeting with State Crisis Management Group to devise a plan of action 18. Arrange dissemination of information through various means of communication such as Radio, TV, Cable Network, and SMS about Cyclone Warning to districts/areas which are likely to be hit by Cyclonic Storm. 19. Alert teams to remain in readiness-Evacuation, Emergency Medical Services, Search & Rescue, Fire & Emergency Services, NDRF, Police, Home Guards, SRPF, Army, Air Force	CoR Municipal Commissioner UD &UHD Information Dept Line Dept.
		20. Impose restriction on all transport activities heading towards flood affected areas.	Port & Transport Dept. Home Dept
	Urban Flood Response(Likely to be Affected)	21. Based on the warning issued by IMD, CWC demarcate the cities and towns likely to be affected by floods and start the procedure for identifying safe places/shelters for evacuation Prepare route maps for safe place and evacuation shelters 22. City/ town wise data of safe shelters for evacuation available on SDRN should be referred and the municipal commissioner /chief officer should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site 23. Make transport arrangement for mobilization of all emergency response teams 24. Make logistic arrangements for response	IMD, <u>CWC</u> Municipal Commissioner UD &UHD Revenue Dept., Transport Dept. and Dist. Collectors,

		teams	
		25. Cordoning off flooded areas for restricting entries of rail or road traffic 26. Ensure law and order is maintained in areas likely to be affected	Municipal Commissioner UD & UHD Home Dept., Dist. Collectors,
		27. Ensure that all critical activities (mainly industries) in areas likely to be affected are shutdown	Line Depts.
		28. Ensure that the schools and colleges are closed in areas likely to be affected by floods 29. Ensure availability & serviceability of flood shelters issued in schools/universities/institutions)	Education Dept. Municipal Commissioner
		30. Ensure dissemination of information to affected area 31. Ensure that local helplines are opened and effectively managed for public information, guidance and rumour control 32. Ensure that the information to public and media (AIR/ Doordarshan/ print/ FM) about the status of urban flood at periodic intervals is released	Municipal Commissioner UD &UHD Information Dept.
		33. Activate Departmental Disaster Management Plan and Departmental SOPs for Management of casualties 34. Ensure availability of QRT & essential medicines	Health Dept.
		35. Issue alert/ warning through SMS by establishing liaison with service providers 36. Ensure safety & serviceability of critical communication towers through respective service providers 37. Ensure establishment of alternate communication links like HF, VHF, HAM, Satellite Phones, etc.	Telecom Service Provider Municipal Commissioner UD &UHD
Time = 0 - 24 Hrs	Review of Situation and Reporting	38. Establish contact with IMD, in order to receive latest update on rainfall data 39. After reviewing the weather report issue instructions and orders for emergency response to areas likely to be affected areas 40. Review and monitor – evacuation from to be affected areas; positioning of search & rescue teams, mobile communication units, quick medical response teams; dissemination of information to vulnerable areas; preparedness measures to be taken	Revenue Dept./ COR Information Dept.

		<p>by various authorities</p> <p>41. Keep in touch with all the EOCs/ Control rooms</p> <p>42. Release information at appropriate time to media and public regarding response measures organized by the Government</p>	
	Emergency Response Management	<p>43. If reports regarding heavy rainfall are confirmed by IMD and other sources, start the emergency response and relief operations</p> <p>44. Divert the emergency services to areas likely to be affected in the city as per the warning issued by IMD</p> <p>45. Inform the public residing in areas likely to be affected to evacuate through various means such as SMS, AIR, FM Radio, Doordarshan, etc.</p> <p>46. Start evacuation from the likely affected areas through Police support, if necessary</p>	<p>Revenue Dept., COR, Municipal Commissioner Home Dept. Information Dept. Dist. Collector</p>
		47. Disconnect power supply at the time of urban floods	Dept. of Power supply/ power company
	Emergency Relief Management	<p>48. Ensure that the Relief Management work planned in the areas likely to be affected by the floods are well organized</p> <p>49. Inform following agencies to be in a state of readiness for assisting in the urban floods response measures (if required):</p> <ul style="list-style-type: none"> • Public sector agencies • Private sector agencies • NGOs, CBOs • Volunteer Organizations <p>50. Request for help (if needed) to MHA/National Disaster Management Authority</p>	<p>COR/ Revenue Dept. <u>Municipal Commissioner</u></p>
		<p>51. Ensure that the arrangement for basic amenities(shown below) at evacuation/relief centres are made by the respective departments following the minimum standards of relief:</p> <ul style="list-style-type: none"> • Drinking water • Food • Clothing • Sanitation and hygiene, • Lighting • Medicines and other Health Care 	<p>COR, Food & Civil Supply Dept., Municipal Commissioner Revenue Dept. Water Supply Dept., GEB, Health Dept.</p>
		52. Make necessary arrangements for public information/guidance, public opinion and	Information Dept.

		rumour control	Municipal Commissioner
		53. Impose restrictions for transportation in threatened areas	Transport Dept. Municipal Commissioner Dist. Collector, Home Dept.
Time = 0 Hrs	Disaster Declaration	54. When -flood starts affecting city/ town the Municipal Commissioner should send a communication to the State Govt. to declare the area as disaster affected, if necessary, (depending upon the nature and intensity of impact)	COR, Municipal Commission
	Preliminary Assessment, Deployment of Emergency Response Teams and Information Dissemination	55. Send teams to the affected areas to 56. take stock of the effects of floods 57. due to heavy rain. 58. Send sector wise situation reports to: <ul style="list-style-type: none"> • State EOC/COR • GSDMA • Respective DEOC 	Municipal Commissioner
		59. Deployment of following teams to flood affected areas: <ul style="list-style-type: none"> • Emergency Communication Teams • Emergency Medical Services Teams • Search and Rescue Teams (With Equipment) • Preliminary damage Assessment Teams • Need Assessment Teams 	COR, Municipal Commissioner Dist. Collector,
		60. Establish communication link with affected cities/ town by activating alternate communication equipments such as Satellite Phones, HF/VHF Sets, Ham Radio, V Set etc., in State/District EOCs and Taluka Control Rooms 61. Arrange dissemination of information about occurrence of urban floods and areas that are affected by it to media & public.	COR, Municipal Commissioner Information Dept.

Time = 0+ 24 Hrs	Mobilization and Deployment	<p>62. Remain in constant touch with IMD for updates on weather forecast for the coming hours and plan accordingly</p> <p>63. Immediate mobilization of following units/teams to areas affected by floods</p> <ul style="list-style-type: none"> • S & R Teams of Fire and Emergency Services • Quick Medical Response Teams • Quick Damage & Loss Assessment Teams • Quick Need Assessment Teams • Road Clearance Teams • Teams for disposal of dead bodies • Teams for disposal of carcasses • Teams for dewatering • Teams for maintaining Law & Order in the affected areas • Team for restoration of water and power supply • Arrange for S & R teams of Air Force (If required) 	<p>IMD COR, Municipal Commissioner</p> <p>UD &UHD</p> <p>Dist. Collector,</p> <p>Key line Dept.</p>
	Clearance of Access Roads to Reach at The Sites of Affected Areas	<p>64. To survey the access roads/routes leading to the affected areas and manage traffic for mobilization of equipments, machinery and volunteers.</p> <p>65. Identify alternate roads/routes for evacuation of affected people</p> <p>66. Undertake repairing/restoration of damaged roads leading to the affected areas.</p> <p>67. Identify and declare unsafe buildings/structures in urban floods affected areas.</p> <p>68. Evacuate people from unsafe buildings/structures and shift them to relief camps/sites</p> <p>69. Divert/stop transport activities (Rail + Road) heading towards flood affected areas</p>	<p>R & B Dept. ,</p> <p>Transport Dept.,</p> <p>Municipal Commissioner</p> <p>UD & UHD</p>
	Necessary Arrangements at Evacuation/ Relief Centres	<p>70. To ensure that necessary arrangements at evacuation/relief centers is made sufficient availability as per the Minimum Standards of Relief by GoG</p> <p>71. To ensure necessary security arrangements for the personnel (Emergency responders/relief teams) who are working at Relief Centers and involved in distribution of Relief Materials</p>	<p>Revenue Dept.,</p> <p>Civil Supply Dept., Municipal CommissioneColl</p> <p>ectors,</p> <p>Water Supply Dept.,</p> <p>Health Dept.,</p> <p>GEB,</p>

		<p>72. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well</p> <p>73. Arrange for a logistic plan and warehouse for receipt and management of relief material</p>	<p>Energy & Petro. Dept., GWSSB & Local Authorities, Home Dept.</p>
	Immediate Health and Minimization of Disease Outbreak	<p>74. To establish relief camp hospitals near the affected areas</p> <p>75. To make transportation arrangements to shift stranded persons to nearest-camp Hospitals, City, Taluka and District Hospitals, Regional and State Hospitals</p> <p>76. Ensure that the Hospitals are well prepared to deal with emergencies like outbreak of water borne diseases</p> <p>77. Ensure that the required medical assistance/aid and medicines are provided to the affected people at site as well as at evacuation/relief centers in the affected area and necessary records are maintained</p> <p>78. Take sanitation and epidemic control measures for preventing any water borne disease</p> <p>79. Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals</p> <p>80. Take steps to purify drinking water sources</p> <p>81. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the city/taluka/district level for immediate medical assistance</p>	<p>CoR/ DoR,</p> <p>Health dept</p> <p>Municipal Commissioner</p> <p>Collector</p> <p>Port & Transport Dept,</p> <p>Tourism Dept.,</p>
		<p>82. Assess need for fodder if required</p> <p>83. Keep ready teams for carcass disposal (if required)</p>	<p>Animal Husbandry Dept.</p>
	Information to Public and Media	<p>84. Establish Media/Press Centre for media management and information dissemination</p> <p>85. Ensure that the information to media/general public about the response of the State Government is released in an organized manner</p> <p>86. Organize media briefing twice a day at pre-determined intervals</p>	<p>Information Dept., CoR</p> <p>Municipal Commissioner</p>
	Other Important Work Related to Immediate Response	<p>87. Prepare quick need assessment report for planning of relief operation</p> <p>88. Additional assistance may be asked for emergency response/relief from GoI-</p>	<p>CoR</p> <p>Municipal commissioner</p>

		<p>NDMA (If needed)</p> <p>89. Prepare situation report and circulate it twice a day in the morning and evening to key Government functionaries</p> <p>90. Maintain constant touch with National, District, City and Taluka EOCs and other control rooms</p> <p>91. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly</p> <p>92. Conduct aerial survey of affected areas for taking a stalk of the situation</p>	District collector
		<p>93. Activate evacuation & relief centers according to needs/situation</p> <p>94. Maintain record of persons admitted at evacuation/relief centres</p>	Revenue Dept. COR Municipal Commissioner Collector
	Time = 0 + 24 to 48 Hrs	<p>Review of Situation and Reporting</p> <p>95. Establish contact with IMD, CWC, for constant updates regarding rainfall data /weather condition and plan accordingly</p>	COR Municipal Commissioner Collector
	Restoration of Critical Infrastructure/ Essential Services	<p>96. Ensure that the essential services/critical infrastructure of the affected areas have been restored or alternative arrangement is made for ensuring safety of people and smooth management of emergency response.</p> <p>97. Ensure that key administrative and lifeline buildings are brought back to operation quickly.</p> <p>98. Designate and deploy senior officers (as per the need) to worst affected area/s to oversee rescue/relief operation.</p> <p>99. Ensure following primary necessities are restored</p> <ol style="list-style-type: none"> Power supply Water supply Communication Roads & Bridges 	CoR, Line Depts., Municipal Commissioner Dist. Collectors, Line dept. Eneregy & Petro.Dept. Power Supply Water Supply Ports and Transport
	Dignified Management of the Dead	<p>100. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ol style="list-style-type: none"> Photographs of the dead bodies are taken, 	Revenue Dept., Municipal Commissione

		b. Identification of the dead bodies is done, c. Post Mortem where ever necessary and possible is carried out, d. Handing over dead bodies of persons known/identified to their relatives, e. Disposal of unclaimed and unidentified dead bodies.	Dist. Collector, Home Dept., Health Dept., Local Authorities
		101. Ensure medical aid to injured cattle 102. Disposal of animal carcasses with the help of local bodies/health dept.	Animal Husbandry Dept.
	Public Information and Media Management	103. Ensure that the information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day 104. Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s 105. Establish Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals	COR, Information Dept., Municipal Commissioner Dist. Collector
	Miscellaneous Rescue and Relief Works	106. Assess the situation and take appropriate action to accelerate the Search & Rescue Operations 107. Depute additional officers and supporting staff to affected areas from non-affected areas (if required) to accelerate the rescue and relief operations	COR, Municipal Commissioner Dist. Collector
		108. Ensure that the relief assistance received from outside is centrally received, stored and sent for distribution to flood affected areas according to their need and proper accounts are maintained about both receipt and distribution	COR, Civil Supply Dept.
	Time = 0 + 48 to 96 Hrs Continuous Rescue and Relief Works	109. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly 110. Arrange for procurement of additional relief material required for relief operations (on the basis of need assessment) 111. Mobilize additional relief material required for relief operations 112. Maintain constant touch with State & Districts EOCs	COR, Municipal Commissioner Civil Supply Dept.

		113. Arrangement for transportation of injured from field hospital to base hospital 114. Arrangement for transport of dead bodies to their native places 115. Ensure maintenance of record, timely reporting and information management 116. Ensure maintenance of record and information database	Revenue Dept, Health Dept. , Transport Dept., Line Depts. Home Dept.
Time = 0 + 96 to 168 Hrs	Continuous-Rescue and Relief Works	117. Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly 118. Review the restoration of all the public and essential buildings/ structures in flood affected areas 119. Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s	COR
		120. On receiving the message from IMD about rainfall and inform the concern municipal commissioner/Collector	COR, IMD
		121. Organize a quick rapid visual survey of the affected areas (through a technical team of engineers or drones) to ascertain the safety of the structures decide on giving the go-ahead to people to move back to their respective houses	COR, Municipal Commissioner Dist. Collectors, , R & B Dept.
		122. After receiving the message of de-warning, ensure that people are moved back safely to their houses	COR, Municipal Commissioner Collector, Home Dept.

Chapter 6 : Action Plan for Industrial & Chemical Disasters

6.1 Introduction

6.1.1 Background

Gujarat, the hub of chemical industry in India, accounts for 62 % of India's petrochemical production, 35% of other chemicals production and 18% of India's chemical exports. Gujarat's chemical & petrochemicals industry comprises of about 500 large and medium scale industrial units, about 16,000 small scale industrial units and other factory units. Over 6500 chemicals & petrochemicals are produced in the state, largest supplier of bio fertilizers, seeds, urea and other fertilizers. Gujarat has also taken lead to promote environment friendly practices through Effluent Treatment Plant; currently 28 such plants are operational.

The chemical and petrochemical industries present in Gujarat include refineries, chemical and LNG terminal, petrochemical complexes, chlor alkali plants, soda ash plants, chemical fertilizer plants and agro chemicals. There is also a Petroleum, Chemical & Petrochemical Investment Region (PCPIR) which is spread over 453 sq km in the coastal belt of Gulf of Khambhat in Bharuch district in the vicinity of other existing GIDC chemical estates, viz. Jhagadia, Ankleshwar, Panoli and onsite port terminal & LNG terminal at Dahej. Most prominent Indian and multinational organizations of chemical and petrochemical sector which are present in Gujarat state are Tata chemicals, Oil and Natural Gas Company limited (ONGC), Reliance industries, Indian Oil Corporation Limited (IOCL), Indian Petrochemical Corporation Limited (IPCL), Torrent Pharma, Zydus Cadila, ROSNEFT, Adani, Essar, IFFCO, Novartis and others.

The growth of chemical industries has led to an increase in the risk of occurrence of incidents associated with hazardous chemicals (HAZCHEM) and hazardous materials (HAZMAT). These events occur due to mishaps or failures in industry and negligence in following international codes and standards for chemical handling which affects the industrial functioning, and productivity. While the common causes for chemical accidents are deficiencies in safety management systems or human errors, natural calamities or sabotage may also trigger such accidents. Chemical/ industrial accidents are significant and have long term impact on the community and environment. It leads to injuries, pain, suffering, loss of lives, damage to property and environment.

6.1.2 Sources of Chemical Disasters

Chemical accidents may originate in:

1. Manufacturing and formulation installations including during commissioning and process operations; maintenance and disposal
2. Material handling and storage in manufacturing facilities, and isolated storages; warehouses and godowns including tank farms in ports and docks and fuel depots
3. Transportation (road, rail, air, water, and pipelines)

6.2.1 Causative Factors Leading to Chemical Disasters

Chemical disasters, in general, may result from:

1. Fire
2. Explosion

3. Toxic release
4. Poisoning
5. Combinations of the above

6.2.2 Initiators of Chemical Accidents

A number of factors including human errors could spark off chemical accidents with the potential to become chemical disasters. These are:

a. Process and Safety System Failure

1. Technical errors: design defects, fatigue, metal failure, corrosion, etc.
2. Human errors: neglecting safety instructions, deviating from specified procedures, etc.
3. Lack of information: absence of emergency warning procedures, nondisclosure of line of treatment, etc.
4. Organisational errors: poor emergency planning and coordination, poor communication with public, noncompliance with mock drills/exercises etc. which are required for ensuring a state of quick response and preparedness.

b. Natural Calamities

The Gujarat state is highly prone to natural disasters, which can also trigger chemical disasters. The release of acrylonitrile at Kandla Port, during an earthquake in 2001, is one of the examples.

c. Terrorist Attacks/Sabotage

Vulnerability to chemical disasters is further compounded by likely terrorist and warfare activities which include sabotage and attack on HAZCHEM installations and transportation vehicles.

6.3 Authority

Enforcement and monitoring of chemical safety and emergency management involves various central ministries/departments viz. MHA, MoEF, MoLE, MoA, MoP& NG, MoC&F, MoSRT&H, MoC&I, DEA, MoF etc. The MoLE, MoEF and MoSRT&H are responsible for enacting regulations.

a. State Level

At the State level, the State Crisis Group (SCG) is an apex body to deal with major chemical accidents and to provide expert guidance for handling them. SCG, under the Chairmanship of Chief Secretary consists of Secretary – Labour & Employment, Relief Commissioner, CEO – GSDMA, Secretary – Forest & Environment, Chairman – GPCB, PS – Industries & Mines, Secretary – Home, Director General – Police, Secretary – Health & Family Welfare, Secretary – Water Supply, Director – Industrial Safety & Health and Professional Head of the Fire Service Department, Home.

b. District Level

At the District level, the District Crisis 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.

6.4 Flow of Information (Communication)

A procedure has to be laid out to communicate the accident / attack to the DEOC by giving details such as location of incident, chemical(s) involved, severity of incident, casualties (if any), etc. The person in-charge at DEOC shall then inform the first three responders i.e. Police, Fire & Emergency Services and Medical Department. He will then inform the District Collector and all other members of the DCG. The District Collector, in turn, would inform the Gujarat State Disaster Management Authority (GSDMA) and the SCG about the incident and ask for additional help in terms of resources and manpower (if at all required) after assessing the situation on site.

The SCG or the GSDMA would then inform the Central Crisis Group (CCG) about the incident along with other relevant details on hand. The first responders, after reaching the site, will secure more information about the incident and try to establish communication with the concerned agencies / departments for deploying resources / personnel as per the need of the situation.

6.5 Regulatory Framework

This plan derives its authority from the following acts and rules:

a. Acts

- i. The Factories Act, 1948, as amended in 1976 and 1987
- ii. The Environment (Protection) Act, 1986
- iii. The Disaster Management Act, 2005
- iv. The Public Liability Insurance Act, 1991 as amended in 1992
- v. The National Environment Tribunal Act, 1995
- vi. The Gujarat State Disaster Management Authority Act, 2003
- vii. The Explosive Act, 1884
- viii. The Petroleum Act, 1934
- ix. The Electricity Act, 2003
- x. Dock Workers (Safety, Health & Welfare) Act, 1986

b. Rules

- i. The Gujarat Factories Rules 1963 under the Factories Act, 1948 as amended in 1995
- ii. The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in 1994, 2000 and 2004

- iii. The Public Liability Insurance Rules, 1991 as amended in 1992
- iv. The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996
- v. Explosive Rules, 2008
- vi. Central Motor Vehicles Rules, 1989
- vii. Hazardous Wastes (Management, Handling and Trans-boundary Movement) Rules, 2008.

6.6 Trigger Mechanism for Industrial (Chemical) Disasters

The occupier / manager of the establishment responsible for releasing or discharging a hazardous chemical will notify incident the appropriate local control room and DEOC. Industry can additionally report to local control rooms of mutual aid partners, GVK 108, and local fire and police departments, as per the local emergency response plans.

On getting the first hand information about an emergency/disaster, the in-charge of the DEOC should immediately inform the District Collector and the first three responders i.e. Police, Fire & Emergency Services and Medical Services. District Collector alongwith Dy. DISH and two experts will join him.

The notification should specify the location of the incident, the type of chemical released/ used (if known), possible consequences and provide written reports on actions taken and on health effects. The District Collector should then inform the SEOC, the GSDMA and the Chairman of the SCG about the incident.

The SEOC will then issue alert or direct all the Emergency Responder Agencies at the State and District level for providing their services immediately. The SEOC will immediately take decision to deploy SRTs in the affected area/s.

During the initial stages of the emergency it is likely that the reports may be unclear and conflicting. Therefore, the first responders conducting the on-site assessment should secure reliable sources of information to allow an objective assessment of the situation. The assessment should include casualty, material damages, and the likely health consequences. It should also suggest antidotes and treatment regimes for those affected by medical care if the type/nature of chemical released/used during the disaster is known.

The SCG, after analyzing the information received from the District Collector and the first responders would then decide on mobilization of additional resources, medical aid and rescue equipment as required through various sources. The SCG should also instruct the Fire & Emergency/Rescue Services and Hospitals of the neighbouring districts to be on alert in case their services are needed.

The Team Commander of the ERT should cordon off the affected area. He should instruct the neighbouring population to stay away from the site. He should instruct the medical unit to detect the substances used during the attack through the available equipment/kit. He should also decide the place for establishing the decontamination unit at an appropriate location in consultation with doctors and paramedics. The Search & Rescue unit of the ERT should rescue and evacuate the affected people to a safe location.

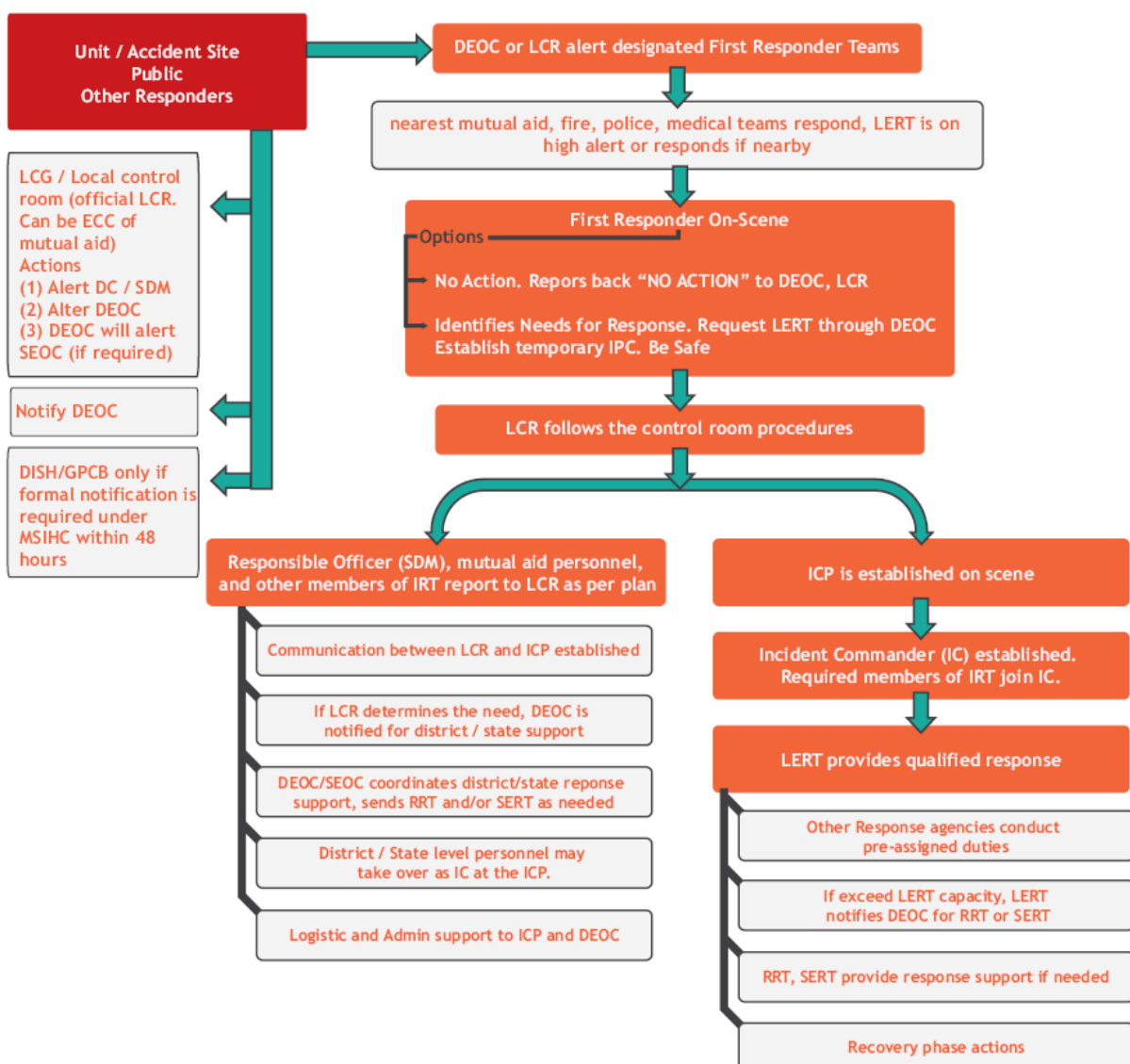
6.7 Response for Industrial (Chemical) Disasters

Response measures are those which are taken instantly prior to, and following, a Industrial & Chemical 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 it.

SCG will ensure that the functions and responsibilities of the chemical facility operators and response organisations are clearly defined and understood by all stakeholders. The CCG and the SCG/DISH will also determine the actions that need to be performed by each organisation during an emergency and whether it has the necessary resources and capabilities needed for the purpose.

For the fastest response, it is very important that the person who is receiving the information shall immediately pass on to the first responders, District Collector, Sub Div. Magistrate (Chairman for LCG) and other members of DCG. If he receives, further information after making the first call, he will convey that also in same order. Alternatively, if the information is more relevant to any particular department, he will first pass that information to its head.

Detailed emergency response process and roles and responsibility of different departments are as under:



Standard Operating Procedures (SOP)

Sr. No.	Task	Activity	Responsibility
1.	Disaster Declaration and Plan Activation	<ol style="list-style-type: none"> 1. Declare an off-site emergency in consultation with SCG and activate an off-site emergency plan 2. Activate DCG 3. Establish immediate communication with LCG, DCG, DEOC, SEOC, GSDMA and CCG 	Collector
2.	Mobilization & Deployment	<ol style="list-style-type: none"> 4. Arrange an immediate deployment of various ERTs in affected sector(s). (Police, Fire, S&R, Medical, etc.) 5. Based on the emergency monitoring teams from off-site areas initiate counter measures (such as sheltering and medical help) 6. Arrange an evacuation of the affected/ likely to be affected workers and population to safer places 7. Activate systems of the State machinery to meet the necessary requirements of the public in the camp till the people are in a position to go back to their homes after the affected areas are cleared and declared safe 8. Deploy QRMTs/ MFRs consisting of physicians, triage officer, nurses and paramedical staff 9. To ensure that necessary arrangements at evacuation/ relief centers is made with sufficient availability of: <ol style="list-style-type: none"> a. Food, b. Water, c. Blankets/Clothing d. Medicines e. Lighting f. Sanitation and Hygiene, etc. 10. To ensure necessary security arrangements for the personnel (Emergency responders/relief teams) who are working at relief centers and involved in distribution of relief materials 11. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas 	Collector, Municipal Commissioner, DISH, DCG, Home Dept., Health Dept., Industry/ Industrial Association COR, Civil Supply Dept., Collectors, Municipal Commissioner, DISH, Water Supply Dept., Health Dept., GEB, Energy & Petrochemical Dept, GWSSB & Local Authorities, Home Dept.
3.	Addressing Health Related Issues	<ol style="list-style-type: none"> 12. Ensure that the required medical assistance/ aid and medicines/ antidotes are provided to the affected people at site as well as at evacuation/ relief centers in the affected area and necessary records are maintained 13. Ensure that the hospitals are well prepared to deal with seriously injured persons 14. Keep adequate stock of essential medicines, antidotes, first-aid etc. at taluka/district hospitals. 15. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance 	Health Dept.
4.	Information to public and	<ol style="list-style-type: none"> 16. Make an arrangement for providing useful, timely, correct, consistent, and appropriate information to the 	Collector, Municipal

	media	public and media in the event of a chemical disaster. 17. Ensure that the information to media/general public about the coordinated response is released in an organized manner.	Commissioner DISH, COR, Commissioner of Info.,
5.	Disposal of Dead bodies	18. Ensure following procedure is followed before disposal/handing over of dead bodies: <ol style="list-style-type: none"> Photographs of the dead bodies are taken, Identification of the dead bodies is done, Post Mortem wherever necessary and possible is carried out, Handing over dead bodies of persons known/identified to their relatives 19. Disposal of unclaimed and unidentified dead bodies	Collector, Municipal Commissioner, Revenue Dept., Health Dept., Home Dept., Local Authorities, Industry, Industry/Industrial Association
		20. Animal Husbandry Department to ensure medical aid to cattle that are injured. 21. Disposal of animal carcasses with the help of local bodies/health dept.	Animal Husbandry Depts., Local Authorities, health dept.
Roles and Responsibility of Some of The First Responders during Chemical Attack/ Emergency			
1	Police	<ul style="list-style-type: none"> Control and divert the traffic near the affected areas Ensure law and order at the incident site during chemical emergency/ disaster and at evacuation centres too. Provide security in evacuated areas Give warning, carry out SAR operation and carry out relief & rehabilitation operation too <p>In case of Chemical attack:</p> <ul style="list-style-type: none"> Secretary, Home and Director General of Police (DGP) will direct the participation of Police in the emergency response. Secretary, Home and DG, Police will constitute an integrated command. Secretary, Home and DGP will report to the SCR immediately upon the receipt of information about the disaster. DGP will establish contact with the District Police Control Room immediately. He will get a situation estimate and assess the operational requirements for the police. DGP will issue an alert to the DIG and the surrounding districts. He will direct all the police officials and forces in adjacent Districts to be deployed if necessary. The DG will ensure that the police forces required for traffic management, evacuation and law and order are available with the District Administration. DGP will review the dissemination of warning and the need for evacuation. He will help the 	Home Dept.

		<p>Fire & Emergency Services and the Deputy Director, Industrial Safety and Health with Police Wireless sets so that there is continuous communication among the first responders in the emergency situation.</p> <ul style="list-style-type: none"> • DGP will ensure that the police force will not enter the area under disaster without the permission of the Fire & Emergency Services and Health officials. • In case of big explosion and fire, the DGP will assess the situation and suggest a Plan of Action based on his assessment of the immediate causation. • The DGP will order deployment of the police force for evacuation of the people from the zone of the danger. • The DGP will send instructions for the cordoning off of the area. People should not be allowed access anywhere close to the site of the disaster. • The DGP will review the traffic management in the area. The primary aim would be to ensure the transportation of the injured to the hospital, easy access for emergency responders and safe evacuation of the people from the danger zone. • The DGP will also issue directives that all the Private and Public Transport (trains and buses) be diverted from the disaster area. • The DGP will contact the DIG and ask him to organize the deployment of police force from other Districts, based on the need assessment. The DGP will also contact the Central Industrial Security Forces and other paramilitary forces to seek their deployment, if needed. • The DGP will supervise law and order situation. He will take all the possible precautions to ensure that public order is maintained and no one takes undue advantage of the situation. 	
2	Fire and Search & Rescue	<ul style="list-style-type: none"> • Reach at the site soonest possible and assess the situation (information about the chemical leak/spill, the action taken and current status) • In case of fire, start fire fighting with suitable medium and also take care of surrounding storages/ tanks to be over heated so that reduce the chances of 'domino effect'. • In case of chemical leak, try to terminate the release/ stopping of leak with the use of proper PPE • Search and identify the risk and nullify the sources of leak / toxic release. If any unclear or unidentified substance or source is identified or 	Fire and Emergency Services (F&ES), Municipal Corporation, GIDC

		<p>detected, the team should send them immediately to the laboratory for further investigation / analysis</p> <ul style="list-style-type: none"> • Secretary, Industries will coordinate redeployment of GIDC Fire Tenders from other places, as required • Secretary, Industries will also coordinate with the Private and Public Sector industries for deployment of their Fire Brigades to the site of the disaster. • The SCG, in consultation with the District Collector and other local officials will ensure that CFO, Fire & Emergency Services, Dy. Director - Industrial Safety and Health, Officer in charge Police and Health Personnel all work closely with full coordination • Ahmedabad, Vadodara, Valsad, Surat, Rajkot and Jamnagar are the main providers of Fire Services in the state. The DEOC will decide upon the deployment of Fire Services, based on distance and accessibility. • To search and evacuate the affected population from the site of the incident. 	
3.	Medical Services	<ul style="list-style-type: none"> • The Secretary - Health, Commissioner of Health, and emergency medicine experts will provide the necessary expertise and specialized services to the SCG • The SCG will consider the level of exposure on the basis of situation estimate received from the District Administration. It will consider the intrinsic toxic potential of the chemical, its concentration, the duration of exposure and the health status of the people exposed • Based on the information upon the level and extent of contamination, the SCG will decide on the issue of alert and warning to the people in the affected areas through the All India Radio, Doordarshan and Cable TV • The SCG will contact the Civil Surgeon and the District Health Officer of the concerned district and ask them to deploy all the necessary medical facilities including doctors, nurses, medicines and ambulances • The SCG will alert major hospitals in the area and ask them to be in readiness for receiving patients • In case the nature of contamination requires much greater intervention, the SCG will inform the CCG and ask for the necessary medical assistance of experts, doctors and equipments. The relevant agency for emergency medicine in the Government of India is the Directorate General of the Health Services (DGHS) in the Ministry of Health and Family Welfare. The 	Dept. of Health and Family Welfare

		<p>DGHS has set up the Emergency Medical Relief Cell for dealing with these contingencies</p> <ul style="list-style-type: none"> • The SCG will review the diagnostic support services: clinical laboratory, blood banks, radiology, pathology, pharmacy, paramedics, Red Cross, NGOs and volunteer personnel. It will seek all the steps to organize the necessary medical help through the deployment of doctors, paramedics, and provision of blood and medicines, as required • The SCG will review the administrative support required for the situation, which includes communications, transport of the victims and of the personnel, feeding of the personnel and patients, and supplies • The SCG will collect information on the number of deaths and persons injured; the nature of injuries and the likely long-term consequences • The SCG must assess the medical needs of the area on the basis of likely long-term consequences and take steps to equip local medical facilities for treating people on a long-term basis. The SCG must also make financial provision for spending on long-term treatment. • Psychosocial care for the victims of disaster by the team of experts. 	
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6.8 Post Disaster Responsibilities

Once the situation at the site is under control, fire has been extinguished; the emission of vapours to the atmosphere has been effectively checked, the following actions have to be performed by various sub-teams of the SRT and the respective line departments as well as the District Administration.

6.7.1 Search & Detection of Leak / Toxic Release

The Search & Detection Team would identify the risk and nullify the sources of leak / toxic release. If any unclear or unidentified substance or source is identified or detected, the team should send them immediately to the laboratory for further investigation / analysis. The team should also preserve the samples from the site of the incident such as sand, water, air and other infected substances for further investigation which could aid in strengthening the case later on.

Technical expertise of GPCB, Fire & Emergency Services and the Health Department may be used by the Search & Detection Team in carrying out the activities if required.

6.7.2 Structural Inspections after Fires or Explosions

A major explosion could damage or destroy numerous buildings and any nearby bridges or tunnels. Similarly large fires can have major effects on buildings and other infrastructure facilities over a vast surrounding area. In either case, residents / owners of the partially damaged buildings will want to know if the structures are safe to occupy while they await repairs. Questions pertaining to the safety of highway or railway bridges must also be resolved quickly to avoid traffic complications. It must be ensured that the inspection

personnel have special precautions (i.e. chemical protective gear) in addition to normal safety equipment for cases where the structure may still be contaminated by hazardous residues.

Fire & Emergency Services personnel along with the structural experts from the R & B Department shall be responsible for inspecting the structural integrity of damaged buildings, bridges or other structures in the aftermath of a fire or explosion.

6.7.3 Search, Rescue and Evacuation

After getting the go ahead from the technical personnel responsible for ensuring structural safety of the buildings in and around the incident site, the Search & Evacuation Team should carry out their job and evacuate the affected population from the site of the incident. They should brief the Information Officer about the rescue and evacuation status (including the place of temporary shelter) to ensure that no rumours are spread to avoid any panic amongst the general public. The team, with the help of Police personnel should also stop general public from moving towards the danger zone. The Team should provide guidance to people regarding evacuation route, first aid and decontamination area. They should also help the Medical Team in rushing the victims to nearby hospitals.

6.7.4 Post Incident Testing for Contamination

De-contamination Team would be responsible to decontaminate the affected area, population, members of SRT and equipment used during the operation on the site of the incident. In addition, the Team should also be responsible for erecting the decontamination chambers for the affected population. After the operation is completed in all respects, the Team should ensure that the site is totally decontaminated from the toxic substances. The team should also ensure that the water that was used for decontamination is properly discharged preferably to a sewerage system outlet and safely disposed.

Technical personnel from the GPCB, Fire & Emergency Services and the nearby industrial units as well as the personnel from the Medical Team should help the De-contamination Team to carry out their duty. Further, the Team shall also check crops, water (ground & surface), homes, stored foods and animals for possible chemical contamination.

6.7.5 Providing Medical and First Aid to the Victims

The Medical Team should provide first aid to the victims of the incident. If need arises, the team should also help the hospital staff of the hospital where the victims would be transported from the incident site. They should monitor the level of triage of the victims through checking their breathing and pulse. They should also decide on the type of decontamination (either wet or dry) depending upon the substances/ chemicals used during the disaster. The team should also identify the trauma cases and counsel them appropriately.

6.7.6 Counselling and Rehabilitation of Victims

The psychological impact of a chemical disaster manifests as psychosocial trauma including psychological reactions, post-traumatic stress disorder and other psychological ailments in displaced disaster victims which need to be addressed. Counseling by psychologists and psychiatrists for those suffering from mental trauma is an essential element of medical rehabilitation.

6.7.7 Provision of Alternate Water Supplies

There are a number of circumstances under which a potable water supply may become unfit for human consumption for a time and require replacement. This is most commonly accomplished by bringing in supplies of bottled water and / or tankers / trailers capable of carrying water. The district Administration must ensure the availability of potable water for consumption of affected population as well as first responders engaged at the incident site.

6.7.8 Re-Entry into Evacuated Areas

Based on the assessment of the situation at the site, the DCG would take a decision on the termination of emergency. However, before taking this decision, several other actions need to be ascertained such as restoration of electricity, gas and water supplies in the affected areas/ buildings, transport arrangements for bringing the affected population back from the temporary shelters, restoration of law & order in the affected area/s, etc. through the concerned Teams/ departments.

6.7.9 Responsibility of the Other Statutory Authority

The designated authority under various statutes like Indian Boiler Act, Factory Act, E.P. Act, Explosive Act, Static and Mobile Pressure Vessel Act, etc. shall perform post emergency activities prescribed and also as directed by District Collector under Gujarat State Disaster Management Act, 2003.

a. Immediate Financial Relief to Victims

Under the Public Liability Insurance Act, 1991, MoEF has published the list of chemicals and threshold quantities beyond which the occupier or owner must take third-party PLI for providing relief to accident victims as per the direction of the collector. The Act also provides for an Environment Relief Fund (ERF) and enables payment of relief over and above the insured amount. The occupier or owner should pay an amount equal to the PLI premium to the ERF and deposit the same with the insurer. At state level GPCB is responsible to ensure compliance with PLI Act and at district level the collector and regional officer of GPCB are responsible. This act provides for immediate access to relief funds so that the compliance with Act should be verified and strengthened. It is already recommended that the maximum liability under the Act (currently Rs 5 cores) should be substantially enhanced.

b. Restoration and Regeneration of Ecosystem

The potential of chemical accidents to cause severe environmental damage has been realized on a number of occasions such as at Seveso, Bhopal, Mexico City (LPG disaster), Chernobyl, and Alaska (Exxon Valdez). For the remediation of the affected environment, it is essential to assess the environmental impacts which include determining the quantitative and qualitative nature of impact and ascertaining the components of the environment most at risk from chemical accidents. This assessment is dependent on certain factors such as the chemicals involved, pollutant concentrations in the environment, environment media polluted by the accident, topography, and meteorology. After assessing the impact, the government can choose the appropriate recovery strategy.

Chapter 7 : Action plan for Biological and Public Health Emergency

7.1 Introduction:

Biological emergency is one caused due to natural outbreaks of epidemics or intentional use of biological agents (viruses and microorganisms) or toxins through dissemination of such agents in ways to harm human population, food crops and livestock to cause outbreaks of diseases. This may happen through natural, accidental, or deliberate release of microorganisms into food, water, air, soil or into plants, crops, or livestock. Apart from the natural transnational movement of the pathogenic organisms, their intentional use as weapons of biological warfare and bioterrorism are anthropogenic hazards in the recent times

Handling exotic pathogens warrants suitable infrastructure, notably, high containment laboratories of bio-safety levels 3 and 4; recruitment of highly committed, dedicated and trained professionals; continuous availability of diagnostic reagents; enhancement of skills at various echelons of health professionals in early identification of such infections, investigation of outbreaks and institution of specific control measures. Natural outbreaks of disease may become epidemics and assume disastrous proportion if not contained in the initial stages. Epidemics can result in heavy mortalities in a short time, with a drop in the overall economic activity.

-As large number of people now travels within and across national/international boundaries, the likelihood of fast global spread of epidemics has increased dramatically making localized outbreaks turn into national epidemics and global pandemics. As our society is in a state of flux, novel pathogens emerge to pose challenges not only at the point of primary contact but also in far removed locations. The increased interaction between humans and animals has increased the possibilities of zoonotic diseases emerging in epidemic form³.

7.2 Disaster Declaration:

The Gujarat State Disaster Management Act, 2003 (Section 32) provides for the State Government to declare any area where disaster have occurred or likely to occur as disaster affected area on the recommendations of the State Relief Commissioner or the District Collector. The purpose of the declaration is to organize effective response in mitigating the ill impacts.

7.3 Disaster warning:

Preparation of warning messages, describing what is happening, predictions or future probabilities of what will happen and expected impact and the outcome must be disseminated properly for better preparedness.

The parameters for preparedness include planning, capacity building, well established medical facilities, trained doctors and paramedical staff, workshop for rescue, rescue maps and flowchart indications in buildings. These preparedness parameters help in reducing the morbidity and mortality. Highly vulnerable groups such as elderly, young children, persons with disability, outdoor workers and slum residents should be provided specific messages in timely manner.

³ National Disaster Management Plan, 2019

7.4 Response Mechanism

Response measures are those which are taken instantly prior to and following epidemic/ medical emergency/ 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 it.

State Executive Committee (SEC) will ensure that the functions and responsibilities of the epidemic facility operators and response organizations are clearly defined and understood by all stakeholders. The SEC will also determine the actions that need to be performed by each organization during an emergency and whether it has the necessary resources and capabilities needed for the purpose. The advice of State Crisis Management Committee (SCMC) will also be sought in this matter.

7.5 Trigger Mechanism: Plan Activation

The response system will be activated on the occurrence of an eminent disaster/epidemic. Commissioner of Relief (CoR) will activate all the Departments for emergency response including the State EOC. He will issue instructions to include the following details:

- Specify exact resources required
- The type of assistance to be provided
- The time limit within which assistance is needed
- The state, district or other contact persons/agencies for the provision of the assistance
- Activation of all concerned line departments

The state EOC and other control rooms like Police, Health and other relevant 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)). Once the situation is totally controlled and normalcy is restored, CoR declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties. The SOP for the same is as below:

Standard Operating Procedure (SOP) for Biological and Health Emergency

Sr. No	Task	Activity	Responsibility
1	Warning Receipt and Dissemination	<ol style="list-style-type: none"> 1. Inform COR, ACS/PS(Revenue), CEO (GSDMA), Crisis Management Group, Hon. CM, Hon. Minister (DM), NDMA, Ministers and Secretaries of all line depts. as per the warning of MoH&FW and Health Dept. 2. Inform & instruct District Collectors to activate District Control Room at full strength 3. Remain in constant touch with control rooms at National & State Level. 4. Instruct and alert Secretary of departments of the key line departments to activate their departmental plan and SOPs for immediate response 	Health & Family Welfare dept In charge - SEOC
2	Disaster Declaration and Plan Activation	<ol style="list-style-type: none"> 5. Declare an emergency in consultation with State Crisis Group (SCG) and activate an emergency plan 6. Activate District Crisis Group (DCG) 7. Establish immediate communication with Local Crisis Group (LCG), District Crisis Group (DCG), District Emergency Operation Centre (DEOC), State Emergency Operation Centre (SEOC), GSDMA and Central Crisis Group 	CoR Health & Family Welfare dept Collector
3	Interdepartmental Coordination	<ol style="list-style-type: none"> 8. Instruct all State Government officers and employees in the State to report to their respective Head for emergency duties (Only if the warning is of a level 2 disaster or as per the decision taken in the meeting of the Crisis Management Group headed by Chief Secretary) 9. Alert the District Collectors of districts not largely affected to be prepared for providing the following to the districts likely to be affected: <ol style="list-style-type: none"> a. Additional manpower b. Additional resources c. Machinery & Equipment d. Relief material/Kits 	CoR GAD, Health & Family Welfare dept Line depts. Collectors

4	Establishment of Lines of Communication	10. Establish communication links with areas likely to be affected as per the contact details available in SDRN and hospitals	COR/ DOR Collectors, Municipal Commissioner
5	Transportation	11. If required, impose restriction on all transport activities to avoid contagious effect. 12. Setting up arrangements for the movement of citizens stranded- 13. Abroad 14. Inter/intra state 15. Inter/intra district 16. Activate systems of the State machinery to meet the necessary requirements of the public in the camp till the people are in a position to go back to their homes after the affected areas are cleared and declared safe.	<ul style="list-style-type: none"> • Collector • Municipal Commissioner • Health Dept • Home Dept • MoEA • GAD • Port & Transport Dept. • Airline authorities • Railways • GSRTC
6	Mobilisation and Deployment	17. Deploy QRMTs/ MFRs consisting of physicians, triage officer, nurses and paramedical staff 18. To ensure that necessary arrangements at evacuation/ relief centres is made with sufficient availability of: <ul style="list-style-type: none"> a. Food, b. Water, c. Blankets/Clothing d. Medicines e. Quarantine facilities f. Isolation facilities g. Lighting h. Sanitation and Hygiene, etc. 19. To ensure necessary security arrangements for the personnel (Emergency responders/relief teams) who are working at relief centres and involved in distribution of relief materials 20. To ensure that law and order is maintained at evacuation/relief centres and in the affected areas as well 21. Immediate mobilization of following	<ul style="list-style-type: none"> • COR, Collectors, Municipal Commissioner • DSP • Civil Supply Dept., , • DISH, • Water Supply Dept., • Health Dept., • GEB, • Energy and Petrochemical Department GWSSB & Local Authorities, • Home Dept.

		<p>units/teams</p> <ul style="list-style-type: none"> • Quick Medical Response Teams • Quick Need Assessment Teams • Teams for disposal of dead bodies • Teams for maintaining Law & Order in the affected areas • Quick First Aid Team 	
7	Addressing Health Related Issues	<p>22. Ensure that the required medical assistance/ aid and medicines/ antidotes are provided to the affected people at site as well as at evacuation/ relief centre / quarantine / isolation centres in the affected area and necessary records are maintained</p> <p>23. Ensure that the hospitals are well prepared to deal with seriously affected persons</p> <p>24. Keep adequate stock of essential medicines, vaccines, first-aid etc. at taluka/district hospitals.</p> <p>25. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance</p>	<ul style="list-style-type: none"> • Collectors, • Municipal Commissioner • Health Dept.
8	Response of Line Dept	<p>26. Activate Departmental Disaster Management Plan and Departmental SOPs for Management of casualties</p> <p>27. Ensure availability of QRT & essential medicines</p> <p>28. Issue alert/ warning through mass media by establishing liaison with service providers</p> <p>29. Ensure safety & serviceability of critical communication towers through respective service providers</p>	<ul style="list-style-type: none"> • Collectors, Municipal Commissioner • Health Dept. • Telecom service providers • DST
9	Review of Situation and Reporting	<p>30. Review and monitor –mobile communication units, quick medical response teams; dissemination of information to vulnerable/hotspots/containment zone areas; preparedness measures to be taken by various authorities</p> <p>31. Keep in touch with National, District and</p>	<ul style="list-style-type: none"> • Revenue Dept./ COR • Secretary, Health Dept • Collector • Municipal commissioner

		<p>Taluka Control Rooms</p> <p>32. Release information at appropriate time to media and public regarding response measures organized by the Government</p>	<ul style="list-style-type: none"> • Information Dept. • PIB
10	Emergency Relief Management	<p>33. Ensure that the Relief Management work planned in the areas affected are well organized</p> <p>34. Inform following agencies to be in a state of readiness for assisting in the response measures (if required):</p> <ul style="list-style-type: none"> • Public sector agencies • Private sector agencies • NGOs, CBOs • Volunteer Organizations <p>35. Request for help (if needed) to MHA/National Disaster Management Authority</p>	<p>COR/ Revenue Dept.</p> <ul style="list-style-type: none"> • Collector
		<p>36. Ensure that the arrangement for basic amenities at evacuation/relief centres are made by the respective departments:</p> <ul style="list-style-type: none"> • Drinking water • Food • Clothing • Sanitation and hygiene, • Lighting • Medicines and other Health Care 	<ul style="list-style-type: none"> • COR • Collector • Municipal commissioner • Food & Civil Supply Dept., • Revenue Dept. • Water Supply Dept., • GEB, • Health Dept.
		<p>37. Make necessary arrangements for public information/guidance, public opinion and rumour control</p>	<ul style="list-style-type: none"> • Collector • Municipal commissioner • Information Dept.
		<p>38. Impose restrictions for transportation in majorly affected areas</p>	<p>Transport Dept. and Dist. Collector, Home Dept.</p>
11	Preliminary Assessment, Deployment of	<p>39. Send sector wise situation reports to:</p> <ul style="list-style-type: none"> • State EOC/COR • GSDMA 	<p>District Collector</p>

	Emergency Response Teams and Information Dissemination	40. Deployment of following teams Emergency Communication Teams <ul style="list-style-type: none"> • Emergency Medical Services Teams • Medical response team 	CoR, Dist. Collector, Municipal Commissioner Health dept
12	Immediate Health and Minimization of Disease Outbreak	41. To establish camp hospitals 42. To make transportation arrangements to shift seriously affected persons to nearest-camp Hospitals, Taluka and District Hospitals, Regional and State Hospitals immediately. 43. Ensure that the Hospitals are well prepared to deal with affected persons 44. Ensure that the required medical assistance/aid and medicines are provided to the affected people at site as well as at evacuation/relief centers in the affected area and necessary records are maintained 45. Take sanitation and epidemic control measures for preventing any water borne disease 46. Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals 47. Take steps to purify drinking water sources 48. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance	Health Dept., Dist. Collector, Municipal Commissioner 108 GVK EMRI Services Port & Transport Dept,
13	Information to Public and Media	49. Establish Media/Press Centre for media management and information dissemination 50. Ensure that the information to media/general public about the response of the State Government is released in an organized manner 51. Organize media briefing twice a day at pre-determined intervals	Health Dept., Information Dept., COR

14	Other Important Work Related to Immediate Response	<p>52. Prepare quick need assessment report for planning of relief operation</p> <p>53. Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed)</p> <p>54. Prepare situation report and circulate it twice a day in the morning and evening to key Government functionaries</p> <p>55. Maintain constant touch with National, District and Taluka EOCs and other control rooms</p> <p>56. Remain in constant touch with Health Dept for updates on current for the coming days and plan accordingly</p>	<ul style="list-style-type: none"> • CoR • Health Dept
		<p>57. Activate evacuation & relief centres according to needs/situation</p> <p>58. Maintain record of persons admitted at evacuation/relief centres</p>	Revenue Dept. Collector, CoR
15	Dignified Management of Dead	<p>59. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <p>60. Photographs of the dead bodies are taken,</p> <p>61. Identification of the dead bodies is done,</p> <p>62. Post Mortem where ever necessary and possible is carried out,</p> <p>63. Handing over dead bodies of persons known/identified to their relatives,</p> <p>64. Disposal of unclaimed and unidentified dead bodies.</p>	Dist. Collector, Municipal Commissioner, DSP Health Dept., Local Authorities
16	Public Information and Media Management	<p>65. Ensure that the information about progress of epidemic spread/ contain is provided to media/public in an organized manner at least twice a day</p> <p>66. Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s</p> <p>67. Establish Information Centres at strategic locations for providing information about persons evacuated to the relief centres/hospitals</p>	Health Dept, COR, Dist. Collector, Municipal Commissioner, Information Dept

17	Miscellaneous Rescue and Relief Works	<p>68. Assess the situation and take appropriate action to accelerate the relief providing services.</p> <p>69. Depute additional officers and supporting staff to enhance the diagnostic facility, treatment and discharge of affected person.</p>	COR, Districts Collector, Municipal Commissioner Revenue Dept, UDD, Health Dept.
		70. Ensure that the relief assistance received from outside is centrally received, stored and sent for distribution proper accounts are maintained about both receipt and distribution	CoR, Collector, Municipal Commissioner
		71. District Collector/Municipal Commissioner may oversee the functioning of relief centres and ensure adequate supply of relief materials (medical logistics)	Collector, Municipal Commissioner Revenue Dept, Civil Supply Dept., Health Dept.
18	Continuous Rescue and Relief Works	<p>72. Arrange for procurement of additional medical supplies and relief material required for relief operations (on the basis of need assessment of Medical Logistics)</p> <p>73. Mobilize additional medical supplies and relief material required for relief operations</p> <p>74. Maintain constant touch with State & Districts EOCs</p>	COR, Dist. Collectors, Civil Supply Dept., Health Dept.
		<p>75. Arrangement for transportation of affected persons from field hospital to base hospital</p> <p>76. Arrangement for transport of dead bodies to their native places</p> <p>77. Ensure maintenance of record, timely reporting and information management</p>	Revenue Dept, Health Dept. , Transport Dept., Line Depts.
19	Continuous Monitoring	<p>78. Ensure data collection from each district regarding the number of patients admitted/dead from both Government hospital/private hospitals.</p> <p>79. Ensure that continuous monitoring is carried out.</p> <p>80. Prepare data analytics and documentation on daily basis.</p>	Health Dept. Collector, Municipal Commissioner COR

20	Setting up of testing facility and laboratories	81. Arrangement of laboratories for the purpose of increased testing 82. Identifying, supply chain and inventory management of other reagents for protection, detection, and medical management.	Health dept. ICMR
21	Diagnostic Kits, Biomedical Equipments & PPE	83. Arrangement of Rapid Diagnostic Kits 84. Ensure that stockpiling of medicines, personal protective equipments like gloves, masks, Head Gears etc. are stocked up. 85. Arrangement of diagnostic kits, ventilators, oxygen cylinders , antibiotics, vaccines, biomedical equipments etc 86. Ensure adequate medical logistics in case of surge capacity.	Health dept.
22	Biosafety and biosecurity measures and environmental measures	87. Ensure Strict compliance with Bio safety and bio security provisions in hospitals 88. Ensure Environmental monitoring to prevent further spread of diseases. 89. Monitoring of water supply and sewage systems to prevent the dispersal of biological agents that can cause epidemics 90. Ensure regular surveillance	Health dept. Collectors Municipal Commissioner Dept. of Drinking Water and Sanitation
23	Assessment of Situation	91. Regular and periodic monitoring of the situation 92. Ensure updates from research & academic institutions/universities working in the field of medicine for better decision making. 93. Ensure continuous updates and consultation with National/international organisations like ICMR, IMA, AIIMS, NIE, IIPH, WHO, UNICEF	Health dept. Collectors, MC
24	Other alternate Medicines and stockpiling medical facilities	94. Ensure that alternative medicines like homeopathy, herbal and Ayurvedic are used, 95. if required.	Health dept. Office of Director, AYUSH Revenue dept.

25	Concurrent study	<p>96. To study and research of the pandemics and of biological agents, vaccines and other relevant drugs.</p> <p>97. Research on biological hazard and its impact in the state/country.</p>	<p>Health dept.</p> <p>Research</p> <p>institute of</p> <p>National and</p> <p>State level</p>
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Chapter 8: Action Plan for Nuclear and Radiological Disasters

8.1 Introduction

The growth in the application of nuclear science and technology in the fields of power generation, medicine, industry, agriculture, research and defence has led to an increase in the risk of occurrence of Nuclear and Radiological emergencies.

Any radiation incident resulting in or having a potential to result in exposure and/or contamination of the workers or the public in excess of the respective permissible limits can lead to a nuclear/radiological emergency.

As on date, twenty one power reactors and eight research reactors are in operation in India, five power reactors are under construction, and plans exist to set up thorium-based reactors to meet the ever-increasing energy needs. Further, India is also one amongst the seven declared nuclear weapon states which uses nuclear technology for strategic purposes.

However, nuclear emergencies can still arise due to factors beyond the control of the operating agencies; e.g., human error, system failure, sabotage, earthquake, cyclone, flood, etc. Such failures, even though of very low probability, may lead to an on-site or off-site emergency. To combat this, proper emergency preparedness plans must be in place so that there is minimum loss of life, livelihood, property and impact on the environment.

Kakrapar Gujarat Site

Kakrapar Gujarat site is located in Mandavi Taluka of Surat district. It is situated on the southern bank of MoticherLake, which is about 85 km by road from Surat city of GujaratState. There are two operating 220 MW pressurized Heavy Water reactors.KAPS-1 went critical on 3rdSeptember 1992 and began commercial electricity production few months later on 6thMay 1993. KAPS-2 went critical on 8thJanuary 1995 and began commercial production in 1stSeptember 1995 and are operating. Two more units of 700 MWe (PHWRs) are being installed and its first unit as KAPS-3 is under commissioning stage and KAPS-4 is under construction.In addition, there are two heavy water plants in Gujarat (at Vadodara and Hazira).

8.2 Scope of the Action Plan

The scope of this document is from receiving of emergency intimation to the immediate response action.

8.3 Nuclear and Radiological Emergency/Disaster Scenarios

- a. An accident taking place in any nuclear facility of the nuclear fuel cycle including the nuclear reactor, or in a facility using radioactive sources, leading to a large-scale release of radioactivity in the environment.
- b. An accident in a nuclear fuel cycle facility where an uncontrolled nuclear chain reaction takes place inadvertently leading to bursts of neutrons and gamma radiation (as had happened at Tokaimura, Japan).
- c. An accident during the transportation of radioactive material.

- d. The malevolent use of radioactive material as Radiological Dispersal Device (RDD) by terrorists for dispersing radioactive material in the environment.
- e. A large-scale nuclear disaster resulting from a nuclear weapon attack (as had happened at Hiroshima and Nagasaki in Japan) which lead to large loss of lives and destruction of large areas and properties.

8.4 Authority

- a. The Department of Atomic Energy (DAE) has been identified as the nodal agency in the country for providing the necessary technical inputs to the national or local authorities for responding to any nuclear or radiological emergency in the public domain.
- b. The Ministry of Home Affairs (MHA) is the nodal ministry in such emergencies. The Department of Atomic Energy (DAE) and the Ministry of Home Affairs (MHA) are identified to coordinate and take response measures in the country in case of nuclear/radiological emergencies in public domain. DAE renders necessary technical support/expertise during such nuclear/radiological emergencies and coordinate activities with the other supporting ministries/departments. For this purpose, a Crisis Management Group (CMG) has been established in DAE in year 1987 and functioning as the apex advisory body.
- c. In the event of any radiological or nuclear emergency in the public domain, the CMG is immediately activated and will co-ordinate between the local authority in the affected area(s) and the National Crisis Management Committee (NCMC). The CMG comprises of senior officials drawn from various units of DAE like the Nuclear Power Corporation of India Ltd. (NPCIL), Bhabha Atomic Research Centre (BARC), Heavy Water Board (HWB) and the Directorate of Purchase and Stores (DP&S). It also includes a senior official from the regulatory authority, the Atomic Energy Regulatory Board (AERB). Director (or Associate Director), Health Safety and Environment Group, BARC, who is a member of CMG-DAE and an expert in Radiation Emergency Response; is designated as the Emergency Response Director (ERD) of DAE. Each member is backed by an alternate member, so that the CMG can be activated at a very short notice. Several resource agencies from BARC also back up the CMG. They can provide advice and assistance in the areas of radiation measurement and protection and medical assistance to radiation affected personnel.
- d. For an effective response to any major nuclear emergency, an immediate communication 25 Emergency Response Centres (ERCs) have been established across the country, by BARC and DAE. For Gujarat, Kakrapar is the ERC.
- e. In case of Gujarat, the ERC at Gujarat and other national resources such as the Armed Forces etc. shall deal with the situation. The role of the State Government and its

agencies such as the Gujarat State Disaster Management Authority (GSDMA) will only be supportive and be at the directions of the CMG.

8.5 Regulatory Body

- a. AERB is the nuclear regulatory authority in India which, as per the legal framework of Atomic Energy Act, 1962, has the mandate for issuance of licenses to nuclear and radiation facilities upon ensuring compliance with the applicable standards and codes.
- b. It is emphasised that the AERB, which oversees nuclear and radiological safety in the country, has the powers to not only licence the operation of a facility but also the power to order partial or full shutdown of any facility that violates its guidelines.
- c. The AERB has been playing a very crucial role in the prevention of nuclear/radiological accidents by ensuring that proper safety design features and operating procedures in all nuclear and radiation facilities are in place.

8.6 Trigger Mechanism

The trigger mechanism prescribes the manner in which the disaster response system shall be automatically activated after receiving early warning signals of a disaster happening or likely to happen or on receipt of information of an incident.

As a basic regulatory requirement, emergency preparedness exists at KAPS to respond to any on-site emergency in their areas. But to handle radiological emergencies arising from a transport accident or from movement/ handling of “orphan sources” (radioactive sources that have lost regulatory control) or due to malevolent acts like explosion of a Radiological Dispersal Device (RDD), Radiation Exposure Device (RED) or Improvised Nuclear Device (IND) any time or anywhere in the State, a network of 25 number of Emergency Response Centres (ERCs) has been established by Bhabha Atomic Research Center (BARC) (for Gujarat the ERC is Kakrapar) and Department of Atomic Energy (DAE). This network is basically meant for responding to such emergencies and also for providing timely advice and guidance to the first responder at the State and National level. The Kakrapar ERC is equipped with radiation monitoring instruments, protective gear and other supporting infrastructures. Various units of Nuclear Emergency Response Teams (ERTs), consisting of personnel from different DAE units are also being raised. The centralised agency called the management activities not only by activating these ERC and ERTs but also by mobilising the resources from all DAE facilities at the time of crisis.

8.7 Line of Communication and Responsibility for the State

Nuclear disaster is a situation where chances of receiving any early warning are very low. In such a situation where no early warning signals are available, the primary objective of the trigger mechanism is to mount immediate isolation. The following procedure shall be followed in such situations:

- a. For metropolitan areas, the Incident Commander for all nuclear hazards shall be the Commissioner of Police (CP). For other areas it will be the Collector & District Magistrate (DM) who is designated as Responsible Officer/ Incident commander (RO/IC).
- b. The field functionary at ground zero shall inform the District Emergency Operation Centre (DEOC), the Commissioner of Police in a metropolitan area and the District Magistrate of the incident. DEOC / District Magistrate/ Commissioner of Police shall inform the State Emergency Operation Center (SEOC), Emergency Response Centers (ERCs), the Commissioner of Relief (COR) and GSDMA.
- c. Immediately thereafter, personnel from the AERC (Additional Emergency Response Centre) will determine the source of the radioactive emission and its strength (**Annexure 5, IAEA-EPR-FIRST RESPONDERS 2006**) and report the same to the Commissioner of Police. In non-Metropolitan Area, the District Collector will inform the GSDMA, Emergency Response Centers for carrying out the function.
- d. The COR or GSDMA shall convene an immediate meeting of the Crisis Management Group under the chair of Chief Secretary.
- e. COR shall inform National Emergency Operation Center and if required coordinate with Bhabha Atomic Research Center (BARC) for specialised support team from the 25 ERCs.
- f. The Commissioner of Police in a metropolitan area and the District Collector in others shall review the situation and activate coordination, command and control.
- g. Commissioner of Health (CoH) shall place medical and para-medical teams if required at the disposal of the Incident Commander.
- h. The Fire Brigade as well as personnel/ vehicles/ equipments from GSDMA's Emergency Response Centers (ERCs) will report to the Incident Commander.
- i. Commissioner of Relief (COR) shall also coordinate immediate evacuation of potentially affected civilians with the CP, Municipal Commissioner and Collector.
- j. Team for Rapid Assessment of damage shall be deployed.
- k. Chemical Biological Nuclear and Radiological team (CBRN) shall be formed and deployed to ground zero by the incident commander, i.e. Commissioner of Police in metropolitan areas and by the District Collector in other areas.

8.7.1 Response Mechanism

Response measures are those which are taken instantly prior to and following a Nuclear & Radiological emergency 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 it.

National Executive Committee (NEC) will ensure that the functions and responsibilities of the nuclear facility operators and response organisations are clearly defined and understood by all stakeholders. The MHA and the NEC will also determine the actions that need to be performed by each organisation during an emergency and whether it has the necessary resources and capabilities needed for the purpose. The advice of National Crisis Management Committee (NCMC) will also be sought in this matter.

8.7.2 Emergency at Nuclear Facility

In plant emergency, the consequences of the accident are expected to be limited to the plant facility only.

The Site Emergency, wherein the consequences of an accident are not expected to cross the site boundary, that is, the Exclusion Zone - which means that even under this condition, there is no radiological emergency in the public domain.

The off-site Emergency which assumes the highly unlikely possibility of radiological releases in the public domain and detailed response plans have been drawn up even for this hypothetical scenario at each site. The initial safe distances suggested in **Radiological Emergencies (IAEA 2006) are given in Annexure 5**. The local District Administration, the Crisis Management Group, DAE and the NCMC get involved in this type of Emergency.

Standard Operating Procedure (SOP) for Nuclear and Radiological Disasters

Emergency	Activity	Responsibility
Off-Site Emergency	1. Site Director declares Off-site Emergency and Collector & DM (RO/IC) notify Off-site Emergency. 2. Activate an offsite emergency control centre. 3. Establish immediate communication with ERC, State Government and the CMG, DAE. 4. Arrange an immediate deployment of various Emergency Response Teams in affected sector(s). 5. Based on the plant conditions, progression of the accident, Protective actions recommendation (PAR) are done by Site Emergency Director (SED). Refer Appendix-1 .	Collector
	6. Arrange an evacuation of the public to safer places. 7. Activate systems of the State machinery to meet the necessary requirements of the public in the camp till the people are in a position to go back to their homes after the affected areas are cleared and declared safe. 8. Deploy QRMTs/MFRs consisting of physicians, triage officer, RSO, nurses and paramedical staff.	Collector, Municipal Commissioner, Home Dept., Health Dept.,
	9. To ensure that necessary arrangements at evacuation/relief centres is made with sufficient availability of: a. Food, b. Water, c. Blankets/Clothing d. Medicines e. Lighting	COR, Civil Supply Dept., Collectors, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Energy &

Emergency	Activity	Responsibility
	f. Sanitation and hygiene etc. 10. To ensure necessary security arrangements for the personnel (emergency responders/ relief teams) who are working at relief centres and involved in distribution of relief materials. 11. To ensure that law & order is maintained at evacuated, relief centres and affected areas	Petrochemicals Dept., GWSSB & Local Authorities, Home Dept.
	12. Make an arrangement for providing useful, timely, correct, consistent, and appropriate information to the public in the event of a nuclear or radiological emergency. 13. Ensure that the information to media/ general public about the coordinated response is released in an organized manner.	Collector, COR, Info. Dept., Municipal Commissioner
	14. Immediately activate and co-ordinate between the local authority in the affected area and the NCMC.	CMG
Nuclear/ Radiation emergency	15. Recognise the existence of an abnormal situation. 16. Identify and characterise the source and its origin. 17. Initiate a quick and reliable monitoring methodology to detect the onset of an accident/emergency condition and assess its magnitude. 18. Communicate the situation to fire fighting and medical services, police, civil defence, transport, and other agencies. 19. Estimate the dose via the relevant pathways (Dose Limits for exposures to ionising radiations for occupational workers given in Annexure 7)	ERC, DEA, AERB, CMG, Dist. Collector, CP, Municipal Commissioner
	20. Support decision making on protective measures for the population and the environment. 21. If required, distribute Iodine Thyroid Blocking (ITB) tablets at the earliest. 22. Respond quickly to the situation and mobilise resources at short notice. 23. Initiate protective actions at the earliest (for relief and rescue operations). 24. Make sure immediate measures need to be taken as the situation develops. 25. Ensure that the actions taken by the various agencies are well coordinated.	Dist. Collector, Municipal Commissioner, Health dept., ERC, COR,

Emergency	Activity	Responsibility
	<p>26. Send prior information (in respect of dos and don'ts) to those likely to be affected by the accident/emergency. These include:</p> <p>27. Evacuation/ temporary relocation of the affected population, if required.</p> <p>28. Withdrawal and substitution of supplies of food and drinking water (based on actual measurement of contamination found in food and drinking water).</p> <p>29. Animal Husbandry and Agriculture Department personnel to ensure radiological protection following a nuclear emergency.</p> <p>30. Initiation of the recovery phase at an appropriate time.</p>	COR, Home Dept., State EOC, Civil Supply Dept., Animal and Husbandry dept., Information dept.
‘Criticality’ Accidents	31. Critical Situation in a nuclear facility is a situation of national emergency. In case of Gujarat, the ERC at Gujarat and other national resources such as the Armed Forces etc. shall deal with the situation. The role of the State Government and its agencies such as the Gujarat State Disaster Management Authority will only be supportive and be at the directions of the Crisis Management Group set up by the Union /Central Government.	ERC, CMG, NEC, DAE
Transportation of Radioactive Materials	32. On discovery of any such accident, the District Magistrate in a district or the Commissioner of Police in a metropolitan area, shall inform the following – <ul style="list-style-type: none"> a. ERC at Kakrapar b. SEOC at Gandhinagar c. Commissioner of Relief 	DM or CP
Radiological Dispersal Device Emergency	<p>33. Mobilise and operate incident command</p> <p>34. Oversee victims triage</p> <p>35. Make sure that the site is cordoned and the perimeters are controlled and managed</p> <p>36. Ensure notification and activation of special teams</p> <p>37. Ensure traffic and access control</p> <p>38. Ensure protection to at risk and vulnerable population</p> <p>39. Gender issues must be kept in mind</p> <p>40. Provide resources support and requests for assistance</p> <p>41. Ensure public works coordination</p> <p>42. Ensure public information, outreach, and communication activities.</p>	CMG, Dist. Collector, DM, Municipal Commissioner, CP, ERC, EOC, COR, Info. Dept., Home Dept., local authority, Health Dept. Civil supply Dept.,

Emergency	Activity	Responsibility
	<p>43. Seal off the inner zone of 400m radius from the blast point as 'no entry area' except for emergency measures.</p> <p>44. Perform life-saving rescue and emergency first aid for seriously injured.</p> <p>45. Remove injured persons as far away as practical from the incident scene, especially in case of fire.</p> <p>46. If medical attention is needed, assist in arrangements for medical assistance.</p> <p>47. The medical personnel will be informed that radioactive contamination might exist on the victims and/or their clothing.</p> <p>48. Identify all those who may have been exposed to a possible release of radioactive material.</p> <p>49. Identify those involved with the incident or potentially contaminated by the incident at the scene, except those requiring emergency medical evacuation.</p> <p>50. All individuals will be monitored and decontaminated, if necessary, and cleared after further medical treatment and discharged.</p> <p>51. Record names, addresses, destinations, and telephone numbers of those individuals who cannot be persuaded to stay at the incident scene.</p> <p>52. Prohibit eating, drinking and smoking in the incident area</p> <p>53. Use a handy evaluation tool when demonstrating counter measures.</p> <p>54. Advice to the local public following a Radiological Dispersal Device Explosion</p> <p>The public living in approximately twice the radius of the inner cordoned area are advised the following:</p> <p>55. If present in the inner zone, to get monitored at the earliest</p> <p>56. Avoid inadvertent ingestion</p> <p>57. Move away from the immediate area, at least several tens of metres from the explosion site and get inside a closed building. This will reduce exposure to both</p>	

Emergency	Activity	Responsibility
	<p>radiation and radioactive airborne dust</p> <p>58. Not to eat food until certified free from contamination</p> <p>59. Avoid any smoke/dust</p> <p>60. Turn on local radio/ TV channels for advice from emergency response centres/ health authorities</p> <p>61. Remove contaminated clothes and place these in a sealed plastic bag</p> <p>62. Take a shower to wash off dust and dirt. This will reduce total radiation exposure</p> <p>63. If radioactive material was released, local news broadcasts will advise people where to report for radiation monitoring and for blood and other tests to determine whether they were in fact exposed and steps to be taken to protect their health</p>	
<p>Loss or Theft of Radioisotopes/ Radioactive Material</p>	<p>64. It is the user's responsibility to maintain an inventory of all sources at all times so in case of loss or theft of a radioactive source, the matter needs to be reported to the police, CMG and AERB immediately.</p> <p>65. Theft of sources should be dealt jointly by law and order enforcement agencies and radiation protection experts.</p>	<p>Home Dept., Dist. Collector</p>

Protective actions recommendations:

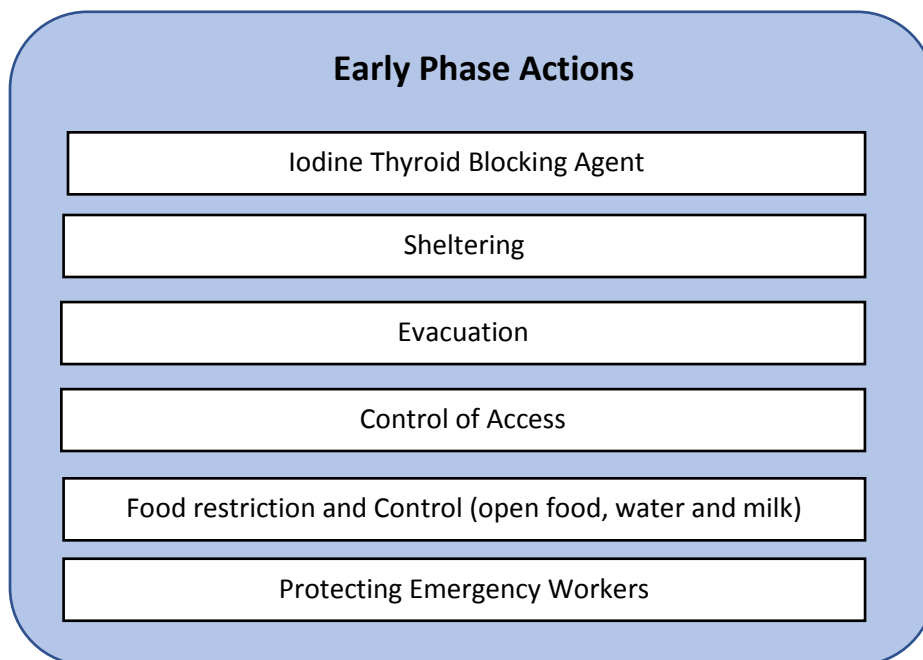
A severe accident at a nuclear power plant where failure of containment barriers leads to a major release of the core inventory will require the implementation of protection strategy (combination of protective actions) to reduce the dose to the public.

The protective actions off the site that may be taken in response to an emergency arising from a severe accident at a nuclear power plant are mainly:

Early phase protective actions (including precautionary and urgent actions) and other response actions that need to be taken promptly (normally within hours) in order to be effective. Their effectiveness will be markedly reduced if they are delayed.

Intermediate phase protective actions and other response actions can be implemented within days to weeks and still be effective.

The most common protective actions in the early phase include:



Other response actions include any response action other than a protective action. The most common other response actions are: medical examination, consultation and treatment; registration and longer term medical follow-up; providing psychological counselling; and public information and other actions for mitigating non-radiological consequences and for public reassurance.

Protective actions promptly taken (within hours to days) in the early phase to avoid or to minimize severe deterministic effects are termed as ***urgent protective actions***. This includes precautionary action taken before or shortly after any exposure occurs. Protective actions and other response actions taken (within days to weeks) to reduce the risk of stochastic effects are termed as ***early protective actions***.

During the early phase, protective action recommendations (PARs) are made by the plant management (Site Emergency Director) to district administration for implementation of the early phase protection strategy. In the early phase the initial protective action recommendations are developed considering the plant condition, projected dose, time period between an initiating event and arrival of a plume at a place in the public domain and the duration of release, in relation to the time needed to implement competing protective actions (i.e., evacuation and sheltering).-

Assessment of accident scenario will be continued once the initial protective actions have been recommended. The subsequent assessments would be encompassing additional information on facility conditions, radiation monitoring data, effluent release data and environmental data. The results of these continuing radiological assessments, including dose projections, should be used as the basis for refining the initial protective actions.

PARs for the intermediate phase cover exposure pathways like ingestion of food and water, long-term radiation exposure (i.e., longer than seven days), radiation exposure due to deposited radioactive materials, or long-term inhalation of re-suspended materials resulting in chronic exposures.

Chapter 9 : Action Plan for Fire

9.1 Introduction

Fires can start due to human activities or from natural causes. Forest fires can start from either natural causes or human activity or from a combination of both. The most common fires are the residential and non-residential structural fires caused usually by human activities. Most industrial and chemical fires are triggered by human activity. They are sometime caused by human errors, faulty designs, or mechanical failures. Fire can also be the secondary effect of a disaster like earthquake. Secondary fires after a disaster like earthquakes constitute a substantial and heavy risk. Damage to natural gas systems during an earthquake can lead to major fires and explosions. Damages to electrical systems during a disaster can ignite major fires. Varying risk scenarios need different types of equipment. The risk varies with geographical location such as hilly area, coastal-area, desert-area, and with different types of residential (medium/ low-rise/ high-rise) buildings, industrial, commercial area, or a combination of these. There is a considerable need for skill upgradation of the staff and modernization of the entire fire service system.¹

9.2 Types of Fire

Fires are classified in the following categories:

- **Class A Fires:** Involving combustible materials of organic nature, such as wood, paper, rubber and many plastics etc. where the cooling effect of water is essential for extinction of fires.
- **Class B Fires:** Involving flammable liquids, petroleum products or the like, where a blanketing effect is essential
- **Class C Fires:** Involving flammable gases under pressure including liquefied gases, where it is necessary to inhibit the burning gas at fast rate with an inert gas, powder or vapourising liquid for extinguishers
- **Class D Fires:** Involving combustible metals, such as magnesium, aluminium, zinc, sodium, potassium, etc. when the burning metals are reactive to water and water containing agents and in certain cases to carbon dioxide, halogenated hydrocarbons and ordinary dry powders.

1- NDMP Plan, 2019

9.3 Prevention from Fire

Fire extinguishers are the most common type of firefighting equipment being installed at office facilities, warehouses and sales offices. They should be selected based on the type of fire hazard, as depicted below:

- Class A fires – Water, foam, ABC dry powder and halocarbons
- Class B fires – Foam, dry powder, clean agent and carbon dioxide
- Class C fires – Dry powder, clean agent and carbon dioxide extinguishers
- Class D fires – Extinguishers with special dry powder for metal fires

9.4 Declaration of Disaster

The Gujarat State Disaster Management Act, 2003 provides for the State Government to declare any area where any disaster has occurred as disaster affected area on the recommendations of the State Relief Commissioner or the District Collector. The purpose of declaration of disaster is to organize effective response and mitigating the earthquake effects. Such a declaration provides wide powers and responsibilities to the State Relief Commissioner and the District Collectors in order to handle the incident effectively

9.5 Institutional Mechanism

Fire service comes under the 12th schedule of the Constitution dealing with Municipal functions. At present, fire prevention and firefighting services are organized by the concerned States and Union Territories (UTs), and Urban Local Bodies (ULBs) in the Country. Directorate of National Disaster Response Force and Civil Defence (NDRF & CD, Fire Cell), Ministry of Home Affairs (MHA) renders technical advice to the States, UTs, and central ministries on fire protection, prevention, and legislation.

In view of the short comings in the fire services in different states of the country and the need to upgrade it, GoI in 1956 formed a Standing Fire Advisory Committee (SFAC) under the MHA with a mandate to examine the technical problems relating to fire services and to advise the GoI for speedy development and upgradation of fire services all over the country which was renamed as Standing Fire Advisory Council (SFAC) in 1980. This council has representation from each state fire service, as well as representation from Ministry of Home Affairs (MHA), Ministry of Defence (MoD), Ministry of Road Transport and Highways (MoT), Ministry of Communications and Information Technology (MoC) and Bureau of Indian Standards (BIS).

Gujarat State Disaster Management Act, 2003 mandated Gujarat State Disaster Management Authority to carry out mitigation and preparedness activities against any hazard including Fire and build the capacity of the state towards the same.

Further, Government of Gujarat has enacted Fire Prevention and Life Safety Measure Act, 2013, Gujarat Fire Prevention and Life Safety Measure Rules, 2014 and Gujarat Fire Prevention and Life Safety Measure Regulations, 2016 to ensure effective provisions for the Fire Prevention, Safety and Protection of Life and property in the State through Directorate.

Government of Gujarat has appointed a Director, Fire Prevention Services based on the Fire Prevention and Life Safety Measure Act, 2013. Further, as mandated in the Act, Five Regional

Fire Officers have also been appointed by the State Government. In addition, there is a full-fledge Fire & Emergency Services operational in the all eight Municipal Comissionarate of the State under the UD & UHD Department.

All disaster specific mechanisms would come under a single umbrella allowing for immediate response to all types of disasters with an avowed objective of having a simplified and uncluttered system of response. At the top level, the Chief Secretary will act as the Chief of Operations and will be supported by the Relief Commissioner through the Branch arrangements at the State Emergency Operations Centre (EOC) & the District Emergency Operation Centre (DEOC) at the district level. In case of fire affecting larger community, the role of the Sub-Divisional Magistrate, comes into prominence under the guidance of District Magistrate and Collectors

9.6 Trigger Mechanism

State Government has started Directorate of fire under Urban Development Department (UDD). Thus UDD of the State will be the nodal department for formulating, controlling, monitoring and directing measures for Fire incident preparedness, organizing rescue, relief and rehabilitation. All other concerned departments should extend full cooperation in all matters pertaining to the management of the fire whenever it occurs.

The occurrence of a fire may be reported by the Fire and Emergency services to the Commissioner of Relief by the fastest means. The State Crisis Management Committee (SCMC) under the chairmanship of the Chief Secretary should be activated immediately on the occurrence of any major fire incident.

Besides these, the SEOC also receives reports on the fire from district and taluka levels. On receipt of the information, the SEOC verifies the authenticity of the reports and will inform the real situation to concerned authorities.

Standard Operating Procedure (SOP)

Sr. No	Task	Activity	Responsibility
1.	Disaster and Plan Activation	<ol style="list-style-type: none"> 1. Activate fire emergency plan in consultation with SCG 2. Activate DCG 3. Establish immediate communication with LCG, DCG, DEOC, SEOC, GSDMA and CCG 	Director – Fire Prevention Services Collector, Municipal Commissioner
2.	Mobilization & Deployment	<ol style="list-style-type: none"> 4. Arrange an immediate deployment of various ERTs in affected sector(s). (Police, Fire, S&R, Medical, etc.) 5. Based on the emergency monitoring teams from affected areas initiate counter measures (such as sheltering and medical help) 6. Arrange an evacuation of the affected/ likely 	Director – Fire Prevention Services, Collector, Municipal Commissioner, DCG, Home Dept.,

		<p>to be affected people, workers and population to safer places</p> <p>7. Activate systems of the State machinery to meet the necessary requirements of the public in the camp till the people are in a position to go back to their homes after the affected areas are cleared and declared safe</p> <p>8. Deploy QRMTs/ MFRs consisting of physicians, triage officer, nurses and paramedical staff</p>	<p>Health Dept., Industry/ Industrial Association</p>
3	Fire Fighting	<p>9. Rush immediately to the site of Fire</p> <p>10. Extinguishing the fire</p> <p>11. Ventilation for dousing the fire</p> <p>12. Search & Rescue the affected persons</p> <p>13. Containment of the Fire</p>	<p>Director – Fire Prevention Services, Chief Fire Officer, Regional Fire Officer</p>
4	Evacuation	<p>14. To ensure that necessary arrangements at evacuation/ relief centers is made with sufficient availability of:</p> <ol style="list-style-type: none"> Food, Water, Blankets/Clothing Medicines Lighting Sanitation and Hygiene, etc. <p>15. To ensure necessary security arrangements for the personnel (Emergency responders/relief teams) who are working at relief centers and involved in distribution of relief materials</p> <p>16. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well</p>	<p>Civil Supply Dept., Home Dept. Collectors, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Power & Energy Dept., & Local Authorities, Regional Fire Officer</p>
		<p>17. On the directions of Incident Commander (IC), the ESF Team Leader will perform evacuation. He will instruct the team to initiate evacuation of the areas expected to be exposed to more threat in future</p> <p>18. The QRT shall move alongwith adequate material and resources to carry out evacuation. People will be directed to move towards safer areas identified by technical experts</p> <p>19. The team leader will designate in-charge of relief centers and keep in touch with them for regular head count and care of evacuees</p> <p>20. Police, Fire, Civil Defence & Home Guard (CD & HG) and other government employees may have to go door to door to ensure that</p>	<p>Collector, Municipal Commissioner PSD Home Dept, Fire & Emergency Services, Civil Defense, Revenue Dept Regional Fire Officer</p>

		residents have been alerted about the fire	
5	Addressing Health Related Issues	<p>21. Ensure that the required medical assistance/ aid and medicines/ antidotes are provided to the affected people at site as well as at evacuation/ relief centers in the affected area and necessary records are maintained</p> <p>22. Ensure that the hospitals are well prepared to deal with seriously injured/burn cases</p> <p>23. Keep adequate stock of essential medicines, antidotes, first-aid, Burn bed etc. at taluka /district hospitals.</p> <p>24. If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance</p>	Health Dept.
6	Information to public and media	<p>25. Make an arrangement for providing useful, timely, correct, consistent, and appropriate information to the public and media in the event of a fire incident</p> <p>26. Ensure that the information to media/general public about the coordinated response is released in an organized manner.</p>	Municipal CommissionerCollector, Commissioner of Info., Fire & Emergency Services
7	Dignified Management of the Dead	<p>27. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ol style="list-style-type: none"> Photographs of the dead bodies are taken, Identification of the dead bodies is done, Post Mortem wherever necessary and possible is carried out, Handing over dead bodies of persons known/identified to their relatives <p>28. Disposal of unclaimed and unidentified dead bodies</p>	Collector, Municipal Commissioner, PSD Health Dept., Revenue Dept., Home Dept., Local Authorities,
Roles and Responsibility of Some of The First Responders during Fire			
1	Police (Law and Order)	<ul style="list-style-type: none"> Control and divert the traffic near the fire affected areas Ensure law and order at the incident site during fire emergency/ disaster and at evacuation centres too. Provide security in evacuated areas Give warning to the people living in the nearby areas. Secretary, Home and Director General of Police (DGP) will direct the participation of Police in the emergency response and will constitute an integrated command. 	Home Dept.

		<ul style="list-style-type: none"> • Issue an alert to the DIG and the surrounding districts. Direct all the police officials and forces in adjacent Districts to be deployed if necessary. Ensure that the police forces required for traffic management, evacuation and law and order are available with the District Administration. • Review the dissemination of warning and the need for evacuation. Assist the Fire & Emergency Services with Police Wireless sets so that there is continuous communication among the first responders in the emergency situation. • In case of big explosion and fire, assess the situation and suggest a Plan of Action based on assessment of the immediate causation. • Order deployment of the police force for evacuation of the people from the zone of the danger. 	
2	Assess Situation	<ul style="list-style-type: none"> • Reach at the site as soon as possible and assess the situation (information about the chemical leak/spill, the action taken and current status) • Start fire fighting with suitable medium and also take care of surrounding storages/ tanks to be over heated so that reduce the chances of 'domino effect'. • Secretary, UDD will coordinate redeployment of Fire Tenders from other places, as required • The SCG, in consultation with the District Collector/ Municipal corporation and other local officials will ensure that all the first responders work closely with full coordination • Search and identify the risk and nullify the sources of fire incident. If any unclear or unidentified substance or source is identified or detected, inform the higher authorities. 	Collector, Municipal Corporation, Fire and Emergency Services (F&ES)
3.	Medical Support	<ul style="list-style-type: none"> • Provide the necessary expertise and specialized services to the SCG • Deploy all the necessary medical facilities including doctors, nurses, medicines and ambulances in the affected areas Alert major hospitals (both government & private) in the area and ask them to be in readiness for receiving patients • Collect information on the number of deaths and persons injured; the nature of injuries and the likely long-term consequences 	Health & Family Welfare Department, Commissioner of health, Civil Surgeon, District/ Municipal Corporation Hospitals

		<ul style="list-style-type: none"> Assess the medical needs of the area on the basis of likely long-term consequences and take steps to equip local medical facilities for treating people on a long-term basis. 	
4	Incident Reporting	<ul style="list-style-type: none"> Primary Incident report to be prepared and submitted the higher authorities Detailed investigation report of the incident to be prepared and submitted to the higher authorities 	UD & UHD, State Fire Prevention Services

Chapter 10 : Action Plan for Cyber Attack

10.1 Introduction

Cyberspace is a complex environment consisting of interactions between people, software and services, supported by worldwide distribution of information and communication technology (ICT) devices and networks. As the world is going digital and online, the reliance of society on high end technology has increased and the threats of cyber attacks have also gained momentum. Cyber attack refers to breaching of data sitting from any corner of the world. It can remotely have access to sensitive information/data without the consent of the person. These attacks use malicious code to modify computer code, data or logic. It poses a grave danger to safety and security related incidents. It may be mainly recognized as threat to Critical Information Infrastructure like Banking Services, Financial Organizations, governmental organization and research institutions dealing with data of countries security etc. Cyber crime is one of the main threats to the digital economy, Government sensitive Data or any industries data theft.

Cyberspace is vulnerable to a wide variety of incidents, whether intentional or accidental, manmade or natural, and the data exchanged in the cyberspace can be exploited for nefarious purposes by both nation- states and non-state actors. Cyber attacks that target the infrastructure or underlying economic well-being of a nation state can effectively reduce available state resources and undermine confidence in their supporting structures. A cyber related incident of national significance may take any form; an organized cyber attack, an uncontrolled exploit such as computer virus or worms or any malicious software code, a national disaster with significant cyber consequences or other related incidents capable of causing extensive damage to the information infrastructure or key assets. Large-scale cyber incidents may overwhelm the government, public and private sector resources and services by disrupting functioning of critical information systems. Complications from disruptions of such a magnitude may threaten lives, economy and national security. Rapid identification, information exchange, investigation and coordinated response and remediation can mitigate the damage caused by malicious cyberspace activity.

10.2 The Disaster Management Act, 2005

The Disaster Management Act, 2005: “Disaster” means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

A ‘**natural disaster**’ is one that emerges in the environmental settings – be natural, managed or civilized. In understanding the origin of a ‘natural disaster’ the natural’ implies to ‘nature’ of an event, process, condition or material (a hazard) that is responsible for causing catastrophe, damage or major loss. It may be related to one or more of geological, hydro-meteorological, industrial, urban or other natural environments.

A ‘**manmade**’ disaster is the direct creation/activity of human – being(s) with direct/indirect knowledge of the risk/resultant catastrophe/damage/loss or due to serious human/technical failure and ‘hazard(s)’ are created or utilized to generate the outcome. These are mostly related to disciplinary performance or security failure, defense/war and mass management / law & order aspects.

10.3 The Information Technology Act, 2000

Under Section 65 of Information Technology Act, 2000 it is a punishable offence “If a person knowingly or intentionally conceals, destroys or alters or intentionally or knowingly causes another to conceal, destroy or alter any computer source code used for a computer, computer programme, computer system or computer network, when the computer source code is required to be kept or maintained by law for the time being in force”.

10.4 National Cyber Security Policy 2013

The Government of India has come out with National Cyber Security Policy 2013 with a vision to build a secure and resilient cyberspace for citizens, businesses and Government. The objectives of the policy is to create a secure cyber ecosystem in the country, generate adequate trust & confidence in IT systems and transactions, create an assurance framework for design of security policies and for promotion and enabling actions for compliance to global security standards, strengthen the Regulatory framework, enhance and create National and Sectoral level 24 x 7 mechanisms for obtaining strategic information regarding threats, enhance the protection and resilience of Nation's critical information infrastructure by operating a 24x7 National Critical information Infrastructure Protection Centre (NCIIPC), develop suitable indigenous security technologies, improve visibility of the integrity of ICT products and services, create a workforce of 500,000 professionals skilled in cyber security, provide fiscal benefits to businesses, enable protection of information while in process, handling, storage & transit, enable effective prevention, investigation and prosecution of cyber crime, create a culture of cyber security and privacy, develop effective public private partnerships, and enhance global cooperation.

10.5 Nodal Agencies at the Centre - Ministry of Communication and Information Technology

The Indian Computer Emergency Response Team under Ministry of Electronics & Information Technology, GOI has been established as the nodal agency at the centre level which is responsible for national repository of and a referral agency for cyber intrusion, the collection, analysis and dissemination of information on cyber incidents and taking emergency measures to contain such incidents.

10.6 Cyber Attack.

In May 2000, The Internet Engineering Task Force defined attack in RFC 2828 as: an assault on system security that derives from an intelligent threat, i.e., an intelligent act that us a deliberate attempt (especially in the sense of a method or technique) to evade security services and violate the security policy of system.

10.7 TYPES OF CYBER ATTACKS

- **Malware-** Malware is a term used to describe malicious software, including spyware, ransom ware, viruses, and worms
- **Phishing-** It is usually employed to steal user data such as credit card numbers and login credentials. It happens when an attacker, posing as a trusted individual, tricks the victim to open a text message, email, or instant message. The victim is then deceived to open a malicious link that can cause the freezing of a system as part of a ransom ware attack, revealing sensitive information, or installation of malware.
- **Man-in-the-middle attack-** In cryptography and computer security, a ***man-in-the-middle attack*** (MITM), also known as a hijack ***attack*** is an ***attack*** where the attacker secretly relays and possibly alters the communications between two parties who believe that they are directly communicating with each other.
- **Denial-of-service attack - A Denial-of-Service (DoS) attack** is an **attack meant** to shut down a machine or network, making it inaccessible to its intended users. **DoS attacks** accomplish this by flooding the target with traffic, or sending it information that triggers a crash.
- **SQL injection-** An attacker wishing to execute **SQL injection** manipulates a standard **SQL** query to exploit non-validated input vulnerabilities in a database. ... As a result, the entire user database could be deleted. Another way **SQL** queries can be manipulated is with a UNION SELECT statement.
- **Zero-day exploit- Zero-day** is a flaw in software, hardware or firmware that is unknown to the party or parties responsible for patching or otherwise fixing the flaw. The term **zero day** may refer to the vulnerability itself, or an **attack** that has **zero days** between the time the vulnerability is discovered and the first **attack**.
- **DNS Tunneling- DNS Tunneling** is a method of cyber **attack** that encodes the data of other programs or protocols in **DNS** queries and responses. **DNS tunneling** enables these cybercriminals to insert malware or pass stolen information into **DNS** queries, creating a covert communication channel that bypasses most firewalls.
- **Eavesdropping Attack-** With an eavesdropping attack, hackers listen in on data that flows through the network. This gives them access to things like passwords, identifying details and credit card numbers. Eavesdropping attacks are different from man-in-the-middle attacks because the data still directly reaches its destination. Because of this, eavesdropping attacks are even harder to detect than man-in-the-middle attacks. There are two types of eavesdropping attacks; passive eavesdropping and active eavesdropping. With passive eavesdropping, the hacker simply “listens” to data that is passing through

the network. With active eavesdropping, hackers disguise themselves. This allows them to impersonate a website where users would normally share their private data.

- **Drive-by Download Attacks-** Hackers use drive-by download attacks to spread malware. With this style of attack, hackers are casting a wide net as opposed to attacking specific targets. They upload the malicious code to unsecured websites. When users visit this site, the web server code automatically installs the malware or redirects the user to another corrupted site. These drive-by download attacks may be lurking in emails or pop-up windows as well.
- A botnet is a network of devices that has been infected with malicious software, such as a virus. Attackers can control a botnet as a group without the owner's knowledge with the goal of increasing the magnitude of their attacks. Often, a botnet is used to overwhelm systems in a distributed-denial-of-service attack (DDoS) attack.

10.8 CYBER ATTACKS IN INDIA

10.8.1 Y2K Bug

The flaw, faced by computer programmers and users all over the world on January 1, 2000, is also known as the "millennium bug." (The letter K, which stands for kilo (a unit of 1000)), is commonly used to represent the number 1,000. So, **Y2K** stands for Year 2000. Many skeptics believe it was barely a problem at all.

10.8.2 Hack Attack on Indian Healthcare Websites

Indian-based healthcare websites became a victim of cyber-attack recently in 2019. As stated by US-based cyber-security firms, hackers broke in and invaded a leading India-based healthcare website. The hacker stole 68 lakh records of patients as well as doctors⁴.

10.8.3 SIM Swap Scam

Two hackers from Navi Mumbai were arrested for transferring 4 crore rupees from numerous bank accounts in August 2018. The illegally transferred money from bank accounts of many individuals. By fraudulently gaining SIM card information, both attackers blocked individuals' SIM cards and by the help of fake document posts, they carried out transactions via online banking. They also tried to hack accounts of various targeted companies⁵.

10.8.4 Chinese Cyber Attack:

In view of the ongoing India – China boarder conflict CERT-In, has warned the prospect of a large scale cyber attack that could target individuals & businesses using Covid-19 as a bait to steal personal and financial information. CERT-In says the potential phishing attackers could impersonate government agencies, departments and trade bodies tasked to oversee disbursement of government fiscal aid. Thus the cyber attacks have increased over a period of time.

⁴ <https://www.futuremedicineindia.com/indian-healthcare-website-hacked-68-lakh-records-stolen-report/>

⁵ https://en.wikipedia.org/wiki/SIM_swap_scam

10.9 Standard Operating Procedures:

A typical **SOP** should contain a list of specific actions that that **security** professionals need to take whenever their organization faces a particular **cyber** incident. It ensures that all employees within an organization know their responsibility and what activities they need to take in the event of a **cyber attack**. The GOLDEN hour concept in the other disasters would be here GOLDEN Minute in the Cyber Security because it is the game of seconds to lose data due to cyber attacks.

S. No.	Task	Activity	Responsibility
1.	Warning Receipt and Dissemination	<ol style="list-style-type: none"> Report the occurrence of Cyber Attack to following officials: <ul style="list-style-type: none"> Hon. Chief Minister Hon. Minister – Disaster Management Chief Secretary Principal Secretary (DST) Chief Executive Officer, GSDMA Members of Crisis Management Group Ministers and Secretaries of all line departments Remain in constant touch with CERT-In. 	Department of Science & Technology, GIL, NIC.
2.	Interdepartmental Coordination	<ol style="list-style-type: none"> Instruct and alert all secretary / heads of departments of the key line departments to activate SOPs for Cyber Attack. Alert all response teams in the State Coordinate with all the ISP and TSP. 	Department of Science & Technology and All line departments.
3.	Creation of Helpline	<ol style="list-style-type: none"> Establish Help Lines for facilitating communication between the departments and other services for immediate help. 	
4.	Information to public and media	<ol style="list-style-type: none"> Establish Media/Press Centre for media management and information dissemination Ensure that the information to media/general public about the response of the State Government is released in an organized manner. Release information at appropriate time to media and public regarding response measures organized by the Government 	Information Dept., PIB, TV channels, Print Media, Social Media.
5.	State Data Center	<ol style="list-style-type: none"> Form a response team Identifying preparedness Gap. Block IP address of unknown origin. Block server communication to system. Encryption of session ID 	Department of Science & Technology and Service providers for

		<p>15. Block malicious sites.</p> <p>16. Block malicious sites/ IP addresses.</p> <p>17. Enhancing response to cyber incidents & Reducing cyber risk.</p> <p>18. Use your backup servers.</p> <p>19. Use Data Encryption in transit.</p> <p>20. Isolate system where breach has occurred</p> <p>21. Investigate quickly by identifying the systems and manage the damage</p> <p>22. Response team is investigating the attack; ensure that they are documenting both their process and their findings.</p> <p>23. Contact clients & ask them to change their password.</p> <p>24. Data centre disaster recovery for resuming business operation & continuity.</p>	Data Centre, GIL.
6.	GSWAN	<p>25. Immediately stop unauthorised access control.</p> <p>26. Updation of network security and firewalls.</p> <p>27. Make backup of data and arrangements/availability of critical standby network equipment (Core, Switches & Router etc.)</p> <p>28. Make backup copies of important business data and information.</p> <p>29. Set up alarm systems for any attack (IT & website along with peripherals equipments & internet).</p> <p>30. Secure your Wi-Fi networks. If you have a Wi-Fi network for your workplace make sure it is secure and hidden.</p> <p>31. Use Data Encryption in transit.</p>	GSWAN service provider, DST.
7.	E Gram	<p>32. Updation of network security and firewalls.</p> <p>33. Physical security of E Gram infrastructure.</p> <p>34. All the servers must be protected against cyber attacks through change of access passwords.</p>	Panchayat and rural housing dept. and E Gram service providers.
8.	Pol Net	<p>35. Form a response team</p> <p>36. Identifying preparedness Gap</p> <p>37. Block malicious sites</p> <p>38. Enhancing response to cyber incidents and Reducing cyber risk</p>	Home Department, DCPW and GFSU.

		<p>39. Use your backup servers</p> <p>40. Isolate where breach has occurred</p> <p>41. Investigate quickly by identifying the systems and manage the damage</p> <p>42. Response team is investigating the attack; ensure that they are documenting both their process and their findings.</p> <p>43. Contact clients & ask them to change their password.</p> <p>44. Download and install software updates for your operating systems and applications as they become available.</p>	
9.	Telecommunication	<p>45. Routing protocols and DNS infrastructure.</p> <p>46. Protection of the servers and user data.</p> <p>47. Secure your Wi-Fi networks. If you have a Wi-Fi network for your workplace have make sure it is secure and hidden.</p>	Telecommunication dept., ISP, TSP
10.	Banking and Financial Institutions	<p>48. Control physical access to your computers and network components.</p> <p>49. Servers must be fully protected with firewalls and updated.</p> <p>50. All the servers of banks and financial institutions must be protected against cyber attacks by adding more layers of security.</p> <p>51. See that LAN terminals are also encrypted.</p> <p>52. Limit employee access to data and information and limit authority to install software.</p> <p>53. Increase the physical security of the work place of banks / financial institutions.</p>	Finance department, All banks nationalized and others, financial instructions.
11.	E Commerce	<p>54. Servers must be fully protected with firewalls and updated.</p> <p>55. All the servers must be protected against cyber attacks through change of access passwords.</p> <p>56. Ensure safety of data of users and service providers.</p> <p>57. Be aware if any malicious calls / information being asked over telephone, mobile or other modes.</p> <p>58. Identify the actual site while doing any financial transaction.</p> <p>59. Limit employee access to data and</p>	DST, IT, All Service Providers, Consumers.

		information and limit authority to install software.	
12.	Citizens	60. Don't open or click unsolicited Email addresses. 61. Don't share ATM or other pin code to anyone unknown, change them regularly. 62. Don't respond on suspicious mobile call. 63. Don't respond on suspicious / malicious emails. 64. Keep passwords strong and don't share them with anyone. 65. Report to the suspicious calls or emails. 66. Don't use cyber cafe for the financial transactions.	Consumers / citizens.
13.	Websites/Emails	67. Don't open or click attachments. 68. Don't open or click unsolicited Email addresses. 69. Avoid submitting financial details in the malicious sites or emails. 70. Keep changing passwords and security. 71. Prefer "HTTPS" URL instead of HTTP.	Nodal Officers of all departments, Service Providers.
14.	Energy and Petrochemical Dept.	72. Protection of automated grids. 73. Protection of Electricity and Gas routes. 74. Automated plans need to be protected / firewall protection.	Energy & Petrochemical sector, All line depts. Pvt service providers.
15.	Transportation	75. Automated road traffic management plan need to be protected from attacks. 76. Railways, Airways and IT infrastructure must be protected to avoid any disruption. 77. Servers must be fully protected with firewalls and updated.	Railways, Air Traffic Controller, GSRTC, Pvt. service providers.
16.	Water Sector	78. Computer controlled systems needs to be protected. 79. See that the water discharge system is made full proof from cyber attack. 80. Use of a firewall for Internet connection.	Narmada & water resource dept.
17.	Establishment of Lines of Alternate Communication	81. Activate alternative communication equipments. 82. Establish communication links with all the departments.	DST and Information Dept., Dept of Home and line depts.
18.	Review and	83. Review and monitor following activities:	DST and Information

	Reporting	<ul style="list-style-type: none"> ○ Positioning of mobile communication units ○ Mobilization of restoration teams of respective departments ○ Dissemination of information to the vulnerable facilities ○ All preparedness measures to be taken by various authorities <p>84. Keep in touch with other depts. and agencies.</p>	Dept.
19.	Preliminary Assessment and Dissemination of Information	85. Arrange dissemination of information about occurrence of Cyber Attack to Media & Public and steps taken by the govt. to thwart the attack.	DST, IT, and all line depts.
20.	Restoration of critical infrastructure/essential services	<p>86. Ensure that the essential services/critical infrastructure of the affected areas have been restored or alternative arrangement is made for ensuring safety of data and smooth management of emergency response.</p> <p>87. Ensure that key administrative and lifeline data centre, websites are brought back to operation quickly</p> <p>88. Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> ○ Telecommunication. ○ Power. ○ Transport. ○ Internet. 	DST, IT, ISP, TSP, Line Depts.
21.	Debriefing	<p>89. Secure all records in the log book.</p> <p>90. Compile a report which list the lessons learnt on the attack.</p> <p>91. Assessment of situation how one would have responded if the emergency had escalated further.</p> <p>92. Decide on changes and or improvement to the emergency management procedures and update SOP accordingly.</p> <p>93. Ensure that the MOUs with the service providers are appropriate if emergency reoccurred.</p> <p>94. Communicate to all relevant stakeholders any changes to prevent a reoccurrences.</p>	

Annexure

Annexure -1

Emergency Contact Number

1. Control Rooms (State & Govt. of India)

No.	Department	Phone	FAX
1	Ministry Of Home Affairs, New Delhi (Control Room)	011-23093054, 23092763, 23093564, 23092923 FAX-011-23092398	011-23093750
2	National Disaster Management Authority (NDMA) NDMA Bhawan, A-1, Safdarjung Enclave, New Delhi - 110 029	011-26701728 011-26701700	011-26701729
3	IMD (Seismo), New Delhi	011 24619943 011-24624588	011-24619943 011-24649850
4	IMD (MET), Ahmedabad	079-22865165 079-22867206 079-22858020	22865449 22864742
5	State Emergency Operation Center (SEOC), Gandhinagar	23251900 /23251902 23251907/08 23251914	23251912 23251916
6	Flood Control Cell -IRRIGATION 1st Floor, State Data Water Data Center, Sector-8, Gandhinagar	23248735 23248736	23240553
7	Flood Control Cell- R&B Deptt. Ground Floor Nirman Bhavan, Sector 10, Gandhinagar	23251510	23257681
8	Control Room -HEALTH - PMCC Ground Floor, Block No.5, Old Sachivalaya, Gandhinagar.	23250818	23250818
9	DGP, Police Bhavan, G'nagar (State Control) DYSP (I/C Control Room) 23249257	23246328 23246330/31	23246329
10	Control Room - NEW SACHIVALAYA (HOME) Block No. 2, Ground Floor, New Sachivalaya, G'nagar	23252957 23252958	23252075
11	Police Commissioner, Ahmedabad	25633636/25630100/ 200/300/400	25630600 25630700
12	Guj. Maritime Board, G'nagar	23224758	23236499
13	G.E.B. Vadodara	0265-2330017	2337918 2338164
14	GSRTC, Ahmedabad (1) Chief Traffic Commercial Manager (2) Transportation Suptdt.	22801264 (O)	22803057 (F)
15	ISR, Gandhinagar	66739000/66739102 M-9727717841	66739028
16	Control Room- GWSSB, Ground Floor, Jalseva Bhavanm GWSSB, Sector-10 A, Gandhinagar.	23220859	23225979

17	Member Secretary, GPCB Paryavaran Bhavan, Sector-10A, Gandhinagar. membersecretarygpcb@gmail.com	23232152	23222784
18	Control Room - FISHERIES 3rd Floor, Block No.10, Old Sachivalaya, Gandhinagar	23253730 23253740	23253730 23253740

National Level

1. Disaster Management Division, Ministry of Home Affairs, New Delhi

Sr. No.	Name	Designation	Office	Resi.	Mobile
1	Shri Amit Shah	Hon'ble Home Minister	011-23092462 011-23094686 011-23092631 23094221 (F)	23793646 23793626 21410415-F	pstohm@nic.in
2	Shri Ajaykumar Bhalla-IAS	Home Secretary	011-23092989 011-23093031 23093003 (Fax)	23013658	hshso@nic.in
3	Shri Dharmendra S.Gangwar, IAS	Secretary (BM)	23092431 23092573 (Fax)	-	9871985861 secyb,@nic.in
4	Shri Sanjeev Kumar Jindal- CSS	Jt.Secretary (Disaster Management)	011-23438096 23438098-F	-	9910391422 jsdm@nic.in
5	Shri M.Subramaniam	DIR. (Disaster Management-III)	011-23438071	-	8745986863 ds.dm3@ma.gov.in
6	Shri Pawan Kumar	Director (Disaster Management-I)	011-23438123 23438071(Fax)	-	9810970506 mk.pawan65@gov.in
7	Shri MnoJ Kasana	DS (DM-II)	011-23438122	-	8447138689
8	Shri Gauri Shankar Jha	US. (Disaster Management- III)	011-23438144	-	9868492115
9	Control Room (MHA)		011-23093054, 23092763, 23093564, 23092923 FAX- 011-23092398	-	iocdm.mha@nic.in
10	National Emergency Response Centre Control room, NDCC-II Building		011-23438252 23433825 F-23438254	-	dresponse-nerc@gov.in

2. National Disaster Management Authority

Designation	Name	Office	Fax	Email Id
Member Secretary	Shri Kamal Kishore	011-26701740	011-26701754	kkishore@ndma.gov.in
Member	Lt. Gen Syed Ata Hasnain, PVSM, UYSM, AVSM, SM, VSM & BAR (Retd)	011-26701775	-	syedata.hasnain@ndma.gov.in
Member	Shri Rajendra Singh	011-26701738	011-26701754/16	rajendra.59@ndma.gov.in
Member	Shri Krishna Vatsa	011-26701776	-	krishna.vatsa@ndma.gov.in
JS (Policy & Plan)	Shri Kunal Satyarthi-IFS	011-26701747	011-26701816	jspp@ndma.gov.in
JS (Admin)	Shri Shreyanshi Chaudhri	011-26701718	011-26701864	jsadm@ndma.gov.in
JS (Mitigation)	Shri Shreyanshi Chaudhri	011-26701777	011-26701715	js-mitigation@ndma.gov.in
Financial Advisor	Shri Ravinesh Kumar-IDAS	011-26701709	011-26701715	fa@ndma.gov.in
Advisor (Ops & Communication)	Shri Kunal Satyarthi-IFS	011-26701747	-	advopscomn@ndma.gov.in
NDMA Control Room		011-26701728 9868891801 9868101885 Helpline No. 011-1078	011-26701729	controlroom@ndma.gov.in ndmacontrolroom@gmail.com

3. Indian National Centre for Ocean Information Services (INCOIS)

Address: Indian National Centre for Ocean Information Services (INCOIS)
 "Ocean Valley",
 Pragathi Nagar (BO), Nizampet (SO),
 Hyderabad - 500 090

Warning Centre Number: 040-23895011
 Office: 040-23895000 (9 am-5:30 pm)
 040-23895002 (24 hrs)
 Fax No.: 040-23895012
 Email: tsunami@incois.gov.in

Name, designation & address of the officer	Telephone Number			Fax
	Office	Residence	Mobile	
Dr. T M Balakrishnan Nair Dir. INCOIS Indian National Centre for Ocean information services director@incois.gov.in shenoi@incois.gov.in	23886000 23886002	7842043155	09441013377	23895012
T.Srinivasa Kumar Scientist Incharge, ITWC (Interim tsunami warning centre) srinivas@incois.gov.in	23895006 23886006	65863870	09441229297	23895012
Dr. E.Pattabhi Ram Rao (Data Management Group) pattabhi@incois.gov.in	23895008	23046412	09490191923	23895001
Satyanarayana B.V. Head, CWG bvs@incois.gov.in	23895005	-	09490191670	23895001
Control Room Tsunami warning centre (Operation Centre)	23895011/19 23886064 23886034	-	-	23895019 23895012

4. National Institute of Ocean Technology (NIOT)

Designation	Name	Office	Residence	Fax	E Mail
Dr. M.A.Atmanan d Dir NIOT	044-66783301 04406678357 5	044- 2259039 1	0944439980 0	044- 2246027 5	director@niot.res.i n atma@niot.res.in

Address: Velachery-Tambaram Main Road,
Narayanapuram, Palikaranai,
Chennai,
Tamil Nadu- 600100
Phone: +91 44 66783300, Fax: +91 44 22460645
Email: postmaster@niot.res.in

5. Army, Air Force and Coast Guard

RAF (Rapid Action Force) Vastral Ahmedabad

No.	Designation	Name	Tel. No.s
1	Control Room		079-29708628
2	Commandant	Shri Govindprashad Uniyal	(M) 9427308730

CRPF (Central Reserve Police Force) Group Centre Gandhinagar

No.	Designation	Name	Tel. No.s
1	Control Room		079-23200769,23200241- 29750263
2	Range DIG	Shri J.N.Kohli	(O) 079-29750406 (O/F)079-29750313 (M) 9414007704

Army camp (Ahmedabad)

No.	City	Name	(O)
1	Ahmedabad	Army Exchange- Hanuman Camp	22856251 (Exchnge)
2	Ahmedabad	Major Abhishek GSO-II (Ops.)	(O) 2411(Ext.) (R)2683(Ext.), (Fax)22856251,22861902 Mo. 8006406016

Army camp (Gandhinagar)

No.	City	Name	(O)
1	Gandhinagar	Army Exchange-Chiloda Rod	23201507, 23201503, Ext.2198
2	Gandhinagar	Major Vikrant Sharma	(O)23200930, (R) 23201117 (M) 8155022787
3	Gandhinagar	Capt. Baxi	-

Airforce			
No.	City	Name	(O)
1	Gandhinagar	HQ SWAC Control Room	23242600, 23242700(Exch.)
2	Gandhinagar	Group Captain Vijendran	(M) 9427476071 (F) 23240054/94002, 23240076/88
3	Ahmedabad	Air Traffic Control	22869251
4	Delhi	Air HQ	011-23010231, 011- 25687194-97 (F) 011-23011051

6. Coastguard

Address : 7th Floor, Udhyog Bhavan, Gandhinagar

No.	City	Name	(O)
1	Gandhinagar	D.I.G. Pankaj Agarwal	(O)23241717, 23243264 (Fax) 23243283 (M) 8130791991
2	Porbandar	D.I.G. S.K.Verghes	(O)0286-2242450 (Fax) 0286-2210559 (M) 9099835161
3	Okha	D.I.G. K R Deepak Kumar Commanding Officer	(O) 2892-262261/60, (F) 02892-263421 (M) 7093800434
4	Veraval	Comdt.(JG) D C Mathpal Commanding Officer	(O) 2876-241352, (F) 02876-241353 (M)9356450644
5	Mundra	Comdt. Tarundutt Pandey Commanding Officer	(O) 02838-271402/03, (F) 02838-271404 (M) 9933291061
6	Jakhau	Comdt. Sandeep Sataya,TM Ashok Kumar Commanding Officer	(O) 02831-294521, (F) 02831-286432 (M)9869422831
7	Vadhinar	Comdt. M M Mark Commanding Officer	(O) 02833-256333, (F) 02833- 256560 (M)8800220497

7. India Meteorological Department and Observatories

No	Name	Desi.	(O)	(R)	(F)	Email ID
1	Dr. Mrutyunjay Mohapatra	Director General of Meteorology, Mausam Bhavan, Lodhi Road, New Delhi-110003	011-43824201 011-43824253 011-43824225	9868623475 9868733464	011-24611792 24699216	dgm.hg@imd.gov.in m.mohapatra@imd.gov.in
2	Dr.M.Mohapatra	Sc-G Mausam Bhavan, Lodi Road, New Delhi-3.	011-24652484 011-43824304	9868623475	011-24623220 011-24699216	dgm.hg@imd.gov.in m.mohapatra@imd.gov.in
3	Dr. Medha Khole	D.D.G.M. (WF) I.M.D. Shivaji nagar, Pune	020-25535886	020-25520680	020-2553886, 020-25530201	-
4	Shri K.S.Hosalkar	D.D.G.M. , R.M.C.Mumbai	022-22150517	9167331299	022-22150517	ks.hosalikar@imd.gov.in
5	Shri Vishavmbhar Sing	Director (ACWC) Mumbai	022-22174718 022-22150405 (Fax)	022-28234137 9757218578	022-22184937 022-22130824 022-22154098	-
6	Dr.Jayanta Sarkar	Director, M.C. Ahmedabad I/C	079-22865165 079-22858020	9426805439	079-22865165	mcahm@rediffmail.com m.mohanty@imd.gov.in met_mm@yahoo.co.in
7	Mrs.Manorama Mohanty	Scientist- D, M.C. Ahmedabad	079-22865012 079-22865449	9428909340	079-22865449	m.mohanty@imd.gov.in met_mm@yahoo.co.in
8	Sh.vigin Lal F.	Scientist- B,M.C.Ahmd.	079-22858020	9604465468 7567288582	079-22865449	
9	Control Room		079-22867206 079-22865449		079-22867206 079-22865449	

8. Airport Authority of India

No.	Airport	Designation & Name	Tel No.(O)/Mobile No./Fax
1	S.V.P.I. Airport, Ahmedabad	Shri Arun Kumar Khare Offtg. Airport Director	(O)22869211 (M) 9825024022 (F)22863561
2	S.V.P.I. Airport, Ahmedabad	Shift Duty Airport Manager T-1 (Domestic Terminal)	(O)22869266 (M)90999 51141
3	S.V.P.I. Airport, Ahmedabad	Shift Duty Airport Manager T-2 (Domestic Terminal)	(O)22858058 (M)90999 51142
4	S.V.P.I. Airport, Ahmedabad	Shri Pradeep Kumar, General Manager (T.M.)	(O) 22885520
5	S.V.P.I. Airport, Ahmedabad	Shift Duty Officer Air Traffic Control Tower	(O)22869251
6	S.V.P.I. Airport, Ahmedabad	Shri Davindra Arora General Manager (A.T.M.)	(O) 22863396
7	Rajkot	Airport Director, Rajkot Airport	(O) 0281-2451849 (F) 0281-2453009
8	Vadodra	Airport Director Vadodra Airport Sri T.K.Gupta	(O) 0265-2482228, 2481356, 2486718 (F)2464249, 2483899
9	Bhavnagar	Airport Authority, Bhavnagar Airport	(O) 0278-2212971 0278-2208226 (M) 9427211500

9. Western Railway

Security Helpline (Suburban) 1311

Security Helpline (All India) 182

No.	Division	Designation	Landline/CUG/Fax
1	Ahmedabad	Divisional Railway Manager Shri Deepak Kumar Jha	(O)079-22204588 (M)9724093000 (F)22204589
2	Ahmedabad	ADRM Shri Anant Kumar	(O)22204590 (M) 9724090001
3	Ahmedabad	SR. DOM (Operating Dept.) Shri Pavankumar Sing	(O)22204008 (Fax) (M)9724093900
4	Ahmedabad	SR.DCM (Commercial Dept.) Shri Kushagra Mittal	(O)22201990(Fax) (M) 9724093950
5	Ahmedabad	SR.DEN/CO (Eng.Dept.) Shri Lokesh Kumar	(O)22205665 (M)9724093200
6	Ahmedabad	Sr.Divisional Safety Officer Shri A.V.Purohit	(O)22205005 (M) 9724093730
7	Ahmedabad	Station Director/ DOM (General) Shri Narendra Kumar	(O)22203330 (M) 9724093902
8	Vadodara	Divisional Railway Manager Shri Devendrakumar	(O)0265-2638081 (M) 9724091000
9	Bhavnagar	Divisional Railway Manager Shri Prateek Gosawami	(O)0278-2445475 (M)9724097000
10	Rajkot	Divisional Railway Manager Shri Parmeswar Funkwal	(O)0281-2477006 (M) 9724094000
11	Mumbai Central	Divisional Railway Manager Shri G V L Satya Kumar	(O)022-23002977 (M) 9004499000
12	Mumbai Central	Control Room	(O)022-67644615, 9004499936s
13	Mumbai Churchgate	Chief Bridge Engineer Shri Manjul Mathur	(O)022-22015154, (M) 9004490201

1. Western Railway

Security Helpline (Suburban) 1311

Security Helpline (All India) 182

No.	Division	Designation	Landline/CUG/Fax
1	Ahmedabad	Divisional Railway Manager Shri Tarun Jain	(O)079-22204588 (F)22204589
2	Ahmedabad	ADRM Shri Anant Kumar	(O)22204590 (M) 9724090001
3	Ahmedabad	SR. DOM (Operating Dept.) Shri Pavankumar Sing	(O)22204008 (M)9724093900
4	Ahmedabad	SR.DCM (Commercial Dept.) Shri Ravindra Srivastav	(O)22201990
5	Ahmedabad	Sr.Divisional Safety Officer Shri A.V.Purohit	(O)22205005 (M) 9724093730
6	Ahmedabad	Station Director/ DOM (General) Shri Narendra Kumar	(O)22203330 (M) 9724093902
7	Vadodara	Divisional Railway Manager Shri Amit Gupta	(O)0265-2638081 (M) 9724091000
8	Bhavnagar	Divisional Railway Manager Shri Prateek Gosawami	(O)0278-2445475 (M)9724097000
9	Rajkot	Divisional Railway Manager Shri Anil Kumar Jain	(O)0281-2477006 (M) 9724094000
10	Mumbai Central	Divisional Railway Manager Shri Shalabh Goel	(O)022- 22621450 (M) 9004499000
11	Mumbai Central	Control Room	(O)022-67644615, 9004499936s
12	Mumbai Churchgate	Shri Prakash Butani Addl. General Manager	(O)022-22079709 (M) 9004490201

Western Railway - Headquarter Office (Mumbai)

Chief Bridge Engineer (Churchgate, Mumbai)	(O) 022-22015154 (M) 9869048946
Chief Controller (Churchgate, Mumbai)	022-22017420, 022-22084287

I. State Level

1. Gujarat State Disaster Management Authority, (GSDMA)

No.	Name	Designation	(O)	(M)
1	Shri Rajendra Trivedi	Minister, Disaster Management	23250127 23250128 23250129 23250306-Fax	-
2	Shri Kamal Dayani-IAS	Chief Executive Officer	23259276	99784 05830
3	Ms. Trupti Patel	PS to CEO	23259276	9662729291
4	Shri A.J.Asari-IAS	Additional CEO	23259451	9408978788
5	Shri M.K.Patadiya-GAS	Director-Admin	23259219	9978408099
6	Shri H.P.Patel-GAS	Director-DM	--	9825162217
7	Shri Samir Mehta	Controller of Account	23259278	-
Gujarat Institute of Disaster Management (GIDM)				
1	Shri P.K.Taneja, Retd.IAS	Director General (GIDM)	23275801/804	9978406146
2	Shri Nisarg Dave	Director (F & A)	232-75811 Fax 232 75814	9727060666

2. SEOC Important Telephone Numbers - (079)

Sr. No.	Name	Designation	Office	Mobile No.
1	Shri C.C.Patel	Director of Relief	23251900	9824250136
2	Shri A.P.Chaudhri	Deputy Collector	23251900	8140824161
3	Shri A.P.Chaudhri	Mamlatdar	23251900	8140824161
4	Vacant	Mamlatdar	23251900	-
5	Vacant	Mamlatdar	23251900	-
6	Shri G.P.Bhayani	Deputy Mamlatdar	23251902	9825097079
7	Shri U.V.Rao	Deputy Mamlatdar	23251902	9898029872
8	Shri J.B.Vaghela	Deputy Mamlatdar	23251902	9664730031
9	Shri S.S.Divakar	Deputy Mamlatdar	23251902	9426665585
10	Shri Prakash P.Rami	Deputy Mamlatdar	23251902	9428664663
11	Shri Jogidan Gadhavi	Deputy Mamlatdar	23251902	9274480700
12	Shri Shreyaben Patel	Deputy Mamlatdar	23251902	9428278843
13	Shri Aneri Modh	Deputy Mamlatdar	23251902	9428984306
14	Shri V.B.Desai	Clerk	23251902	
e-mail	revcontrol1@gujarat.gov.in / revcontrol2@gujarat.gov.in			
SEOC	(O) 23251900,23251902,23251908			
	(F) 23251912/23251916			

3. 6Bn, NDRF, Jardor-Vadodara-

No.	Designation	Name	Tel. No.
1	Commanadant	Shri Ajay Kumar Tiwari	(O) 02668-274470,299201 (R)274211 (F)274470 (M) 094288 26445
2	Second Incharge	Shri N.K.K.Prasad	(M) 94273 04217 (o)02668-274460
3	Dy. Commandant (Operational)	Shri Ranvijay Singh	(M)9427050984 (M) 9427304214 (M)8320459958
4	Dy. Commandant (Administrative)	Vacant	-
5	Control Room		02668-274245(F)02668-274470,(M)9723639166 ,9429469388

4. IMD Regional Offices

Indian Meteorological Department (IMD) Regional Offices

S.No	Location	Phone
1	CDR Bhuj	02832-220007, 250575
2	Veraval	02876-220004
3	Vadodara	0265-2482228
4	Deesa	02744-221178
5	Okha	02892-262129
6	Rajkot	0281-2451296
7	Keshod	De function
7	Porbandar	0286-2220955
9	Dwarka	02892-234437
10	Bhavnagar	0278-2209440
11	Surat	0261-2725092
12	Naliya	02831-222201
13	Kandla	02836-257905
14	Bhavnagar (Seismo)	0278-2560451/2 circuit house

5. Institute of Seismological Research

Address: Near P.D.P.U. campus, Raisan village, Gandhinagar

No.	Name	Desi.	(O)	(R)	(M)
1	I/C Dr.Sumer Chopra	Director General	66739001 66739015(Fax)	-	9426564038 9910414038
2	Shri Dr.Sumer Chopra	Director ISR	66739002	-	9426564038 9910414038
3	Shri Santosh Kumar	Scientist-D	66739023	-	99252 43646
4	Data Centre	-	66739000 (F) 66739028	-	9727717841

6. Bhaskaracharya Institute of Space Application & Geo-informatics (BISAG)

No.	Name	Desi.	(O)	(R)	(M)
1	Shri T.P.Singh	Director	23213081/90 (F)23213091	23254846	9909945001
2	Vacant Post	Manager	23213081		
3	Smt. Paru Thakkar	Project Manager	23213081	-	9909945008

Information and Communication

Sr. No	Name & Desination	Office	Mobile	Fax	
1	AIR, Ahmedabad Shri N.R. MEENA, PEX I/C Prog. Head	27540438	99138604 67	27540195	ahmedabad@pras arbharati.gov.in
2	CBS,AIR, Ahmedabad Shri Yatin Dave Head of Office	27541597	94276153 62	27541597	vbs079@gmail.com
3	AIR, Rajkot Shri Vasant Joshi, Asstt. Director (P)	0281- 2453503/ 2444603	94269878 82	2453503	rajkot@air.org.in
4	AIR,Bhuj Dr, Meera Saurab Asstt.Director (P)	02832- 250852 222503	94281561 64	252251 250852	akashvanibhuj@gm ail.com
5	AIR,Surat Amrapali Desai Asstt. Director (P)	0261- 2232323 2236209	94271048 52	2232323 2236209	air.surat@yahoo.co m
6	AIR,Baroda Shri Jagdish Parmar Programme Executive	0265- 2643796	94265888 66	0265-2642646	cbsvadodara@gma il.com
7	AIR,Godhara Ms Geeta Gida Prog. Executive	02672- 241478 241660	94267196 79	241478	godhrafm@gmail.c om
8	AIR,Ahwa Shri Sailesh Pandya Head of Officer	02631- 220295/ 220356	88665577 27	026131- 220295	airahwap@gmail.co m
9	AIR, Daman Shri Ojas Mankodi Program Executive	0260- 2242966	94272143 36	2242966	airdamanprog@gm ail.com

1. Gujarat Maritime Board

Head Office, Control Room, Gandhinagar 079- 23224758

Fax No. 079- 23236499

DM Cell, Gandhinagar 079-23238346, 23238347, 23238351

Fax No.079- 23236499

Sr. N o.	Name of Port	Port Officer	Office	Mobile	Fax No	E mail id
1	Gandhinagar	Capt. Ashwin Solanki, Chief Nautical officer, GMB, Gandhinagar	2822 220435	99796696 59	23234716	solankiashwin@yahoo.com
2	Magdalla	Capt. Banshiva Ladva, Port Officer, 3 rd Floor, BSNL Bhawan, Falsawadi, Nr. Belgium Tower, Surat-395003	0261- 2430533	98254121 86	0261- 2435645	popbr1@rediffmail.com
3	Gandhinagar	Shri Gauravkumar Mehta & Shri Ankur gupta (I/C) Control Room, Head office, Gandhinagar	079 232 24758 079 232 38346	-	23234704	-
4	Bharuch	Capt. Banshiva Ladva, Nautical officer & Port Officer, GMB Near ST Bus Stand, Bharuch	02642- 241772	98254121 86	02642- 243140	popbr1@rediffmail.com
5	Bhavnagar	Capt. Kuldeep Singh , Port Officer, GMB, New Port, Bhavnagar	0278- 2210558; 0278- 2561221	99980575 07	0278- 2571221	-
6	Alang	Capt. Kuldeep Singh, Port Officer (I/C) GMB, Alang	02842- 235621	99980575 07	02842- 235955	alanggmb@yahoo.com

		Ship recycling Yard, Tal. Talaja, Dist. Bhavnagar, ALANG				
7	Jafrabad	Capt. Arvind Kumar Mishra Port Officer GMB , Jafrabad Port, Dist.Amreli	02794- 245443	90996947 47	02794- 245165	gmbpojfd@gmail.c om
8	Veraval	Capt. Arvind Kumar Mishra, Port Officer(I/C), Gujarat Maritime Board Veraval Port, Veraval	02876- 221139; 02876- 220001	90996947 47	02876- 243138	poveraval@gmail.c om
9	Porbandar	Capt. Arvind Kumar Mishra Port Officer, Gujarat Maritime Board, Vaghesweari Plot, Port Colony No-1, Porbndar port, Porbandar.	0286- 2242404	90996947 47	0286- 2253664	popbr1@rediffmail. com
10	Jamnagar	CAPT. Niraj Hirwani Port Officer, GMB, GMB Complex, Jamnagar	0288- 2712307	95588016 12	0288- 2712815	pojarn.gmb@gmail. com
11	Navlakhi (Morbi)	Capt. Niraj Hirwani, Pilot officer, Near Rly. Crossing, Char Godown, Morbi	02822- 227304	95588016 12	02822- 234465	pfsonavlakhi@gmail .com
12	Okha	CAPT. Niraj Hirwani, Port Officer, GMB, Okha Port, OKHA	02892- 262109	95588016 12	02892- 262002	portofficerokp@gm ail.com

13	Mandvi	Shri R.C.Patel, Port Officer, I/C Mandvi Port, Mandvi.	02834- 222633	99251530 83	02834- 230033	pomgmb@yahoo.c o.in
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2. Telecommunication

No.	Name	Desi.	(O)	(R)	(M)
1	Shri Hemang Purohit	DS(IT)	23250438	-	9978405941
2	Shri Kamlesh Raval	Communication Engineer (IT)	26440908	-	9825045169
3	BSNL. Gandhinagar	Shri Kamle General Manager	23248555 23229390	-	8275711100
4	BSNL. Gandhinagar	Shri R.Kumar Divi. Eng. (External)	23249555	-	9426604777
5	BSNL. Gandhinagar	Shri Shashank Johri Commercial Officer	23240999 23220500	-	9427319900
6	BSNL. Gandhinagar	Shri J. S. Patel DGM. BSNL	232229191	23246848	9408597879
7	BSNL. Ahmedabad	Shri K.R.Shah AGM(OP) BSNL	079- 26481260	26481420	9426622244
8	Vodafone	Head (Admin & Safty) rajesh.roy2@vodafone.com	079- 26577228 079- 71716001	-	-
9	Bharti Airtel	Anant Arora Gujarat Head, Bharti Airtel	-	-	9979999221
10	Tata Docomo	Niraj Mehta Dy.General Manager	-	-	9033076800
11	Idea	Punit Krishnan Manager (Facility & Admin)	079- 66714000	-	9824004701

III. District Level

1. GSWAN Network

GSWAN Control (Help)		777
Sr. No.	District Name	Code
1	Ahmedabad	2000
2	Amreli	2200
3	Anand	2300
4	Banaskantha	2400
5	Bharuch	2500
6	Bhavnagar	2600
7	Dahod	2700
8	Dang	2800
9	Gandhinagar	2900
10	Jamnagar	3000
11	Junagadh	3100
12	Kheda	3200
13	Kutch	3300
14	Mehsana	3400
15	Narmda	3500
16	Navsari	3600
17	Panchmahal	3700
18	Patan	3800
19	Porbandar	3900
20	Rajkot	6000
21	Sabarkantha	6100
22	Surat	6200
23	Surendranagar	6300
24	Vadodara	6400
25	Valsad	6500
Sr. No.	Local Office	Extn.No.
1	Collector	123
2	RDC	132
3	Pa to Collector	123
4	Add. Collector	121
5	Dist. Planning Officer	124
6	Election Department	125
7	Disaster Management	100
8	Dist. Supply Officer	126
9	PRO Branch	127
10	Chitnis	128
11	Home Deppartment	129
12	Mid Day meal Office	130
13	MDC	131
14	GSWAN Coordinator	133
S. No.	Other Office	Extn.No.
1	DSP (Rural)	200

2	DDO & Panchayat	201
3	Prant Office	202
4	Mamlatdar Office (City)	203
5	Civil Surgen	204
6	Civil Survey Office	205
7	DILR	206
8	Dist. Indust. Office	207
9	RTO	208
10	Social Walfate	209
11	DEO	210
12	Dist. Cout	211
13	Dist. Register	212
14	Dist. Mahiti Office	213
15	Stamp Duty	214
16	LAQ (SSNL)	215
17	Geology & Mining Office	216
18	Forest Office	217
19	Waher Supply	218
20	R & B	219

District Name: - Ahmedabad STD Code-079					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Sandip Sangle,IAS	9978406201	27551681	collector-ahd@gujarat.gov.in
2	DDO	Shri Anil Dhameliya,IAS	9978406226	25506487	ddo-ahd@gujarat.gov.in
3	S P	Shri Virendra Yadav,IPS	9978406342	26890440	spsp-ahd@gujarat.gov.in
4	Resi. Addl. Collector	Shri P.B.Pandya	9978405173	27551682	addl-collector-ahd@gujarat.gov.in
5	Dy. District Development Officer (Mahesul)	Shri Dhara Bhalara	8200292827	--	--
6	Deputy Conservator of Forest	P.Parsshotam	7874310648	--	dfonalsarovar@gmail.com
7	Dy. SP	Ravindra Patel	9978405062	--	--
8	Chief District Health officer	Dr.Shailesh Parmar	9099064001/ 9099064799		cdho.health.ahmedabad4@gmail.com
9	Director, DRDA	Smt. I.S.Ahir	9978407442	26643148	
10	DSO	Shri Mitul Joshi	7567010167		dso-ahd@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr.jagdish Solanki		22680732	dr.jagdishsolanki@gmail.com
12	CDMO	Dr.Dipika sinhal	7567897486	27661526	cdmo.health.ahmedabadsola#gmail.com
13	DEO	H.D.Padheriya	9909970201	27912966	ahmdeo@gmail.com
14	DPEO	Dr.M.N.Patel			
15	General Manager, DIC	Shri R.D.Barhat	9904081057	25508997	gm-dic-ahd@gujarat.gov.in
16	Ass. Director of Information	Shri Himanashu Upadhyay	997804203		
17	Port Officer, GMB				
18	Chief Fire officer	J.N.Khadiya	9327038758	27913497	afes@ahmedabadcity.gov.in
19	Executive Engineer, R & B (State)	shri Kaushal Brahmabhatt	9825773282	27910154	rnbahmedabad@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri M.S.Bhoya	9979002455	25511608	exe_ahd@yahoo.in
21	Executive Engineer, irrigation (State)	Shri Chetan Vaghela	8160715028	27913497	eeaidn121@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri G.P.Prajapati	9824961625	25507470	irrigatiom.ahmedabad@gmail.com

23	Executive Engineer GWSSB	Shri Pradip Shah	9978406704	9978441113	gwseecamd1@gmail.com
24	Superintendent Engineer, PGVCL,	Shri B.K.Patel	9687662391	27506070	desbtdo@ugvcl.com
25	Dy Director of Animal husbandry				
26	District Agriculture officer	shri H.I.Patel	9998976545	2551022	dao.ddd.ahd@gmail.com
27	Program Officer ICDS	Parulben NayaK	9427546529	25510522	programofficerabd@yahoo.in
28	Director Industrial Safety and Health	Shri M.C.Gohil	9824653057	25502346	dish-ahd@gujarat.gov.in
29	DC/ST Manager depot.				
30	Superintendent of Fisher	Chintal Suchak	9898164800		leena_patel74@yahoo.com
31	Regional officer, GPCB	N.D.Ajmera	9712924377		ro-gpcb-amed@gujarat.gov.in
32	Manager BSNL				
35	Mamlatdar Disaster	Incharge Ashiyana Shaikh	9586913701	27552144	dismgmt-ahd@gujarat-gov.in
37	DPO Disaster	Shri Vimal Tiwari	7878128303	27552144	dismgmt-ahd@gujarat-gov.in
38	Dy. Mamlatdar Disaster	Rajeshgiri Goswami	9825626530	27552144	dismgmt-ahd@gujarat-gov.in

District Name: - Gir Somnath STD Code- 02876					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri R. G GOHIL (IAS)	9978405934	02876-285001	collector-girsomnath@gujarat.gov.in
2	DDO	Shri RAVINDRA KHATALE (IAS)	9978406495	02876-285255	ddo.girsomnath@gmail.com
3	S P	Shri Rahul Tripathi (IPS)	9978405974	02876-222250	sp-gir@gujarat.gov.in
4	Resi. Addl. Collector	Shri B.V. Limbasiya (GAS)	9727756448	02876-240003	addl-collector-girsomnath@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri M.K. Patel	7567863927	02876-249249	dyddogs@gmail.com
6	Deputy Conservator of Forest	Dr. Sobhita Agraval (IFS)	7574950053	02876-223287	dcf.girsomnath@gmail.com
7	Dy. Police Office	Shri Omprakash Jat (IPS)	9978407968	02876-242466	dysp-veraval-jun@gujarat.gov.in
8	Chief District Health officer	Shri Dr. H.H BHAYA	7567889923	02876-240051	cdho.health.girsomnath@gmail.com
9	Director, DRDA	Shri S.J. Khachar (GAS)	9978991553	02876-245271	drdagirsomnath@gmail.com
10	DSO	Shri R.G. Aal	8780733707	02876-240032	dsosomnath@gmail.com
11	Medical Superintendent(Civil Hospital)	Shri J.M. Parmar	8980035881	02976-244298	veravalhosp@yahoo.in
12	CDMO	-- NA	-- NA	-- NA	-- NA
13	DEO	Shri Rajesh Dodiya	7574822584	02876-221095	girsomnathdeo@gmail.com
14	DPEO	Shri H.K. Vaja	9099098483	02876-244500	girsomnathdpeo@gmail.com
15	General Manager, DIC	Shri P.B. Patel	9106540764	02876-244222	gm-dic-gir@gujarat.gov.in
16	Ass. Director of Information	Shri Himant Gonjiya	9426985625	02876-	mahitigirsomnath@gmail.com

				240108	
17	Port Officer, GMB	Shri Bhavesh P. Khapandi	9426830111	02876-220001	poveraval@gmail.com
18	Fire officer	Shri Ravirajsinh Chavada	9033760750	02876-220101	np_veraval@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri Sunil Makwana	9106752578	02876-220237	rnbveraval@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri A.N. Bhadoriya	7567835505	02876-285352	panchayatrnbgirsomnath@gmail.com
21	Executive Engineer, irrigation (State)	Shri A. P. Kalsariya	9998277012	02876-222897	deeirrivrl@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri P.J. Vyas	9099954459	02876-249247	ee.pidv@gmail.com
23	Executive Engineer GWSSB	Shri N. H. Rathod	9978406851	02876-224840	wdn2jnd@gmail.com
24	Superintendent Engineer, PGVCL,	Shri Pankajkumar Joshi	9879200788	02876-220169	eevrl.pgvcl@gebmil.com
25	Dy Director of Animal husbandry	Dr. D.M. Parmar	9824363792	02876-285203	ddah.gs32@gmail.com
26	District Agriculture officer	Shri H.G. Lalvani	9825695200	02876-285080	daogirsomnath@gmail.com
27	Program Officer ICDS	Shri D.D. Ram	8320431225	02876-249200	icdsgirsomnath123@gmail.com
28	Director Industrial Safety and Health	Shri J.N. Dwivedi	9824190891	0285-2636946	dydish-jun@gujarat.gov.in
29	DC/ST Manager depot.	Shri Bhavin Rabari	6359918588	02876-220094	dmveraval@gmail.com
30	Superintendent of Fisheries	Shri V.K. Gohil	9265625552	02876-247282	adfveraval@gmail.com
31	Regional officer, GPCB	Shri M.R. Macwana	9909236187	0285-2651506	ro-gpcb-juna@gujarat.gov.in
32	SDOT / Manager BSNL	Shri H.N. Joshi	9427218087	02876-244244	sdotvrl@gmail.com

35	Mamlatdar Disaster	Shri B. H. Kubavat	9428837537	02876-285063	collectorgirsomnath@gmail.com
37	DPO Disaster	Shri Y.S. Shivani (I/c)	9427433979	02876-285063	yakin.shivani@gmail.com
38	Dy. Mamlatdar Disaster	Shri V.S. Chavda	9726785181	02876-285063	dismgmt-girsomnath@gujarat.gov.in

District Name: - Junagadh STD Code-0285					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Rachit Raj (IAS)	9978406211	2630100	collector-jun@gujarat.gov.in
2	DDO	Shri. Mirant Parikh (IAS)	9978406236	2635315	ddo-jun@gujarat.gov.in
3	S P	Shri Ravi Teja Vasamsetty (IPS)	9978405250	2634501	sp-jun@gujarat.gov.in
4	Resi. Addl. Collector	Shri L.B.Bambhniya	9978405211	2636666	add-collector-jun@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri P.A.Jadeja	9408146800	2636032	ddo-jun@gujarat.gov.in
6	Deputy Conservator of Forest	Shri Dr.S.K.Berwal	9978405156	2631182	ecfjun@gmail.com
7	Dy. Police Office	Shri P.G.Jadeja	9978407898	2651135	
8	Chief District Health officer	Dr. C A Maheta	7567885111	2633074	cdho.health.junagadh@gmail.com
9	Director, DRDA	Shri R.J.Jadeja	7567035902	2633179	drda-jun1@gmail.com
10	DSO	I/C Shri Hanul Chudhari (IAS)	9911706822	2631480	dso-jun@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr.Shushilkumar	9428822896	2651436	cdho.health.junagadh@gmail.com
12	CDMO	Dr.P.J.Lakhotra	9825237200		cdho.health.junagadh@gmail.com
13	DEO	Shri R. S.Upadhyay	9909970207	2630151	deo-jun@gujarat.gov.in
14	DPEO	I/C Shri R. S.Upadhyay	9909970207	2634136	dpeojunagadh@gmail.com
15	General Manager, DIC	Shri B.M.Joshi	9328966697	2631325	gm-dic-jun@gujarat.gov.in
16	Ass. Director of Information	Shri Arjun Parmar	9426520131	2627281	mahitijunagadh@gmail.com ,
17	Port Officer, GMB	Shri A.K.Misra I/C	9099694747	2876222001	poveraval@gmail.com
18	Chief Fire officer	Shri Dipak Jani	9624753333	2620841	municipalcorporationjund@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri.A.G.Solanki	9426849591	2673252	exe_jun_rnb@yahoo.in
20	Executive Engineer, R & B (Panchayat)	Shri J.V. Dabhi	90990 47902	2631628	pidjnd.ee50@yahoo.in
21	Executive Engineer, irrigation (State)	Shri J.N. Bhatu	78740 92928	2673252	eejidjnd@gmail.com
22	Executive Engineer, irrigation (Panchayat)	J.V. Dabhi	90990 47902	2633426	pidjnd.ee50@yahoo.in
23	Executive Engineer GWSSB	V.S. Rathod		2625036	ee1jnd@gmail.com
24	Superintendent Engineer, PGVCL,	Shri.A.M.Paghdar	6359976296	2654765	eejcd.pgvl@gebmail.com
25	Dy Director of Animal husbandry	Shri D.D.Panera	9879389573	2634096	dydir-ah-jun@gujarat.gov.in

26	District Agriculture officer	Shri G.S.Dave	9426972785	2633046	dao-ddo-jun@gujarat.gov.in
27	Program Officer ICDS	Shri S.C.Desai	9879396232	2631434	icdsjnd@gmail.com
28	Director Industrial Safety and Health	Shri J.N. Dwivedi	9824190891	2636946	dydish-jun@gujarat.gov.in
29	DC/ST Manager depot.	Shri G.O.Shah	6359919035	2670134	dcjnd@gsrtc.in
30	Superintendent of Fisher	Shri P.R.Rada	9898851228	2878222169	sf-fish-mgl@gujarat.gov.in
31	Regional officer, GPCB	Shri.S.V.Parmar	9427312901	2852651506	ro-gpcb-juna@gujarat.gov.in
32	Manager BSNL	Shri.P.K.Dhore	9426686986	2654700	gmtdjnd@gmail.com
35	Mamlatdar Disaster MGMT	Shri Tanvi Trivedi I/C	8160484648	2633446	dismgmt-jun@gujarat.gov.in
37	DPO Disaster MGMT	Shri.K.S.Trivedi	9426969236	2633446	kratu.trivedi.s@gmail.com
38	Dy. Mamlatdar Disaster MGMT	Shri A.M.Bhatt	9429765444	2633446	dismgmt-jun@gujarat.gov.in

District Name: - Ahwa - Dang STD Code- 02631					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Bhavin Pandya (IAS)	9978406208	220201 220294-FAX 220242-(P)	collector-dan@gujarat.gov.in
2	DDO	Dr Vipin Garg (IAS)	9978406233	220254 220444-FAX	ddo-dan@gujara.gov.in
3	S P	Shri Ravirajsinh Jadeja (IPS)	9978405021	220248 220226-FAX	sp-dan@gujarat.gov.in
4	Resi. Addl. Collector	Shri P A Gamit (GAS)	9978447801	220221	rac-dan@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri Y P Joshi (GAS)	9429972209	220317	dyddo-dan@gujarat.gov.in
6	Deputy Conservator of Forest (North)	Shri D R Rabari (IFS)	9998430007	220203 220917-FAX	dcfdangnorth16@gmail.com
	Deputy Conservator of Forest (South)	Shri Prasadravi Radhakrishn (IFS)	9821565564	220246 220307-FAX	dcfdangsouth16@gmail.com
7	Dy. Police Office	Shri S G Patil	8980049567	220904 220658 220322	dysp-dang@gujarat.gov.in
8	Chief District Health officer	Dr Himanshu Gamit	7359289196 9427119204	220344 220345	adho-dan@gujarat.gov.in
9	Director, DRDA	Shri K J Bhagora (GAS)	9824230331	220217 221322-(D) 220214-FAX	drda-dan@gujara.gov.in
10	DSO	shri R M Jhalandara (GAS) (I/C)	9978447807	220384	dso-dan@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr Ankit Rathod	9824738734	220205 221408	cdmo.health.ahwa1@gmail.com
12	CDMO	Dr Sanjay Shah	9023081802	220344 220345	cdmo.health.dang@gmail.com
13	DEO	Shri M C Bhusara	9909970208	220208 220408-FAX	dang1deo@gmail.com
14	DPEO	Shri M C Bhusara (I/C)	9909970208	220337	dpeo-dan@gujarat.gov.in
15	General Manager, DIC	NA			
16	Ass. Director of Information	Shri Manoj Khengar	8141778910	220326	manojahwa@gmail.com
17	Port Officer, GMB	NA	-	-	-

18	Chief Fire officer	NA	-	-	-
19	Executive Engineer, R & B (State)	Shri S R Patel	9712017210	220228 220476-FAX	rnbdang@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri R B Choudhari	9979508969	220309	exernb-ddo-dan@gujarat.gov.in
21	Executive Engineer, irrigation (State)	NA	-	-	-
22	Executive Engineer, irrigation (Panchayat)	Shri Vinit J Patel (I/C)	9979508969	220309	exernb-ddo-dan@gujarat.gov.in
23	Executive Engineer GWSSB	Shri H B Dhimmar	9978406664	220394 220313-FAX	gwssbdangs@gmail.com
24	Superintendent Engineer, PGVCL,	Shri V D Patel (I/C)	8238048756	220354	sdo.ahwa@gebmil.com
25	Dy Director of Animal husbandry	Shri Harashad Thakare	9427383861	220375	dcpahdang@gmail.com
26	District Agriculture officer	Shri Ketan Mahala	9099013162	220320	dao-ddo-dan@gujarat.gov.in
27	Program Officer ICDS	Shri B C Jidia	9913319197	220318	po-icds-dan@gujarat.gov.in
28	Director Industrial Safety and Health	NA	-	-	-
29	DC/ST Manager depot.	Shri Jagdishbhai Ganvit	9427487833 6359918785	220308 220030	dmahwagsrtc@gmail.com
30	Superintendent of Fisher	NA	-	-	-
31	Regional officer, GPCB	Shri P U Dave (I/C)	7574827442	02632-2432089	ro-gpcb-vapi@gujarat.gov.in
32	Manager BSNL	Shri Sharveshkumar Arya	9695799131	221060	jtocfaahwa@gmail.com
35	Mamlatdar Disaster	Shri Mehul Bharvad (I/C)	9687638182	220347	dismgmt-dan@gujarat.gov.in
37	DPO Disaster	Shri Chintan Patel	8866641248	220347	chintucn3@gmail.com dismgmt-dan@gujarat.gov.in
38	Dy. Mamlatdar Disaster	Shri P V Jambhekar	6353447366	220347	dismgmt-dan@gujarat.gov.in

District Name: - MAHISAGAR STD Code-02674					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Dr.Manishkumar,IAS	9978405936	02674-250666	collector-mah@gujarat.gov.in
2	DDO	Shri.K D Lakhani,IAS	9978406497	02674-250945	ddo-mah@gujarat.gov.in
3	S P	Shri R P Barot,IPS	9978405980	02674-254001	sp-luna-mahi@gujarat.gov.in
4	Resi. Addl. Collector	Shri A I Suthar	9727763950	02674-250165	addl-collector-mah@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri R B Chaudhari	9825597381	-	dyddo.mahi.mahekam@gmail.com
6	Deputy Conservator of Forest	Shri N V Chaudhari	8184863895	02674-251154	dcfmahi@gmail.com
7	Dy. Police Office	Shri N V Patel	9825847400	02674-254009	mahisagarsp@gmail.com
8	Chief District Health officer	Dr K K Parmar (i/c)	6357292590	02674-252702	cdho.health.mahisagar@gmail.com
9	Director, DRDA	Shri J. K. Jadav	9687606497	02674-250945	drda.mahisagar@gmail.com
10	DSO	Shri A I Suthar (i/c)	9727763950	02674-252722	dso-mahi@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr J K Patel	6351257348	02674-2500008	dso.health.mahisagar@gmail.com
12	CDMO	Dr J K Patel	6351257348	02674-2500008	dso.health.mahisagar@gmail.com
13	DEO	Shri P N Modi	7984221249	02674-250901	deomahisagar@gmail.com
14	DPEO	Shri A A Baria (i/c)	8758195696	02674-255590	dpeomahisagar@gmail.com
15	General Manager, DIC	Shri D.B.Parmar	6357150215	02674-294234	gm-dic-lun@gujarat.gov.in
16	Ass. Director of Information	Shri Sanjay Shah	9925255862	02674-254051	mahimahiti254051@gmail.com
17	Port Officer, GMB	NA	-	-	-
18	Chief Fire officer	Shri Jaymal Parmar	8980249665	02674-250006	np_lunavada@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri. S K Patel	8980194535	02674-250486	rnblunawada@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri M H Bhatt	9979893329	02674-252123	exn.pan.mahisagar@gmail.com
21	Executive Engineer, irrigation (State)	NA	-	-	-
22	Executive Engineer, irrigation (Panchayat)	Shri A R Shah	9898805551	02674-252123	xenpidmahisagar@gmail.com
23	Executive Engineer GWSSB	Shri P P Pithva	997806620	02674-251580	mechlunawada@gmail.com
24	Superintendent Engineer, MGVCCL,	Shri N S Shah	925208209	02674-250553	n.shah@mgvcl.com
25	Dy Director of Animal husbandry	Shri M C Patel	8141360778	02674-250144	dahoahmahisagar@gmail.com

26	District Agriculture officer	Shri J R Patel	7226952008	02674-250195	dao.mahisagar@gmail.com
27	Program Officer ICDS	Ms.Shilpaben Damor	9925443497	02674-252995	po.icdsmahisagar@gmail.com
28	Director Industrial Safety and Health	Shri D B Gamit	8849976845	02682-568986	dydish-khe@gujarat.gov.in
29	DC/ST Manager depot.	Sri S Suthar	6359918461	02674-250001	dmlunawada123@gmail.com
30	Superintendent of Fisher	Shri S D Rathod	9427364716	02675-237512	supptd-fish-mahi@gujarat.gov.in
31	Regional officer, GPCB	NA	-	-	-
32	Manager BSNL	Shri Satish Pamnani	9427613549	02674-254500	gdhsdotlvd@gmail.com
35	Mamlatdar Disaster	Shri R N Pargi	9979219245	02674-252300	disaster.mahisagar@gmail.com
37	DPO Disaster	Shri Jigar Makwana	9898100757	02674-252300	jigarmakwana@live.com
38	Dy. Mamlatdar Disaster	Shri D N Sisodiya	9904702206	02674-252301	disaster.mahisagar@gmail.com

District Name: - Dahod STD Code-02673					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Dr.Harshit Gosavi IAS	9978406207	239001	collector-dah@gujarat.gov.in
2	DDO	Smt.Neha Kumari IAS	9978406232		ddodahod@gmail.com
3	S P	Shri Balramsindh Meena,IPS	9978405068		sp-dah@gujarat.gov.in
4	Resi. Addl. Collector	Shri A B Pandor	9978405179		racdahod@gmail.com
5	Dy. District Development Officer (Mehsul)	Shri K K Patel	7284930880		dyddorevdahod@gmail.com
6	Deputy Conservator of Forest	Shri R M Parmar	9727752097		dcf.dahod.forest@gmail.com
7	Dy. Police Office	Shri			
8	Chief District Health officer	Shri C R Patel	7567895502		cdho.health.dahod@gmail.com
9	Director, DRDA	Shri C B Balat	7567033431	239056	drdadahod1@gmail.com
10	DSO	Shri Mitesh Vasava	7567022187		dsodahod@gmail.com
11	Medical Superintendent(Civil Hospital)	Dr. Sandhya Joshi	9106383639		
12	CDMO	Dr. Sandhya Joshi	9106383639		
13	DEO	Smt kajalben Dave	9909970224		deodahod1@gmail.com
14	DPEO	Shri Mayur Parekh	9909971662		dpeodahod@gmail.com
15	General Manager, DIC	Shri S J Thakor	7567528160		gm-dic-dah@gujarat.gov.in
16	Ass. Director of Information	Shri S J Balevia	9925936257		
17	Port Officer, GMB	-	-	-	-
18	Chief Fire officer	-	-	-	-
19	Executive Engineer, R & B (State)	Shri Devang Bhatt	9428303336	2022227	
20	Executive Engineer, R & B (Panchayat)				
21	Executive Engineer, irrigation (State)	Shri R M Damor	9879173323	224525	irrigation@rediffmail.com
22	Executive Engineer, irrigation (Panchayat)				
23	Executive Engineer GWSSB				
24	Superintendent Engineer, MGVL,	Shri P N Thanawala	9925208146		
25	Dy Director of Animal husbandry	Shri K L Gosai	9426061219	239118	dahoddaho@gmail.com

26	District Agriculture officer				
27	Program Officer ICDS	Smt. Ramilaben Chaudhari	9664783882	239179	icds.dahod@gmail.com
28	Director Industrial Safety and Health	Shri B D Gamit	9978262544		
29	DC/ST Manager depot.	Shri J R Butch	6359918474		
30	Superintendent of Fisher	Shri M J Sanghani	9033933207	239037	assdirfishdahod@gmail.com
31	Regional officer, GPCB	Shri Mahida	9825395711		gpcb-pan@gujarat.gov.in
32	Manager BSNL	Shri Moinuddin Mansuri	9428820520		
35	Mamlatdar Disaster	Shri S N Soni	9825875559	239277	dismgmt-dah@gujarat.gov.in
37	DPO Disaster	Shri Viral Christian	9510843873	239277	dismgmt-dah@gujarat.gov.in
38	Dy. Mamlatdar Disaster	Shri Hardik Joshi	9924505857	239277	dismgmt-dah@gujarat.gov.in

District Name: - Panchmahals STD Code-02672					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri.Sujal Mayatra IAS	9978406217	242800	collector-pan@gujarat.gov.in
2	DDO	Smt.A J Rathod IAS		253377	ddo-pan@gujarat.gov.in
3	S P	Shri Himansu Solanki,IPS	9978405077	242200	sp-pan@gujarat.gov.in
4	Resi. Addl. Collector	Shri M D Chudasama	9978405189	242450	rdc-pan@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Smt.Chandrikaben Bhabhor	9428446244		
6	Deputy Conservator of Forest	NA			
7	Dy. Police Office	NA			
8	Chief District Health officer	Dr.Minakshiben Chauhan	7567893600	253367	dpc-panchmahals@yahoo.com
9	Director, DRDA	Shri S D Tabiyar	9427619801		
10	DSO	Miss N B Rajput	9924111329 7016261314	242936	dso-pan@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr.Mona	8980045302		
12	CDMO	NA	-	-	-
13	DEO	Shri B S Panchal	9909970209		panchmahaldeo@gmail.com
14	DPEO	Dr.V M Patel	9228470597		
15	General Manager, DIC	Shri S J Thakor	7567528160		gm-dic-pan@gujarat.gov.in
16	Ass. Director of Information	Shri S J Balevia	9925936257		
17	Port Officer, GMB	NA	-	-	-
18	Chief Fire officer	NA			
19	Executive Engineer, R & B (State)	NA	9824549379	243421	rnb-pan@gujarat.gov.in
20	Executive Engineer, R & B (Panchayat)	NA			
21	Executive Engineer, irrigation (State)	Shri Rahul RathodNA	6355255199		
22	Executive Engineer, irrigation (Panchayat)	NA			
23	Executive Engineer GWSSB	Miss Meeta Mevada	9978406633	02672-241941	eeGodhra@gmail.com
24	Superintendent Engineer, MGVCL,	NA			

25	Dy Director of Animal husbandry	Shri N A Patel	9426179293		drdvchaubal@yahoo.co.in
26	District Agriculture officer	Shri A R Sonara	9725198602		
27	Program Officer ICDS	Smt.Chandrikaben Bhabhor	9428446244	253372	po.icds.panchmahas@gmail.com
28	Director Industrial Safety and Health	Shri B D Gamit	9978262544		
29	DC/ST Manager depot.	NA			
30	Superintendent of Fisher	Miss Madhvi Meghatar	9913324700		fisheriesgodhra@gmail.com
31	Regional officer, GPCB	Shri Mahida	9825395711		
32	Manager BSNL	Shri Ram Ganesh Gohe	9425819435		gmgodhra@gmail.com
35	Mamlatdar Disaster	Smt H R Rathod	9724730090	242536	digmt-pan@gujarat.gov.in
37	DPO Disaster	Shri Viral Christian	9510843873	242536	digmt-pan@gujarat.gov.in
38	Dy. Mamlatdar Disaster	Smt P P Baraiya	9727661202	242536	digmt-pan@gujarat.gov.in

District Name: - Morbi STD Code- 02822					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri J.B. Patel (IAS)	9978405932	24071	collector-mor@gujarat.gov.in
2	DDO	Shri P.J. Bhagdev	9978406470	222580	ddo-morbi@gujarat.gov.in
3	S P	Shri Rahul Tripathi (IPS)	9978405975	243480	sp-morbi@gujarat.gov.in
4	Resi. Addl. Collector	Shri N.K. Muchhar	9927759674	240701	addl-collector-mor@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri. I.P. Mer	9574980070	222899	dyddo.morvi@gmail.com
6	Deputy Conservator of Forest	Dr. Chirgh Amin	8780817019	241611	forest.dcfstraj@gmail.com
7	Dy. Police Office	Shri M.I. Pathan	9925012109	243473	pa2sp-morbi@gujarat.gov.in
8	Chief District Health officer	Dr. J. M. Katira	9727700022	222707	cdho.health.morbi2@gmail.com
9	Director, DRDA	Smt. M. M. Joshi	9909448450	220780	morbidrda@gmail.com
10	DSO	Shri devang Rathod	9537614641	242008	dsomorbi@gmail.com
11	Medical Superintendent(Civil Hospital)	I/C Dr. K.R. Saradva	9825983301	230538	cdmo.health.morbi@gmail.com
12	CDMO	Dr. Dudhrejiya	7567876154	230538	cdmo.health.morbi@gmail.com
13	DEO	Shri B.M.Solanki	7574812279	222710	deomorbi@gmail.com
14	DPEO	I/C Shri B.M.Solanki	7574812279	222710	dpeomorbi@gmail.com
15	General Manager, DIC	Shri K.P. Mori	9227753656	242715	gm-dic-mor@gujarat.gov.in
16	Ass. Director of Information	Shri G.R. Pedhva	9429199886	241012	informationmorbi@gmail.com
17	Port Officer, GMB	Shri caption K.R. Sindh	9998057507	229101	pilotofficergmb@gmail.com
18	Chief Fire officer	Shri Sandeep Singh zala	9925569999	230800	np_morbi@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri K.N. Zala	9428272830	240524	exe.mor.rnb@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri A.N. Chaudhary	9825406053	222840	expmorrnb@gmail.com
21	Executive Engineer, irrigation (State)	Shri A.L. Savaliya	8980558757	240139	eeidnmorbi@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri Vivek Gohel	9426401595	222848	morbipanchayatirrigation@gmail.com
23	Executive Engineer GWSSB	I/C Shri Y.M. vakani	9978440633	223839	eephwdmrb@gmail.com

24	Superintendent Engineer, PGVCL,	Shri V.L. Dobriya	9925209959	242291	asmrb.pgvcl@gmail.com
25	Dy Director of Animal husbandry	Dr. K.R. katara	9492802807, 9825997114	-	dahomorbi@gmail.com
26	District Agriculture officer	Shri V.K. Chouhan	9408168801	222709	daomorbi@gmail.com
27	Program Officer ICDS	Shri M.S. Upadhiyay	9638114124	222716	icds.morbi@gmail.com
28	Director Industrial Safety and Health	Shri J.M. Dvivedi	9824190891	242350	dydlabmorbi@gmail.com
29	DC/ST Manager depot.	Shri Dilip shamdanu porsangh	9998953191 , 6359918733	230701/9	dmmrvdepot@gmail.com
30	Superintendent of Fisher	Shri kotadiya Paresh	9601121404	243577	sfmorbi@gmail.com
31	Regional officer, GPCB	Shri K.B. vaghela	7874410299	228001	ro-gpcb-morb@gujarat.gov.in
32	Manager BSNL	Shri Navneet	9427200858	220895	portalhelpdesk@bsnl.co.in
35	Mamlatdar Disaster	I/C Shri J.V. Kavar	9727632265	243300	dmcemorbi@gmail.com
37	DPO Disaster	Mrs. Amreen Khan	9907698161	243300	dmcemorbi@gmail.com
38	Dy. Mamlatdar Disaster	Shri Vivekbhai Jhalariya	82008 10842	243300	dmcemorbi@gmail.com

District Name: - Vadodara STD Code- 0265					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri A B Gor (IAS)	9978406224	2433000	collector-vad@gujarat.gov.in
2	DDO	Shri R M Patel (IAS)	9978406249	2432027	ddo-vad@gujarat.gov.in
3	S P	Shri Rohan Anand (IPS)	9978406094	2412255	sp-vad@gujarat.gov.in
4	Resi. Addl. Collector	Shri K S Jhala (GAS)	9978405196	2419700	vadodararac@gmail.com
5	Dy. District Development Officer (Mehsul)	Smt R G Vasava	7567017977	2431770	dyddorevvado@gmail.com
6	Deputy Conservator of Forest	Shri Ravirajsing Rathod	9265242340	2431128	dcfsfvadodara@gmail.com
7	Chief District Health officer	Dr. Uday Tilavat	8980039102	2432383	cdho.health.vadodara@gmail.com
8	Director, DRDA	Smt Dipti Rathod	7567043376	2487432	drdavad@yahoo.com
9	DSO	Smt. K B Patel	7567022247	2433201	dso-vad@gujarat.gov.in
10	Medical Superintendent(Civil Hospital)	Dr Ranjan Iyer	9825184648	2424848	-
11	CDMO	Dr Kamal Mishra	8338012033	2517400	cdmo.health.jamnabai@gmail.com
12	DEO	Shri B.J.Vanjara	9727420737	2461703	vadodeo@gmail.com
13	DPEO	Smt. A M Chaudhari	9909987576	2436411	dpeovadodara@gmail.com
14	General Manager, DIC	Shri H N Mewada	9978675598	2423246	gm-dic-vad@gujarat.gov.in
15	Dy. Director of Information	Shri B P Desai	9978405785	2458761	cdmo-vad@gujarat.gov.in
16	Chief Fire officer	I/C Shri Parth Brahmbhatt	9924025094	2420881	cfovadodarafire@gmail.com
17	Executive Engineer, R & B (State)	Shri K R Thorat	9727599555	2352099	exedist@yahoo.co.in
18	Executive Engineer, R & B (Panchayat)	Shri N M NayaKawala	7984245226	2414616	exnvadodara@yahoo.co.in
19	Executive Engineer, irrigation (State)	Shri Dhaval Patel	8980110113	2415376	vidvadodara@gmail.com
20	Executive Engineer, irrigation (Panchayat)	Shri K M ThaKKar	9979960074	2431075	dyddopanvado@gmail.com
21	Executive Engineer GWSSB	Shri G A Agola	9978406745	-	eephmdnvadodara@yahoo.in
22	Superintendent Engineer, MGVCCL,	Shri N S Chavda	9925208353	2355520	sebaroda.mgvcl@gebmil.com
23	Dy Director of Animal husbandry	Shri V B Darji	9825637830	2637256	icdpvadodara@gmail.com
24	District Agriculture officer	Shri Nitin Vasava	9586310461	2433641	daovadodara@gmail.com
25	Program Officer ICDS	Smt. Nayana Pargi	6359923971	2329333	-

26	Director Industrial Safety and Health	I/C H P Parmar	9998034709	0265-2426848	jtdish-vad@gujarat.gov.in
27	DC/ST Manager depot.	Shri S P Matroja	6359919030	2353355	dcstbrd@gmail.com
28	Superintendent of Fisheries	Shri S M Ardeshana	8320095167	2423947	-
29	Regional officer, GPCB	Shri R B Trivedi	7574827582	0265-2354850	ro-gpcb-vado@gujarat.gov.in
30	Manager BSNL	Shri sharma	9426746161	-	-
31	Mamlatdar Disaster	I/C Shri P K Parmar	9898036994	2427592	vad.deoc@gmail.com
32	DPO Disaster	Shri Bantish L. Parmar	8866621514	2427592	disastermgmtvad@gmail.com
33	Dy. Mamlatdar Disaster	Shri Sunil Machhi	9624694850	2427592	vad.deoc@gmail.com

District Name: - Chhotaudepur STD Code- 02669					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Smt. Stuti Charan (IAS)	9978405937	233003	collector-cho@gujarat.gov.in
2	DDO	Shri Ganga Singh (IAS)	9978406468	233050	ddochhotaudepur@gmail.com
3	S P	Shri Dharmendra Sharma (IPS)	9978408194	233077	control-sp-cpr@gujarat.gov.in
4	Resi. Addl. Collector	Shri D K Baria (IAS)	7574953262	233004	collector-cho@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri G M Borad	7990364056	233023	daochhotaudepur@gmail.com
6	Deputy Conservator of Forest	Shri V M Desai	7861801824	232032	dcfchhotaudepur@gmail.com
8	Chief District Health officer	Shri M R Chaudhari	9426770602	-	cdho.health.chhotaudepur@gmail.com
9	Director, DRDA	Shri T K Damor (GAS)	9099111333	232655	drdachhotaudepur@gmail.com
10	DSO	Shri A S Sinha	8866543157	233626	dsochhota@gmail.com
11	Medical Superintendent(Civil Hospital)	Dr. Yogesh Parmar	9099971818	232066	cdmo.health.chhotaudepur@gmail.com
12	DEO	Shri K B Pachani	9904203704	232137	deochhotaudepur@gmail.com
13	DPEO	I/C Shri Imaran Soni	9428167141	232137	dpochhotaudepur@gmail.com
14	General Manager, DIC	Shri S J ThaKor	9978675598	233640	gm-dic-chh@gujarat.gov.in
15	Ass. Director of Information	Shri C F Vasava	8238736444	-	infochhota@gmail.com
16	Chief officer	Shri A H Sinha	7376209925	232059	Np.cudepur@yahoo.com
17	Executive Engineer, R & B (State)	Shri S R Rathva	9726580505 9925471776	-	nssubdivchhotaudepur@gmail.com
18	Executive Engineer, R & B (Panchayat)	Shri H C Vasava	9428694599	-	exnchhotaudepur@gmail.com
19	Executive Engineer, irrigation (State)	Shri A R Patel	9687067441	-	-
20	Executive Engineer, irrigation (Panchayat)	Shri A K Mishra	7000899384	-	-
21	Executive Engineer GWSSB	Shri K S Bariya	9978915589	-	deechhotaudepur@gmai.com
22	Superintendent Engineer, MGVEL,	Shri A P Maheta	8980031712	220341	dobodeli.mgvcl@gmail.com
23	Dy Director of Animal husbandry	Dr. Virant Garasiya	9662936250	-	-

24	District Agriculture officer	Shri S N Bhagariya	9998026516	-	daochhotaupur@gmail.com
25	Program Officer ICDS	I/C Smt. Parul Vasava	9904982232	-	po.icds.chhotaupur@gmail.com
26	Director Industrial Safety and Health	I/C H P Parmar	9998034709	0265-2426848	jtdish-vad@gujarat.gov.in
27	DC/ST Manager depot.	Shri A H Chauhan	6359918353	-	-
28	Superintendent of Fisheries	Smt. A P Patel	9978723989	-	-
29	Regional officer, GPCB	Shri R B Trivedi	7574827582	0265-2354850	ro-gpcb-vado@gujarat.gov.in
30	Manager BSNL	Shri Pradip Rawat	9427101250	-	-
31	Mamlatdar Disaster	I/C Shri S B Hadpati	9427751415	233021 233022	disasterchhotaupur@gmail.com
32	DPO Disaster	I/C Shri Bantish L. Parmar	8866621514	233021 233022	disastermgmtvad@gmail.com
33	Dy. Mamlatdar Disaster	Shri S B Hadpati	9427751415	233021 233022	disasterchhotaupur@gmail.com

District Name: - Valsad STD Code-02632					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Smt.Kshipra Agre (IAS)	9978406225	253613	collector-val@gujarat.gov.in
2	DDO	Shri Manish Gurvani (IAS)	9978406250	253184	ddo-val@gujarat.gov.in
3	S P	Shri Rajdipsinh Zala (IPS)	9978405085	253093	sp-val@gujarat.gov.in
4	Resi. Addl. Collector	Shri N.A.Rajput (GAS)	9978405253	244386	add-collector-val@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri D.J.Vasava	7990895707	253027	
6	Deputy Conservator of Forest	Shri Rushiraj Puvar	7574950437	253809	dcf-valsouth@gujarat.gov.in
7	Dy. Police Office	Shri Manoj Sharma	9978477322	253082	sp-val@gujarat.gov.in
8	Chief District Health officer	Dr Anil Patel	9727782001	244326	cdho.health.valsad@gmail.com
9	Director, DRDA	Shri J.P.Mayatra	9712916327	253545	drda.val@gmail.com
10	DSO	Sushri Kajal Gamit	7016955313		dso-val@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr Bhavesh Goyani	9925242144	251744	civilhospital.valsad@gmail.com
12	CDMO	Dr Bhavesh Goyani	9925242144	251744	civilhospital.valsad@gmail.com
13	DEO	Shri K.F.Vasava	9909970216	254228	deo-val@gujarat.gov.in
14	DPEO	Shri B.D.Bariya	9909987577	253210	dpeo-ddo-val@gujarat.gov.in
15	General Manager, DIC	Shri Hardik Jadeja	7574950040	240110	ccf-valsad@gujarat.gov.in
16	Ass. Director of Information	Shri A.S.Barot	9428882436	253817	ddivalsad@gmail.com
17	Port Officer, GMB	Shri Cpt B.N.Ladva	9638112186		
18	Chief Fire officer	Shri Sanjay Soni	9825559095	242702	np_valsad@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri N.N.Patel	9426872472	251952	rnb_val@yahoo.in
20	Executive Engineer, R & B (Panchayat)	Shri D.A.Patel	9979353215	253694	exernbval@gmail.com
21	Executive Engineer, irrigation (State)	Shri K.R.Patel	9978405573	253307	
22	Executive Engineer, irrigation (Panchayat)	Shri S.A.Vahiya	9825570754	244314	
23	Executive Engineer GWSSB	Shri H.M.Patel	9948008848	253135	eevalsad2@gmail.com
24	Superintendent Engineer, PGVCL,	Shri G.D.Bhaiya	7069750090	250272	gebvalsad@gebmail.com
25	Dy Director of Animal husbandry	Shri Dr B.L.Mahala	9979666144	242744	dydirahdpvalsad@gmail.com

26	District Agriculture officer	Shri A.K.Garasiya	9327745285	253891	daovalsad@gmail.com
27	Program Officer ICDS	Smt Jyotshna Patel	99099289252	242773	icds.valsad@gmail.com
28	Director Industrial Safety and Health	Shri D.K.Vasava	9825801547	253612	
29	DC/ST Manager depot.	Shri K.A.Parmar	9998953119	241403	
30	Superintendent of Fisher	Smt Bahratiben Patel	9427350829	254204	adir-fish-valsad@gujaerat.gov.in
31	Regional officer, GPCB	Shri Dinesh Paremar	9879110112	2423934	dineshparmar004@gmail.com
32	Manager BSNL	Shri D.D.Patel	9427112808	2244400	Gmsrtbsnl@gmail.com
35	Mamlatdar Disaster	Smt Madhvi Mistry(i/c)	9879699684	243238	dismgmt-val@gujarat.gov.in
37	DPO Disaster	Shri Jayvirsinh.V.Raol	8849000397	243238	dismgmt-val@gujarat.gov.in
38	Dy. Mamlatdar Disaster	Shri Ganpat Vadekhaniya (I/C)	9723413653	243238	dismgmt-val@gujarat.gov.in

District Name: - Surendranagar STD Code-02752					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Keyur C Sampat,IAS	9978406223	02752-282200	collector-srn@gujarat.gov.in
2	DDO	Shri P.M.Makwana, IAS	9978406223	02752-282200	ddo-snr@gujarat.gov.in,
3	S P	Mr. Haresh Dudhala,IPS	9978405083	02752-282100	sp-srn@gujarat.gov.in
4	Resi. Addl. Collector	Shri N. D. Zala, GAS	9978405224	02752-285200	rdc-srn@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Dr. Chandramani Prasad	8980810311	284801	dyddo-snr@gujarat.gov.in,
6	Deputy Conservator of Forest	Dr. D.F. Gadhavi	7574950202	283602	dcfsnr@gmail.com
7	Dy. Police Office	Shri P.K. Patel	9978407892	285600	dy.sp-srn@gujarat.gov.in
8	Chief District Health officer	Dr. Chandramani Prasad	8980810311	285383	cdho-srn@gujarat.gov.in
9	Director, DRDA	shree D I Bhagiani	9825336808	284808	apotsr.sngr@gmail.com
10	DSO	Shri Bhavanaba Zala	7043047360	02752-284351	dso-srn@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	dr haris vesetiyan	9023859676		dso-srn@gujarat.gov.in
12	CDMO	dr haris vesetiyan	9023859676	222553	cdmosurendranagar @gmail.com
13	DEO	Shri S M Barad	9909970219	02752284170	deosnr@gmail.com
14	DPEO	shri Meetaben gathavi	9909971695	283099	dpeosnr@gmail.com
15	General Manager, DIC	Shri S B Parejia	6357150207	02752283465	dic-snr@gujarat.gov.in
16	Ass. Director of Information	shri Ghansyam bhai Pedva	9429199886	02752285650	information-snr@gujarat.gov.in
17	Port Officer, GMB	nill			
18	Chief Fire officer	nill			
19	Executive Engineer, R & B (State)	Shri Ketan Rathod	9909957815		
20	Executive Engineer, R & B (Panchayat)	shri K.S. Parghi	9825439454	285812	
21	Executive Engineer, irrigation (State)	Shri A C Patel	9427517948	284902	eesidn@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri A C Patel	9427517948	284902	snrpil@gmail.com
23	Executive Engineer GWSSB	J A Rangawala	9978441948	02752284598	
24	Superintendent Engineer, PGVCL,	Shri V.G. Marakna	9825603180	226450	sesnr.pgvcl@gebmil.com
25	Dy Director of Animal husbandry	Dr. D.R. Patel	9825715962	283785	

26	District Agriculture officer	shri M R Parmar	9898260931	285902	dao_surendranagar@yahoo.in
27	Program Officer ICDS	Dr. B G Gohil	9099064396	283717	
28	Director Industrial Safety and Health	Shri Jatin Adeshara	9825714748	2282351	
29	DC/ST Manager depot.	shri P D Parmar	8000109609	221152	
30	Superintendent of Fisher	Shri P K Vaghela	9624101234	2283436	
31	Regional officer, GPCB	shri K K Lakum	910644307		
32	Manager BSNL	Shri Rokade	9427216003		
35	Mamlatdar Disaster	Shri J T Raval	99135 81935	283400	dismgmt-snr@gujarat.gov.in,
37	DPO Disaster	Shri Nilesh Parmar	9712185595	283400	dismgmt-snr@gujarat.gov.in,
38	Dy. Mamlatdar Disaster	Shri D.R.Chudasama	9724799488	283400	dismgmt-snr@gujarat.gov.in,

District Name: - Porbandar STD : 0286					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri A.N.Sharma ((AS)	9978406219	2243801	collector-por@gujarat.gov.in
2	DDO	Shri V.K. Advani (IAS)	9978405079	2243803	ddo-por@gujarat.gov.in
3	S P	Shri Ravi Mohan Saini (IPS)	9978405079	2211222	sp-por@gujarat.gov.in
4	Resi. Addl. Collector	Shri M.K. Joshi (GAS)	9978405191	2221085	add-collector-por@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri N.L.Sadhu	87582 69809	-	dyddo-pan-por@gujarat.gov.in
6	Deputy Conservator of Forest	Shri D J Pandya	94295 51267	2242551	dcfpbr@gmail.com
7	Dy. Police Office	Shri B.A. Patel	9898343034	2240957	sp-por@gujarat.gov.in
8	Chief District Health officer	Shri Dr.Kavita Dave	9512015633	2241134	cdho.health.porbandar@gmail.com
9	Director, DRDA	Shri Rekhaba Sarvaiya	99250 17584	2213736	drda.por@gmail.com
10	DSO	Shri Hiral Desai	73599 77795	2220070	dso-por@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr. Dharmesh Parekh I/C	94272 65955	2242910	Aha.health.porbandar@gmail.com
12	CDMO	Shri Divyaben Daga	94272 04447	2242910	Cdmo.health.porbandar@gmail.com
13	DEO	Shri K.D.Kansagara	9909970225	2251350	porbandardeo@gmail.com
14	DPEO	Shri K.D.Kansagara	9909970225	2252808	dpeoporbandar@gmail.com
15	General Manager, DIC	Shri V.B.Jariya	82004 93882	2222168	Gm-dic-por@gujarat.gov.in
16	Ass. Director of Information	Shri Naresh Mehta	9825263775	2222470	informationpor@gmail.com
17	Port Officer, GMB	Shri A.K.Misra	9099694747	2242408	gmbporbandar@gmail.com
18	Fire officer	Shri Abhay Mehta	83068 32283	2249850	copbr2008@gmail.com
19	Executive Engineer, R & B (State)	Shri V N Chaudhary	96870 88473	2242547	ee_rnb_pbr@yahoo.co.in
20	Executive Engineer, R & B (Panchayat)	Shri Karan Tater	96647-27879 86193-74735	2212971	exernbddopor@gmail.com
21	Executive Engineer, irrigation (State)	Shri J K Karavadra	75671 86511	2222897	exeirripor@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri J K Karavadra	75671 86511	2222897	exeirripor@gmail.com
23	Executive Engineer GWSSB	Shri V P Chauhan	9904154605	2242528	eepbrgwssb@gmail.com
24	Superintendent Engineer, PGVCL,	Shri Kodiyatar	98256 03182	2240947	sepbr.pgvcl@gebmail.com

					detech4pbr.pgvcl@gebmail.com
25	Dy Director of Animal husbandry	Dr.S.B.Kunadiya	9426422877	2213681	Dy.dir_ah@gmail.com
26	District Agriculture officer	Shri H.A.Trivedi	95744 45535	2252809	dao-ddo-por@gujarat.gov.in
27	Program Officer ICDS	Shri Vijay Joshi	90999 56866	2220302	-
28	Director Industrial Safety and Health	Shri J.N. Dwivedi (IC)	9824190891	2636946	dydish-jun@gujarat.gov.in
29	DC/ST Manager depot.	Shi Hiriben Katara	89805 11213 99989 53205	2240959 2242409	dmapbr@gmail.com dmpbr@gsrtc.in
30	Superintendent of Fisher	Shri Sangita A Bharadiya	96625 46241	2240949	adfporbandar@gmail.com
31	Regional officer, GPCB	Shri Kalpanaben Parmar	98792 05066	2220050	dee2-sau-gpcb@gujarat.gov.in porbandargpcb@gmail.com
32	Manager BSNL	NA			
35	Mamlatdar Disaster	Shri U.D.Vadhiya (I/c)	9824875290	2220800	dismgmt-por@gujarat.gov.in
37	DPO Disaster	Shri Kratu Trivedi (I/c)	8160313839	2220800	kratustrivedi@gmail.com
38	Dy. Mamlatdar Disaster	Shri Dineshbhai Gar	9429773723	2220800	dismgmt-por@gujarat.gov.in

District Name: - Bharuch STD Code-02642					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Tushar D Sumera, IAS	99784 06205	240600	Collector-bha@gujarat.gov.in
2	DDO	Shri Yogesh Choudhary, IAS	99784 06230	240603	ddo-bha@gujarat.gov.in
3	S P	Dr. Lina Patil, IPS	99784 05066	223633	sp-bha@gujarat.gov.in
4	Resi. Addl. Collector	J D Patel, GAS	99784 05177	222332	add-collector-bha@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Piyush Patel	7567009044	252479	dyddo-pan-bha@gujarat.gov.in
6	Deputy Conservator of Forest	Urvashi Prajapati	7574950461	269065	dcfbha@gmail.com
7	Assistant Suprintendant Of Police Bharuch	Shri Vikas Sunda	7990297652	269533	
8	Chief District Health officer	J.H Dulera	9726956500	243660	cdho.health.bharuch@gmail.com
9	Director, DRDA	Shri C.V.Lata	9978406833	240745	drda.bha@gujarat.gov.in
10	DSO	Ronak J Shah	9925898191	241500	dso-bha@gujarat.gov.in
11	Medical Superintendent (Civil Hospital)	Shri J.D.Parmar	9426365030		dpmubharuch@gmail.com
12	CDMO	Shri J.D.Parmar	9426365030	241759	cdmo-bha@gujarat.gov.in
13	DEO	N.M Mehta	9909970211	240424	bharuchdeo@gmail.com
14	DPEO	Dr. N D Patel	9909971661	244210	dpcbharuch@gmail.com
15	General Manager, DIC	S R Patel	9429073395	222348	gm-dic-bha@gujarat.gov.in
16	Ass. Director of Information	S R Patel	9429073395	222348	ddibharuch2642@gmail.com
17	Port Officer, GMB	Capt. Kuldeep Singh	9909962907	241772	
18	Chief Fire officer	Chirag Ghadvi	8347754221	243525	np_bharuch@gmail.com
19	Executive Engineer, R & B (State)	Anil Vasava	9408070278	651640	rnb_bharuch@yahoo.co.in
20	Executive Engineer, R & B (Panchayat)	D K Chaudhary	9979368131	243415	exepan_bha_rnb@yahoo.in
21	Executive Engineer, irrigation (State)	J C Choudhary	9099954106	247403	exeengbch@gmail.com
22	Executive Engineer, irrigation (Panchayat)	M G Mehta	9426831527	243905	
23	Executive Engineer GWSSB	Hiral B Devani	9978406619	265560	eebharuch1@gmail.com
24	Superintendent Engineer, DGVCL,	I N Patel	9879200771	245402	seombharuch@gmail.com
25	Veterinary Officer of Animal husbandry	R.L Vasava	9427131252	243146	

26	District Agriculture officer	Kuldip Sinh Vala	9537845622	261611	
27	Program Officer ICDS	Komalben Thakor	6359923757		
28	Director Industrial Safety and Health	D K Vasava	9825801547	240421	dydishbh@gmail.com
29	DC/ST Manager depot.	C.D.Mahajan	6359919031	246102	dcbrcerst@yahoo.in
30	Superintendent of Fisher	H V Mehta	9913808821	240453	
31	Regional officer, GPCB	A H Vasava	9558255037	246333	
32	Manager BSNL	S.L Meena	9427610200	244000	
35	Mamlatdar Disaster	I/c K Suvera	9879983777	242300	dismgmt.bha@gmail.com
37	DPO Disaster	Saibal Sarkar	9717393310	242300	srksai1996@gmail.com
38	Dy. Mamlatdar Disaster	Sanjay Kumar Khatri	8980173444	242300	dismgmt.bha@gmail.com

District Name: - Narmada-Rajpipla STD Code-02640					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	D. A Shah, IAS	9978406216	222161	Collector-nar@gujarat.gov.in
2	DDO	Ankit Pannu, IAS	9978406241	224820	ddo-nar@gujarat.gov.in
3	S P	Prashant Sumbe, IPS	9978405076	222315	sp-nar@gujarat.gov.in
4	Resi. Addl. Collector	H K Vyas,GAS	9978405188	222326	rdcnar@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	NA			
6	Deputy Conservator of Forest	Dr. K NirajKumar	7574950071	220013	dcf-nar@gujarat.gov.in
7	Dy. Police Office	S G Modi	9825105886		
8	Chief District Health officer	Dr. K P Patel	7473972948	221806	Cdho.health.narmada@gmail.com
9	Director, DRDA	HimanshuBhai	9712840247	221849	drda.nar2@gmail.com
10	DSO	N U Pathan	8980035040	221562	dsonarmada@gmail.com
11	Medical Superintendent(Civil Hospital)	Dr. Jyotiben Gupta	7567867268	220030	Cdmo.health.rajpipla@gmail.com
12	CDMO	Dr. Jyotiben Gupta	7567867268	220030	Cdmo.health.rajpipla@gmail.com
13	DEO	Jayesh Patel	9909971686	222603	narmdeo@gmail.com
14	DPEO	Dr. N D Patel	9909971686	222920	dpcnarmada@gmail.com
15	General Manager, DIC	J. B Dave	6357150191	224182	gm-dic-nar@gujarat.gov.in
16	Ass. Director of Information	Sunil Makwana	9428694976	224038	ddinarmada@gmail.com
17	Port Officer, GMB	NA	--	--	--
18	Chief officer	Rahul Dodiya	9428607215	220654	rajpiplanagarpalika@gmail.com
19	Executive Engineer, R & B (State)	Hemant Vasava	9725681858	223032	rnb_nar@gujarat.gov.in
20	Executive Engineer, R & B (Panchayat)	Anil Patel	9099167871	221949	aernbnar@gmail.com
21	Executive Engineer, irrigation (State)	Hardik Patel		222899	eeipd4rajpipla@gmail.com
22	Executive Engineer, irrigation (Panchayat)	R V Katara	9909816484	222484	ee.panirmar@gmail.com
23	Executive Engineer GWSSB	NA			
24	Superintendent Engineer, DGVCL,	H D Rana	9638278759	222152	eeraj.dgvcl@gebmail.com
25	Dy Director of Animal husbandry	Dr. J. R Dave	9725702475	220081	magarwadiya@gmail.com

26	District Agriculture officer	V P Patel	9428063677	220080	dao.narmada123@gmail.com
27	Program Officer ICDS	Krishna Kumari Patel	9099621689	222019	po-icds-ddo-nar@gujarat.gov.in
28	Director Industrial Safety and Health	D K Vasava	9825801547		
29	DC/ST Manager depot.	S Barot	6359919031	224948	dcstbharucha@gmail.com
30	Superintendent of Fisher	H G Palanpura	9274705581	222431	s.f.rajpipla1997@gmail.com
31	Regional officer, GPCB	R R VYAS	7574821447	02646-246333	
32	Manager BSNL	S Kumar	9420490888		
35	Mamlatdar Disaster	V C Chavda	9925479057		dismgmt-nar@gujarat.gov.in
37	DPO Disaster	I/c Saibal Sarkar	9717393310		dismgmt-nar@gujarat.gov.in
38	Dy. Mamlatdar Disaster	Ganesh M Choudhary	9429121057		dismgmt-nar@gujarat.gov.in

District Name: - Navsari STD Code-02637					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Amit Prakash (IAS)	9978406215	244999	collector-nav@gujarat.gov.in
2	DDO	Smt Arpit Sagar (IAS)	9978406240	230475	ddo-nav@gujarat.gov.in
3	S P	Shri Rushikesh Upadhyay (IPS)	9978405075	247510	sp-nav@gujarat.gov.in
4	Resi. Addl. Collector	Shri K.P.Joshi (IPS)	9978405187	246299	add-collector-nav@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	NA	9825806888	244399	dyddorev12@gmail.com
6	Deputy Conservator of Forest	Shri Yuvrajsinh Zala	9574950039	254151	dcfvalsadnorth16@gmail.com
7	Dy. Police Office	Shri R.J.Mori	9978408268	247501	dysp-hq-nav@gujarat.gov.in
8	Chief District Health officer	Shri Dr D.H.Bhavsar	9099086001	232533	cdho.health.navsari@gmail.com
9	Director, DRDA	Shri P.K.Hadula	9825518780	281377	drdanav@gmail.com
10	DSO	Shri Vishal Yadav	9724673744	248155	dso-nav@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Shri Dr Asvin Parmar	9687685810	257265	cdmo.health.navsari@gmail.com
12	CDMO	Shri Dr Asvin Parmar	9687685810	257265	cdmo.health.navsari@gmail.com
13	DEO	Shri R.M.Choudhri	9909970223	232572	navsarideo@gmail.com
14	DPEO	Shri R.M.Choudhri	9909971688	258467	dpcnavsari@gmail.com
15	General Manager, DIC	Shri M.K.Ladani	7977554602	248873	gm-dic-nav@gujarat.gov.in
16	Ass. Director of Information	Shri R.A.Jethva	9824532939	244914	navsariadi@gmail.com
17	Port Officer, GMB	Shri B.N.Ladv	9638112186		
18	Chief Fire officer	Shri Kishorbhai Mangela	9879654125	02637-259001	np-navsari@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri J.A.Patel	9824629702	258041	rnb.nav@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri N.N.Patel	9904179900		nvs.eepd@gmail.com
21	Executive Engineer, irrigation (State)	Shri R.J.Upadhyay	8660543198	259127	do.navsarirural@gebmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri M.C.Patel	9426892593	248502	epidnavsari@gmail.com
23	Executive Engineer GWSSB	Shri M.P.Nai	9978406930	242354	nav.ro.gpcb@gmail.com
24	Superintendent Engineer, PGVCL,	Shri S.S.Modi	9879201061	236017	do.navsarirural@gebmao;.com
25	Dy Director of Animal husbandry	Shri D.B.Thakor	9825181178	235833	dpahnavsari@gmail.com

26	District Agriculture officer	Shri Atul.R.Gajera	9998843777	233030	ao.daonavsari@gmail.com
27	Program Officer ICDS	NA			dpcicds.navsari@gmail.com
28	Director Industrial Safety and Health	Shri K.A.Ravat	7874618222	230745	astdish-nav@gujarat.gov.in
29	DC/ST Manager depot.	Shri D.V.Choudhri	6359919041	02632-227934	gsrtcavld@gmail.com
30	Superintendent of Fisher	Shri M.J.Saghani	90339332207	234775	ssoni1641@gmail.com
31	Regional officer, GPCB	Shri A.G.Patel	9824110053	281880	nav.ro.gpcb@gmail.com
32	Manager BSNL	Shri Jayesh Patel	9427105847	234800	
35	Mamlatdar Disaster	Shri Mrunaladan G. Isarani	9913366000	259401	dismgmtnav@gmail.com
37	DPO Disaster	Shri J.V.Raol (I/C)	8849000397	259401	dismgmtnav@gmail.com
38	Dy. Mamlatdar Disaster	Shri Saileshbhai	9313081213	259401	dismgmtnav@gmail.com

District Name: - Arvalli					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Dr. Narender Kumar Meena, IAS	9978405935	02774-250200	collector-arv@gujarat.gov.in
2	DDO	Ms.Shweta Teotia IAS	9978406496	02774-250010	ddo.arvalli@gmail.com
3	S P	Shri Sanjay Kharat IPS	9978405978	02774-248888	sp-arv@gujarat.gov.in
4	Resi. Addl. Collector	Shri N. D. Parmar	9727756393	02774-250205	addl-collector-arv@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri V.C.Bodana	9023090994	02774-250034	dyddomhl@gmail.com
6	Deputy Conservator of Forest	Shri P Purushothama	7574955046	02774-240251	dfoaravalli@gmail.com
7	Dy. Police Office	Shri B B Basiya	9978408587	-	
8	Chief District Health officer	Shri R G Shreemali	9909949303	02774-248911	cdho.health.arvalli@gmail.com
9	Director, DRDA	Shri B.D.Davera	9825561041	02774-240433	drda.arvalli@gmail.com
10	DSO	Dr. M. K. Dodiya	9909864155	02774-250213	dsoarvmodasa@gmail.com
11	Medical Superintendent(Civil Hospital)	NA	-	-	-
12	CDMO	NA	-	-	-
13	DEO	Shri Jayeshkumar Patel	7574812280	02774-250190	aravallideo@gmail.com
14	DPEO	I/C Shri Shailesh Patel	9106313809	02774-250029	dpeoarvalli@gmail.com
15	General Manager, DIC	Shri D.D.Solanki	9974171249	02774-250182	gm-dic-ara@gujarat.gov.in
16	Ass. Director of Information	I/C Shri Haresh Parmar	9687609143	02774-240948	aravallimedia.dmooffice@gmail.com
17	Port Officer, GMB	NA	-	-	-
18	Chief Fire officer	Shri Divynag Bhatt	9427698947	02774-246209	np_modasa@yahoo.co.in
19	Executive Engineer, R & B (State)	Shri M K Prajapati	9429129493	02774-246359	eerbmodasa@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri M K Vasava	9408169869	02774-246392	
21	Executive Engineer, irrigation (State)	Shri S L Shah	9426362111	02774-246031	
22	Executive Engineer, irrigation (Panchayat)	Shri M K Vasava	9408169869	02774-250018	
23	Executive Engineer GWSSB	NA			
24	Superintendent Engineer, UGVCL,	Shri P C Shah	9925212163	02774-240262	
25	Dy Director of Animal husbandry	Dr.K J Patel	9426025721	02774-241779	

26	District Agriculture officer	Shri Ashvin Patel	9974701585		
27	Program Officer ICDS	Shri B G Ninama (I/c)	9016131562		po-icds-aravalli@gmail.com
28	Director Industrial Safety and Health				
29	DC/ST Manager depot.	Shri H R Patel	6359918520	02774-246239	
30	Superintendent of Fisher	Shri M I Thalotiya	9824346023	02774-250172	
31	Regional officer, GPCB	Shri Mukesh Shukla	9239657547	02774-229272	ro.gpcbhimm@gujarat.giv.in
32	Manager BSNL	Shri Pratapshih Devda	9974605342	246720	
35	Mamlatdar Disaster	NA	-	-	
37	DPO Disaster	Shri Jigar Makwana	9898100757	02674-252300	jigarmakwana@live.com
38	Dy. Mamlatdar Disaster	Ms.Harsha Patel	9327113678	02774-250221	disaster.aravalli@gmail.com

District Name: - Bansakantha STD Code- 02742					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Anand Patel, IAS	9978406204	257171	collector-ban@gujarat.gov.in
2	DDO	Shri Swapnil Khare, IAS	9978406229	254060	ddo-ban@gujarat.gov.in
3	S P	Shri Akshay Raj, IPS	9978405065	257015	sp-ban@gujarat.gov.in
4	Resi. Addl. Collector	Shri A T Patel	9978405176	254004	rdc-ban@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri V R Barot	8238092220	257087	dyddo-ban-palan@gmail.com
6	Deputy Conservator of Forest	Shri Abhaysing	9558773578	257056	dfo-ban@gujarat.gov.in
7	Dy. SP	Shri R K Patel	8200981392	253243	sp-ban@gujarat.gov.in
8	Chief District Health officer	Shri Dr S M Dev	9909987301	252243 - 250004	cdho.health.banaskantha@gmail.com
9	Director, DRDA	Shri R I Sheikh	9825806888	260003 - 260402	drdabanas@gmail.com
10	DSO	Shri R K Patel	7567021929	254309 - 266803	dso-ban@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Shri Dr D B Jain	7990535130	253252	ms-civil-palan@gmail.com
12	CDMO	Shri Dr Bharatbhai Mistry	9427017208	253083	cdmo-ban-health@gmail.com
13	DEO	Shri Dr N B Chavda	9909970210	257055	ban-deo@gmail.com
14	DPEO	Shri Sanjaybhai Parmar	9909971654	257063	dpeobanaskantha@gmail.com
15	General Manager, DIC	Shri R K Vasava	8460827591	254307	gm-dic-ban@gujarat.gov.in
16	Dy. Director of Information	Shri Ishwarbhai Thakor	9724419346	252664	cdmo.ban@gmail.com
17	Port Officer, GMB	--	--	--	--
18	Chief Fire officer	--	--	--	--
19	Executive Engineer, R & B (State)	Shri K A Patel	9998263435	252430	ee-rb-state-ban@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri I K Patel	9714797331	257197	ee-rb-panchayat-ban@gmail.com
21	Executive Engineer, irrigation (State)	Shri G N Damor	9825016040	2744220071	ee-ir-ban@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri D P Barot	9173340296	253503	ir-ee-ban-pan@gmail.com
23	Executive Engineer GWSSB	Shri D M Bumbadiya	9978406640	257161 - 257071	ee-gwssb-ban@gujarat.gov.in
24	Superintendent Engineer, UGVCL,	Shri Ishwarbhai Katara	7069009782	251265	se-ugvcl-ban@gmail.com
25	Dy Director of Animal husbandry	Shri Dr J P Majedhiya	8849930440	252305	dyah-palan-ban@gmail.com

26	District Agriculture officer	Shri Maheshbhai Prajapati	9426534735	252634	banaskanthadao@gmail.com
27	Program Officer ICDS	Shri Yashvantiben Chavda	9773063544	253549	po-icds-ban@gujarat.gov.in
28	Dy. Director Industrial Safety and Health-DISH	Shri R D Patel	7041306642	2762231501	dd1-dish-msn@gujarat.gov.in
29	DC/ST Manager depot.	Shri K S Chauthry	6359919038	257285 - 252683	dc-ban-st@gujarat.gov.in
30	Superintendent of Fisher	Shri Dineshkumar N Patel	9904844142	253529	sf-cof-palan@gujarat.gov.in
31	Regional officer, GPCB	Shri Priyadarshi (i/c)	9428217080	251301	ro-gpcb-pala@gujarat.gov.in
32	Manager BSNL	Shri K P Parmar	9427309870	250500 - 260701	agm-bsnl-ban@gmail.com
35	Mamlatdar Disaster	Shri V K Solanki	9427434223	250627 - 251627	dismgmt-ban@gujarat.gov.in
37	DPO Disaster Management	Shri Sanjaykumar N Chauhan	9537511458	250627	dpodisasterbk@gmail.com
38	Dy. Mamlatdar Disaster	Shri M B Darji	9824665424	250627	dismgmt-ban@gujarat.gov.in

District Name: - Gandhinagar		STD Code-(079232)			
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Dr.Kuldeep Aary, IAS	9978406209	59030	Collector-gnr@gujarat.gov.in
2	DDO	Surabhi Gautam, IAS	9978406234	59035	Ddo-gnr@gujarat.gov.in
3	S P	Shree Tarun Duggal, IPS	9978405070	23222618	spgnr@gmail.com
4	Resi. Addl. Collector	Shri R.D.Singh	9978405181	23259035	rdc-gnr@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shree Suraj G Barot	9712128407	23244721	Dyddorev-gnr@gujarat.gov.in
6	Deputy Conservator of Forest	Shree Chandresh Shendre	7574950464	-	
7	Dy. SP	Shree M.J.sholanki	997806063	-	Dysp.hq-gnr@gujarat.gov.in
8	Chief District Health officer	Shree M.H.Solanki	9909942202	-	Cdho.health.gandhinagar@gmail.com
9	Director, DRDA	Shree D.J.Desai	9925469847	-	Drda.gnr@gmail.com
10	DSO	A.R.Thakkar	9099028706	-	Dso-gnr@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr.Niyatiben Lakhani	9978405056	07923221931/32	Ms.gmers.gandhinagar@gmail.com
12	CDMO	Dr.Kalpesh Goswami	8141800177	-	Moh.health2.gandhinagar@gmail.com
13	DEO	Dr.B.V.Vadher	9909970227	-	dpeogandhinagar@gmail.com
14	DPEO	Archanaben V Prajapati	9909971673	-	Distaff-sahyog-sje@gujarat.gov.in
15	General Manager, DIC	Rinkesh Shah	9879054980	-	-
16	Ass. Director of Information	shri Haresh Bhrambhat	9825063630	7923257765	infoddigandhinagar2005@gamil.com
17	Port Officer, GMB	Shree Darshan	9909401213	-	-
18	Chief Fire officer	Kaizad M Dastur	9099493617	101	Kaizaddastur93@gmail.com
19	Executive Engineer, R & B (State)	Shree K.A.Chaudhari	8758084320	-	-
20	Executive Engineer, R & B (Panchayat)	Kishor chaudhary	8758084320	-	-
21	Executive Engineer, irrigation (State)				
22	Executive Engineer, irrigation (Panchayat)	Shree Naresh Parmar	9537548189	-	-
23	Executive Engineer GWSSB	N.TParamar	9537548189	-	gandhinagar.dwscwasmo@gmail.com
24	Superintendent Engineer, PGVCL,	Dr. S.I.Patel	7984363318	-	dahogandhi@gmail.com
25	Dy Director of Animal husbandry	Shree S.V.Patel	9428758744	-	-

26	District Agriculture officer	M.s Minalba Vala	9664663524	-	-
27	Program Officer ICDS	Shree S.G.Shah	9825161951	-	-
28	Director Industrial Safety and Health	Shree Kirtanbhai Patel	6359918291	-	-
29	DC/ST Manager depot.	Kirtan bhai Patel	6359978291	-	-
30	Superintendent of Fisher	Shree Dharmendra Vankani	7574827584 9824183933	-	-
31	Regional officer, GPCB	D.C.Vanik	7574827584	-	-
32	Manager BSNL				
35	Mamlatdar Disaster	Shree Ronak Kapur	9825092515	7923256720	Mamdis56720@gamil.com
37	DPO Disaster	Megha Rabari	8160439782	7923256720	Megharabari96@gmail.com
38	Dy. Mamlatdar Disaster	Pushprajshih.G.Olirajput	9904427953	7923256720	<u>dismgmt-gnr@.gujarat.gov.in</u>

District Name: - Mehsana STD Code-02762					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Udit Agrawal, IAS	9978406214	222202	collector-meh@gujarat.gov.in
2	DDO	Dr Om Prakash, IAS	9978406239	222301	ddo-meh@gujarat.gov.in
3	S P	Parthrajsigh gohil, IPS	9978405074	222122	sp-mehsana@gujarat.gov.in
4	Resi. Addl. Collector	i r vada	9978405213	222203	add-collector-meh@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	r.b.khraradi	9426578357		dyddo-rev-meh@gujarat.gov.in
6	Deputy Conservator of Forest	v k chodhary	9426273779	221103	dycfmeh25@yahoo.in
7	Dy. SP	j g sekh	9978407391	222128	dysp-meh@gujarat.gov.in
8	Chief District Health officer	dr v a patel	9727721377	222324	cdho.health.mehsana@gmail.com
9	Director, DRDA	v m parjapati	997986190	222328	drda.meh@gmail.com
10	DSO	s d gilva	7567022373	222209	dso-meh@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	u b gandhi	9825005656	221784	gmshospitalmeh@gmail.com
12	CDMO	-	-	-	-
13	DEO	a k modh	9909970213	221171	mahedeo@gmail.com
14	DPEO	guarng c vyas	9909931684	222320	mahedpeo@gmail.com
15	General Manager, DIC	dilipsigh chavda	8780389516	254924	mahdic@gmail.com
16	Ass. Director of Information	narend pandya	9898911091	221888	information.mehsana3@gmail.com
17	Port Officer, GMB	-	-	-	-
18	Chief Fire officer	-	-	-	-
19	Executive Engineer, R & B (State)	b s patel	9426364664	221356	exernmeh@gmail.co
20	Executive Engineer, R & B (Panchayat)	r s atel	9824029249	222308	exernmeh@gmail.co
21	Executive Engineer, irrigation (State)	d c patel	7990200903	220131	se.sscz.nwrws@gmail.com
22	Executive Engineer, irrigation (Panchayat)	h m contracter	9426035095		exeiri-ddo-meh@gujarat.gov.in
23	Executive Engineer GWSSB	c p bhavsar	9978406764	225345	gwsemeh00@gmail.com
24	Superintendent Engineer, UGVCL,	pranami	9726641471	222423	se,msn@ugvcl.com
25	Dy Director of Animal husbandry	dr b m desai	9426436095	222481	dyat.mehsana@gmail.com

26	District Agriculture officer	b j joshi	9898000356	221492	deo-ddo-meh@gmail.com
27	Program Officer ICDS	jignashaben k dave	8487051918	222331	po-icds-ddo-meh@gujarat.gov.in
28	Director Industrial Safety and Health	r d patel	9879152821	231501	adl-dish-msn@gujarat.gov.in
29	DC/ST Manager depot.	v s chodary	6359919036	253437	dc-msn-3150@gmail.com
30	Superintendent of Fisher	i n hirani	9106565056	221491	-
31	Regional officer, GPCB	mehul patel	9909495949	221773	ro-gpcb-mehs@gujarat.gov.in
32	Manager BSNL	-	-	-	-
35	Mamlatdar Disaster	n t parmar	9825944830	222299	dismgmt-meh@gujarat.gov.in
37	DPO Disaster	anjela gamadia	9898283817	222220	dismgmt-meh@gujarat.gov.in
38	Dy. Mamlatdar Disaster	virend vamdev	9898050595	222299	dismgmt-meh@gujarat.gov.in

District Name: - Patan STD Code-02766					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Supreet Singh Gulati IAS	9978406218	233301	collector-pat@gujarat.gov.in
2	DDO	Shri D M Solanki IAS	9978406243	232936	ddo-pat@gujarat.gov.in
3	S P	Shri Vijaykumar Patel IPS	9978405078	230104, 223555	sp-patan@gujarat.gov.in
4	Resi. Addl. Collector	Shri Pradipsinh Rathod	9978405190	233400	add-collector-pat@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Smt Ritaben Pandya	9428196384	232521, 223296	dyddo-rev-pat@gujarat.gov.in
6	Deputy Conservator of Forest	Smt Binduben Patel	9725180015	299050	dycfpatan25@yahoo.in
7	Dy. SP	Shri S S Gadhavi	9978408249	230103	dysp-pat@gujarat.gov.in
8	Chief District Health officer	Shri Dr. Shyam Arya	9099018621	220592, 221554	cdho.health.patan@gmail.com
9	Director, DRDA	Shri Bharat Joshi	9998418903	291706, 220710	drda.pat@gujarat.gov.in
10	DSO	Shri Axay Paraghi ic	9898161463	224660	dso-pat@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr. Hitesh Gosai	9978018061	265200	gmershospitalpatan@gmail.com
12	CDMO	Dr. Rajesh Thakkar	8758818018	233311	cdmo.health.patan@gmail.com
13	DEO	Shri Jayrambhai Joshi ic	9909970222	233501	patandeo@gmai.com
14	DPEO	Dr. D I Prajapati ic	9909971692	234239	dpcpatan@gmail.com
15	General Manager, DIC	Shri Vijay Chaudhari ic	9898190898	234517	gm-dic-pat@gujarat.gov.in
16	Ass. Director of Information	Shri Kuladeep Parmar	9898463636	297035	ddinfopatan@gmail.com
17	Port Officer, GMB	NA	NA	NA	NA
18	Chief Fire officer	Shri Sneh Modi	9879316414	232333	snehalmodi999@gmail.com
19	Executive Engineer, R & B (State)	Shri D L Rathod	9427683276	233777	exernptn@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri M M Chaudhari	9879350620	234285	eeptan@yahoo.co.in

21	Executive Engineer, irrigation (State)	Shri G N Damor	9825016040	02744-220071	deesairrigationdivision@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri V C Bhavasar	8530532521	234240	exeiri-ddo-pat@gujarat.gov.in
23	Executive Engineer GWSSB	Shri N P Patel	9978406477	226716	gwseecrdn00@gmail.com
24	Superintendent Engineer, UGVCL,	Shri S A Bhattachary	9925210234	230439	eeepatando@ugvc.com
25	Dy Director of Animal husbandry	Dr. V B Parmar	9825135240	234300	dydir-ah-pat@gujarat.gov.in
26	District Agriculture officer	Shri M S Patel	9424226408	224489	dao-ddo-pat@gujarat.gov.in
27	Program Officer ICDS	Smt Gauriben Solanki	9979339093	225816	poicdspat123@gmail.com
28	Director Industrial Safety and Health	Shri R K Patel	9879152821	02762-231501	ad1-dish-msn@gujarat.gov.in
29	DC/ST Manager depot.	Shri Prakash Patel	6359918622	222222	dmpatangsrc@gmail.com
30	Superintendent of Fisher	NA	NA	NA	NA
31	Regional officer, GPCB	Shri J D Priyadashi	7574827432	02742-251301	ro-gpcb-pal@gujarat.gov.in , gpcbpalanpur@gmail.com
32	Manager BSNL	Shri H R Parikh	9426302123	222150	hdoppatan@gmail.com
35	Mamlatdar Disaster	Shri Hitesh Rawal	9825220025	224830	deocpatan@gmail.com
37	DPO Disaster	Shri Kamlesh Patel	9426533915	224830	deocpatan@gmail.com
38	Dy. Mamlatdar Disaster	Ku.Sejalben Solanki	9712103606	224830	deocpatan@gmail.com

District Name: - Sabarkantha STD Code-02772					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Hitesh Koya ,IAS	9978406221	241001/240600	collector-sab@gujarat.gov.in
2	DDO	Shri D.H.shah,IAS	9978406246	242350	ddo-sab@gujarat.gov.in
3	S P	Shri Vaghela,IPS	9978405081	247333	sp-sab@gujarat.gov.in
4	Resi. Addl. Collector	Shri H.R.Modi	9978405219	246012	addl-collector-sab@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri G.G.Devmani	7567018080	240918	ddo-sab@gujarat.gov.in
6	Deputy Conservator of Forest	shri H.J.Thakkar	9925098540	243090	dfosabarkantha@gamil.com
7	Dy. SP	shri barit saheb	9825251440		
8	Chief District Health officer	dr.shri Rajeshbhai Patel	9687679008	242552	
9	Director, DRDA	shri K.P.Patidar	9978407487	240433	drdasab@gmail.com
10	DSO	Diptiben Prajapati	9979116805	240698	dso-sab@gujarat.in
11	Medical Superintendent(Civil Hospital)	shri Sureshbhai	9426708683	244599	cso-sab.gujarat.gov.in
12	CDMO				
13	DEO	Shri S.K.vyas	9909970217	240793	deo.sabarkatha@gmail.com
14	DPEO	shri Harshad bhai chaudhary	9909971696	24635	
15	General Manager, DIC	Shri J.D.Ninama	9925194121	240948	dic-sab@gujarat.gov.in
16	Ass. Director of Information	H.M.Parmar	9687609143	241699	
17	Port Officer, GMB			2772240133	
18	Chief Fire officer	shri Pratapshih Devada	9484888999	101/241710/246067	
19	Executive Engineer, R & B (State)	shri kodarbhai	9978406943	246426	
20	Executive Engineer, R & B (Panchayat)	shri J.S.Ninama	9978406577	245703	gwseemhmt0@gmail.com
21	Executive Engineer, irrigation (State)	shri NS.	6355425576	241651	eerbhmt@gmail.com
22	Executive Engineer, irrigation (Panchayat)	shri B.S chaudhary	9898065948	246671	eesujsufhmt@gmail.com
23	Executive Engineer GWSSB	shri B.S.chaudhari	9898065948	245056	exepcdn3@yahoo.in
24	Superintendent Engineer, PGVCL,	shri P.C.Shah	9925212163	240262	sehmt@pgvcl.com
25	Dy Director of Animal husbandry	dr.shri P.G.joshiyar	9979328160	222990	do-65460-sab@gujarat.gov.in

26	District Agriculture officer	shri P.B.khistriya	9924450888	240993	ddahmt@gmail.com
27	Program Officer ICDS	dr.K.S.Charan	9687679325	240919	
28	Director Industrial Safety and Health	shri mistry bhai	9624000903	79023233231	
29	DC/ST Manager depot.	shri G.H.gosvami	6359919033	228314	dchmt@gsrtc.in
30	Superintendent of Fisher	J			
31	Regional officer, GPCB	shri R.R.Kanuja	9898166414	229273/72	ro.gpcbhimm@gujarat.giv.in
32	Manager BSNL	Shri Pratapshih Devda	9974605342	246720	np-himatnagar@gmail.com
35	Mamlatdar Disaster	S.G.Zala	9328507447	249039	dismgmt-sab@gujarat.gov.in
37	DPO Disaster	Megha. V.Rabari (I/C)	8160439782	249039	megharabari96@gmail.com
38	Dy. Mamlatdar Disaster	Prakashbhai Patel	9426820227	249039	dismgmt-sab@gujarat.gov.in

District Name: - Amreli STD Code-02792					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Gaurang Makwana, IAS	9978406202	222307	collector-amr@gujarat.gov.in
2	DDO	Shri Dinesh Ramesh Gurav, IAS	9978406227	222313	ddo-amr@gujarat.gov.in
3	S P	Shri Himkar Singh, IPS	9978405063	222333	sp-amr@gujarat.gov.in
4	Resi. Addl. Collector	Shri R.V.Vala	9978405203	228903	rac-amr@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri C.D.Rathava	9712397727	223220	dy.ddo-amr@gujarat.gov.in
6	Deputy Conservator of Forest	Shri Priyanka Gehlot	9978405157	222606	dcf-amr@gujarat.gov.in
7	Dy. SP	Shri B.V.Jadhav	9978407960	222797	dy.sp-amr@gujarat.gov.in
8	Chief District Health officer	Dr. J.H.Patel	9099086262	222115	cdho-amr@gujarat.gov.in
9	Director, DRDA	Shri V.R.Saxena	7567031983	223563	directordrda-amr@gujarat.gov.in
10	DSO	Shri Swetaben H. Pandya	9099939631	222807	dso-amr@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Shri Shobhanaben Mehta	9099940740	-	-
12	CDMO	Shri Paresh Vala	8128500522	-	-
13	DEO	Shri N.G. Vyas	9909970203	222939	deo-amr@gujarat.gov.in
14	DPEO	Shri K.V. Miyani	9909971652	222109	dpeo-amr@gujarat.gov.in
15	General Manager, DIC	-	-	-	-
16	Ass. Director of Information			223404	info-amr@gujarat.gov.in
17	Port Officer, GMB	Shri A.K.Mishra	9099694747	245165	pogmb-amr@gujarat.gov.in
18	Fire Officer	Shri Gadhavi	7567677377	220916	np-amr@gujarat.gov.in
19	Executive Engineer, R & B (State)	Digvijaysinh Solanki	8690307238	223100	xenstate-amr@gujarat.gov.in
20	Executive Engineer, R & B (Panchayat)	Shri S.B.Purohit	9925471776	222112	xenpanamr14@yahoo.com
21	Executive Engineer, irrigation (State)			222009	-
22	Executive Engineer, irrigation (Panchayat)	Shri S.O.Padavi	9427460009	222164	-
23	Executive Engineer GWSSB	Shri L.M.Singhal	9978406843	223611	-
24	Superintendent Engineer, PGVCL,	Shri	9825603170	-	-
25	Dy Director of Animal husbandry	Shri G.R. Soni	9426362090	223058	dydir-ah-amr@gujarat.gov.in

26	District Agriculture officer	Shri J.K.Kanani	9913215747	223324	daoamreli@gmail.com
27	Program Officer ICDS	Shri M.B.Barot	9099064006	231326	po.icds.amreli@gmail.com
28	Director Industrial Safety and Health	Shri J.M.Trivedi	9824190891	-	-
29	DC/ST Manager depot.	Shri Jadeja	6359919027	240169	-
30	Superintendent of Fisher	Shri Tushar Purohit	9427698507	245432	-
31	Regional officer, GPCB	Ahri A.G.Oza	9427050550	-	-
32	Manager BSNL	Shri D.C.Patel	9426730500	222988	-
35	Mamlatdar Disaster	Shri Birjubhai Pandya (I/C)	9429585891	230735	dismgmt-amr@gujarat.gov.in
37	DPO Disaster	Dimpal M. Teraiya (I/C)	9824438275	230735	teraiya.dimpal.89@gmail.com
38	Dy. Mamlatdar Disaster	Shri Birjubhai Pandya	9429585891	230735	dismgmt-amr@gujarat.gov.in

District Name: - Bhavnagar STD Code- 0278					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Yogesh B. Nirgude, IAS	9978406206	2428822	collector-bav@gujarat.gov.in
2	DDO	Dr. Prashant Jilova, IAS	9978406231	2426810	ddo-bav@gujarat.gov.in
3	S P	Shri Ravindra Patel, IPS	9978405067	2520050	sp-bav@gujarat.gov.in
4	Resi. Addl. Collector	Shri B.J.Patel	9978405178	2421881	rac-bav@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri T.H.Joshi	7567017390	2433868	dy.ddo-bav@gujarat.gov.in
6	Deputy Conservator of Forest	Shri Sadik Mujavar	7567861778	2428644	dcf-bav@gujarat.gov.in
7	Dy. SP	Shri D.D.Chaudhari	9978407982	2513717	dy.sp-bav@gujarat.gov.in
8	Chief District Health officer	Dr.A.K.Taviyad	9727779662	2428885	cdho-bav@gujarat.gov.in
9	Director, DRDA	Shri T.H.Joshi	7567032839	2427535	directordrda-bav@gujarat.gov.in
10	DSO	Shri S.N.Suthar	7567021670	2428908	dso-bav@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr.Jayeshkumar Brahmabhatt	9898141114	2427524	sir.thospital-bav@gmail.com
12	CDMO	Dr.Jayeshkumar Brahmabhatt	9898141114	2427524	sir.thospital-bav@gmail.com
13	DEO	Shri N.G. Vyas	9909970212	2426629	deo-bav@gujarat.gov.in
14	DPEO	Shri K.V.Mayani	9909971655	2523582	dpeo-bav@gujarat.gov.in
15	General Manager, DIC	Shri P.P.Tadavi	9824260270	2422225	gmdic-bav@gmail.com
16	Ass. Director of Information	Shri Chintan Raval	9537409098	2424994	info-bav@gujarat.gov.in
17	Port Officer, GMB	Cap. Rakesh Mishra	9601254062	02842 235622	pogmb-alang@gujarat.gov.in
18	Chief Fire officer	Shri Mahesh Hirpara	9727712177	2424814	cfo-bmcfire@gmail.com
19	Executive Engineer, R & B (State)	Shri R.U. Patel	9687378860	2423383	xenstate-bav@gujarat.gov.in
20	Executive Engineer, R & B (Panchayat)	Shri S.D.Chaudhari	9979261664	2430082	xenpan-bav@gujarat.gov.in
21	Executive Engineer, irrigation (State)	Shri S.J.Gupta	9426937739	2519411	xenstateirri-bav@gujarat.gov.in
22	Executive Engineer, irrigation (Panchayat)	Shri D.R.Patel	9825352556	2510135	xenpanirri-bav@gujarat.gov.in
23	Executive Engineer GWSSB	Shri Deepa Parmar	9978095184	2425849	xenws-bav@gujarat.gov.in
24	Superintendent Engineer, PGVCL,	Shri U.G.Vasava	9879203840	2524924	sepgvcl-bav@gujarat.gov.in
25	Dy Director of Animal husbandry	Dr.B.M.Shah	9426936997	2524376	dydir-ah-bav@gujarat.gov.in

26	District Agriculture officer	Shri S.R.Kosambi	7600530340	2439931	dao-bav@gujarat.gov.in
27	Program Officer ICDS	Shri Savitriben Nathaji	9824458602	2519411	poicds-bav@gujarat.gov.in
28	Director Industrial Safety and Health	Shri Mitesh Menat	9427508476	2428473	addish-bav@gujarat.gov.in
29	DC/ST Manager depot.	Shri H.G.Raval	6359918394	2428264	dcst-bav@gujarat.gov.in
30	Superintendent of Fisher	Shri K.V.Ramani	8141789262	2427567	sup.fis-bav@gmail.com
31	Regional officer, GPCB	Shri A.G.Oza	9427050550	2524108	rogpcb-bav@gujarat.gov.in
32	Manager BSNL	Shri Prashant Dhore	9426686986	2434000	gmbssl-bav@gmail.com
35	Mamlatdar Disaster	Shri M.V.Parmar	9426902111	2521555	dismgmt-bav@gujarat.gov.in
37	DPO Disaster	Shri Dimpal Teraiya	9824438275	2521554	teraiya.dimpal.89@gmail.com
38	Dy. Mamlatdar Disaster	K.B.Gohil	9879516151	2521555	dismgmt-bav@gujarat.gov.in

District Name: - Devbhumi Dwarka STD Code-02833					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	shri mukesh pandya(IAS)	9978405933	232803	collector-devbdwarka@gujarat.gov.in
2	DDO	Shri D.J. Jadeja (IAS)	9978406492	235947	ddo-dev@gujarat.gov.in
3	S P	nitish pandy (IPS)	9978405976	233223	sp-jam-dbdwarka@gujarat.gov.in , spdevbhumi@gmail.com
4	Resi. Addl. Collector	kirit kumar jani(GAS)	9727763794	232620	addl-collector-dev@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri. Y. D. Shrivastava(GAS)	9825262319	235947	dy.ddo.gen@gmail.com
6	Deputy Conservator of Forest	Shri R.Dhanpal (IFS)	8238861705	232574	dcfsfdbd82@gmail.com acf.khmb@gmail.com
7	Dy. SP				
8	Chief District Health officer	Dr. R. B. Sutariya	9099900607	234001	cdho.health.dwarka@ gmail.com , dpmcc.health.dwarka@gmail.com
9	Director, DRDA	Shri. BhaveshKher	9825262319	235947	drda.dwarka@gmail.com
10	DSO	Shri. K.C. Vaghela (I/C)	9687888998	235990	supp-devbdwarka@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr. M.P. Mattani	9825380576	02833-235170	cdmo-health-jad@gujarat.gov.in
12	CDMO				
13	DEO	Shri B.H Vadhel (I/C)	7567806316, 7069008475	235976	deodevbmhumidwarka @gmail.com
14	DPEO	Shri B.H Vadhel	7567806316, 7069008475	236376	dpeodevbmhumidwarka @gmail.com
15	General Manager, DIC	Shri K.V. Mori (I/C)	9227753656	234145	gm-dic-dbd@gujarat.gov.in
16	Ass. Director of Information	-	-	235932	informationdev dwarka@gmail.com
17	Port Officer, GMB	Captain NeerajHiravani	9512200035	02892-262001, 262049, 262039	portofficerokp@gmail.com
18	Chief Fire officer	k.k bishnoi	9879531101	2672208	knbishnoi@gmail.com

19	Executive Engineer, R & B (State)	Shri V.G. Vayda	9904358846	0288-2550362	eerbdwarka@gmail.com
20	Executive Engineer, R & B (Panchayat)	Shri Y.V. More	9879054976	02833 – 234211	eedwarka@yahoo.com
21	Executive Engineer, irrigation (State)				
22	Executive Engineer, irrigation (Panchayat)				
23	Executive Engineer GWSSB	SuShri. Jumana A. Rangvala	9978441948	234781, 235765	eec-gwssb-kha@gujarat.gov.in
24	Superintendent Engineer, PGVCL,	Shri J.B. Patel (I/C)	7574824650	02892-234610	ee.dwarkado.pgvcl@gebmail.com
25	Dy Director of Animal husbandry	Dr.P.K. Kanzariya	-	02833-234251	-
26	District Agriculture officer	Shri V.M. Bathar	9426896169 8320515047	235868	dao-agri-devbhumi@gujarat.gov.in
27	Program Officer ICDS				
28	Director Industrial Safety and Health	kunjan ravat	2678206	7874618222	ad4-dish-brd@gujarat.gov.in
29	DC/ST Manager depot.				
30	Superintendent of Fisher	Shri K.K. Karena	9429096015	02892-262076	fisheries-okha-dev@gujarat.gov.in
31	Regional officer, GPCB	Shri B.M. Makawana (I/C)	9825622089	0288-2752366	ro-gpcb-jamn@gujarat.gov.in
32	Manager BSNL				
36	DPO Disaster	MISS MANSI SINGH	8319460485	232183, 232125, 232084	disa-devbdwarka@gujarat.gov.in
37	Dy. Mamlatdar Disaster	Shri RambhiChavada	9904084101	232183, 232125, 232084	disa-devbdwarka@gujarat.gov.in

District Name: - Jamnagar (0288)					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	DR SOURABH PARDHI (IAS)	9978406210	2555869	collector-jam@gujarat.gov.in
2	DDO	SHRI MIHIR PATEL (IAS)	9978406235	2553901	ddo-jam@gujarat.gov.in
3	S P	SHRI PREMSUKH DELU (IPS)	9978406292	2554203	sp-jam@gujarat.gov.in
4	Resi. Addl. Collector	SHRI MITESH PANDYA (GAS)	9978405210	2550284	rac-jam@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Ms.Kirtan Parmar	9427597592	2555749	dyddo-rev-jam@gujarat.gov.in
6	Deputy Conservator of Forest		9800293321		mnpforest@yahoo.com
7	Dy. SP	j.s.chavda	9978408191	2552940	
8	Chief District Health officer	Dr.Bharti dholakiya (i/c)	7567880006	2671097	cdho.health.jamnagar@gmail.com
9	Director, DRDA	Shri R.M.Rayzada (GAS)	9978982383		
10	DSO	n.h makvana	7567022435	2553897	dyddo-rev-jam@gujarat.gov.in
11	Medical Superintendent (Civil Hospital)	Dr.Tiwari	7984779399	2554629	
12	CDMO	dr viren	7567880025	2671097	cdho.health.jamnagar@gmail.com
13	DEO	b.s kaila	9909970214	2553321	jamdeo@gmail.com
14	DPEO	b.n dave	9909971674	2676532	dpeojamnagar@gmail.com
15	General Manager, DIC	k.v mori	8758831127	2660381	gm-dic-jam@gujarat.gov.in
16	DY. Director of Information	H.P.GOJARIYA	8320210459	2679234	informationjam@gmail.com
17	Port Officer, GMB	capt-neeraj harwani	9558801612	2711805	
18	Chief Fire officer	k.k bishnoi	9879531101	2672208	knbishnoi@gmail.com
19	Executive Engineer, R & B (State)	Shri S.R.Katarmal	9426946944	2550362	
20	Executive Engineer, R & B (Panchayat)	Shri R.D.Damor	8238555526		
21	Executive Engineer, irrigation (State)				
22	Executive Engineer, irrigation (Panchayat)	Shri S.S.Hardya	9574075716	2670688	
23	Executive Engineer GWSSB	c.b.zala	9978407184	2677279	phwjaml@gmail.com
24	Superintendent Engineer, PGVCL,	k.r parikh	2550301	9925209912	
25	Dy Director of Animal husbandry	Dr.K.V.Kothadiya	2678424	9825880915	

26	District Agriculture officer	Shri H.V.Gosai	2556119	9427708661	
27	Program Officer ICDS				
28	Director Industrial Safety and Health	kunjan ravat	2678206	7874618222	ad4-dish-brd@gujarat.gov.in
29	DC/ST Manager depot.	Shri J.V.Isharani	2676904	6359918548	
30	Superintendent of Fisher	Ms.Bhartiben Tank	2567882	9427736551	
31	Regional officer, GPCB	krunal tanna	9904499136	2753540	
32	Manager BSNL				
35	Mamlatdar Disaster management	SHRIMATI DAXA K.JAGAD	9925037279	2553404	dismgmt-jam@gujarat.gov.in
37	DPO Disaster management	SHRI MANSI SINGH	8319460485	2553404	dismgmt-jam@gujarat.gov.in
38	Dy. Mamlatdar Disaster	SHRI JITENDRABHAI PIPARIYA	9265277565	2553404	dismgmt-jam@gujarat.gov.in

District Name: - Rajkot STD Code-0281					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri Arun Mahesh Babu IAS	99784 06220	2473900 2479351	collector-raj@gujarat.gov.in
2	DDO	Shri Dev Chaudhary IAS	99784 06245	2444336; 2477008	ddo-raj@gujarat.gov.in
3	S P	Shri Dev Chaudhary IPS	9978405080	2433444	sp-rural-raj@gujarat.gov.in
4	Resi. Addl. Collector	Shri Ketan Thakkar GAS	9978405218	NA	
5	Dy. District Development Officer (Mehsul)	Shri Brijesh Kalriya	8980623111	2476061	dyddo-rev-raj@gujarat.gov.in
6	Deputy Conservator of Forest	Shri Ravi Prasad Prob IFS	9821565564	-	dcfrjt@gmail.com
7	Dy. SP	NA	NA	NA	NA
8	Chief District Health officer	Dr. Nilesh Shah	9727709639		cdho.health.rajkot@gmail.com
9	Director, DRDA	Shri N.R Dhadhal	98250 75925	2474305 2449681	drdaraj2002@yahoo.com
10	DSO	Shri Avaniben Haran	75670 21682	2476891	dso-raj@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Shri R.S Trivedi	94264 65897	2453414 2450669	ms.health.rajkotpdu@gmail.com
12	CDMO	Dr. Ketan Pipliya	9426045106	2228574	pkhospital_rajkot@yahoo.com
13	DEO	Shri B.S Kaila	99099 70214	2223453	rajkotdeo@gmail.com
14	DPEO	Dr. Ashok Vanvi	9879354268	244443	dpeorajkot@yahoo.com
15	General Manager, DIC	Shri K.V Mori	92277 53656	2476376, 2440662	gm-dic-raj@gujarat.gov.in
16	Ass. Director of Information	Shri Sonalben Joshipura	9913615298	2223264, 2228513	informationrajkot3@gmail.com
17	Port Officer, GMB	NA	NA	NA	<u>NA</u>
18	Chief Fire officer	Shri Illesh Kher	9879515966	2227222	ivkher@rmc.gov.in
19	Executive Engineer, R & B (State)	Shri K.N Zala	94282 72830	2465014	exe3-raj-rnb@gujarat.gov.in
20	Executive Engineer, R & B (Panchayat)	Shri Javia	83202 34941	2465583	"city_division@yahoo.in; eecitydivision@gmail.com "
21	Executive Engineer, irrigation (State)	Shri Preksha Goswami	9408886299	2473570	eeridn@gmail.com
22	Executive Engineer, irrigation (Panchayat)	Shri Bhimjiyani	79849 85663	-	<u>NA</u>

23	Executive Engineer GWSSB	Shri Ankit Gohel	82007 15265	2442315 2455641	sephcrjt@gmail.com
24	Superintendent Engineer, PGVCL,	Shri V.P. Joshi	8849769855	2465015,	rnbelectricsdn@gmail.com ; exeel-raj-rnb@gujarat.gov.in
25	Dy Director of Animal husbandry	Shri K.U Khanpara	98258 40584	24447682	dydir-ah-raj@gujarat.gov.in
26	District Agriculture officer	Shri R.R Tilva	9429043008	2440889	rajkotdao@gmail.com
27	Program Officer ICDS	Shri Vatsalaben Dave	9825220570	244903	PO.icds.Rajkot@gmail.com
28	Director Industrial Safety and Health	Shri H. S. Patel, Joint Director			jtdish-raj@gujarat.gov.in
29	DC/ST Manager depot.	Shri P.B Lathiya	81601 79660 75670 23898	2701833 2703366	rto-trans-raj@gujarat.gov.in
30	Superintendent of Fisher	NA	NA	NA	<u>NA</u>
31	Regional officer, GPCB	Shri B.M Mackwana	98256 22089	2459831	ro-gpcb-raj@gujarat.gov.in
32	Manager BSNL	Shri Nandan Dhanak	94272 14641	2378800	agmarajkot@gmail.com
35	Mamlatdar Disaster	Shri Prakash Gothi	9825632758	2471573	disastercellrajkot@gmail.com
37	DPO Disaster	I/C ShriAmreen Khan	9907698161	2471573	disastercellrajkot@gmail.com
38	Dy. Mamlatdar Disaster	Shri Nikhil Gohil	7622016355	2471573	disastercellrajkot@gmail.com

District Name: - Anand					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Monoj Daxini, IAS	9978406203	262271	collector-and@gujarat.gov.in
2	DDO	Milin Bapna, IAS	9978406228	264110	ddo-anand@gujarat.gov.in
3	S P	Ajit Rajyan, IPS	9978405064	260027	sp-anand@gujarat.gov.in
4	Resi. Addl. Collector	k v vyas	9978405175	262040	addl-collector-and@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	j d prajapati	7567017249		dyddo.anand@gmail.com
6	Deputy Conservator of Forest	n h patel	9879990975	264855	forest.dcfand@gmail.com
7	Dy. SP	dhiraj patel	9825504540		pa2sp-anand@gujarat.gov.in
8	Chief District Health officer	dr m k chari	7567870001	263277	cdho.health.anand@gmail.com
9	Director, DRDA	j v desai	9099955929	264474	ananddrda@gmail.com
10	DSO	sivangiben j shah	7567010458	263620	dsoanand@gmail.com
11	Medical Superintendent(Civil Hospital)	-			cdmo.health.anand@gmail.com
12	CDMO	dr salini bhatiya	7567870002	262751	cdmo.health.anand@gmail.com
13	DEO	nivedita chodhary	9909971653	264153	deoanand@gmail.com
14	DPEO	nivedita chodhary	9909971653	263205	dpeoanand@gmail.com
15	General Manager, DIC	tanviben patel	7587177329	264394	gm-dic-and@gujarat.gov.in
16	Ass. Director of Information	hetalbhai dave	9825599149	264994	informationanand@gmail.com
17	Port Officer, GMB				pilotofficergmband@gmail.com
18	Chief Fire officer	-	-	-	
19	Executive Engineer, R & B (State)	m b patel	9925616442	260455	exe.and.rnb@gmail.com
20	Executive Engineer, R & B (Panchayat)	hitesh gadhvi	9879650171	261597	expanand@gmail.com
21	Executive Engineer, irrigation (State)	mp gabhirakar	9979851730	262044	eeidnanand@gmail.com
22	Executive Engineer, irrigation (Panchayat)	manoj t parmar	9427617673	264098	anandpanchayatirrigation@gmail.com
23	Executive Engineer GWSSB	-	-		eephwdand@gmail.com
24	Superintendent Engineer, PGVCL,	-			asmrb.ugvcl@gebmail.com
25	Dy Director of Animal husbandry	dr snehal patel	9825754256	261136	dahoonand@gmail.com

26	District Agriculture officer	chintan s patel	9998966798	262102	daoanand@gmail.com
27	Program Officer ICDS	tejalben goswami	9723784464		icds.anand@gmail.com
28	Director Industrial Safety and Health	j j patel	9638233484		dydlabanand@gmail.com
29	DC/ST Manager depot.	-			dmmrvdepot@gmail.com
30	Superintendent of Fisher	r p sakhreliya	8980254359	262119	sfanand@gmail.com
31	Regional officer, GPCB	rekhaben sekh	9825524249	266194	ro-gpcb-and@gujarat.gov.in
32	Manager BSNL	-			portalhelpdesk@bsnl.co.in
35	Mamlatdar Disaster	dhanvantri n thakkar	9824667942	243222	dmcanand@gmail.com
37	DPO Disaster	Anjela gamadia	9898283817	243222	dmcanand@gmail.com
38	Dy. Mamlatdar Disaster	Harend parmar	9426261255	243222	dmcanand@gmail.com

District Name: - Botad STD Code- 2849					
Sr.No.	Designation	9998619997	Mobile	Landline No.	Email Id
1	Collector	Shri B.A .Shah, IAS.	9978405931	271301	collector.botad@gmail.com ; collector-botad@gujarat.gov.in
2	DDO	Shri P.D. Palsana I.A.S	9978406493	271375	ddo.botad@gmail.com
3	S P	Shri Harshad Mehta, IPS		231400	sp-botad@gujarat.gov.in
4	Resi. Addl. Collector	Mr. Mukesh Parmar	9998418903	271307	addl-collector-bot@gujarat.gov.in collector.botad@gmail.com
5	Dy. District Development Officer (Mehsul)		9913625642	271374	dyddoestbotad@gmail.com
6	Deputy Conservator of Forest	Shri Ayush Verma	7574955044	271318	forest.bvn@gmail.com forestnormalbvn@gmail.com
7	Dy. SP	Mr. M.B. Vyas	9925153999	231406	sdpo-botad-bav@gujarat.gov.in
8	Chief District Health officer	Dr. Rajendra Rangunwala	8727708655	231534	cdho.health.botad@gmail.com
9	Director, DRDA			271362	drda-botad@gmail.com
10	DSO	shri P.M. Rathod	6355797735	271324-271325	dso-collector-botad@gujarat.gov.in dso.collectorbotad@gmail.com
11	Medical Superintendent(Civil Hospital)	Dr. Alkaben V Baldev	8160609523	251425	cdmo.health.botad@gmail.com
12	CDMO	Dr. Alkaben V Baldev	8160609523	251425	cdho.health.botad@gmail.com
13	DEO	Ms. Dharaben Patel (E. Cha)	7567803017	253476	botaddeo@gmail.com
14	DPEO	Ms. Dharaben Patel (E. Cha)	7567803017		botaddeo@gmail.com
15	General Manager, DIC				
16	Ass. Director of Information	Mr. R.A. Della	9909041241	271350	mahitibotad2014@gmail.com
17	Port Officer, GMB	NILL			
18	Chief Fire officer	NILL			
19	Executive Engineer, R & B (State)	Shri Hetsav Dholawala	9099885607		eebotad@gmail.com

20	Executive Engineer, R & B (Panchayat)	Mrs. G.N. Patel)	9825379219		exe.btd@gmail.com
21	Executive Engineer, irrigation (State)				
22	Executive Engineer, irrigation (Panchayat)				
23	Executive Engineer GWSSB	Shri D.A. Sindhal	9978406824	251483-251484	ewdnbotad@gmail.com
24	Superintendent Engineer, PGVCL,	Shri P.J. Mehta	9978936293		sebtd.pgvcl@gebmail.com
25	Dy Director of Animal husbandry	Dr. P. T .Kanzaria	9712036272		dydir-ah-botad@gujarat.gov.in
26	District Agriculture officer	Shri B.H. Piplia	9879767766	271346	
27	Program Officer ICDS	Ms. Dharaben Patel (E. Cha)	9925292171		
28	Director Industrial Safety and Health				
29	DC/ST Manager depot.	Shri K P Patel	6359919028		dcbvn@gsrtc.in
30	Superintendent of Fisher				
31	Regional officer, GPCB	Dr. P. S. Dave	9427710988		ro-gpcb-ahmr@gujarat.gov.in
32	Manager BSNL	Mr. H.J. Hingu	9426256106	251008	
35	Mamlatdar Disaster	Shri R.L. Chauhan	9428002630	271340	disas-collector-bota@gujarat.gov.in disas.collector.bota@gmail.com
37	DPO Disaster	Shri N G Parmar (E. cha)	9712185595	271340-41	disas-collector-bota@gujarat.gov.in disas.collector.bota@gmail.com
38	Dy. Mamlatdar Disaster			271340-41	disas-collector-bota@gujarat.gov.in disas.collector.bota@gmail.com

District Name: - Kheda					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri K.L. Bachani, IAS	9978406212	2553334	collector-khe@gujarat.gov.in
2	DDO	Shri M.K.Dave, IAS	9978406237	2557262	ddo-khe@gujarat.gov.in
3	S P	Shri Rajesh Gadhia,IPS	9978405072	2550150	sp-khe@gujarat.gov.in
4	Resi. Addl. Collector	Shri B.S.Patel	9978405597	2553336	add-collector-khe@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri Amit G. Gamit	7574001241	2557230	ddo-khe@gujarat.gov.in
6	Deputy Conservator of Forest	Shri T. Karuppasami	7574950045	2550316	dcf.nd.forest@gmail.com
7	Dy. SP	I/C Shri K.G.Patel	9978407661	2564350	cr-kheda@gujarat.gov.in
8	Chief District Health officer	I/C Dr. Rajnikant Kapadiya	7567863214	2556273	cdho.health.kheda@gujart.gov.in
9	Director, DRDA	Shri P. R. Rana	7567036029	2550221	drda.khe@gmail.com
10	DSO	Ku.Neha Panchal	7567021504	2553342	dso-khe@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Dr.Utpal Jani	9725141214	02694-224932	gh_kheda@yahoo.co.in
12	CDMO	Sushri Trupti Shah	9099932003	2529074	cdmo-khe@gujarat.gov.in
13	DEO	Sushri Shilpaben Patel	9909970205	2550183	khedeo@gmail.gov.in
14	DPEO	Shri K.A.Patel	9909971682	2557452	dpo-khe@gujarat.gov.in
15	General Manager, DIC	Sushri Tanvi Patel	7567020727	2555003	gm-dic-khe-Gujarat.gov.in
16	Ass. Director of Information	Ku.Nitya Trivedi	7383216489		mahitinadiad@gmail.com
17	Port Officer, GMB				
18	Chief Fire officer	Shri Dixit Patel	9879253440		
19	Executive Engineer, R & B (State)	Shri B.T.Salvi	9825407449	2566404	ec-khe@gujarat.gov.in
20	Executive Engineer, R & B (Panchayat)	Shri R.M.Sharma	7874210067	2557640	exepannad@gmail.com
21	Executive Engineer, irrigation (State)				
22	Executive Engineer, irrigation (Panchayat)	Shri D.P.Barot	9173340296	2557230	
23	Executive Engineer GWSSB	Shri K.S.Dangi	9978445246	2560996	senadiad.mgvcl@gebmail.com
24	Superintendent Engineer, MGVCL,	I/C Shri P.C.Patel	9925208317	2562204	
25	Dy Director of Animal husbandry	Shri C.M.Rana	9427052248		

26	District Agriculture officer	Shri D.H.Rabari	9099661777	2557421	daokheda@gmail.com
27	Program Officer ICDS	I/C Shri K.A.Patel	9909971682	2532354	po.icdskheda@gmail.com
28	Director Industrial Safety and Health	Shri D.M.Acharya	9427454397	2568986	dydish-khe@gujarat.gov.in
29	DC/ST Manager depot.	Shri M.B.Raval	6359919037	2566434	
30	Superintendent of Fisher	Sushri N.B.Patel	9408287805	2569257	
31	Regional officer, GPCB	I/C Shri A.J.Rathod	8140944711	2551428	ro-gpcb-nadi@gujarat.gov.in
32	Manager BSNL	Shri M.H.Pathan	9427610456		
35	Mamlatdar Disaster	I/C Shri B.D.Chauhan	9824038746	2553356	eoc.kheda@gmail.com
37	DPO Disaster	Ku.Sachee H.Desai	9725678973	2553357	sacheedesai@gmail.com
38	Dy. Mamlatdar Disaster	Shri N.H.Patel	8511109360	2553357	eoc.kheda@gmail.com

District Name: - Surat					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shree Aayush Oak (IAS)	9978406222	2652525/ 2655151	collector-sur@gujarat.gov.in
2	DDO	Shree D. S Gadhavi (IAS)	9978406247	2422160- 2425751	ddo-sur@gujarat.gov.in
3	S P	Shree Hitesh Joysar (IPS)	9978405082	2651840/31/32/33	sp-sur@gujarat.gov.in
4	Resi. Addl. Collector	Shree Y B Jhala (GAS)	9978405220	2660011	rdc-sur@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shree V K Sambhrad	7567017800 / 9879553038	2422160- 2425751	dyddo.rev.sur@gmail.com
6	Deputy Conservator of Forest	Shree Punit Naiyar (IFS)	9737918010	2733824/5	dcfsurat2@gmail.com
7	Dy. SP				
8	Chief District Health officer	Shree Piyush Shah	9727709501		cdho.health.surat6@gmail.com
9	Director, DRDA	M B Prajapati	9978481144	2780272/3/5	drda.sur@gmail.com , iaydrda.sur@gmail.com
10	DSO	A I Halpati	9978405223	2655751	dso-sur@gujarat.gov.in
11	Medical Superintendent(Civil Hospital)	Shree Goverkar	9909906019	2208337	ms.health.surat2@gmail.com
12	CDMO				
13	DEO	H H Rajyaguru	9909970218	2662903/02	suratdeo@gmail.com
14	DPEO	Shree Dipak Darji	9909971697	2425751	dpeosurat@gmail.com
15	General Manager, DIC	M K Ladani	8879966892	2465925	gm-dic-sur@gujarat.gov.in
16	Ass. Director of Information	Shree Kavsing J Parmar	82387039597/9265284019		
17	Port Officer, GMB	Shree Banshiva Ladva	963112186		banshiva.ladva@gmail.com
18	Chief Fire officer	I/C. B K Pareek	9724345553	2414195	cfo@suratmunicipal.org

19	Executive Engineer, R & B (State)	U B Chaudhary	9978154901	2464162	eesurat1@yahoo.com
20	Executive Engineer, R & B (Panchayat)	J K Patel			eephsurat@gmail.com
21	Executive Engineer, irrigation (State)				
22	Executive Engineer, irrigation (Panchayat)	R M Patel	2667426 / 2668760	9978454248	sesicsurat@gmail.com / se-sic-nwrws@gujarat.gov.in
23	Executive Engineer GWSSB	Shree Chaudhary	2782088	9827406722	cec-zngw-srt@gujarat.gov.in
24	Superintendent Engineer, DGVCL,	Shree P P Chaudhary	9099020863	2804301/2/3	sesrtr.dgvcl@gebmil.com
25	Dy Director of Animal husbandry	Shree Kirit Modi	2461319/ 2425751-55	9825076783	
26	District Agriculture officer	Shree Gamit	9427385080	2425751	daosurat5@gmail.com
27	Program Officer ICDS	Daxaben D Tabiyar	6359923732/ 9099902147	2415752	po.icds.surat@gmail.com
28	Director Industrial Safety and Health	R A Patel	NA	2653502	JT.DISHSURAT@GMAIL.COM /
29	DC/ST Manager depot.	Shree Sanjay Joshi	6359918740	2541630	dtosurat@gmail
30	Superintendent of Fisher	Sh M J Sanghani	9033933207	2462846	ADFS2462846@GMAIL.COM
31	Regional officer, GPCB	Smt. Jignaben	9825329663	2442696/2411192	ro-gpcb-sura@gujarat.gov.in
32	Manager BSNL	S K Patel	9427111811	2243030	dgm2surat@gmail.com
35	Mamlatdar Disaster	Shree P R Desai	9825178951	2663200	66.disastersurat@gmail.com
37	DPO Disaster	Shree Kaushik Poriya	9033920674	2663200	kaushikgsdma@gmail.com
38	Dy. Mamlatdar Disaster	Shree H H Kaklotar	9537235978	2663200	66.disastersurat@gmail.com

District Name: - Tapi					
Sr.No.	Designation	Name	Mobile	Landline No.	Email Id
1	Collector	Shri H K Vadhvaniya (IAS)	9978405364	02626-220221	collector-tapi@gujarat.gov.in
2	DDO	Shri D D Kapadiya (IAS)	9978405263	02626-220222	ddo-tapi@gujarat.gov.in
3	S P	Shri Rahul Patel (IPS)	9978405488	02626-222700	sp-tapi@gujarat.gov.in
4	Resi. Addl. Collector	Shri R J Valvi (GAS)	9978405415	02626-224450	collector-tapi@gujarat.gov.in
5	Dy. District Development Officer (Mehsul)	Shri M F morvadiya	9898875726	02626-222141	
6	Deputy Conservator of Forest	Shri Anand Kumar (IFS)	8980613505	02626-222019	dcfvyara1@gmail.com
7	Dy. SP (HQ)	Shri P H chaudhari	9925294949	02626-222900	sp-tapi@gujarat.gov.in
8	Chief District Health officer	Shri Paul Vasava	9879544425	02626-220376	cdho.health.tapi@gmail.com
9	Director, DRDA	Shri A R Chaudhari	7567042193	02626-223232	drda.tapi@gmail.com
10	DSO	Shri Sagar Movaliya	9737756697	02626-224401	
11	Medical Superintendent(Civil Hospital)	NAme	NA	NA	Na
12	CDMO	DR Naitik Chaudhari	9727742501		
13	DEO	Shri Rohit chaudhari	9913933043	02626-221624	
14	DPEO	Shri Dilip Darji	9909971697	02626-222057	tapidpc@gmail.com
15	General Manager, DIC	Shri Y T Pavagadhi	9925333268	02626-221820	
16	Ass. Director of Information	Shri S R Patel i/c	7436052411	02626-222980	tapiadi932@gmail.com
17	Port Officer, GMB	NA	Na	Na	
18	Station Fire officer	Shri Naran bandiya	6354659697	02626-220101	
19	Executive Engineer, R & B (State)	Shri M S Patel	9426842467	02626-220149	
20	Executive Engineer, R & B (Panchayat)	Shri S M Barot	9879304275		
21	Executive Engineer, irrigation (State)	Na	Na	Na	
22	Executive Engineer, irrigation (Panchayat)	Shri N H Gamit	9825198564	02626-220142	
23	Executive Engineer GWSSB	Shri G B Vasava	9978440706	02626-220338	eeephyvara1@gmail.com
24	Exuctive Engineer, DGVCL	Shri D K Chaudhari i/c	9879200771	02626-220165	
25	Dy Director of Animal husbandry	Shri B H Shah	9727129470	02626-220679	

26	District Agriculture officer	Shri C C Garasiya	9909971329	02626-220365	
27	Program Officer ICDS	Kum. Tanvi patel	6359923551	02626-224577	
28	Director Industrial Safety and Health	Shri R A Patel	9898630454	0261-2653501	
29	ST Manager depot. songadh	Shri Chaudhari	6359918765		
30	Ass. Director of Fisher	Shri A M Patel	9427127103	02624-233556	
31	Regional officer, GPCB	Shri A G Patel	9824110053		
32	Manager BSNL	Smt Sapna ben	9429408330		
35	Mamlatdar Disaster	Na	Na	Na	
37	DPO Disaster	Shri Karnelyesh Gamit	9825920032	02626-223332	dpo.gsdma.tapi@gmail.com
38	Dy. Mamlatdar Disaster	Kum. Dipika Chaudhari	9512396038		disatapi26@gmail.com

Kutch (STD Code: 02832)

	Designation	Name	Office	Mobile	Fax	Email
1	Collector	Smt. Praveena D.K.(IAS)	02832250020	9978406213	250430	collector-kut@gujarat.gov.in
2	D D O	Shri Bhavya Verma(IAS)	02832250080	9978406238	250355	ddo-kut@gujarat.gov.in
3	DSP (Western)	Shri Saurabh singh	02832250444	9978405073	250427	sp-kut@gujarat.gov.in
4	DSP (Eastern)	Shri Mahendra Bagadiya	02836280287	9978405690	280211	sp-east-kut@gujarat.gov.in
5	Resi. Addl.Collector	Shri Hanumantsinh Jadeja	02832250650	9978405212	250430	add-collector-kut@gujarat.gov.in
6	DRDA	M/s. Astha Solanki (I/c)	02832231577	9106722897	231342	drda-kut@gujarat.gov.in
7	DSO	M/s R.N. Chaudhary	02832221453	9408308508	227495	dso-kut@gujarat.gov.in
9	CDHO	Dr Janak Madhak	02832252207	9909949302	221666	cdho.health.kutch@gmail.com
10	DEO	Shri K T Menat	02832250156	9978405272	250156	kutchhdeo@gmail.com
11	DPEO	Shri J P Prajapati	02832221103	9909971683	252403	dpckutchh@gmail.com
12	General Manager DIC	Shri K.P.Der	02832250501	9879596947	251874	gm-dic-kut@gujarat.gov.in
13	Dy.Dir.Info	Shri Mitesh Modasiya	02832224859	95864 43968	250954	ddibhuj@gmail.com
14	Chief Fire Officer	Shri Anil Maru	-	9925170506	-	anilkumarafire1@gmail.com
15	Control Room Mam.Disa.	Shri Suresh Valvi	02832250923	9510487842	224150	dismgmt-kut@gmail.com
16	DPO	Shri Nilesh Parmar	02832250923	9356722405	224150	dismgmt-kut@gujarat.gov.in

Municipal Commissioners of Gujarat

No.	Name	City	Telephone No.	E-mail
1	Shri Lochan Shahera,IAS	Municipal Commissioner, Ahmedabad	(O)07925352828 (M) 9978407676	mc@ahmedabadcity.gov.in
2	Shri Amit Arora,IAS	Municipal Commissioner, Rajkot	(O)02812224133 (M) 9714503701	mc_rmc@rmc.gov.in
3	Shri dhawal Patel,IAS	Municipal Commissioner, Gandhinagar	(O)07923220440 (M) 9978445135	gmc8gandhinagar@gmail.com
4	Shri Yogesh Nergude,IAS	Municipal Commissioner, Bhavnagar	(O)02782510532 (M) 9978403000	commi-bmc@gujarat.gov.in
5	Shri Banchha Nidhi Pani,IAS	Municipal Commissioner,Surat	(O)02612422244 (M) 9724345000	commissioner@suratmunicipal.org
6	Shri Vijay Kharadi,IAS	Municipal Commissioner, Jamnagar	(O)02882552321 (M) 9327372179	mcjamanagar@gmail.com
7	Shri R.J.Tanna,IAS	Municipal Commissioner, Junagadh	(O)02852650450 (M) 9978400501	municipalcorporationjund@yahoo.co.in
8	Shri Shalini Agarwal ,IAS	Municipal Commissioner, Vadodara	(O) 02652433344 (M) 9978406985	commissioner@vmc.gov.in

II. Important Websites

Department	Website
MHA	www.mha.nic.in
NDMA	www.ndma.gov.in
GSDMA	www.gsdma.org
GIDM	http://www.gidm.in/
NIDM	www.nidm.net
IDRN	http://idrn.gov.in
SDRN	http://117.239.205.164/SDRN_NEW/
IMD	www.imd.gov.in
ISR, Gujarat	http://dst.gujarat.gov.in/isr.htm
BISAG	http://www.bisag.gujarat.gov.in
GSWAN	http://www.gswan.gov.in

Annexure 2

Emergency Response Center

Sr. No.	Name of the ERC	Contact Details					
		Chief Fire Officer (CFO)		Station Officer		Project Officer/District Project Officer	
		Name	Number	Name	Number	Name	Number
1	Gandhinagar	Shri Jayesh Khadiya	9327038758	Shri Gadhvi	9409304023	Ms.Megha Rabari	8160439782
		Shri Kaizad Dastoor	7069013708				
2	Vadodara	Parth Brahmbhatt	9924025094	Nikunj Azad	9712928101	Chirasmita Barik	9737478088
						Bantish Parmar	8866621514
3	Gandhidham-Kutch	Ilesh Kher	9879515966	Narendra Bhai Gadhavi	9825572188	MAdhav Hathi	9601341869
4	Surat	Basant Pareek	9724345553	Jagdish Patel	9724345684	Nital Doshi	8780656017
						Kaushik Kumar	9033920674
5	Rajkot	Ilesh Kher	9714503715	Shailesh Nadiyapara	9714912125	Madhav Hathi	9601341869

Annexure 3 (Ref Page 45)

Format for Damage and Loss Assessment (Relief Memorandum)

A. Inspection Team Inspection Date & Time: _____

Structure Engineer: _____

Civil Engineer: _____

Junior Engineer: _____

Officer of Local Competent: _____

Authority (from engg. section) Area Inspected: ☐ Exterior Only

Photographer: _____ ☐ Exterior & Interior

B. Type of Disaster

☐ Earthquake ☐ Flood ☐ Fire ☐ Cyclone ☐ Blast ☐ Other

C. Location, Type & Occupancy of Building:

Location: **Brief Details:**

Building Name: _____ Number of stones above ground: _____

Address: _____ below ground: _____

_____ Parking Floor: ☐ Ground Level

_____ ☐ Basement Level

Contact: _____ Phone: _____ Approx. Footprint area (sqm): _____

Survey No.: _____ No. of residential units: _____

Final Plot No.: _____ No. of residential units: _____

Sub Plot No.: _____ not habitable

Town Planning Scheme No.: _____

(To be collected from Competent Authority)

Type of Construction:

<input type="checkbox"/> Timber Construction	<input type="checkbox"/> Reinforced Masonry
<input type="checkbox"/> Masonry Construction	<input type="checkbox"/> Kiln burnt bricks
<input type="checkbox"/> Kiln burnt bricks	<input type="checkbox"/> Hollow Concrete Blocks
<input type="checkbox"/> Unburnt bricks	<input type="checkbox"/> Concrete Frame
<input type="checkbox"/> Random Rubble Uncoarsed	<input type="checkbox"/> Concrete Shear Wall
<input type="checkbox"/> Random Rubble Coarsed	<input type="checkbox"/> Dual System
<input type="checkbox"/> Hollow Concrete Blocks	<input type="checkbox"/> Precast Concrete Construction
<input type="checkbox"/> Steel Structure	<input type="checkbox"/> Composite Structure
<input type="checkbox"/> Other: _____	

Primary Occupancy:

<input type="checkbox"/> Individual House	<input type="checkbox"/> Commercial	<input type="checkbox"/> Educational	<input type="checkbox"/> Group Housing
<input type="checkbox"/> Offices	<input type="checkbox"/> Restaurant	<input type="checkbox"/> School	<input type="checkbox"/> Tenaments
<input type="checkbox"/> Government	<input type="checkbox"/> Hotel	<input type="checkbox"/> College	<input type="checkbox"/> Flats
<input type="checkbox"/> Semi Government	<input type="checkbox"/> Industrial	<input type="checkbox"/> University	<input type="checkbox"/> Historic
<input type="checkbox"/> Emergency Services	<input type="checkbox"/> Cinema House, Auditoriums, Assembly Halls	<input type="checkbox"/> Fire Stations	
<input type="checkbox"/> Hospital	<input type="checkbox"/> Other: _____		

D. Assessment:

Investigate the building for the conditions given below and check the appropriate column.

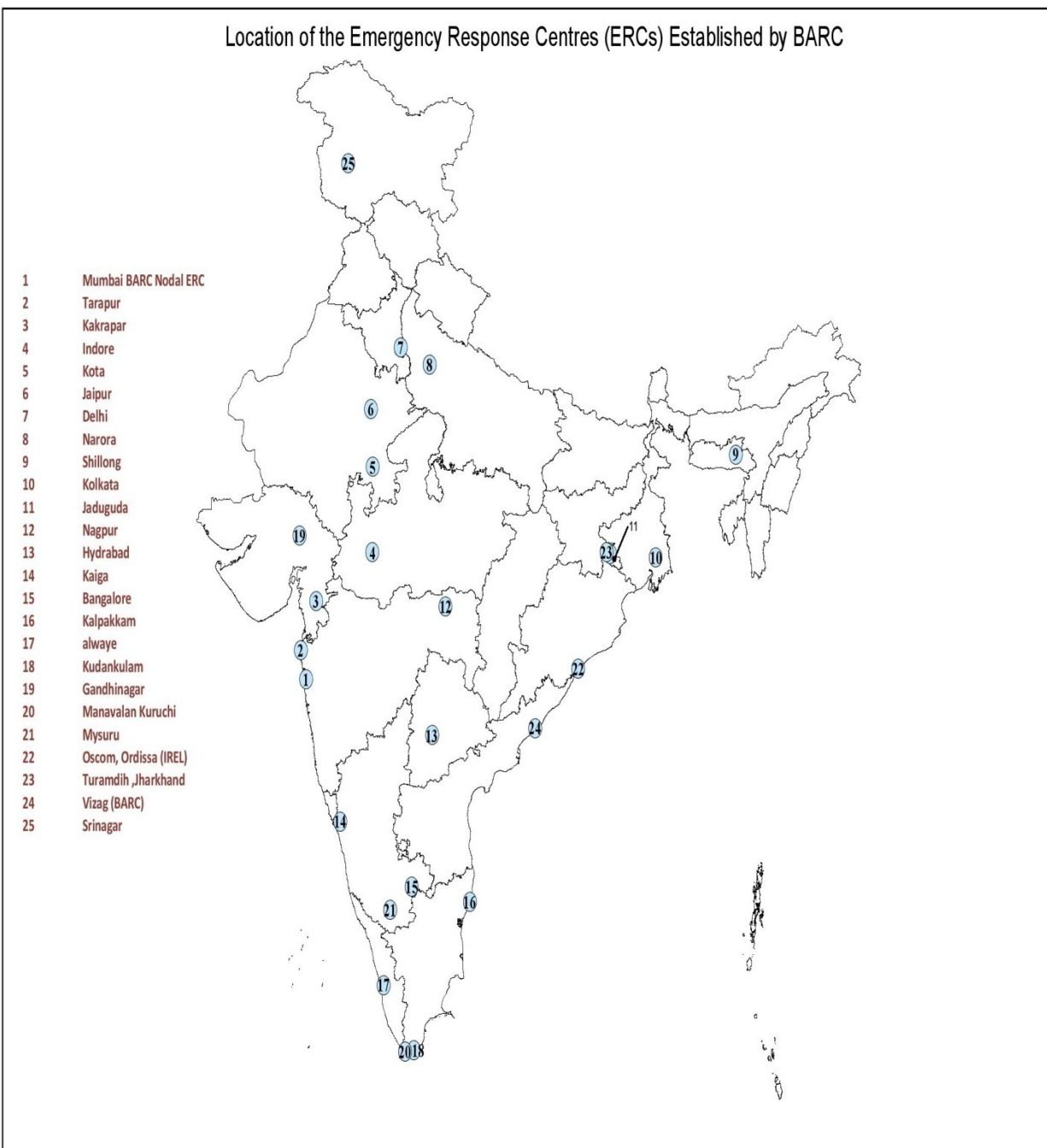
Observed Conditions	None	Minor	Moderate	Severe
● Collapse, partial collapse, or subsidence or uneven settlement of foundations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Building or story leaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Structural Damage to Bearing Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Structural Damage to Frame Structure				
Columns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Column-Beam Junction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Parapet Wall, Architectural Elements, other Falling Hazard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Subsidence of ground, cracking ground slope movement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Internal Services				
Water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire Fighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Site Hazards				
Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toxic Chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sketches:

Photographers:

Annexure 4

Location of the Emergency Response Centres (ERCs) Established by BARC



Annexure 5 (Ref Page 107-108)

Suggested Radius of Inner Cordoned Area (Safety Perimeter) for Radiological Emergencies (IAEA-EPR-FIRST RESPONDERS 2006)

Situation	Initial Inner Cordoned Area (Safety Perimeter)
Initial Determination (Radiological Emergency in Open Area)	
Unshielded or damaged potentially dangerous source	30m around
Major spill from a potentially dangerous source	100m around
Fire, explosion or fumes involving a potentially dangerous source	300m radius
Suspected bomb (potential RDD), exploded or unexploded	400m radius or more to protect against an explosion
Initial Determination (Radiological Emergency Inside a Building)	
Damage, loss of shielding or spill involving a potentially dangerous source	Affected and adjacent areas (including floors above and below)
Fire or other event involving a potentially dangerous source that can spread materials throughout the building (e.g., through the ventilation system)	Entire building and appropriate outside distance as indicated above
Expansion Based on Radiological Monitoring	
Ambient dose rate of 100 μ Sv/h	Wherever these levels are measured

Annexure 6

Technical Specifications of Instruments

- I. For the purpose of surveillance, it is proposed to equip fairly good number of vehicles patrolling on road in all metropolitan cities and other district headquarter – town, that have high potential of radiological hazards with **Go/No-Go type of Survey Instrument**. It will give an audio – visual alarm at dose rate exceeding 1mR/hr (.01mSv/hr). (**@ 1 no. For each AERC**)
- II. Portable Survey Meter with maximum dose range (Gamma Rays) of 5 R/hr (50 m Sv/hr). It will read the radiation field in an affected area. (**@ 1 no. for each AERC**)
- III. Digital Dosimeters to provide digital display of cumulative dose received and to a trigger an alarm when the cumulative dose exceeds a set value (**@ 5 nos. for each AERC**)
- IV. **Comfo – Respirators** to prevent particular radioactivity from inhalation and/or exposure to the face and eye. It is like a helmet to protect face, eye and nose. (**@ 5 nos. for each AERC**)
- V. **Radiation Symbols** to be utilised for cordoning off the suspected/affected area of radiological contamination. (**@ 10 nos. For each AERC**)
- VI. **Oro- Nasal Surgical Masks** for preventing inhalation of particulate radioactive material. (**@ 50 nos. for each AERC**)
- VII. **Centralised Laboratory Facility** at each town/metro to ensure workability of all the instruments. It will have facility for calibration, maintenance etc. This will house one radioactive source (Cs- 137/Co-60) for calibration, a high range survey meter and some instruments for maintenance. (@1no. per town/metro). The room required for this laboratory will be provided by the concerned State Government.

Annexure 7 (Ref Page 109)

Dose Limits

AERB has prescribed the following dose limits for exposures to ionising radiations for occupational workers.

A) Effective dose¹ (whole body)

1. 20 mSv averaged over five consecutive years, calculated on a sliding scale of five years²; (The cumulative effective dose in the same five year period shall not exceed 100 mSv)
2. a maximum of 30 mSv in any year.

B) Equivalent dose (Individual Organs)

- | | |
|---|----------------------|
| 1. i) Eye lens | 150 mSv per year and |
| 2. ii) Skin ³ | 500 mSv per year |
| 3. iii) Extremities
(hands and feet) | 500 mSv per year |

C) Pregnant woman

- | | |
|---|----------|
| 1. Equivalent dose limit to the surface of the woman's lower abdomen
(for the remaining period of pregnancy) | 2 mSv |
| 2. Annual Limit on Intake (ALI) for radio nuclides
(for the remaining period of pregnancy) | 0.05 ALI |

D) Apprentices and students (above the age of 16 years)

- | | |
|-------------------------------------|-----------------|
| Effective dose ((whole body): | 6 mSv per year |
| Equivalent dose (Individual Organs) | |
| 1. Eye lens | 15 mSv per year |
| 2. Skin | 50 mSv per year |
| 3. Extremities
(hands and feet) | 50 mSv per year |

In addition, investigation limits are also prescribed by AERB at which investigation of exposure cases exceeding these limits are carried out by an AERB committee.

Note-

- ¹ Effective dose means summation of the tissue equivalent doses, each multiplied by the appropriate tissue- weighting factor.
- ² Sliding scale of five years means current year and previous four years.
- ³ Average dose over 1cm² of the most highly irradiated area of the skin.

References:

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32. Indian National Centre for Ocean Information Services (<https://incois.gov.in/hrd/hrd.jsp>).
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