

# GUJARAT STATE DISASTER MANAGEMENT PLAN

---

VOLUME 2



2020-21

**GUJARAT STATE DISASTER MANAGEMENT AUTHORITY**  
**Block No. 11, 5th Floor, Udyog 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                             |
| <b>INSAT</b> | <b>Indian National Satellite System</b>               |
| 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 earthquake 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 down<sup>1</sup>.

## **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)).

---

<sup>1</sup> Volume 1 SDMP.

## 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            | S. No. | Task  | Responsibility        |
|-----------------------|--------|---|-----------------------|
| <b>0 + 15 Minutes</b> | 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 | <b>In-charge SEOC</b> |
| <b>0 + 30 Minutes</b> | 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                                 | <b>In-charge SEOC</b> |
|                       | 3      | In case of L-2 level event, take overall management of SEOC   | <b>COR/ DOR</b>       |
|                       | 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   |                       |
| <b>0 + 1 Hour</b>     | 11     | Mobilise Search & Rescue teams and equipment of Fire Emergency Services, Home Dept., R&B, etc. to affected areas  | <b>COR</b>            |
|                       | 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   | <b>Home Dept.,<br/>District Collector,<br/>Municipal<br/>Commissioners</b> |
|  | 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.   | <b>Dept. of Science<br/>&amp; Technology</b>                               |
|  | 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 | <b>COR, GUVNL,<br/>GWSSB, DOT,<br/>Energy<br/>&amp; Petrochemicals</b>     |
|  | 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   | <b>Port &amp;<br/>Transport, R&amp;B<br/>Dept., COR</b>                    |
|  | 28 | Establish media management / information cell for public information, guidance and rumour control  | <b>Information<br/>Dept.</b>   |
|  | 29 | Instruct district information officers to establish information centre near affected areas to provide  |  |

|                    |    |   |   |
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|                    |    | guidance to volunteers and aid agencies   |   |
| <b>0 + 2 Hours</b> | 30 | Delegate responsibilities for organizing rescue and relief operations as per outcomes of CMG and planning meet                                      | <b>Chief Secretary/<br/>COR</b>                         |
|                    | 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   | <b>COR</b>  |
|                    | 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   |   |
| <b>0 + 3 Hours</b> | 37 | Make suitable transport arrangement for mobilization of quick response teams to the affected areas  | <b>Port &amp; Transport Dept., Civil Aviation Dept.</b> |
|                    | 38 | Maintain constant touch with the control room of MHA, NDMA, ERCs, DEOCs and TEOCs   | <b>COR, SEOC</b>  |
|                    | 39 | Arrange for press / media release for rumour control and public information and guidance  | <b>COR, Information Dept.</b>                           |
|                    | 40 | Make necessary arrangement for treatment of injured and mass casualty management  | <b>Health Dept.</b>                                     |
|                    | 41 | Restore & ensure serviceability of communication towers in affected area through respective service providers                                       | <b>Dept. of Science &amp; Technology, DOT</b>           |
| <b>0 + 6 Hours</b> | 42 | Establish relief coordination centre at airport, railway station, etc. for arrival of Search & Rescue and Medical Teams coming for humanitarian aid | <b>COR</b>  |
|                    | 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   | <b>Home Dept.</b>                                       |
|                    | 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  | <b>Home Dept.,<br/>Port &amp; Transport<br/>Dept., R&amp;B Dept.</b>                  |
|                     | 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  | <b>COR/ Head,<br/>Quick<br/>Assessment Task<br/>Force</b>                             |
|                     | 49 | Establish information centres at the arrival and departure points especially at the airports, railway stations and interstate bus terminus                       | <b>Information<br/>Dept.</b>  |
| <b>0 + 12 Hours</b> | 50 | Hold review meetings with duty officers in every 12 hours  | <b>DOR</b>  |
|                     | 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                           | <b>DOR, District<br/>Collectors,<br/>Municipal<br/>Commissioners,<br/>Line Deptts</b> |
|                     | 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.   | <b>Food &amp; Civil<br/>Supply</b>  |
|                     | 55 | Provide water tankers to affected areas, relief camps, temporary shelters, community kitchens, etc.  | <b>Water Supply<br/>Dept</b>  |
|                     | 56 | Arrange to shift people from evacuated sites to temporary shelters   | <b>Port &amp; Transport<br/>Dept.,</b>  |
|                     | 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   | <b>Health Dept.</b>   |
|                     | 59 | Arrange to shift injured persons to field hospitals  |   |
|                     | 60 | Ensure medical aid to injured cattle   | <b>Animal<br/>Husbandry Dept.</b>   |

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

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

## **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 disasters<sup>2</sup>. 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.

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<sup>2</sup> 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. | <b>Warning Receipt and Dissemination</b> | <ol style="list-style-type: none"> <li>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</li> <li>2. Inform &amp; instruct relevant District Collectors to activate District Control Room at full strength</li> <li>3. Alert state response teams for deployment</li> <li>4. Remain in constant touch with control rooms at National &amp; State Level.</li> <li>5. Instruct and alert heads of departments of the key line departments to activate their departmental plan and SOPs for Cyclone response</li> </ol> | <b>CoR</b>      |
|                    | <b>Interdepartmental Coordination</b>    | <ol style="list-style-type: none"> <li>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)</li> </ol>   | <b>COR/ DOR</b> |

|                          |   |   |                           |
|--------------------------|---|---|---------------------------|
|                          |   | <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"> <li>○ Additional manpower</li> <li>○ Additional resources <ul style="list-style-type: none"> <li>- Vehicles, Machinery &amp; Equipment</li> <li>- Relief material</li> </ul> </li> </ul>   |                           |
|                          | <b>Establishment of Lines of Communication</b>      | <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 &amp; 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>   | <b>COR/ DOR</b>           |
| <b>Time = 0 – 48 Hrs</b> | <b>Review of situation and reporting</b>            | <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>  | <b>Revenue Dept./ COR</b> |
|                          | <b>Management of EOC, ERCs and Cyclone Response</b> | <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> | <b>COR</b>                |

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

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



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|  | <b>Emergency Response Management</b> | <p><b>49.</b> If reports regarding striking of cyclone are confirmed by IMD and other sources, start the emergency response and relief operations</p> <p><b>50.</b> Divert the emergency services to areas likely to be affected as per the warning issued by IMD</p> <p><b>51.</b> 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><b>52.</b> Start evacuation from the likely affected areas through Police support, if necessary</p>          | <b>Revenue Dept., COR, Dist. Collector, Home Dept.</b>   |
|  |                                      | <b>53.</b> Disconnect power supply at the time of striking of cyclone.  | <b>Energy and Petrochemical</b>  |
|  |                                      | <b>54.</b> To confirm & account for the exact number of fishermen in the sea and fishermen that have already reached the shore  | <b>GMB/Coast Guard, Commissioner of Fisheries</b>  |
|  | <b>Emergency Relief Management</b>   | <p><b>55.</b> Ensure that the Relief Management work planned in the areas likely to be affected by the Cyclone is well organized</p> <p><b>56.</b> 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"> <li>○ Public sector agencies</li> <li>○ Private sector agencies</li> <li>○ NGOs, CBOs</li> <li>○ Volunteer Organizations</li> </ul> <p><b>57.</b> Request for help (if needed) to MHA/National Disaster Management Authority</p> | <b>COR/ Revenue Dept.</b>  |
|  |                                      | <p><b>58.</b> 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"> <li>○ Drinking water</li> <li>○ Food</li> <li>○ Clothing</li> <li>○ Sanitation and hygiene,</li> <li>○ Lighting</li> <li>○ Medicines and other Health Care</li> </ul>  | <b>COR, Food &amp; Civil Supply Dept., Revenue Dept. &amp; Dist. Collectors, Water Supply Dept., GEB, Health Dept.</b> |
|  |                                      | <b>59.</b> Make necessary arrangements for public information/guidance, public opinion and rumor control  | <b>Information Dept.</b>   |
|  |                                      | <b>60.</b> Impose restrictions for transportation in threatened areas   | <b>Transport Dept. and Dist. Collector, Home Dept.</b>   |

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| <b>Time =<br/>0 Hrs</b>     | <b>Disaster Declaration</b>   | <b>61.</b> 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)   | <b>COR, Dist. Collector</b>   |
|                             | <b>Preliminary Assessment, Deployment of Emergency Response Teams and Information Dissemination</b> | <b>62.</b> Send teams to the affected areas to take stock of the effects of Cyclone and associated rain.<br><b>63.</b> Send sector wise situation reports to: <ul style="list-style-type: none"> <li>○ State EOC/COR</li> <li>○ GSDMA</li> </ul>   | <b>District Collector</b>   |
|                             |   | <b>64.</b> Deployment of following teams to Cyclone affected areas: <ul style="list-style-type: none"> <li>○ Emergency Communication Teams</li> <li>○ Emergency Medical Services Teams</li> <li>○ Search and Rescue Teams (With Equipment)</li> <li>○ Preliminary damage Assessment Teams</li> <li>○ Need Assessment Teams</li> </ul>  | <b>COR, Dist. Collector, Municipal Commissioner</b>                 |
|                             |   | <b>65.</b> 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<br><b>66.</b> Arrange dissemination of information about occurrence of Cyclone and areas that are affected by it to media & public.   | <b>COR, Dist. Collector, Information Dept.</b>                      |
| <b>Time =<br/>0+ 24 Hrs</b> | <b>Mobilization and Deployment</b>  | <b>67.</b> Remain in constant touch with IMD for updates on weather forecast for the coming hours and plan accordingly<br><b>68.</b> Immediate mobilization of following units/teams to areas affected by Cyclone and associated rains <ul style="list-style-type: none"> <li>○ S &amp; R Teams of Fire and Emergency Services</li> <li>○ Quick Medical Response Teams</li> <li>○ Quick Damage &amp; Loss Assessment Teams</li> <li>○ Quick Need Assessment Teams</li> <li>○ Road Clearance Teams</li> <li>○ Teams for disposal of dead bodies</li> <li>○ Teams for disposal of carcasses</li> <li>○ Teams for debris clearance (if any)</li> <li>○ Teams for maintaining Law &amp; Order in the affected areas</li> </ul> | <b>COR, Dist. Collector, Municipal Commissioner, Key line Dept.</b> |

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

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

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

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

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|   |   | <b>125.</b> Mobilize additional relief material required for relief operations<br><b>126.</b> Maintain constant touch with State & Districts EOCs  |  |
|   |   | <b>127.</b> Arrangement for transportation of injured from field hospital to base hospital<br><b>128.</b> Arrangement for transport of dead bodies to their native places<br><b>129.</b> Ensure maintenance of record, timely reporting and information management<br><b>130.</b> Ensure maintenance of record and information database                            | <b>Revenue Dept.,<br/>Health Dept. ,<br/>Transport Dept.,<br/>Line Deptts.</b> |
| <b>Time =<br/>0 + 96 to<br/>168 Hrs</b> | <b>Continuous Rescue<br/>and Relief Works</b> | <b>131.</b> Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly<br><b>132.</b> Review the restoration of all the public and essential buildings/ structures in Cyclone affected areas<br><b>133.</b> Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s | <b>COR</b>   |
|   |   | <b>134.</b> On receiving the message from IMD about degradation of Cyclone, inform the concern dist. Collector   | <b>COR, IMD</b>  |
|   |   | <b>135.</b> 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   | <b>COR, Dist. Collectors, Municipal Commissioner, R &amp; B Dept.</b>          |
|   |   | <b>136.</b> After receiving the message of de-warning, ensure that people are moved back safely to their houses  | <b>COR, Collector, Police Dept.</b>  |
|   |   | <b>137.</b> Ensure relief disbursement, allotment of funds and grants to line department and district collectors for organizing emergency response, relief and evacuation arrangements   | <b>Revenue Dept.</b>   |
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## 2.8 Immediate Relief

### 2.8.1 Short-term Relief Measures

#### a. Search, Rescue and Medical Assistance

- i. Identification of areas where SAR Teams are to be deployed
- ii. Coordination of SAR teams for their quick deployment in allotted areas
- iii. Provision of quick transport of SAR teams to affected areas

- iv. The department of Roads and Buildings to evolve a mechanism for clearing access routes in order to facilitate search and rescue operations
- v. 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 Commissionate 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 | <b>Warning Receipt and Dissemination</b><br><br><b>Monitoring seismic activity, provide warnings, based on seismic models and issue periodic bulletins</b> | <ol style="list-style-type: none"> <li>Report the occurrence of Tsunami generating earthquake to following officials: <ul style="list-style-type: none"> <li>- Hon. Chief Minister</li> <li>- Hon. Minister – Disaster Management</li> <li>- MHA &amp; National Disaster Management Authority, GoI.</li> <li>- COR/DOR</li> <li>- Principal Secretary (Revenue)</li> <li>- Chief Executive Officer, GSDMA</li> <li>- Chief Secretary of the State</li> <li>- Members of Crisis Management Group</li> <li>- 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.</li> <li>- Ministers and Secretaries of all line departments</li> </ul> </li> <li>Instruct Collectors (of the districts likely to be affected) to activate DEOCs at full strength</li> <li>Alert all response teams in the State for deployment</li> <li>Remain in constant touch with control rooms at National &amp; State Level</li> <li>Instruct and alert all secretary / heads of departments of the key line departments to activate their departmental plan and SOPs for Tsunami response</li> </ol> | <b>INCOIS, ISR, IMD, COR</b> |
|                     | <b>Interdepartmental Coordination</b>  | <ol style="list-style-type: none"> <li>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)</li> <li>Alert the District Collectors of districts not likely to be affected to be prepared for providing: <ul style="list-style-type: none"> <li>o Additional manpower</li> </ul> </li> </ol>  | <b>CoR, GAD</b>              |

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



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|  |  | <p>21. Mobilize following emergency response forces:</p> <ul style="list-style-type: none"> <li>○ Fire &amp; Emergency Services</li> <li>○ NDRF/ SDRF</li> <li>○ Village Disaster Management Teams</li> <li>○ Police, Home Guards, Civil Defence</li> <li>○ State Reserve Police Force</li> <li>○ Army (if required)</li> <li>○ Air Force (if required)</li> </ul>   |   |
|  | <b>Tsunami Response to Coastal Areas (Likely to be Affected)</b> | <p>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.</p> <p>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.</p> <p>24. Make transport arrangement for mobilization of all emergency response teams.</p> | <b>COR, Transport Dept., Dist. Collector, Municipal Commissioner</b>  |
|  |  | 25. Ensure arrangements are in place to evacuate fishermen and salt workers if needed.   | <b>Ports &amp; Fisheries Dept., GMB, Revenue Dept.,</b>               |
|  |  | 26. Ensure safety of tourists visiting beaches along the coastline.  | <b>Tourism Dept.</b>  |
|  |  | <p>27. Cordon off coastal areas for restricting entries of rail or road traffic.</p> <p>28. Ensure law and order is maintained in areas likely to be affected.</p>   | <b>Home Dept., Dist. Collector, Municipal Commissioner</b>            |
|  |  | 29. Ensure that all critical activities (mainly industrial production) in areas likely to be affected are shutdown.  | <b>Line Depts. (GEB, E&amp;F Depart., Industries&amp; Mines etc.)</b> |
|  |  | 30. Ensure dissemination of information to remote areas by means.  | <b>Dist. Collector, Municipal Commissioner, Information Dept.</b>     |
|  |  | 31. Ensure that local help lines are opened and effectively managed for public information, guidance and rumour control.   |   |

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

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|                          |  | <ul style="list-style-type: none"> <li>○ CBOs</li> <li>○ Volunteer Organizations</li> </ul>  |  |
|                          |  | 40. Request for assistance (if needed) to MHA/National Disaster Management Authority   | <b>COR</b>   |
|                          |  | 41. Make necessary arrangements for public information/guidance, public opinion and rumour control.  | <b>Information Dept.</b>   |
| <b>Time = 0 Hrs</b>      | <b>Disaster Declaration</b>  | 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)  | <b>COR, Dist. Collector,</b>   |
|                          | <b>Preliminary Assessment, Deployment of Emergency Response Teams and Dissemination of Information</b> | 43. Dist. Collector/s and Municipal Commissioners should send teams to the affected areas to take stalk of the effects of Tsunami.   | <b>Dist. Collector, Municipal Commissioner</b>                           |
|                          |  | 44. District Collector/s and Municipal Commissioners should send sector wise situation reports to: <ul style="list-style-type: none"> <li>○ State EOC /COR</li> <li>○ GSDMA</li> </ul>   |  |
|                          |  | 45. Deployment of following teams to Tsunami affected areas: <ul style="list-style-type: none"> <li>○ Emergency Communication Teams</li> <li>○ Emergency Medical Services Teams</li> <li>○ Search and Rescue Teams (With Equipment)</li> <li>○ Preliminary damage and needs Assessment Teams</li> </ul>  | <b>COR, Dist. Collector, Municipal Commissioner</b>                      |
|                          |  | 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.<br>47. Arrange dissemination of information about occurrence of Tsunami and areas that are affected by it to Media & Public | <b>COR, Dist. Collector, Municipal Commissioner, Information Dept.</b>   |
| <b>Time = 0 + 24 Hrs</b> | <b>Mobilization and Deployment</b>   | 48. Immediate mobilization of following units/teams to areas affected by Tsunami <ul style="list-style-type: none"> <li>○ S &amp; R Teams of Fire and Emergency Services</li> <li>○ SDRF</li> <li>○ Quick Medical Response Teams</li> <li>○ Quick Damage &amp; Loss</li> </ul>   | <b>COR, Municipal Commissioner, Home Dept., Concern line Dept., DSP.</b> |

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

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|  | <b>c. Safety of fishermen and salt workers</b>                            | <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>  | <b>COR, Port and Fisheries Dept., GMB, Tourism Dept., Industries &amp; Mines Dept.</b> |
|  | <b>d. Ensure immediate health and minimization of outbreak of disease</b> | <p>60. To establish camp hospitals near the affected areas.</p> <p>61. To make transportation arrangements to shift seriously injured persons to nearest-<br/> a. Camp Hospitals,<br/> b. Taluka and District Hospitals,<br/> 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> | <b>Health Dept., Transport Dept.</b>   |
|  |   | <p>68. Assess need for fodder if required.</p> <p>69. Keep teams ready for carcass disposal (if required).</p>  | <b>Animal Husbandry Dept.</b>  |
|  | <b>e. Information to public and media</b>                                 | <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>  | <b>Information Dept., COR</b>  |

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|                                | <b>f. Other important work related to immediate response</b>     | <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>   | <b>COR</b>   |
| <b>Time = 0 + 24 to 48 Hrs</b> | <b>Restoration of critical infrastructure/essential services</b> | <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"> <li>○ Power</li> <li>○ Water</li> <li>○ Telecommunication</li> <li>○ Roads</li> <li>○ Bridges</li> </ul> | <b>COR, Line Depts., Dist. Collector, Municipal Commissioner</b>                       |
|                                | <b>Dignified Management of Dead</b>                              | <p>80. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ul style="list-style-type: none"> <li>○ Photographs of the dead bodies are taken,</li> <li>○ Identification of the dead bodies is done,</li> <li>○ Post Mortem where ever necessary and possible is carried out,</li> <li>○ Handing over dead bodies of persons known/identified to their relatives,</li> <li>○ Disposal of unclaimed and unidentified dead bodies.</li> </ul>   | <b>Collector, DSP, Muni. Commissioner, Home Dept., Health Dept., Local Authorities</b> |
|                                |  | <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>  | <b>Animal Husbandry Dept, Local Authorities, health dept.</b>                          |
|                                | <b>Public Information and Media Management</b>                   | <p>83. Ensure that information about progress of rescue and relief is provided to media/public in an organized manner at</p>   | <b>COR, Information Dept. and Dist.</b>  |

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|                                 |  | <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>   | <b>Collector, Municipal Commissioner</b>  |
|                                 | <b>Miscellaneous rescue and relief works</b> | <p>86. Assess the situation and take appropriate action to accelerate the Search &amp; 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>   | <b>COR, Districts Collector, DSP, Municipal Commissioner</b>  |
|                                 |  | <p>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.</p>   | <b>COR, Civil Supply Dept.</b>  |
|                                 |  | <p>89. District Collector may oversee the functioning of relief centres and ensure adequate availability &amp;supply of relief materials.</p>  | <b>Revenue Dept, Civil Supply Dept.</b>   |
| <b>Time = 0 + 48 to 96 Hrs</b>  |  | <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 &amp; Districts EOCs.</p> <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> <p>95. Ensure maintenance of record, timely reporting and information management.</p> <p>96. Ensure maintenance of record and information database</p> | <b>COR, Dist. Collector, Municipal Commissioner, Civil Supply Dept.</b><br><br><b>Revenue Dept., Health Dept., Transport Dept</b><br><br><b>Line Depts., Dist. Collector, COR</b> |
| <b>Time = 0 + 96 to 168 Hrs</b> |  | <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</p>  | <b>COR</b>  |

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|  |  | & relief in the affected area/s.   |   |
|  |  | 99. After receiving the message of de-warning, ensure that people are moved back safely to their houses.   | <b>COR, Collector, DSP</b>                                    |
|  |  | 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. | <b>COR, Dist. Collectors, Municipal Commissioner, R&amp;B</b> |
|  |  | 101. Ensure relief disbursement, allotment of funds and grants to line department and district collectors for organizing emergency response, relief and evacuation arrangements.   | <b>Revenue Dept.</b>  |

### **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 | <b>Warning Receipt and Dissemination</b><br><br>Monitoring rainfall activity, provide warnings, based on hydraulic models and disseminate information | 102. Report the occurrence of heavy rainfall to following officials:<br>- Hon. Chief Minister<br>- Hon. Minister – Disaster Management<br>- MHA & National Disaster Management Authority, GoI.<br>- COR/DOR<br>- Principal Secretary (Revenue)<br>- Chief Executive Officer, GSDMA<br>- Chief Secretary of the State<br>- Members of Crisis Management Group<br>- All concerned District Collectors as well as DEOCs of the district/s likely to be affected as per preliminary warning of IMD and CWC.<br>- Ministers and Secretaries of all line departments<br>103. Instruct Collectors (of the districts likely to be affected) to activate DEOCs at full strength<br>104. Alert all response teams in the State for deployment<br>105. Remain in constant touch with Emergency Operation Centre at National & State Level<br>106. Instruct and alert all secretary / heads of departments of the key line departments to activate their departmental plan and SOPs for Flood response | <b>IMD, CWC, COR, Water Resources Department</b> |
|            | <b>Interdepartmental Coordination</b>   | 107. Instruct all State government officers and employees in the State to report to their respective Head for emergency duties<br>108. Alert the District Collectors of districts not likely to be affected to be prepared for providing:<br><ul style="list-style-type: none"> <li>○ Additional manpower</li> <li>○ Additional resources <ul style="list-style-type: none"> <li>- Vehicles, Machinery &amp; Equipment</li> <li>- Relief material to the districts likely to be affected</li> </ul> </li> </ul>  | <b>CoR, GAD</b>                                  |

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|                          | <b>Establishment of Lines of Communication</b>    | <p>109. 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>110. Establish communication links with ERCs and Search &amp; Rescue Teams in all Municipal Corporations/ Districts and alert them to be in stage of readiness.</p> <p>111. Establish communication links with villages likely to be affected as per the contact details available in SDRN and Village Disaster Management Plans (VDMP).</p> | <b>CoR</b>                 |
| <b>0 to (-) 24 Hours</b> | <b>Review of situation and reporting</b>          | <p>112. Establish contact with IMD, CWC, BISAG and the Defence Ministry of GoI for aerial / satellites imageries.</p> <p>113. After reviewing the satellite images, issue instructions and orders for emergency response to areas likely to be affected.</p>   | <b>CoR</b>                 |
|                          | <b>Management of EOC, ERCs for Flood Response</b> | <p>114. Take over full command of State EOC and ERCs.</p> <p>115. Instruct line departments to depute representatives at the State and District EOCs.</p> <p>116. Hold a meeting with leaders of emergency support functions (as detailed in Vol. 1 of the plan) and entrust them their tasks.</p> <p>117. Ensure that flood information is disseminated to all who are at danger.</p> <p>118. Arrange emergency meeting with State Crisis Management Group to devise a plan of action.</p>                            | <b>CoR</b>                 |
|                          |   | <p>119. 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.</p>  | <b>COR</b>                 |
|                          |   | <p>120. Impose restriction on all transport activities heading towards likely affected areas.</p>  | <b>Secretary Transport</b> |
|                          |   | <p>121. Mobilize following teams:</p> <ul style="list-style-type: none"> <li>○ Evacuation</li> <li>○ Emergency Medical Services</li> <li>○ Search and Rescue</li> </ul> <p>122. Mobilize following emergency response forces:</p> <ul style="list-style-type: none"> <li>○ Fire &amp; Emergency Services</li> </ul>  | <b>COR</b>                 |



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|  |  | <ul style="list-style-type: none"> <li>○ NDRF/ SDRF</li> <li>○ Village Disaster Management Teams</li> <li>○ Police, Home Guards, Civil Defence, Aapda Mitra</li> <li>○ State Reserve Police Force</li> <li>○ Arm Forces (if required)</li> <li>○ Air Force (if required)</li> </ul>  |  |
|  | <b>Flood Response to the Areas (Likely to be Affected)</b> | <p>123. 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>124. 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>125. Make transport arrangement for mobilization of all emergency response teams.</p> | <b>COR, Transport Dept., Dist. Collector, Municipal Commissioner</b>   |
|  |  | 126. Ensure arrangements are in place to evacuate most vulnerables i.e. person with disability, pregnant women, etc.if needed.   | <b>Revenue Dept., WCD, Social Justice Department</b>                   |
|  |  | 127. Ensure safety of tourists visiting flood affected places.   | <b>Tourism Dept.</b>   |
|  |  | 128. Cordon off likely affected areas for restricting entries of rail or road traffic.<br>129. Ensure law and order is maintained in areas likely to be affected.  | <b>Home Dept., Dist. Collector, Municipal Commissioner</b>             |
|  |  | 130. Ensure that all critical activities (mainly industrial production) in areas likely to be affected are shutdown.   | <b>Line Depts. (GEB, E&amp;F Depart., Industries &amp; Mines etc.)</b> |
|  |  | 131. Ensure dissemination of information to remote areas by all means.<br>132. Ensure that local help lines are opened and effectively managed for public information, guidance and rumour control.<br>133. Ensure that the information to public and media about the progress of heavy rainat periodic intervals is released.   | <b>Dist. Collector, Municipal Commissioner, Information Dept.</b>      |

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|                          |                                    | 134. Health Department to activate their Departmental flood Disaster Management Plan and SOPs for Management of casualties   | <b>Health Dept.</b>  |
| <b>0 to (-) 12 hours</b> | <b>Review and Reporting</b>        | 135. Review and monitor following activities: <ul style="list-style-type: none"> <li>○ Evacuation of people from likely to be affected areas</li> <li>○ Positioning of Search and Rescue Teams</li> <li>○ Positioning of mobile communication units</li> <li>○ Positioning of quick medical response teams</li> <li>○ Mobilization of restoration teams of respective departments</li> <li>○ Requirement of armed forces in rescue and relief operations</li> <li>○ Dissemination of information to the vulnerable areas</li> <li>○ All preparedness measures to be taken by various authorities</li> </ul> 136. Keep in touch with National, District and Taluka EOCs/Control Rooms<br>137. Release information at appropriate time to media and public regarding response measures organized by the Government | <b>COR, Information Dept.</b>  |
|                          | <b>Emergency Relief Management</b> | 138. Ensure that the Relief Management work in the likely affected areas / districts are well organized.   | <b>COR</b>   |
|                          |                                    | 139. Ensure that the arrangement for basic following amenities at evacuation/relief centres are made available: <ul style="list-style-type: none"> <li>○ Drinking water</li> <li>○ Food</li> <li>○ Clothing</li> <li>○ Sanitation and hygiene</li> <li>○ Lighting</li> <li>○ Medicines and Health Care</li> </ul>  | <b>COR, Civil Supply Dept., Revenue Dept. &amp; Dist. Collector, Municipal Commissioner, Water Supply Dept., GEB, Health Dept.</b> |
|                          |                                    | 140. Inform following agencies to be in a state of readiness for assisting in the flood response measures (if required): <ul style="list-style-type: none"> <li>○ Public sector agencies</li> <li>○ Private sector agencies</li> <li>○ NGOs</li> <li>○ CBOs</li> <li>○ Volunteer/ religious Organizations</li> </ul>   | <b>COR</b>   |

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|                         |  | 141. Request for assistance (if needed) to MHA/National Disaster Management Authority  | <b>COR</b>   |
|                         |  | 142. Make necessary arrangements for public information/guidance, public opinion and rumour control.   | <b>Information Dept.</b>   |
| <b>0 to (+)24 hours</b> | <b>Disaster Declaration</b>  | 143. 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)   | <b>COR, Dist. Collector,</b>   |
|                         | <b>Preliminary Assessment, Deployment of Emergency Response Teams and Dissemination of Information</b> | 144. Dist. Collector/s and Municipal Commissioners should send teams to the affected areas to take stalk of the effects of Floods.<br>145. District Collector/s and Municipal Commissioners should send sector wise situation reports to:<br><ul style="list-style-type: none"> <li>○ State EOC/COR</li> <li>○ GSDMA</li> </ul>  | <b>Dist. Collector, Municipal Commissioner</b>                           |
|                         |  | 146. Deployment of following teams to Flood affected areas:<br><ul style="list-style-type: none"> <li>○ Emergency Communication Teams</li> <li>○ Emergency Medical Services Teams</li> <li>○ Search and Rescue Teams (With Equipment)</li> <li>○ Preliminary damage and needs assessment teams</li> </ul>  | <b>COR, Dist. Collector, Municipal Commissioner</b>                      |
|                         |  | 147. 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.<br>148. Arrange dissemination of information about occurrence of flood and areas that are affected by it to Media & Public           | <b>COR, Dist. Collector, Municipal Commissioner, Information Dept.</b>   |
|                         | <b>Mobilization and Deployment</b>   | 149. Immediate mobilization of following units/teams to areas affected by flood<br><ul style="list-style-type: none"> <li>○ S &amp; R Teams of Fire and Emergency Services</li> <li>○ SDRF</li> <li>○ Quick Medical Response Teams</li> <li>○ Quick Damage &amp; Loss Assessment Teams</li> <li>○ Quick Need Assessment Teams</li> <li>○ Road Clearance Teams</li> </ul> | <b>COR, Municipal Commissioner, Home Dept., Concern line Dept., DSP.</b> |

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|  |   | <ul style="list-style-type: none"><li>○ Teams for dignified management of the the dead</li><li>○ Teams for disposal of carcasses</li><li>○ Teams for debris clearance (if</li><li>○ Teams for maintaining Law &amp; Order in the affected areas</li><li>○ Arrange for S &amp; R teams of Air Force (If required)</li></ul>  |  |
|  | <b>Measures for quick and organized response</b>  | 150. 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:   | <b>COR, Collector, DSP, Municipal Commissioner, Line Dept.</b>   |
|  | <b>g.</b> Clearance of access roads to reach at the sites of affected areas                         | 151. To survey the access roads/routes leading to the affected areas and manage traffic for mobilization of equipments, machinery and volunteers.<br>152. Identify alternate roads/routes for evacuation.<br>153. Undertake repairing/restoration of damaged roads leading to the affected areas.<br>154. Identify and declare unsafe buildings/structures in Flood affected areas.<br>155. Evacuate people from unsafe buildings/ structures and shift them to relief camps/sites.   | <b>R &amp; B Dept. , Transport Dept., Dist. Collector, Municipal Commissioner, Railways, COR</b>   |
|  | <b>h.</b> Necessary Arrangements at evacuation/relief centres as per the Minimum Standard of Relief | 156. To ensure that necessary arrangements at evacuation/relief centers is made with sufficient availability of:<br>g. Food,<br>h. Water,<br>i. Blankets/Clothing<br>j. Medicines<br>k. Lighting<br>l. Sanitation and hygiene etc.<br>157. 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.<br>158. To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well. | <b>Revenue Dept., Civil Supply Dept., Collector, DSP, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Power &amp; Energy Dept., GWSSB &amp; Local Authorities, Home Dept.</b> |
|  | <b>i.</b> Ensure immediate health and   | 159. To establish camp hospitals near the affected areas.<br>160. To make transportation arrangements to  | <b>Health Dept., Transport Dept.</b>   |

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|  | minimization of outbreak of disease                          | <p>shift seriously injured persons to nearest-</p> <ul style="list-style-type: none"> <li>d. Camp Hospitals,</li> <li>e. Taluka and District Hospitals,</li> <li>f. Regional and State Hospitals</li> </ul> <p>161. Ensure that the Hospitals are well prepared to deal with seriously injured persons.</p> <p>162. 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>163. Take sanitation and epidemic control measures for preventing any water borne disease.</p> <p>164. Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals</p> <p>165. Take steps to purify drinking water sources</p> <p>166. 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>167. Assess need for fodder if required.</p> <p>168. Keep ready teams for carcass disposal (if required).</p>  | <b>Animal Husbandry Dept.</b> |
|  | <b>j.</b> Information to public and media                    | <p>169. Establish Media/Press Centre for media management and information dissemination</p> <p>170. Ensure that the information to media/general public about the response of the State Government is released in an organized manner.</p> <p>171. Organize media briefing twice a day at pre-determined intervals.</p>   | <b>Information Dept., COR</b> |
|  | <b>k.</b> Other important work related to immediate response | <p>172. Prepare quick need assessment report for planning of relief operation.</p> <p>173. Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed).</p> <p>174. Maintain constant touch with National, District and Taluka EOCs and other control rooms.</p> <p>175. Conduct Aerial survey of affected areas for taking a stalk of the situation.</p>  | <b>COR</b>                    |

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| <b>Time =<br/>0 + 24 to<br/>48 Hrs</b> | <b>Restoration of<br/>critical<br/>infrastructure/essential services</b> | <p>176. 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>177. Ensure that key administrative and lifeline buildings are brought back to operation quickly</p> <p>178. Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> <li>○ Power</li> <li>○ Water</li> <li>○ Telecommunication</li> <li>○ Roads</li> <li>○ Bridges</li> </ul> | <b>COR, Line Depts., Dist. Collector, Municipal Commissioner</b>                           |
|  | <b>Dignified Management of Dead</b>                                      | <p>179. Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ul style="list-style-type: none"> <li>○ Photographs of the dead bodies are taken,</li> <li>○ Identification of the dead bodies is done,</li> <li>○ Post Mortem where ever necessary and possible is carried out,</li> <li>○ Handing over dead bodies of persons known/identified to their relatives,</li> <li>○ Disposal of unclaimed and unidentified dead bodies.</li> </ul>   | <b>Collector, DSP, Municipal Commissioner, Home Dept., Health Dept., Local Authorities</b> |
|  |  | <p>180. Animal Husbandry Department to ensure medical aid to cattle which are injured</p> <p>181. Disposal of animal carcasses with the help of local bodies/health dept.</p>   | <b>Animal Husbandry Dept, Local Authorities, health dept.</b>                              |
|  | <b>Public Information and Media Management</b>                           | <p>182. Ensure that information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day.</p> <p>183. Establish Help Lines for facilitating communication between the victims and their relatives residing outside the affected area/s.</p> <p>184. Establish Help Lines / Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals.</p>   | <b>COR, Information Dept. and Dist. Collector, Municipal Commissioner</b>                  |
|  | <b>Miscellaneous rescue and relief</b>                                   | 185. Assess the situation and take appropriate action to accelerate the Search  | <b>COR, Districts Collector, DSP,</b>  |

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|   | <b>works</b> | & Rescue Operations.<br>186. Depute additional officers and supporting staff to flood affected areas from non-affected areas (if required) to accelerate the rescue and relief operations.   | <b>Municipal Commissioner</b>   |
|   |              | 187. 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. | <b>COR, Civil Supply Dept.</b>  |
|   |              | 188. District Collector may oversee the functioning of relief centres and ensure adequate availability & supply of relief materials.   | <b>Revenue Dept, Civil Supply Dept.</b>                                 |
| <b>Time =<br/>0 + 48 to<br/>96 Hrs</b>  |              | 189. Arrange for procurement of additional relief material required for relief operations (on the basis of need assessment).   | <b>COR, Dist. Collector, Municipal Commissioner, Civil Supply Dept.</b> |
|   |              | 190. Mobilize additional relief material required for relief operations.   |   |
|   |              | 191. Maintain constant touch with State & Districts EOCs.  | <b>Revenue Dept., Health &amp; Transport Dept</b>                       |
|   |              | 192. Arrangement for transportation of injured from field hospital to base hospital  |   |
|   |              | 193. Arrangement for transport of dead bodies to their native places.  | <b>Line Depts., Dist. Collector, COR</b>                                |
| <b>Time =<br/>0 + 96 to<br/>168 Hrs</b> |              | 194. Ensure maintenance of record, timely reporting and information management.  |   |
|   |              | 195. Ensure maintenance of record and information database   | <b>COR</b>  |
|   |              | 196. Review the restoration of all the public and essential in flood affected areas  |   |
|   |              | 197. Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s.   | <b>COR, Collector, DSP</b>  |
|   |              | 198. After receiving the message of de-warning, ensure that people are moved back safely to their houses.  |   |
|   |              | 199. 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.           | <b>COR, Dist. Collectors, Municipal Commissioner, R&amp;B</b>           |
|   |              | 200. Ensure relief disbursement, allotment of funds and grants to line department and district collectors for organizing emergency response, relief and evacuation arrangements.   | <b>Revenue Dept.</b>  |

## 4.9 Relief Measures

| Short Term Measures   | Action Taken  |
|---|---|
| <b>Setting up of Shelter/relief camps as per the Minimum Standards of Relief adopted by GoG</b> | <ul style="list-style-type: none"> <li>Disaster affected households shall be provided with necessary tools, equipment and materials for repair, reconstruction and maintenance for safe use of their shelter.</li> <li>Adequate numbers of buildings or open space should be identified where relief camps can be set up during emergency</li> <li>The temporary relief camps should have adequate provision of drinking water and bathing, sanitation and essential health-care facilities.</li> </ul>   |
| <b>Distribution of food</b>   | <ul style="list-style-type: none"> <li>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.</li> </ul>   |
| <b>Water</b>  | <ul style="list-style-type: none"> <li>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.</li> </ul>  |
| <b>Clothing</b>   | <ul style="list-style-type: none"> <li>The people affected by the disaster shall be provided with sufficient clothing, blankets, etc. to ensure their safety and well-being.</li> </ul>   |
| <b>Health, Sanitation and Hygiene</b>   | <ul style="list-style-type: none"> <li>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 &amp; food supplies.</li> <li>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.</li> <li>Sanitation services are crucial to prevent an outbreak of epidemics in post disaster phase.</li> </ul> |
| <b>Impact of floods on vulnerable section of society</b>  | <ul style="list-style-type: none"> <li>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.</li> <li>The most vulnerable members of the community are the elderly and the youngest as they require special assistance</li> </ul>  |



## 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

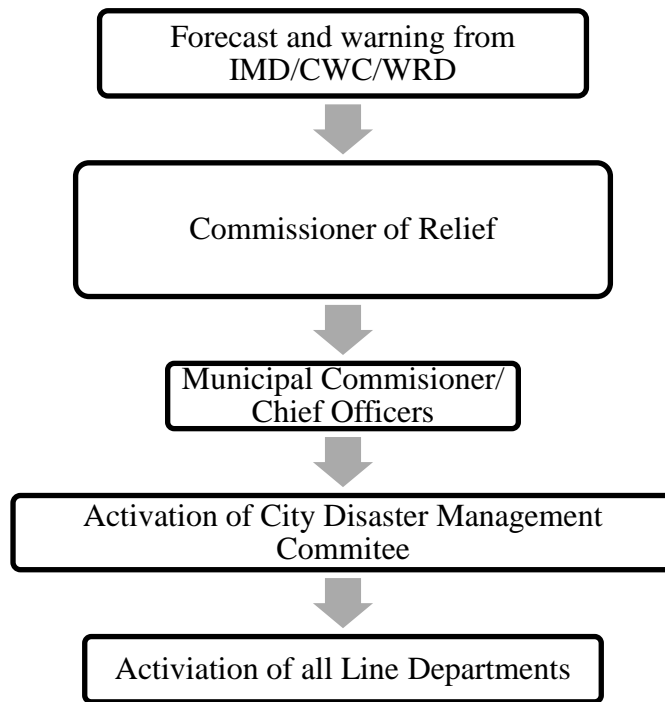
Increasing trend of urban flooding is a universal phenomenon and poses a great challenge to urban planners the world over. Problems associated with urban floods range from relatively localised incidents to major incidents, resulting in cities being inundated from hours to several days. Therefore, the 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 =<br>0 – 72<br>Hrs. | <b>Warning Receipt and Dissemination</b>       | <p><b>138.</b> 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</p> <p><b>139.</b> Inform &amp; instruct relevant Municipal commissioner/ Chief Officer to activate control room at full strength</p> <p><b>140.</b> DEOC to be activated for additional support</p> <p><b>141.</b> Alert state response teams for deployment</p> <p><b>142.</b> Remain in constant touch with control rooms at National &amp; State Level.</p> <p><b>143.</b> Instruct and alert heads of departments of the key line departments to activate their departmental plan and SOPs for Urban flood response</p> | <b>IMD, CWC, NWRWSK Dept. In-charge, SEOC</b>                    |
|                          | <b>Interdepartmental Coordination</b>          | <p><b>144.</b> 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</p> <p><b>145.</b> 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:</p> <ul style="list-style-type: none"> <li>• Additional manpower</li> <li>• Additional resources</li> <li>• Machinery &amp; Equipment</li> <li>• Relief material</li> </ul>   | <b>CoR/ DoR Municipal Commissioner, UD &amp; UHD Line Dept.</b>  |
|                          | <b>Establishment of Lines of Communication</b> | <p><b>146.</b> Activate alternative communication equipments i.e. satellite phones, HF/VHF sets, Ham radio, VSAT in SEOC, DEOCs, TEOCs and ERCs</p> <p><b>147.</b> Establish communication links with ERCs and Search &amp; Rescue Teams in all Municipal Corporations and alert them to be in stage of readiness</p> <p><b>148.</b> Establish communication links with</p>  | <b>CoR/ DoR Municipal Commissioner, Commissioner UD &amp;UHD</b> |

|                                  |   |   |  |
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|                                  |   | villages likely to be affected as per the contact details available in SDRN   |  |
| <b>Time =<br/>0 – 48<br/>Hrs</b> | <b>Review of situation and reporting</b>                | <p><b>149.</b> Get the latest weather report from IMD for rainfall data</p> <p><b>150.</b> After reviewing the weather report issue instructions and orders for emergency response to areas likely to be affected</p>   | <b>IMD, CWC<br/>Revenue Dept./<br/>CoR</b>   |
|                                  | <b>Management of EOC, ERCs and Urban Flood Response</b> | <p><b>151.</b> Take over full command of SEOC and ERCs</p> <p><b>152.</b> Instruct line departments to depute representatives at the State and District EOCs</p> <p><b>153.</b> Hold a meeting with leaders of task forces and entrust them their tasks</p> <p><b>154.</b> Arrange emergency meeting with State Crisis Management Group to devise a plan of action</p> <p><b>155.</b> 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.</p> <p><b>156.</b> Alert teams to remain in readiness-Evacuation, Emergency Medical Services, Search &amp; Rescue, Fire &amp; Emergency Services, NDRF, Police, Home Guards, SRPF, Army, Air Force</p> | <p><b>CoR<br/>Municipal<br/>Commissioner</b></p> <p><b>UD &amp;UHD</b></p> <p><b>Information<br/>Dept</b></p> <p><b>Line Dept.</b></p> |
|                                  |   | <b>157.</b> Impose restriction on all transport activities heading towards flood affected areas.  | <b>Port &amp;<br/>Transport Dept.<br/>Home Dept</b>  |
|                                  | <b>Urban Flood Response(Likely to be Affected)</b>      | <p><b>158.</b> 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</p> <p><b>159.</b> 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</p> <p><b>160.</b> Make transport arrangement for</p>   | <b>IMD, CWC<br/>Municipal<br/>Commissioner<br/>UD &amp;UHD<br/>Revenue Dept.,<br/>Transport Dept.<br/>and Dist.<br/>Collectors,</b>    |



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|   |   | <p>mobilization of all emergency response teams</p> <p><b>161.</b> Make logistic arrangements for response teams</p>   |   |
|   |   | <p><b>162.</b> Cordoning off flooded areas for restricting entries of rail or road traffic</p> <p><b>163.</b> Ensure law and order is maintained in areas likely to be affected</p>  | <p><b>Municipal Commissioner</b><br/> <b>UD &amp; UHD</b><br/> <b>Home Dept.,</b><br/> <b>Dist. Collectors,</b></p> |
|   |   | <p><b>164.</b> Ensure that all critical activities (mainly industries) in areas likely to be affected are shutdown</p>   | <p><b>Line Depts.</b></p>   |
|   |   | <p><b>165.</b> Ensure that the schools and colleges are closed in areas likely to be affected by floods</p> <p><b>166.</b> Ensure availability &amp; serviceability of flood shelters issued in schools/universities/institutions)</p>   | <p><b>Education Dept.</b><br/> <b>Municipal Commissioner</b></p>  |
|   |   | <p><b>167.</b> Ensure dissemination of information to affected area</p> <p><b>168.</b> Ensure that local helplines are opened and effectively managed for public information, guidance and rumour control</p> <p><b>169.</b> Ensure that the information to public and media (AIR/ Doordarshan/ print/ FM) about the status of urban flood at periodic intervals is released</p> | <p><b>Municipal Commissioner</b><br/> <b>UD &amp;UHD</b><br/> <b>Information Dept.</b></p>                          |
|   |   | <p><b>170.</b> Activate Departmental Disaster Management Plan and Departmental SOPs for Management of casualties</p> <p><b>171.</b> Ensure availability of QRT &amp; essential medicines</p>   | <p><b>Health Dept.</b></p>  |
|   |   | <p><b>172.</b> Issue alert/ warning through SMS by establishing liaison with service providers</p> <p><b>173.</b> Ensure safety &amp; serviceability of critical communication towers through respective service providers</p> <p><b>174.</b> Ensure establishment of alternate communication links like HF, VHF, HAM, Satellite Phones, etc.</p>                                | <p><b>Telecom Service Provider</b><br/> <b>Municipal Commissioner</b><br/> <b>UD &amp;UHD</b></p>                   |
|   |   | <p><b>175.</b> Establish contact with IMD, in order to receive latest update on rainfall data</p> <p><b>176.</b> After reviewing the weather report issue instructions and orders for</p>  | <p><b>Revenue Dept./</b><br/> <b>COR</b><br/> <b>Information Dept.</b></p>  |
| <p><b>Time =</b><br/> <b>0 - 24</b><br/> <b>Hrs</b></p> | <p><b>Review of Situation and Reporting</b></p> |  |   |

|  |                                      |  |   |
|--|--------------------------------------|--|---|
|  |                                      | <p>emergency response to areas likely to be affected areas</p> <p><b>177.</b> Review and monitor – evacuation from to be affected areas; positioning of search &amp; rescue teams, mobile communication units, quick medical response teams; dissemination of information to vulnerable areas; preparedness measures to be taken by various authorities</p> <p><b>178.</b> Keep in touch with all the EOCs/ Control rooms</p> <p><b>179.</b> Release information at appropriate time to media and public regarding response measures organized by the Government</p> |   |
|  | <b>Emergency Response Management</b> | <p><b>180.</b> If reports regarding heavy rainfall are confirmed by IMD and other sources, start the emergency response and relief operations</p> <p><b>181.</b> Divert the emergency services to areas likely to be affected in the city as per the warning issued by IMD</p> <p><b>182.</b> 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><b>183.</b> Start evacuation from the likely affected areas through Police support, if necessary</p>                  | <p><b>Revenue Dept., COR, Municipal Commissioner Home Dept. Information Dept. Dist. Collector</b></p> |
|  |                                      | <b>184.</b> Disconnect power supply at the time of urban floods  | <b>Dept. of Power supply/ power company</b>   |
|  | <b>Emergency Relief Management</b>   | <p><b>185.</b> Ensure that the Relief Management work planned in the areas likely to be affected by the floods are well organized</p> <p><b>186.</b> 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"> <li>• Public sector agencies</li> <li>• Private sector agencies</li> <li>• NGOs, CBOs</li> <li>• Volunteer Organizations</li> </ul> <p><b>187.</b> Request for help (if needed) to MHA/National Disaster Management Authority</p>             | <p><b>COR/ Revenue Dept. Municipal Commissioner</b></p>   |
|  |                                      | <b>188.</b> Ensure that the arrangement for  | <b>COR,</b>   |

|                         |   |   |  |
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|                         |   | <p>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"> <li>• Drinking water</li> <li>• Food</li> <li>• Clothing</li> <li>• Sanitation and hygiene,</li> <li>• Lighting</li> <li>• Medicines and other Health Care</li> </ul> | <b>Food &amp; Civil Supply Dept.,<br/>Municipal Commissioner<br/>Revenue Dept.<br/>Water Supply Dept., GEB,<br/>Health Dept.</b> |
|                         |   | <b>189.</b> Make necessary arrangements for public information/guidance, public opinion and rumour control  | <b>Information Dept.<br/>Municipal Commissioner</b>  |
|                         |   | <b>190.</b> Impose restrictions for transportation in threatened areas  | <b>Transport Dept.<br/>Municipal Commissioner<br/>Dist. Collector,<br/>Home Dept.</b>  |
|                         |   |   |  |
| <b>Time =<br/>0 Hrs</b> | <b>Disaster Declaration</b>   | 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)  | <b>COR,<br/><br/>Municipal Commission</b>  |
|                         | <b>Preliminary Assessment, Deployment of Emergency Response Teams and Information Dissemination</b> | <b>191.</b> Send teams to the affected areas to take stock of the effects of floods due to heavy rain.<br><br><b>192.</b> Send sector wise situation reports to: <ul style="list-style-type: none"> <li>• State EOC/COR</li> <li>• GSDMA</li> <li>• Respective DEOC</li> </ul>  | <b>Municipal Commissioner</b>  |
|                         |   | <b>193.</b> Deployment of following teams to flood affected areas: <ul style="list-style-type: none"> <li>• Emergency Communication Teams</li> <li>• Emergency Medical Services Teams</li> <li>• Search and Rescue Teams (With Equipment)</li> <li>• Preliminary damage Assessment Teams</li> <li>• Need Assessment Teams</li> </ul>                        | <b>COR, Municipal Commissioner<br/><br/>Dist. Collector,</b>   |
|                         |   | <b>194.</b> Establish communication link with affected cities/ town by activating alternate communication equipments such as Satellite Phones, HF/VHF Sets,   | <b>COR,<br/><br/>Municipal Commissioner</b>  |
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|                         |  | Ham Radio, V Set etc., in State/District EOCs and Taluka Control Rooms<br><b>195.</b> Arrange dissemination of information about occurrence of urban floods and areas that are affected by it to media & public.  | <b>Information Dept.</b>   |
| <b>Time = 0+ 24 Hrs</b> | <b>Mobilization and Deployment</b>                                       | <b>196.</b> Remain in constant touch with IMD for updates on weather forecast for the coming hours and plan accordingly<br><b>197.</b> Immediate mobilization of following units/teams to areas affected by floods <ul style="list-style-type: none"> <li>• S &amp; R Teams of Fire and Emergency Services</li> <li>• Quick Medical Response Teams</li> <li>• Quick Damage &amp; Loss Assessment Teams</li> <li>• Quick Need Assessment Teams</li> <li>• Road Clearance Teams</li> <li>• Teams for disposal of dead bodies</li> <li>• Teams for disposal of carcasses</li> <li>• Teams for dewatering</li> <li>• Teams for maintaining Law &amp; Order in the affected areas</li> <li>• Team for restoration of water and power supply</li> <li>• Arrange for S &amp; R teams of Air Force (If required)</li> </ul> | <b>IMD</b><br><b>COR, Municipal Commissioner</b><br><b>UD &amp;UHD</b><br><b>Dist. Collector,</b><br><b>Key line Dept.</b> |
|                         | <b>Clearance of Access Roads to Reach at The Sites of Affected Areas</b> | <b>198.</b> To survey the access roads/routes leading to the affected areas and manage traffic for mobilization of equipments, machinery and volunteers.<br><b>199.</b> Identify alternate roads/routes for evacuation of affected people<br><b>200.</b> Undertake repairing/restoration of damaged roads leading to the affected areas.<br><b>201.</b> Identify and declare unsafe buildings/structures in urban floods affected areas.<br><b>202.</b> Evacuate people from unsafe buildings/structures and shift them to relief camps/sites<br><b>203.</b> Divert/stop transport activities (Rail + Road) heading towards flood affected areas  | <b>R &amp; B Dept. ,</b><br><b>Transport Dept.,</b><br><b>Municipal Commissioner</b><br><b>UD &amp; UHD</b>                |
|                         | <b>Necessary Arrangements at Evacuation/ Relief</b>                      | <b>204.</b> To ensure that necessary arrangements at evacuation/relief centers is made sufficient   | <b>Revenue Dept.,</b><br><b>Civil Supply Dept., Municipal</b>  |

|  |  |   |  |
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|  | <b>Centres</b>   | <p>availability as per the Minimum Standards of Relief by GoG</p> <p><b>205.</b> 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><b>206.</b> To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well</p> <p><b>207.</b> Arrange for a logistic plan and warehouse for receipt and management of relief material</p>   | <p><b>Commissioners,</b><br/> <b>Water Supply Dept.,</b><br/> <b>Health Dept.,</b><br/> <b>GEB,</b><br/> <b>Energy &amp; Petro. Dept.,</b><br/> <b>GWSSB &amp; Local Authorities,</b><br/> <b>Home Dept.</b></p> |
|  | <b>Immediate Health and Minimization of Disease Outbreak</b> | <p><b>208.</b> To establish relief camp hospitals near the affected areas</p> <p><b>209.</b> To make transportation arrangements to shift stranded persons to nearest-camp Hospitals, City, Taluka and District Hospitals, Regional and State Hospitals</p> <p><b>210.</b> Ensure that the Hospitals are well prepared to deal with emergencies like outbreak of water borne diseases</p> <p><b>211.</b> 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><b>212.</b> Take sanitation and epidemic control measures for preventing any water borne disease</p> <p><b>213.</b> Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals</p> <p><b>214.</b> Take steps to purify drinking water sources</p> <p><b>215.</b> 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><b>CoR/ DoR,</b><br/> <b>Health dept</b><br/> <b>Municipal Commissioner</b><br/> <b>Collector</b><br/> <b>Port &amp; Transport Dept.,</b><br/> <b>Tourism Dept.,</b></p>                                      |
|  |  | <p><b>216.</b> Assess need for fodder if required</p> <p><b>217.</b> Keep ready teams for carcass disposal (if required)</p>  | <p><b>Animal Husbandry Dept.</b></p>   |

|                                |   |  |  |
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|                                | <b>Information to Public and Media</b>                            | <p><b>218.</b> Establish Media/Press Centre for media management and information dissemination</p> <p><b>219.</b> Ensure that the information to media/general public about the response of the State Government is released in an organized manner</p> <p><b>220.</b> Organize media briefing twice a day at pre-determined intervals</p>   | <b>Information Dept., CoR Municipal Commissioner</b>   |
|                                | <b>Other Important Work Related to Immediate Response</b>         | <p><b>221.</b> Prepare quick need assessment report for planning of relief operation</p> <p><b>222.</b> Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed)</p> <p><b>223.</b> Prepare situation report and circulate it twice a day in the morning and evening to key Government functionaries</p> <p><b>224.</b> Maintain constant touch with National, District, City and Taluka EOCs and other control rooms</p> <p><b>225.</b> Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly</p> <p><b>226.</b> Conduct aerial survey of affected areas for taking a stalk of the situation</p> | <p><b>CoR</b></p> <p><b>Municipal commissioner</b></p> <p><b>District collector</b></p>  |
|                                |   | <p><b>227.</b> Activate evacuation &amp; relief centers according to needs/situation</p> <p><b>228.</b> Maintain record of persons admitted at evacuation/relief centres</p>   | <p><b>Revenue Dept. COR</b></p> <p><b>Municipal Commissioner Collector</b></p>   |
| <b>Time = 0 + 24 to 48 Hrs</b> | <b>Review of Situation and Reporting</b>                          | <b>229.</b> Establish contact with IMD, CWC, for constant updates regarding rainfall data /weather condition and plan accordingly  | <p><b>COR</b></p> <p><b>Municipal Commissioner Collector</b></p>   |
|                                | <b>Restoration of Critical Infrastructure/ Essential Services</b> | <p><b>230.</b> 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><b>231.</b> Ensure that key administrative and lifeline buildings are brought back to operation quickly.</p> <p><b>232.</b> Designate and deploy senior officers (as per the need) to worst</p>  | <p><b>CoR, Line Depts., Municipal Commissioner</b></p> <p><b>Dist. Collectors,</b></p> <p><b>Line dept.</b></p> <p><b>Eneregy&amp; Petro.Dept.</b></p> |

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|  |  | <p>affected area/s to oversee rescue/relief operation.</p> <p><b>233.</b> Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> <li>• Power supply</li> <li>• Water supply</li> <li>• Communication</li> </ul> <p>Roads &amp; Bridges</p>  | <p><b>Power Supply</b></p> <p><b>Water Supply</b></p> <p><b>Ports and Transport</b></p>   |
|  | <b>Dignified Management of the Dead</b>        | <p><b>234.</b> Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ul style="list-style-type: none"> <li>f. Photographs of the dead bodies are taken,</li> <li>g. Identification of the dead bodies is done,</li> <li>h. Post Mortem where ever necessary and possible is carried out,</li> <li>i. Handing over dead bodies of persons known/identified to their relatives,</li> <li>j. Disposal of unclaimed and unidentified dead bodies.</li> </ul> | <p><b>Revenue Dept.,</b></p> <p><b>Municipal Commissione</b></p> <p><b>Dist. Collector,</b></p> <p><b>Home Dept.,</b></p> <p><b>Health Dept.,</b></p> <p><b>Local Authorities</b></p> |
|  |  | <p><b>235.</b> Ensure medical aid to injured cattle</p> <p><b>236.</b> Disposal of animal carcasses with the help of local bodies/health dept.</p>  | <p><b>Animal Husbandry Dept.</b></p>  |
|  | <b>Public Information and Media Management</b> | <p><b>237.</b> Ensure that the information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day</p> <p><b>238.</b> Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s</p> <p><b>239.</b> Establish Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals</p>                    | <p><b>COR,</b></p> <p><b>Information Dept.,</b></p> <p><b>Municipal Commissioner</b></p> <p><b>Dist. Collector</b></p>  |
|  | <b>Miscellaneous Rescue and Relief Works</b>   | <p><b>240.</b> Assess the situation and take appropriate action to accelerate the Search &amp; Rescue Operations</p> <p><b>241.</b> Depute additional officers and supporting staff to affected areas from non-affected areas (if required) to accelerate the rescue and relief operations</p>  | <p><b>COR,</b></p> <p><b>Municipal CommissioneDis trictCollector</b></p>  |

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|                                 |   | <b>242.</b> 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  | <b>COR, Civil Supply Dept.</b>   |
| <b>Time = 0 + 48 to 96 Hrs</b>  | <b>Continuous Rescue and Relief Works</b> | <b>243.</b> Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly<br><b>244.</b> Arrange for procurement of additional relief material required for relief operations (on the basis of need assessment)<br><b>245.</b> Mobilize additional relief material required for relief operations<br><b>246.</b> Maintain constant touch with State & Districts EOCs | <b>COR,</b><br>Municipal Commissioner<br><b>Civil Supply Dept.</b>   |
|                                 |   | <b>247.</b> Arrangement for transportation of injured from field hospital to base hospital<br><b>248.</b> Arrangement for transport of dead bodies to their native places<br><b>249.</b> Ensure maintenance of record, timely reporting and information management<br><b>250.</b> Ensure maintenance of record and information database   | <b>Revenue Dept.,</b><br><b>Health Dept. ,</b><br><b>Transport Dept.,</b><br><b>Line Depts.</b><br><b>Home Dept.</b> |
| <b>Time = 0 + 96 to 168 Hrs</b> | <b>Continuous Rescue and Relief Works</b> | <b>251.</b> Remain in constant touch with IMD for updates on weather forecast for the coming days and plan accordingly<br><b>252.</b> Review the restoration of all the public and essential buildings/structures in flood affected areas<br><b>253.</b> Review and follow-up all necessary arrangements for emergency response & relief in the affected area/s   | <b>COR</b>   |
|                                 |   | <b>254.</b> On receiving the message from IMD about rainfall and inform the concern municipal commissioner/Collector  | <b>COR, IMD</b>  |
|                                 |   | <b>255.</b> 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  | <b>COR, Municipal Commissioner Dist. Collectors, , R &amp; B Dept.</b>   |



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|  |  | <b>256.</b> After receiving the message of de-warning, ensure that people are moved back safely to their houses | <b>COR, Municipal Commissioner Collector, Home Dept.</b> |
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## ***Chapter 6 : Action Plan for Industrial & Chemical Disasters***

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## **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)

### **6.1.3 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

#### **6.1.4 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.

#### **6.2 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.

### **6.3 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.

### **6.4 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.

### **6.5 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.

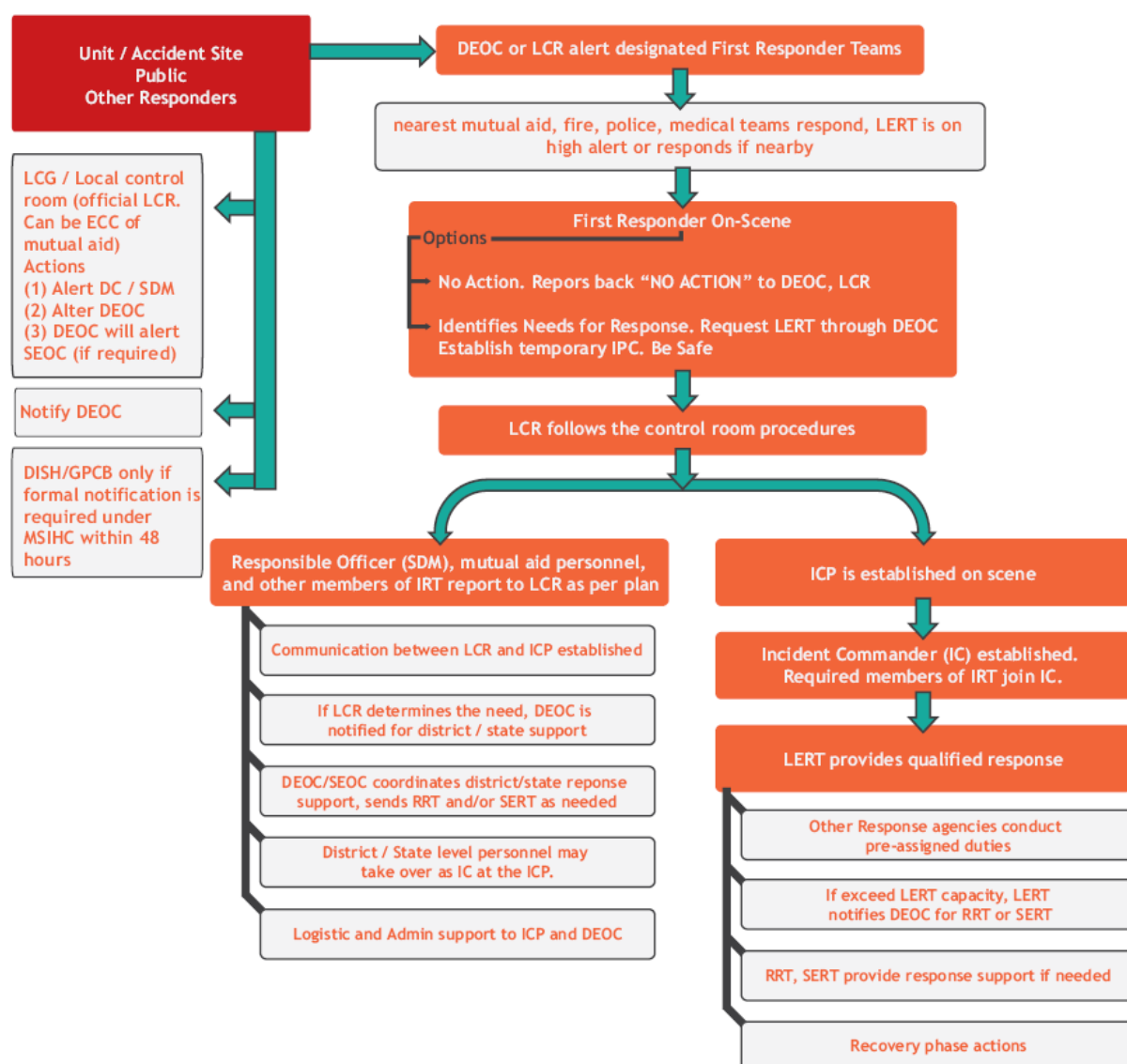
## 6.6 Response for Industrial (Chemical) Disasters

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.      | <b>Disaster Declaration and Plan Activation</b> | <ul style="list-style-type: none"> <li>• Declare an off-site emergency in consultation with SCG and activate an off-site emergency plan</li> <li>• Activate DCG</li> <li>• Establish immediate communication with LCG, DCG, DEOC, SEOC, GSDMA and CCG</li> </ul>  | <b>Collector</b>  |
| 2.      | <b>Mobilization &amp; Deployment</b>            | <ul style="list-style-type: none"> <li>• Arrange an immediate deployment of various ERTs in affected sector(s). (Police, Fire, S&amp;R, Medical, etc.)</li> <li>• Based on the emergency monitoring teams from off-site areas initiate counter measures (such as sheltering and medical help)</li> <li>• Arrange an evacuation of the affected/ likely to be affected workers and population to safer places</li> <li>• 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</li> <li>• Deploy QRMTs/ MFRs consisting of physicians, triage officer, nurses and paramedical staff</li> </ul> | <b>Collector, Municipal Commissioner, DISH, DCG, Home Dept., Health Dept., Industry/ Industrial Association</b>   |
|         |   | <ul style="list-style-type: none"> <li>• To ensure that necessary arrangements at evacuation/ relief centers is made with sufficient availability of: <ul style="list-style-type: none"> <li>i) Food,</li> <li>ii) Water,</li> <li>iii) Blankets/Clothing</li> <li>iv) Medicines</li> <li>v) Lighting</li> <li>vi) Sanitation and Hygiene, etc.</li> </ul> </li> <li>• 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</li> <li>• To ensure that law and order is maintained at evacuation/relief centers and in the affected areas</li> </ul>   | <b>COR, Civil Supply Dept., Collectors, Municipal Commissioner, DISH, Water Supply Dept., Health Dept., GEB, Energy &amp; Petrochemical Dept, GWSSB &amp; Local Authorities, Home Dept.</b> |
| 3.      | <b>Addressing Health Related Issues</b>         | <ul style="list-style-type: none"> <li>• 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</li> <li>• Ensure that the hospitals are well prepared to deal with seriously injured persons</li> <li>• Keep adequate stock of essential medicines, antidotes, first-aid etc. at taluka/district hospitals.</li> <li>• If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance</li> </ul>   | <b>Health Dept.</b>   |
| 4.      | <b>Information to public and media</b>          | <ul style="list-style-type: none"> <li>• Make an arrangement for providing useful, timely, correct, consistent, and appropriate information to the public and media in the event of a chemical</li> </ul>   | <b>Collector, Municipal Commissioner</b>  |



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|   |                                | <p>disaster.</p> <ul style="list-style-type: none"> <li>• Ensure that the information to media/general public about the coordinated response is released in an organized manner.</li> </ul>  | <b>DISH, COR, Commissioner of Info.,</b>  |
| 5.  | <b>Disposal of Dead bodies</b> | <ul style="list-style-type: none"> <li>• Ensure following procedure is followed before disposal/handing over of dead bodies: <ul style="list-style-type: none"> <li>a. Photographs of the dead bodies are taken,</li> <li>b. Identification of the dead bodies is done,</li> <li>c. Post Mortem wherever necessary and possible is carried out,</li> <li>d. Handing over dead bodies of persons known/identified to their relatives</li> </ul> </li> <li>• Disposal of unclaimed and unidentified dead bodies</li> </ul>   | <b>Collector, Municipal Commissioner, Revenue Dept., Health Dept., Home Dept., Local Authorities, Industry, Industry/Industrial Association</b> |
|   |                                | <ul style="list-style-type: none"> <li>• Animal Husbandry Department to ensure medical aid to cattle that are injured.</li> <li>• Disposal of animal carcasses with the help of local bodies/health dept.</li> </ul>   | <b>Animal Husbandry Depts., Local Authorities, health dept.</b>   |
| <b>Roles and Responsibility of Some of The First Responders during Chemical Attack/ Emergency</b> |                                |  |   |
| 1   | <b>Police</b>                  | <ul style="list-style-type: none"> <li>• Control and divert the traffic near the affected areas</li> <li>• Ensure law and order at the incident site during chemical emergency/ disaster and at evacuation centres too.</li> <li>• Provide security in evacuated areas</li> <li>• Give warning, carry out SAR operation and carry out relief &amp; rehabilitation operation too</li> </ul> <p>In case of Chemical attack:</p> <ul style="list-style-type: none"> <li>• Secretary, Home and Director General of Police (DGP) will direct the participation of Police in the emergency response.</li> <li>• Secretary, Home and DG, Police will constitute an integrated command.</li> <li>• Secretary, Home and DGP will report to the SCR immediately upon the receipt of information about the disaster.</li> <li>• 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.</li> <li>• 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.</li> <li>• DGP will review the dissemination of warning and the need for evacuation. He will help the Fire &amp; Emergency Services and the Deputy</li> </ul> | <b>Home Dept.</b>   |

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|   |                                     | <p>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"> <li>• DGP will ensure that the police force will not enter the area under disaster without the permission of the Fire &amp; Emergency Services and Health officials.</li> <li>• 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.</li> <li>• The DGP will order deployment of the police force for evacuation of the people from the zone of the danger.</li> <li>• 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.</li> <li>• 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.</li> <li>• The DGP will also issue directives that all the Private and Public Transport (trains and buses) be diverted from the disaster area.</li> <li>• 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.</li> <li>• 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.</li> </ul> |  |
| 2 | <b>Fire and Search &amp; Rescue</b> | <ul style="list-style-type: none"> <li>• Reach at the site soonest possible and assess the situation (information about the chemical leak/spill, the action taken and current status)</li> <li>• 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’.</li> <li>• In case of chemical leak, try to terminate the release/ stopping of leak with the use of proper PPE</li> <li>• Search and 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</li> </ul>   | <b>Fire and Emergency Services (F&amp;ES), Municipal Corporation, GIDC</b> |

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|    |                         | <p>immediately to the laboratory for further investigation / analysis</p> <ul style="list-style-type: none"> <li>• Secretary, Industries will coordinate redeployment of GIDC Fire Tenders from other places, as required</li> <li>• Secretary, Industries will also coordinate with the Private and Public Sector industries for deployment of their Fire Brigades to the site of the disaster.</li> <li>• The SCG, in consultation with the District Collector and other local officials will ensure that CFO, Fire &amp; Emergency Services, Dy. Director - Industrial Safety and Health, Officer in charge Police and Health Personnel all work closely with full coordination</li> <li>• 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.</li> <li>• To search and evacuate the affected population from the site of the incident.</li> </ul>  |   |
| 3. | <b>Medical Services</b> | <ul style="list-style-type: none"> <li>• The Secretary - Health, Commissioner of Health, and emergency medicine experts will provide the necessary expertise and specialized services to the SCG</li> <li>• 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</li> <li>• 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</li> <li>• 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</li> <li>• The SCG will alert major hospitals in the area and ask them to be in readiness for receiving patients</li> <li>• 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 DGHS has set up the Emergency Medical</li> </ul> | <b>Dept. of Health and Family Welfare</b> |

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|  |  | <p>Relief Cell for dealing with these contingencies</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• The SCG will collect information on the number of deaths and persons injured; the nature of injuries and the likely long-term consequences</li> <li>• 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.</li> <li>• Psychosocial care for the victims of disaster by the team of experts.</li> </ul> |  |
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## 6.7 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 travel 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 form<sup>3</sup>.

### **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.

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<sup>3</sup> 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      | <b>Warning Receipt and Dissemination</b>        | <p><b>257.</b> 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&amp;FW and Health Dept.</p> <p><b>258.</b> Inform &amp; instruct District Collectors to activate District Control Room at full strength</p> <p><b>259.</b> Remain in constant touch with control rooms at National &amp; State Level.</p> <p><b>260.</b> Instruct and alert Secretary of departments of the key line departments to activate their departmental plan and SOPs for immediate response</p>  | <p><b>Health &amp; Family Welfare dept</b></p> <p><b>In charge - SEOC</b></p>  |
| 2      | <b>Disaster Declaration and Plan Activation</b> | <p><b>261.</b> Declare an emergency in consultation with State Crisis Group (SCG) and activate an emergency plan</p> <p><b>262.</b> Activate District Crisis Group (DCG)</p> <p><b>263.</b> 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</p>   | <p><b>CoR</b></p> <p><b>Health &amp; Family Welfare dept</b></p> <p><b>Collector</b></p>                                 |
| 3      | <b>Interdepartmental Coordination</b>           | <p><b>264.</b> 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)</p> <p><b>265.</b> Alert the District Collectors of districts not largely affected to be prepared for providing the following to the districts likely to be affected:</p> <ul style="list-style-type: none"> <li>• Additional manpower</li> <li>• Additional resources</li> <li>• Machinery &amp; Equipment</li> <li>Relief material/Kits</li> </ul> | <p><b>CoR</b></p> <p><b>GAD,</b></p> <p><b>Health &amp; Family Welfare dept</b></p> <p><b>Line depts. Collectors</b></p> |

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| <b>4</b> | <b>Establishment of Lines of Communication</b> | 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  |
| <b>5</b> | <b>Transportation</b>                          | <p><b>266.</b> If required, impose restriction on all transport activities to avoid contagious effect.</p> <p><b>267.</b> Setting up arrangements for the movement of citizens stranded-</p> <ul style="list-style-type: none"> <li>• Abroad</li> <li>• Inter/intra state</li> <li>• Inter/intra district</li> </ul> <p><b>268.</b> 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>  | <ul style="list-style-type: none"> <li>• Collector</li> <li>• Municipal Commissioner</li> <li>• Health Dept</li> <li>• Home Dept</li> <li>• MoEA</li> <li>• GAD</li> <li>• Port &amp; Transport Dept.</li> <li>• Airline authorities</li> <li>• Railways</li> <li>• GSRTC</li> </ul>   |
| <b>6</b> | <b>Mobilisation and Deployment</b>             | <p><b>269.</b> Deploy QRMTs/ MFRs consisting of physicians, triage officer, nurses and paramedical staff</p> <p><b>270.</b> To ensure that necessary arrangements at evacuation/ relief centres is made with sufficient availability of:</p> <ul style="list-style-type: none"> <li>vii) Food,</li> <li>viii) Water,</li> <li>ix) Blankets/Clothing</li> <li>x) Medicines</li> <li>xi) Quarantine facilities</li> <li>xii) Isolation facilities</li> <li>xiii) Lighting</li> <li>xiv) Sanitation and Hygiene, etc.</li> </ul> <p><b>271.</b> 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</p> <p><b>272.</b> To ensure that law and order is maintained at evacuation/relief centres and in the affected areas as well</p> <p><b>273.</b> Immediate mobilization of following</p> | <ul style="list-style-type: none"> <li>• COR, Collectors, Municipal Commissioner</li> <li>• DSP</li> <li>• Civil Supply Dept., ,</li> <li>• DISH,</li> <li>• Water Supply Dept.,</li> <li>• Health Dept.,</li> <li>• GEB,</li> <li>• Energy and Petrochemical Department GWSSB &amp; Local Authorities,</li> <li>• Home Dept.</li> </ul> |

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|   |  | units/teams <ul style="list-style-type: none"> <li>• Quick Medical Response Teams</li> <li>• Quick Need Assessment Teams</li> <li>• Teams for disposal of dead bodies</li> <li>• Teams for maintaining Law &amp; Order in the affected areas</li> <li>• Quick First Aid Team</li> </ul>  |  |
| 7 | <b>Addressing Health Related Issues</b>  | <p>274. 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>275. Ensure that the hospitals are well prepared to deal with seriously affected persons</p> <p>276. Keep adequate stock of essential medicines, vaccines, first-aid etc. at taluka/district hospitals.</p> <p>277. 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"> <li>• Collectors,</li> <li>• Municipal Commissioner</li> <li>• Health Dept.</li> </ul>  |
| 8 | <b>Response of Line Dept</b>             | <p>278. Activate Departmental Disaster Management Plan and Departmental SOPs for Management of casualties</p> <p>279. Ensure availability of QRT &amp; essential medicines</p> <p>280. Issue alert/ warning through mass media by establishing liaison with service providers</p> <p>281. Ensure safety &amp; serviceability of critical communication towers through respective service providers</p>   | <ul style="list-style-type: none"> <li>• Collectors, Municipal Commissioner</li> <li>• Health Dept.</li> <li>• Telecom service providers</li> <li>• DST</li> </ul> |
| 9 | <b>Review of Situation and Reporting</b> | <p>282. 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>   | <ul style="list-style-type: none"> <li>• Revenue Dept./ COR</li> <li>• Secretary, Health Dept</li> <li>• Collector</li> <li>• Municipal</li> </ul>                 |

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|           |                                    | <p><b>283.</b> Keep in touch with National, District and Taluka Control Rooms</p> <p><b>284.</b> Release information at appropriate time to media and public regarding response measures organized by the Government</p>   | <p>commissioner</p> <ul style="list-style-type: none"> <li>• Information Dept.</li> <li>• PIB</li> </ul>   |
| <b>10</b> | <b>Emergency Relief Management</b> | <p><b>285.</b> Ensure that the Relief Management work planned in the areas affected are well organized</p> <p><b>286.</b> 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"> <li>• Public sector agencies</li> <li>• Private sector agencies</li> <li>• NGOs, CBOs</li> <li>• Volunteer Organizations</li> </ul> <p><b>287.</b> Request for help (if needed) to MHA/National Disaster Management Authority</p> | <p><b>COR/ Revenue Dept.</b></p> <ul style="list-style-type: none"> <li>• Collector</li> </ul>   |
|           |                                    | <p><b>288.</b> Ensure that the arrangement for basic amenities at evacuation/relief centres are made by the respective departments:</p> <ul style="list-style-type: none"> <li>• Drinking water</li> <li>• Food</li> <li>• Clothing</li> <li>• Sanitation and hygiene,</li> <li>• Lighting</li> <li>• Medicines and other Health Care</li> </ul>   | <ul style="list-style-type: none"> <li>• COR</li> <li>• Collector</li> <li>• Municipal commissioner</li> <li>• Food &amp; Civil Supply Dept.,</li> <li>• Revenue Dept.</li> <li>• Water Supply Dept.,</li> <li>• GEB,</li> <li>• Health Dept.</li> </ul> |
|           |                                    | <p><b>289.</b> Make necessary arrangements for public information/guidance, public opinion and rumour control</p>  | <ul style="list-style-type: none"> <li>• Collector</li> <li>• Municipal commissioner</li> <li>• Information Dept.</li> </ul>   |
|           |                                    | <p><b>290.</b> Impose restrictions for transportation in majorly affected areas</p>  | <p><b>Transport Dept. and Dist. Collector, Home Dept.</b></p>  |

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| <b>12</b> | <b>Preliminary Assessment, Deployment of Emergency Response Teams and Information Dissemination</b> | <b>291.</b> Send sector wise situation reports to: <ul style="list-style-type: none"> <li>• State EOC/COR</li> <li>• GSDMA</li> </ul>  | <b>District Collector</b>   |
|           |   | <b>292.</b> Deployment of following teams Emergency Communication Teams <ul style="list-style-type: none"> <li>• Emergency Medical Services Teams</li> <li>• Medical response team</li> </ul>  | <b>CoR, Dist. Collector, Municipal Commissioner Health dept</b>   |
| <b>15</b> | <b>Immediate Health and Minimization of Disease Outbreak</b>  | <b>293.</b> To establish camp hospitals<br><b>294.</b> To make transportation arrangements to shift seriously affected persons to nearest-camp Hospitals, Taluka and District Hospitals, Regional and State Hospitals immediately.<br><b>295.</b> Ensure that the Hospitals are well prepared to deal with affected persons<br><b>296.</b> 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<br><b>297.</b> Take sanitation and epidemic control measures for preventing any water borne disease<br><b>298.</b> Keep adequate stock of essential medicines, first-aid etc. at taluka/district hospitals<br><b>299.</b> Take steps to purify drinking water sources<br><b>300.</b> If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance | <b>Health Dept., Dist. Collector, Municipal Commissioner 108 GVK EMRI Services Port &amp; Transport Dept,</b> |
| <b>16</b> | <b>Information to Public and Media</b>  | <b>301.</b> Establish Media/Press Centre for media management and information dissemination<br><b>302.</b> Ensure that the information to media/general public about the response of the State Government is released in an organized manner<br><b>303.</b> Organize media briefing twice a day at pre-determined intervals  | <b>Health Dept., Information Dept., COR</b>   |

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| 17 | <b>Other Important Work Related to Immediate Response</b> | <p><b>304.</b>Prepare quick need assessment report for planning of relief operation</p> <p><b>305.</b>Additional assistance may be asked for emergency response/relief from GoI-NDMA (If needed)</p> <p><b>306.</b>Prepare situation report and circulate it twice a day in the morning and evening to key Government functionaries</p> <p><b>307.</b>Maintain constant touch with National, District and Taluka EOCs and other control rooms</p> <p><b>308.</b>Remain in constant touch with Health Dept for updates on current for the coming days and plan accordingly</p> | <p><b>CoR</b></p> <ul style="list-style-type: none"> <li>• Health Dept</li> </ul>                       |
|    |   | <p><b>309.</b>Activate evacuation &amp; relief centres according to needs/situation</p> <p><b>310.</b>Maintain record of persons admitted at evacuation/relief centres</p>  | <p><b>Revenue Dept. Collector, CoR</b></p>  |
| 18 | <b>Dignified Management of Dead</b>                       | <p><b>311.</b>Ensure following procedure is followed before disposal/handing over of dead bodies:</p> <ul style="list-style-type: none"> <li>• Photographs of the dead bodies are taken,</li> <li>• Identification of the dead bodies is done,</li> <li>• Post Mortem where ever necessary and possible is carried out,</li> <li>• Handing over dead bodies of persons known/identified to their relatives,</li> <li>• Disposal of unclaimed and unidentified dead bodies.</li> </ul>   | <p><b>Dist. Collector, Municipal Commissioner, DSP Health Dept., Local Authorities</b></p>              |
| 19 | <b>Public Information and Media Management</b>            | <p><b>312.</b>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><b>313.</b>Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s</p> <p><b>314.</b>Establish Information Centres at strategic locations for providing information about persons evacuated to the relief centres/hospitals</p>  | <p><b>Health Dept, COR,</b></p> <p><b>Dist. Collector, Municipal Commissioner, Information Dept</b></p> |

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| 20 | <b>Miscellaneous Rescue and Relief Works</b> | <p><b>315.</b>Assess the situation and take appropriate action to accelerate the relief providing services.</p> <p><b>316.</b>Depute additional officers and supporting staff to enhance the diagnostic facility, treatment and discharge of affected person.</p>  | <b>COR, Districts Collector, Municipal Commissioner Revenue Dept, UDD, Health Dept.</b> |
|    |  | <b>317.</b> 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   | <b>CoR, Collector, Municipal Commissioner</b>   |
|    |  | <b>318.</b> District Collector/Municipal Commissioner may oversee the functioning of relief centres and ensure adequate supply of relief materials (medical logistics)   | <b>Collector, Municipal Commissioner Revenue Dept, Civil Supply Dept., Health Dept.</b> |
| 21 | <b>Continuous Rescue and Relief Works</b>    | <p><b>319.</b>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><b>320.</b>Mobilize additional medical supplies and relief material required for relief operations</p> <p><b>321.</b>Maintain constant touch with State &amp; Districts EOCs</p> | <b>COR, Dist. Collectors, Civil Supply Dept., Health Dept.</b>                          |
|    |  | <p><b>322.</b>Arrangement for transportation of affected persons from field hospital to base hospital</p> <p><b>323.</b>Arrangement for transport of dead bodies to their native places</p> <p><b>324.</b>Ensure maintenance of record, timely reporting and information management</p>  | <b>Revenue Dept, Health Dept. , Transport Dept., Line Depts.</b>                        |
| 22 | <b>Continuous Monitoring</b>                 | <p><b>325.</b>Ensure data collection from each district regarding the number of patients admitted/dead from both Government hospital/private hospitals.</p> <p><b>326.</b>Ensure that continuous monitoring is carried out.</p> <p><b>327.</b>Prepare data analytics and documentation on daily basis.</p>   | <b>Health Dept. Collector, Municipal Commissioner COR</b>                               |



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| <b>24</b> | <b>Setting up of testing facility and laboratories</b>               | <b>328.</b> Arrangement of laboratories for the purpose of increased testing<br><b>329.</b> Identifying, supply chain and inventory management of other reagents for protection, detection, and medical management.  | <b>Health dept. ICMR</b>   |
| <b>25</b> | <b>Diagnostic Kits, Biomedical Equipments &amp; PPE</b>              | <b>330.</b> Arrangement of Rapid Diagnostic Kits<br><b>331.</b> Ensure that stockpiling of medicines, personal protective equipments like gloves, masks, Head Gears etc. are stocked up.<br><b>332.</b> Arrangement of diagnostic kits, ventilators, oxygen cylinders , antibiotics, vaccines, biomedical equipments etc<br><b>333.</b> Ensure adequate medical logistics in case of surge capacity. | <b>Health dept.</b>  |
| <b>26</b> | <b>Biosafety and biosecurity measures and environmental measures</b> | <b>334.</b> Ensure Strict compliance with Bio safety and bio security provisions in hospitals<br><b>335.</b> Ensure Environmental monitoring to prevent further spread of diseases.<br><b>336.</b> Monitoring of water supply and sewage systems to prevent the dispersal of biological agents that can cause epidemics<br><b>337.</b> Ensure regular surveillance                                   | <b>Health dept. Collectors<br/>Municipal Commissioner<br/>Dept. of Drinking Water and Sanitation</b> |
| <b>27</b> | <b>Assessment of Situation</b>                                       | <b>338.</b> Regular and periodic monitoring of the situation<br><b>339.</b> Ensure updates from research & academic institutions/universities working in the field of medicine for better decision making.<br><b>340.</b> Ensure continuous updates and consultation with National/international organisations like ICMR, IMA, AIIMS, NIE, IIPH, WHO, UNICEF   | <b>Health dept. Collectors, MC</b>   |
| <b>28</b> | <b>Other alternate Medicines and stockpiling medical facilities</b>  | <b>341.</b> Ensure that alternative medicines like homeopathy, herbal and Ayurvedic are used, if required.   | <b>Health dept. Office of Director, AYUSH<br/>Revenue dept.</b>                                      |

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| <b>29</b> | <b>Concurrent study</b> | <p><b>342.</b> To study and research of the pandemics and of biological agents, vaccines and other relevant drugs.</p> <p><b>343.</b> Research on biological hazard and its impact in the state/country.</p> | <p><b>Health dept.</b></p> <p><b>Research</b></p> <p><b>institute of</b></p> <p><b>National and</b></p> <p><b>State level</b></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 two power reactors and eight research reactors are in operation in India, Eight 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 Atomic Power Station

The Kakrapar Atomic Power Station (KAPS) is a nuclear power station in India, which lies in the proximity of the Surat city in the State of Gujarat. It consists of two 220 MW pressurized water reactors with heavy water as moderator and another two power station with the capacity of 700MW each is going to be critical soon. KAPS-1 went critical on 3 September 1992 and began commercial electricity production a few months later on 6 May 1993. KAPS-2 went critical on 8 January 1995 and began commercial production in 1 September 1995. 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. For this purpose, a Crisis Management Group (CMG) has been functioning since 1987 at DAE.
- 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 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). 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 18 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 18 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. For other areas it will be the District Magistrate (DM).
- 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 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 18 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 15. The local District Administration, the Crisis Management Group, DAE and the NCMC get involved in this type of Emergency.

### 8.8 Standard Operating Procedure (SOP) for Nuclear and Radiological Disasters

| <b>Emergency</b>                    | <b>Activity</b>  | <b>Responsibility</b>   |
|-------------------------------------|--|---|
| <b>Off-Site Emergency</b>           | <ul style="list-style-type: none"> <li>• Declare an off-site emergency in consultation with Site Director.</li> <li>• Activate an offsite emergency control centre.</li> <li>• Establish immediate communication with ERC, State Government and the CMG, DAE.</li> <li>• Arrange an immediate deployment of various Emergency Response Teams in affected sector(s).</li> <li>• Based on the emergency monitoring teams from off-site areas initiate counter measures (such as sheltering and prophylaxis) of different grades.</li> </ul>  | <b>Collector</b>  |
|                                     | <ul style="list-style-type: none"> <li>• Arrange an evacuation of the public to safer places.</li> <li>• 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.</li> <li>• Deploy QRMTs/MFRs consisting of physicians, triage officer, RSO, nurses and paramedical staff.</li> </ul>   | <b>Collector, Municipal Commissione, ERC, Home Dept., Health Dept.,</b>   |
|                                     | <ul style="list-style-type: none"> <li>• To ensure that necessary arrangements at evacuation/ relief centres is made with sufficient availability of:               <ol style="list-style-type: none"> <li>a. Food,</li> <li>b. Water,</li> <li>c. Blankets/Clothing</li> <li>d. Medicines</li> <li>e. Lighting</li> <li>f. Sanitation and hygiene etc.</li> </ol> </li> <li>• 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.</li> <li>• To ensure that law &amp; order is maintained at evacuated, relief centres and affected areas</li> </ul> | <b>COR, Civil Supply Dept., Collectors, Municipal Commissioner, Water Supply Dept., Health Dept., GEB, Energy &amp; Petrochemicals Dept., GWSSB &amp; Local Authorities, Home Dept.</b> |
|                                     | <ul style="list-style-type: none"> <li>• Make an arrangement for providing useful, timely, correct, consistent, and appropriate information to the public in the event of a nuclear or radiological emergency.</li> <li>• Ensure that the information to media/ general public about the coordinated response is released in an organized manner.</li> </ul>   | <b>Collector, COR, Info. Dept., Municipal Commissioner</b>  |
|                                     | <ul style="list-style-type: none"> <li>• Immediately activate and co-ordinate between the local authority in the affected area and the NCMC.</li> </ul>  | <b>CMG</b>  |
| <b>Nuclear/ Radiation emergency</b> | <ul style="list-style-type: none"> <li>• Recognise the existence of an abnormal situation.</li> <li>• Identify and characterise the source and its origin.</li> <li>• Initiate a quick and reliable monitoring methodology to detect the onset of an accident/emergency condition and</li> </ul>   | <b>ERC,DEA, AERB, CMG, Dist. Collector, CP, Municipal</b>   |



| Emergency                                      | Activity   | Responsibility   |
|--|--|--|
|  | assess its magnitude. <ul style="list-style-type: none"> <li>Communicate the situation to fire fighting and medical services, police, civil defence, transport, and other agencies.</li> <li>Estimate the dose via the relevant pathways (<b>Dose Limits for exposures to ionising radiations for occupational workers given in Annexure 17</b>)</li> </ul>  | <b>Commissioner</b>  |
|  | <ul style="list-style-type: none"> <li>Support decision making on protective measures for the population and the environment.</li> <li>If required, distribute iodine tablets at the earliest (iodine prophylaxis).</li> <li>Respond quickly to the situation and mobilise resources at short notice.</li> <li>Initiate countermeasures at the earliest (for relief and rescue operations on the basis of actual radiation dose levels prevailing in different zones).</li> <li>Make sure immediate measures need to be taken as the situation develops.</li> <li>Ensure that the actions taken by the various agencies are well coordinated.</li> </ul> | <b>Dist. Collector, Municipal Commissioner, Health dept., ERC, COR,</b>                              |
|  | <ul style="list-style-type: none"> <li>Send prior information (in respect of dos and don'ts) to those likely to be affected by the accident/emergency. These include:</li> <li>Evacuation/ temporary relocation of the affected population, if required.</li> <li>Withdrawal and substitution of supplies of food and drinking water (based on actual measurement of contamination found in food and drinking water).</li> <li>Animal Husbandry and Agriculture Department personnel to ensure radiological protection following a nuclear emergency.</li> <li>Initiation of the recovery phase at an appropriate time.</li> </ul>                       | <b>COR, Home Dept., State EOC, Civil Supply Dept., Animal and Husbandry dept., Information dept.</b> |
| <b>‘Criticality’ Accidents</b>                 | <ul style="list-style-type: none"> <li>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.</li> </ul>   | <b>ERC, CMG, NEC, DAE</b>  |
| <b>Transportation of Radioactive Materials</b> | <ul style="list-style-type: none"> <li>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"> <li>ERC at Kakrapar</li> <li>SEOC at Gandhinagar</li> <li>Commissioner of Relief</li> </ul> </li> </ul>  | <b>DM or CP</b>  |
| <b>Radiological Dispersal Device</b>           | <ul style="list-style-type: none"> <li>Mobilise and operate incident command</li> <li>Oversee victims triage</li> </ul>  | <b>CMG, Dist. Collector, DM,</b>   |

| Emergency        | Activity  | Responsibility   |
|------------------|---|--|
| <b>Emergency</b> | <ul style="list-style-type: none"> <li>• Make sure that the site is cordoned and the perimeters are controlled and managed</li> <li>• Ensure notification and activation of special teams</li> <li>• Ensure traffic and access control</li> <li>• Ensure protection to at risk and vulnerable population</li> <li>• Gender issues must be kept in mind</li> <li>• Provide resources support and requests for assistance</li> <li>• Ensure public works coordination</li> <li>• Ensure public information, outreach, and communication activities.</li> <li>• Seal off the inner zone of 400m radius from the blast point as ‘no entry area’ except for emergency measures.</li> <li>• Perform life-saving rescue and emergency first aid for seriously injured.</li> <li>• Remove injured persons as far away as practical from the incident scene, especially in case of fire.</li> <li>• If medical attention is needed, assist in arrangements for medical assistance.</li> <li>• The medical personnel will be informed that radioactive contamination might exist on the victims and/or their clothing.</li> <li>• Identify all those who may have been exposed to a possible release of radioactive material.</li> <li>• Identify those involved with the incident or potentially contaminated by the incident at the scene, except those requiring emergency medical evacuation.</li> <li>• All individuals will be monitored and decontaminated, if necessary, and cleared after further medical treatment and discharged.</li> <li>• Record names, addresses, destinations, and telephone numbers of those individuals who cannot be persuaded to stay at the incident scene.</li> <li>• Prohibit eating, drinking and smoking in the incident area</li> <li>• Use a handy evaluation tool when demonstrating counter measures.</li> <li>• Advice to the local public following a Radiological Dispersal Device Explosion</li> </ul> <p>The public living in approximately twice the radius of the inner cordoned area are advised the following:</p> <ul style="list-style-type: none"> <li>• If present in the inner zone, to get monitored at the earliest</li> <li>• Avoid inadvertent ingestion</li> <li>• 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 radiation and radioactive airborne dust</li> <li>• Not to eat food until certified free from contamination</li> <li>• Avoid any smoke/dust</li> <li>• Turn on local radio/ TV channels for advice from</li> </ul> | <b>Municipal Commissioner, CP, ERC, EOC, COR, Info. Dept., Home Dept., local authority, Health Dept. Civil supply Dept.,</b> |

| <b>Emergency</b>  | <b>Activity</b>   | <b>Responsibility</b>              |
|---|---|------------------------------------|
|   | <p>emergency response centres/ health authorities</p> <ul style="list-style-type: none"> <li>• Remove contaminated clothes and place these in a sealed plastic bag</li> <li>• Take a shower to wash off dust and dirt. This will reduce total radiation exposure</li> <li>• 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</li> </ul> |                                    |
| <b>Loss or Theft of Radioisotopes/ Radioactive Material</b> | <ul style="list-style-type: none"> <li>• 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.</li> <li>• Theft of sources should be dealt jointly by law and order enforcement agencies and radiation protection experts.</li> </ul>  | <b>Home Dept., Dist. Collector</b> |

## *Chapter 9 : Action Plan for Fire*

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## 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.<sup>1</sup>

## 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 12<sup>th</sup> 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-fledged Fire & Emergency Services operational in the all eight Municipal Commissionerate 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.     | <b>Disaster and Plan Activation</b>  | <ul style="list-style-type: none"> <li>• Activate fire emergency plan in consultation with SCG</li> <li>• Activate DCG</li> <li>• Establish immediate communication with LCG, DCG, DEOC, SEOC, GSDMA and CCG</li> </ul>   | <b>Director – Fire Prevention Services Collector, Municipal Commissioner</b>                    |
| 2.     | <b>Mobilization &amp; Deployment</b> | <ul style="list-style-type: none"> <li>• Arrange an immediate deployment of various ERTs in affected sector(s). (Police, Fire, S&amp;R, Medical, etc.)</li> <li>• Based on the emergency monitoring teams from affected areas initiate counter measures (such as sheltering and medical help)</li> <li>• Arrange an evacuation of the affected/ likely</li> </ul> | <b>Director – Fire Prevention Services, Collector, Municipal Commissioner, DCG, Home Dept.,</b> |

|  |                      |   |   |
|--|----------------------|---|---|
|  |                      | <p>to be affected people, workers and population to safer places</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Deploy QRMTs/ MFRs consisting of physicians, triage officer, nurses and paramedical staff</li> </ul>   | <b>Health Dept.,<br/>Industry/<br/>Industrial<br/>Association</b>   |
|  | <b>Fire Fighting</b> | <ul style="list-style-type: none"> <li>• Rush immediately to the site of Fire</li> <li>• Extinguishing the fire</li> <li>• Ventilation for dousing the fire</li> <li>• Search &amp; Rescue the affected persons</li> <li>• Containment of the Fire</li> </ul>   | <b>Director – Fire<br/>Prevention<br/>Services,<br/>Chief Fire Officer,<br/>Regional Fire<br/>Officer</b>   |
|  | <b>Evacuation</b>    | <ul style="list-style-type: none"> <li>• To ensure that necessary arrangements at evacuation/ relief centers is made with sufficient availability of: <ul style="list-style-type: none"> <li>xv) Food,</li> <li>xvi) Water,</li> <li>xvii) Blankets/Clothing</li> <li>xviii) Medicines</li> <li>xix) Lighting</li> <li>xx) Sanitation and Hygiene, etc.</li> </ul> </li> <li>• 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</li> <li>• To ensure that law and order is maintained at evacuation/relief centers and in the affected areas as well</li> </ul> | <b>Civil Supply Dept.,<br/>Home Dept.<br/>Collectors,<br/>Municipal<br/>Commissioner,<br/>Water Supply<br/>Dept., Health<br/>Dept., GEB, Power<br/>&amp; Energy Dept., &amp;<br/>Local Authorities,<br/>Regional Fire<br/>Officer</b> |
|  |                      | <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• The team leader will designate in-charge of relief centers and keep in touch with them</li> </ul>   | <b>Collector,<br/>Municipal<br/>Commissioner<br/>PSD<br/>Home Dept,<br/>Fire &amp; Emergency<br/>Services, Civil<br/>Defense, Revenue<br/>Dept<br/>Regional Fire<br/>Officer</b>  |



|   |   |   |   |
|---|---|---|---|
|   |   | <p>for regular head count and care of evacuees</p> <ul style="list-style-type: none"> <li>Police, Fire, Civil Defence &amp; Home Guard (CD &amp; HG) and other government employees may have to go door to door to ensure that residents have been alerted about the fire</li> </ul>  |   |
| 3.  | <b>Addressing Health Related Issues</b> | <ul style="list-style-type: none"> <li>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</li> <li>Ensure that the hospitals are well prepared to deal with seriously injured/burn cases</li> <li>Keep adequate stock of essential medicines, antidotes, first-aid, Burn bed etc. at taluka /district hospitals.</li> <li>If required, take the help of doctors/paramedics from the list of doctors/paramedics available at the taluka/district level for immediate medical assistance</li> </ul> | <b>Health Dept.</b>   |
| 4.  | <b>Information to public and media</b>  | <ul style="list-style-type: none"> <li>Make an arrangement for providing useful, timely, correct, consistent, and appropriate information to the public and media in the event of a fire incident</li> <li>Ensure that the information to media/general public about the coordinated response is released in an organized manner.</li> </ul>  | <b>Municipal Commissioner, Collector, Commissioner of Info., Fire &amp; Emergency Services</b>            |
| 5.  | <b>Dignified Management of the Dead</b> | <ul style="list-style-type: none"> <li>Ensure following procedure is followed before disposal/handing over of dead bodies: <ul style="list-style-type: none"> <li>e. Photographs of the dead bodies are taken,</li> <li>f. Identification of the dead bodies is done,</li> <li>g. Post Mortem wherever necessary and possible is carried out,</li> <li>h. Handing over dead bodies of persons known/identified to their relatives</li> </ul> </li> <li>Disposal of unclaimed and unidentified dead bodies</li> </ul>  | <b>Collector, Municipal Commissioner, PSD Health Dept., Revenue Dept., Home Dept., Local Authorities,</b> |
| <b>Roles and Responsibility of Some of The First Responders during Fire</b> |   |   |   |
| 1   | <b>Police (Law and Order)</b>           | <ul style="list-style-type: none"> <li>Control and divert the traffic near the fire affected areas</li> <li>Ensure law and order at the incident site during fire emergency/ disaster and at evacuation centres too.</li> </ul>   | <b>Home Dept.</b>   |

|    |                            |   |   |
|----|----------------------------|---|---|
|    |                            | <ul style="list-style-type: none"> <li>• Provide security in evacuated areas</li> <li>• 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.</li> <li>• 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.</li> <li>• Review the dissemination of warning and the need for evacuation. Assist the Fire &amp; Emergency Services with Police Wireless sets so that there is continuous communication among the first responders in the emergency situation.</li> <li>• In case of big explosion and fire, assess the situation and suggest a Plan of Action based on assessment of the immediate causation.</li> <li>• Order deployment of the police force for evacuation of the people from the zone of the danger.</li> </ul> |   |
|    | <b>Search &amp; Rescue</b> | <ul style="list-style-type: none"> <li>• Reach at the site as soon as possible and assess the situation (information about the chemical leak/spill, the action taken and current status)</li> <li>• 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'.</li> <li>• Secretary, UDD will coordinate redeployment of Fire Tenders from other places, as required</li> <li>• 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</li> <li>• 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.</li> </ul>  | <b>Collector, Municipal Corporation, Fire and Emergency Services (F&amp;ES)</b> |
| 3. | <b>Medical Support</b>     | <ul style="list-style-type: none"> <li>• Provide the necessary expertise and specialized services to the SCG</li> <li>• Deploy all the necessary medical facilities including doctors, nurses, medicines and ambulances in the affected areas</li> </ul>  | <b>Health &amp; Family Welfare Department, Commissioner of health,</b>          |

|  |                           |  |  |
|--|---------------------------|--|--|
|  |                           | <p>Alert major hospitals (both government &amp; private) in the area and ask them to be in readiness for receiving patients</p> <ul style="list-style-type: none"> <li>• Collect information on the number of deaths and persons injured; the nature of injuries and the likely long-term consequences</li> <li>• 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.</li> </ul> | <p><b>Civil Surgeon,<br/>District/ Municipal<br/>Corporation<br/>Hospitals</b></p> |
|  | <b>Incident Reporting</b> | <ul style="list-style-type: none"> <li>• Primary Incident report to be prepared and submitted the higher authorities</li> <li>• Detailed investigation report of the incident to be prepared and submitted to the higher authorities</li> </ul>  | <p><b>UD &amp; UHD, State<br/>Fire Prevention<br/>Services</b></p>                 |

## **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 doctors<sup>4</sup>.

### 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 companies<sup>5</sup>.

### 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 faces 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.

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

<sup>5</sup> [https://en.wikipedia.org/wiki/SIM\\_swap\\_scam](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.     | <b>Warning Receipt and Dissemination</b> | 201. Report the occurrence of Cyber Attack to following officials: <ul style="list-style-type: none"> <li>Hon. Chief Minister</li> <li>Hon. Minister – Disaster Management</li> <li>Chief Secretary</li> <li>Principal Secretary (DST)</li> <li>Chief Executive Officer, GSDMA</li> <li>Members of Crisis Management Group</li> <li>Ministers and Secretaries of all line departments</li> </ul> 202. Remain in constant touch with CERT-In. | <b>Department of Science &amp; Technology, GIL, NIC.</b>                |
| 2.     | <b>Interdepartmental Coordination</b>    | 203. Instruct and alert all secretary / heads of departments of the key line departments to activate SOPs for Cyber Attack.           204. Alert all response teams in the State           205. Coordinate with all the ISP and TSP.   | <b>Department of Science &amp; Technology and All line departments.</b> |
| 3.     | <b>Creation of Helpline</b>              | 206. Establish Help Lines for facilitating communication between the departments and other services for immediate help.  |   |
| 4.     | <b>Information to public and media</b>   | 207. Establish Media/Press Centre for media management and information dissemination           208. Ensure that the information to media/general public about the response of the State Government is released in an organized manner.           209. Release information at appropriate time to media and public regarding response measures organized by the Government  | <b>Information Dept., PIB, TV channels, Print Media, Social Media.</b>  |
| 5.     | <b>State Data Center</b>                 | 210. Form a response team           211. Identifying preparedness Gap.   | <b>Department of Science &amp;</b>                                      |

|           |               |   |   |
|-----------|---------------|---|---|
|           |               | 212. Block IP address of unknown origin.<br>213. Block server communication to system.<br>214. Encryption of session ID<br>215. Block malicious sites.<br>216. Block malicious sites/ IP addresses.<br>217. Enhancing response to cyber incidents & Reducing cyber risk.<br>218. Use your backup servers.<br>219. Use Data Encryption in transit.<br>220. Isolate system where breach has occurred<br>221. Investigate quickly by identifying the systems and manage the damage<br>222. Response team is investigating the attack; ensure that they are documenting both their process and their findings.<br>223. Contact clients & ask them to change their password.<br>224. Data centre disaster recovery for resuming business operation & continuity. | <b>Technology and Service providers for Data Centre, GIL.</b> |
| <b>6.</b> | <b>GSWAN</b>  | 225. Immediately stop unauthorised access control.<br>226. Updation of network security and firewalls.<br>227. Make backup of data and arrangements/availability of critical standby network equipment (Core, Switches & Router etc.)<br>228. Make backup copies of important business data and information.<br>229. Set up alarm systems for any attack (IT & website along with peripherals equipments & internet).<br>230. Secure your Wi-Fi networks. If you have a Wi-Fi network for your workplace make sure it is secure and hidden.<br>231. Use Data Encryption in transit.   | <b>GSWAN service provider, DST.</b>                           |
| <b>7.</b> | <b>E Gram</b> | 232. Updation of network security and firewalls.<br>233. Physical security of E Gram infrastructure.  | <b>Panchayat and rural housing dept. and E Gram service</b>   |

|            |   |   |   |
|------------|---|---|---|
|            |   | 234. All the servers must be protected against cyber attacks through change of access passwords.  | <b>providers.</b>   |
| <b>8.</b>  | <b>Pol Net</b>                            | 235. Form a response team<br>236. Identifying preparedness Gap<br>237. Block malicious sites<br>238. Enhancing response to cyber incidents and Reducing cyber risk<br>239. Use your backup servers<br>240. Isolate where breach has occurred<br>241. Investigate quickly by identifying the systems and manage the damage<br>242. Response team is investigating the attack; ensure that they are documenting both their process and their findings.<br>243. Contact clients & ask them to change their password.<br>244. Download and install software updates for your operating systems and applications as they become available. | <b>Home Department, DCPW and GFSU.</b>  |
| <b>9.</b>  | <b>Telecommunication</b>                  | 245. Routing protocols and DNS infrastructure.<br>246. Protection of the servers and user data.<br>247. Secure your Wi-Fi networks. If you have a Wi-Fi network for your workplace have make sure it is secure and hidden.  | <b>Telecommunication dept., ISP, TSP</b>  |
| <b>10.</b> | <b>Banking and Financial Institutions</b> | 248. Control physical access to your computers and network components.<br>249. Servers must be fully protected with firewalls and updated.<br>250. All the servers of banks and financial institutions must be protected against cyber attacks by adding more layers of security.<br>251. See that LAN terminals are also encrypted.<br>252. Limit employee access to data and information and limit authority to install software.<br>253. Increase the physical security of the work place of banks / financial institutions.   | <b>Finance department, All banks nationalized and others, financial instructions.</b> |
| <b>11.</b> | <b>E Commerce</b>                         | 254. Servers must be fully protected with firewalls and updated.  | <b>DST, IT, All Service</b>   |

|            |                                       |   |  |
|------------|---------------------------------------|---|--|
|            |                                       | <p>255. All the servers must be protected against cyber attacks through change of access passwords.</p> <p>256. Ensure safety of data of users and service providers.</p> <p>257. Be aware if any malicious calls / information being asked over telephone, mobile or other modes.</p> <p>258. Identify the actual site while doing any financial transaction.</p> <p>259. Limit employee access to data and information and limit authority to install software.</p> | <b>Providers, Consumers.</b>   |
| <b>12.</b> | <b>Citizens</b>                       | <p>260. Don't open or click unsolicited Email addresses.</p> <p>261. Don't share ATM or other pin code to anyone unknown, change them regularly.</p> <p>262. Don't respond on suspicious mobile call.</p> <p>263. Don't respond on suspicious / malicious emails.</p> <p>264. Keep passwords strong and don't share them with anyone.</p> <p>265. Report to the suspicious calls or emails.</p> <p>266. Don't use cyber cafe for the financial transactions.</p>      | <b>Consumers / citizens.</b>   |
| <b>13.</b> | <b>Websites/Emails</b>                | <p>267. Don't open or click attachments.</p> <p>268. Don't open or click unsolicited Email addresses.</p> <p>269. Avoid submitting financial details in the malicious sites or emails.</p> <p>270. Keep changing passwords and security.</p> <p>271. Prefer "HTTPS" URL instead of HTTP.</p>  | <b>Nodal Officers of all departments, Service Providers.</b>                     |
| <b>14.</b> | <b>Energy and Petrochemical Dept.</b> | <p>272. Protection of automated grids.</p> <p>273. Protection of Electricity and Gas routes.</p> <p>274. Automated plans need to be protected / firewall protection.</p>  | <b>Energy &amp; Petrochemical sector, All line depts. Pvt service providers.</b> |
| <b>15.</b> | <b>Transportation</b>                 | <p>275. Automated road traffic management plan need to be protected from attacks.</p> <p>276. Railways, Airways and IT</p>  | <b>Railways, Air Traffic Controller,</b>   |

|            |  |   |  |
|------------|--|---|--|
|            |  | <p>infrastructure must be protected to avoid any disruption.</p> <p>277. Servers must be fully protected with firewalls and updated.</p>  | <b>GSRTC, Pvt. service providers.</b>                          |
| <b>16.</b> | <b>Water Sector</b>  | <p>278. Computer controlled systems needs to be protected.</p> <p>279. See that the water discharge system is made full proof from cyber attack.</p> <p>280. Use of a firewall for Internet connection.</p>   | <b>Narmada &amp; water resource dept.</b>                      |
| <b>17.</b> | <b>Establishment of Lines of Alternate Communication</b>         | <p>281. Activate alternative communication equipments.</p> <p>282. Establish communication links with all the departments.</p>  | <b>DST and Information Dept., Dept of Home and line depts.</b> |
| <b>18.</b> | <b>Review and Reporting</b>                                      | <p>283. Review and monitor following activities:</p> <ul style="list-style-type: none"> <li>○ Positioning of mobile communication units</li> <li>○ Mobilization of restoration teams of respective departments</li> <li>○ Dissemination of information to the vulnerable facilities</li> <li>○ All preparedness measures to be taken by various authorities</li> </ul> <p>284. Keep in touch with other depts. and agencies.</p>  | <b>DST and Information Dept.</b>                               |
| <b>19.</b> | <b>Preliminary Assessment and Dissemination of Information</b>   | <p>285. Arrange dissemination of information about occurrence of Cyber Attack to Media &amp; Public and steps taken by the govt. to thwart the attack.</p>  | <b>DST, IT, and all line depts.</b>                            |
| <b>20.</b> | <b>Restoration of critical infrastructure/essential services</b> | <p>286. 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>287. Ensure that key administrative and lifeline data centre, websites are brought back to operation quickly</p> <p>288. Ensure following primary necessities are restored</p> <ul style="list-style-type: none"> <li>○ Telecommunication.</li> <li>○ Power.</li> <li>○ Transport.</li> <li>○ Internet.</li> </ul> | <b>DST, IT, ISP, TSP, Line Depts.</b>                          |

|     |                   |  |  |
|-----|-------------------|--|--|
| 21. | <b>Debriefing</b> | <p>289. Secure all records in the log book.</p> <p>290. Compile a report which list the lessons learnt on the attack.</p> <p>291. Assessment of situation how one would have responded if the emergency had escalated further.</p> <p>292. Decide on changes and or improvement to the emergency management procedures and update SOP accordingly.</p> <p>293. Ensure that the MOUs with the service providers are appropriate if emergency reoccurred.</p> <p>294. 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<br>(Control Room)  | 011 23092923 011<br>23093054 011<br>23092885 011<br>23092763 | 011-23093750                 |
| 2   | National Disaster Management<br>Authority (NDMA)<br>NDMA Bhawan, A-1, Safdarjung<br>Enclave, New Delhi - 110 029 | 011-26701728<br>011-26701700                                 | 011-26701729                 |
| 3   | IMD (Seismo), New Delhi  | 011 24619943<br>011-24624588                                 | 011-24619943<br>011-24649850 |
| 4   | IMD (MET), Ahemdabad   | 079-22865165<br>079-22867206<br>079-22858020                 | 22865449<br>22864742         |
| 5   | State Emergency Operation Center<br>(SEOC), Gandhinagar  | 23251900 /23251902<br>23251907/08 23251914                   | 23251912<br>23251916         |
| 6   | Flood Control Cell -IRRIGATION<br>1st Floor, State Data Water Data<br>Center, Sector-8, Gandhinagar              | 23248735<br>23248736   | 23240553                     |
| 7   | Flood Control Cell- R&B Deptt. Ground<br>Floor Nirman Bhavan, Sector 10,<br>Gandhinagar                          | 23251510   | 23257681                     |
| 8   | Control Room -HEALTH - PMCC<br>Ground Floor, Block No.5, Old<br>Sachivalaya, Gandhinagar.                        | 23250818   | 23250818                     |
| 9   | DGP, Police Bhavan, G'nagar (State<br>Control)<br>DYSP (I/C Control Room) 23249257                               | 23246328<br>23246330/31                                      | 23246329                     |
| 10  | Control Room - NEW SACHIVALAYA<br>(HOME) Block No. 2, Ground Floor, New<br>Sachivalaya, G'nagar                  | 23252957<br>23252958   | 23252075                     |
| 11  | Police Commissioner, Ahemdabad   | 25633636/25630100/<br>200/300/400                            | 25630600<br>25630700         |
| 12  | Guj. Maritime Board, G'nagar   | 23224758   | 23236499                     |
| 13  | G.E.B. Vadodara  | 0265-2330017   | 2337918<br>2338164           |
| 14  | GSRTC, Ahemdabad<br>(1) Chief Traffic Commercial Managar<br>(2) Transporation Suptdt.                            | 999895089<br>22801264 (O)                                    | 22803057 (F)                 |
| 15  | ISR, Gandhinagar   | 66739000/66739102  | 66739028                     |
| 16  | Control Room- GWSSB, Ground Floor,<br>Jalseva Bhavanm GWSSB, Sector-10 A,<br>Gandhinagar.                        | 23220859   | 23225979                     |



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

## I. National Level

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

| Sr. No. | Name                      | Designation                            | Office  | Resi.  | Mobile                   |
|---------|---------------------------|--|---|--|--------------------------|
| 1       | Shri Amit Shah            | Hon.Home Minister                      | 011-23092462<br>011-23094686<br>23094221 (PH)                               | 23793881<br>23014184<br>23012151<br>(Tele/Fax) | -                        |
| 2       | Shri Rajiv Gauba          | Home Secretary                         | 011-23092989<br>011-23093031<br>23093003 (Fax)                              | 23011863                                       | 9871155114               |
| 3       | Shri Govind Mohan         | Ad Secretary (BM)                      | 23092440<br>23092717 (Fax)  | 24670679                                       | 9811455220               |
| 4       | Shri Sanjeev Kumar Zindal | Jt.Secretary (Disaster Management)     | 011-23438087<br>23438096  | 24677927                                       | 9999455559<br>9910391422 |
| 5       | Shri Rohtash              | DIR. (Disaster Management-III)         | 011-23438071  | 26265646                                       | 9968227714               |
| 6       | Shri Sudhirkumar Rai      | Director (Disaster Management-I) (I/C) | 011-23438123<br>23438071 (Fax)  | 26266708                                       | -                        |
| 7       | Shri Pradipkumar          | DS (DM-II)                             | 011-23438154  | -  | 9958200960               |
| 8       | Shri Surendrakumar Thakur | US. (Disaster Management-III)          | 011-23438102<br>011-23438123  | -  | 9868137577               |
| 9       | Control Room (MHA)        |  | 011-23093563,<br>23092763,<br>23093450,<br>23093564<br>FAX-<br>011-23092398 | -  | -                        |

### 2. National Disaster Management Authority

| Designation      | Name                           | Office          | Fax             | Email Id              |
|------------------|--------------------------------|-----------------|-----------------|-----------------------|
| Member Secretary | Shri G.V.V. Sarma, IAS (Retd.) | 011<br>26701710 | 011<br>26701716 | secretary@ndma.gov.in |

|                               |  |   |              |  |
|-------------------------------|--|---|--------------|--|
| Member                        | 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 | rajendra.59@ndma.gov.in                              |
| Member                        | Shri Krishna Vatsa   | 011-26701776  | -            | krishna.vatsa@ndma.gov.in                            |
| AS (Policy & Plan)            | Dr. V.Thiruppugazh, IAS,   | 011-26701747  | 011-26701816 | jspp@ndma.gov.in                                     |
| JS (Admin)                    | Sh. Ramesh Kumar Ganta, IAS                                      | 011-26701718  | 011-26701864 | jsadm@ndma.gov.in                                    |
| JS (Mitigation)               | Sh. Sandeep Poundrik, I.A.S                                      | 011-26701710  | 011-26701713 | js-mitigation@ndma.gov.in                            |
| Financial Advisor             | Shri Ravinesh Kumar  | 011-26701709  | 011-26701715 | fa@ndma.gov.in                                       |
| Advisor (Ops & Communication) | Brig. Ajay Gangwar   | 011-26701886  | -            | advopscomn@ndma.gov.in                               |
| NDMA Control Room             |  | 011-26701728<br>9868891801<br>9868101885<br>Helpline No. 011-1078 | 011-26701729 | controlroom@ndma.gov.in<br>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<br>Dir. INCOIS<br>Indian National Centre for Ocean<br>information services<br>director@incois.gov.in<br>shenoi@incois.gov.in | 23886000<br>23886002                | 7842043155 | 09441013377 | 23895012             |
| T.Srinivasa Kumar<br>Scientist Incharge, ITWC (Interim<br>tsunami warning centre)<br>srinivas@incois.gov.in  | 23895006<br>23886006                | 65863870   | 09441229297 | 23895012             |
| Dr. E.Pattabhi Ram Rao<br>(Data Management Group)<br>pattabhi@incois.gov.in  | 23895008                            | 23046412   | 09490191923 | 23895001             |
| Satyanarayana B.V.<br>Head, CWG<br>bvs@incois.gov.in   | 23895005                            | -          | 09490191670 | 23895001             |
| Control Room Tsunami warning<br>centre (Operation Centre)  | 23895011/19<br>23886064<br>23886034 | -          | -           | 23895019<br>23895012 |

#### 4. National Institute of Ocean Technology (NIOT)

| Designation                         | Name                             | Office               | Residence       | Fax                  | E Mail                                       |
|-------------------------------------|----------------------------------|----------------------|-----------------|----------------------|--|
| Dr.<br>M.A.Atmanan<br>d<br>Dir NIOT | 044-66783301<br>04406678357<br>5 | 044-<br>2259039<br>1 | 0944439980<br>0 | 044-<br>2246027<br>5 | director@niot.res.i<br>n<br>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 Puspendrakumar | (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<br>(O/F)079-29750313<br>(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.)<br>(R)2683(Ext.),<br>(Fax)22856251,22861902<br>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,<br>(R) 23201117<br>(M) 8155022787 |
| 3   | Gandhinagar | Capt. Baxi                | (M) 9888657335                                 |

#### Airforce

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

#### Coastguard

Address : 7th Floor, Udhog Bhavan, Gandhinagar

| No. | City        | Name                                    | (O)   |
|-----|-------------|---|---|
| 1   | Gandhinagar | D.I.G. V. Anbarasan                     | (O)23241717, 23243264<br>(R) 23244123<br>(Fax) 23243283<br>(M) 8826650012 |
| 2   | Porbandar   | D.I.G. I.S.Chauhan                      | (O)0286-2242450<br>(Fax) 0286-2210559<br>(M) 9427505170/<br>9099906726    |
| 3   | Okha        | D.I.G. M.K.Sharma<br>Commanding Officer | (O) 2892-262261/60,<br>(F) 02892-263421                                   |
| 4   | Veraval     | Comdt. A.R.Bhatt<br>Commanding Officer  | (O) 2876-241352,<br>(F) 02876-241353                                      |

|   |          |   |  |
|---|----------|---|--|
|   |          |   | (M)9486128940  |
| 5 | Mundra   | Comdt. (JG) Shri Sisodiya<br>Commanding Officer | (O) 02838-271402/03,<br>(F) 02838-271404<br>(M)8800229334,<br>7838986026 |
| 6 | Jakhau   | Comdt. Ashok Kumar<br>Commanding Officer        | (O) 02831-294521,<br>(F) 02831-286432<br>(M)7598404091                   |
| 7 | Vadhinar | Comdt. Raman Kumar<br>Commanding Officer        | (O) 02833-256333,<br>(F) 02833- 256560<br>(M)9099028767                  |

#### 6. India Meteorological Department and Observatories

| No. | Name                     | Desi.   | (O)  | (R)                        | (F)  | Email ID                |
|-----|--------------------------|---|--|----------------------------|--|-------------------------|
| 1   | Dr. Mrutyunjay Mohapatra | Director General of Meteorology, Mausam Bhavan, Lodi Road, New Delhi-3. | 011-43824201<br>011-43824253<br>011-43824225 | 9868733464                 | 011-24611792<br>24699216                     | dgm.hg@imd.gov.in       |
| 2   | Dr.M.Mohapatra           | Sc-G Mausam Bhavan, Lodi Road, New Delhi-3.                             | 011-24652484<br>011-43824304                 | 9868623475                 | 011-24623220<br>011-24699216                 | -                       |
| 3   | Dr. Medha Khole          | D.D.G.M. (WF) I.M.D. Shivaji nagar, Pune                                | 020-25535886                                 | 020-25520680               | 020-2553886,<br>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<br>022-22150405<br>(Fax)        | 022-28234137<br>9757218578 | 022-22184937<br>022-22130824<br>022-22154098 | -                       |
| 6   | Dr.Jayanta Sarkar        | Director, M.C. Ahmedabad I/C  | 079-22865165<br>079-                         | 9426805439                 | 079-22865165                                 | mcahm@rediffmail.com    |

|   |                          |                                 |                                      |                          |                                      |                         |
|---|--------------------------|---------------------------------|--------------------------------------|--------------------------|--------------------------------------|-------------------------|
|   |                          |                                 | 22858020                             |                          |                                      |                         |
| 7 | Mrs.Manoram<br>a Mohanty | Scientist- D, M.C.<br>Ahmedabad | 079-<br>22865012<br>079-<br>22865449 | 9428909340               | 079-<br>22865449                     | metahm01@<br>gmail. com |
| 8 | Sh.vigin Lal F.          | Scientist-<br>B,M.C.Ahmd.       | 079-<br>22858020                     | 9604465468<br>7567288582 | 079-<br>22865449                     |                         |
| 9 | Control Room             |                                 | 079-<br>22867206<br>079-<br>22865449 |                          | 079-<br>22867206<br>079-<br>22865449 |                         |

### 7. Airport Authority of India

| No. | Airport                           | Designation & Name                                     | Tel No.(O)/Mobile<br>No./Fax                           |
|-----|-----------------------------------|--|--|
| 1   | S.V.P.I. Airport,<br>Ahmedabad    | Sh. A. K. Verma<br>Offtg. Airport Director             | (O)22869211<br>(M) 9825024022<br>(F)22863561           |
| 2   | S.V.P.I. Airport,<br>Ahmedabad    | Shift Duty Airport Manager T-<br>1 (Domestic Terminal) | (O)22869266<br>(M)90999 51141                          |
| 3   | S.V.P.I. Airport,<br>Ahmedabad    | Shift Duty Airport Manager T-<br>2 (Domestic Terminal) | (O)22858058<br>(M)90999 51142                          |
| 4   | S.V.P.I. Airport,<br>Ahmedabad    | Shri Sanjesh Kumar,<br>Dy. General Manager<br>(T.M.)   | (O) 22885520<br>(M)9426591975                          |
| 5   | S.V.P.I. Airport,<br>Ahmedabad    | Shift Duty Officer<br>Air Trafic Control Tower         | (O)22869251  |
| 6   | S.V.P.I. Airport,<br>Ahmedabad    | Shri A. K. Verma<br>General Manager (A.T.M.)           | (O) 22863396<br>(M) 9414166522                         |
| 7.  | S.V.P.I.<br>Airport,<br>Ahmedabad | Sh. Ajay Kumar<br>DGM(HR)/PIO                          | (O) 22858005<br>(M) 9512085670                         |
| 7   | Rajkot                            | Airport Directer,Rajkot Airport<br>Shri A.N. Sharma    | (O) 0281-2451849<br>(F) 0281-2453009<br>(M) 9427207439 |
| 8   | Vadodra                           | Airport Directer Vadodra Airport<br>Sri Charan singh   | (O) 0265-2482228,<br>2481356, 2486718<br>(F)2482741,   |

|   |           |   |   |
|---|-----------|---|---|
| 9 | Bhavnagar | Airport Director,Bhavnagar<br>Airport<br>Ms.Sudha.R.Morli | (O) (1) 0278-2212971<br>(2) 0278-2208226<br>(M) 91766 70236 |
|---|-----------|---|---|

### 8. Western Railway

Security Helpline (Suburban) 1311

Security Helpline (All India) 182

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

### Western Railway - Headquarter Office (Mumbai)

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

## II. State Level

### 1. Gujarat State Disaster Management Authority, (GSDMA)

| No.  | Name                          | Designation                         | (O)  | (M)                          |
|--|-------------------------------|-------------------------------------|--|------------------------------|
| 1  | Shri Dilipkumar Viraji Thakor | Minister,<br>Disaster<br>Management | 23250127<br>23250128<br>23250129<br>23250306-Fax | 9879598166<br>9978405945     |
| 2  | Smt. Anuradha Mall,<br>IAS    | Chief Executive<br>Officer          | 23259276   | 99784 05367<br>ceo@gsdma.org |
| 3  | Shri H.G.Vyas                 | PS to CEO                           | 23259276   | 9276800421                   |
| 4  | Shri Victor Mecwan,<br>IAS    | Additional CEO                      | 23259451   | 99099 73692                  |
| 5  | Vacant                        | Director                            | 23259219   | -                            |
| 6  | Shri Yogita N. Parmar         | Director (Finance)                  | 23259278   | 9925470936                   |
| <b>Gujarat Institute of Disaster Management (GIDM)</b> |                               |                                     |  |                              |
| 1  | Shri P.K.Taneja,<br>Retd.IAS  | Director General<br>(GIDM)          | 23275801/804                                     | 9978406146                   |
| 2  | Shri Sanjay Joshi             | Director (F & A)                    | 232-75811<br>Fax 232 75814                       | 9978407173                   |

### 2. SEOC Important Telephone Numbers - (079)

| Sr. No. | Name                 | Designation   | Office   | Mobile No. |
|---------|----------------------|---|----------|------------|
| 1       | Shri T.J.Vyas        | Deputy Collector  | 23251900 | 9978405741 |
| 2       | Shri M.B.Desai       | Mamlatdar   | 23251900 | 6355953084 |
| 3       | Shri M.D.Trivedi     | Mamlatdar   | 23251900 | 9979086285 |
| 4       | Shri P.L.Gothi       | Mamlatdar   | 23251900 | 9825632758 |
| 5       | Shri G.P.Bhayani     | Deputy Mamlatdar  | 23251902 | 9825097079 |
| 6       | Shri U.V.Rao         | Deputy Mamlatdar  | 23251902 | 9898029872 |
| 7       | Shri E.G.Patel       | Deputy Mamlatdar  | 23251902 | 9714018789 |
| 8       | Shri Ashok Rathod    | Deputy Mamlatdar  | 23251902 | 9925222402 |
| 9       | Shri Sandip Dhadiya  | Deputy Mamlatdar  | 23251902 | 8000005595 |
| 10      | Shri Jogidan Gadhavi | Deputy Mamlatdar  | 23251902 | 9274480700 |
| 11      | Shri J.J.Patel       | Deputy Mamlatdar  | 23251902 | 9016919636 |
| 12      | Shri R.V.Sakhreliya  | Deputy Mamlatdar  | 23251902 | 9925140999 |
| 13      | Shri N.B.Soni        | Deputy Mamlatdar  | 23251902 | 7622000225 |
| 14      | Shri M.N.Thakar      | Deputy Mamlatdar  | 23251902 | 8128147859 |
| e-mail  |                      | revcontrol1@gujarat.gov.in / revcontrol2@gujarat.gov.in |          |            |
| SEOC    |                      | (O) 23251900,23251902,23251908                          |          |            |
|         |                      | (F) 23251912/23251916                                   |          |            |

### 3. 6Bn, NDRF, Chiloda Road, Gandhinagar

| No. | Designation | Name          | Tel. No.                                 |
|-----|-------------|---------------|--|
| 1   | Commanadant | Shri R.S.Joon | (O) 02668-274470, (R)274211<br>(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<br>(M) 9427304214<br>(M)8320459958         |
| 4 | Dy. Commandant (Administrative) | Shri A.K.Singh      | (M)9408683543  |
| 5 | Control Room                    |                     | 02668-274245(F)02668-274470,(M)9723639166<br>,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   | Dr.M Ravikumar       | Director General | 66739001<br>66739015(Fax) | -   | 8980809115               |
| 2   | Shri Dr.Sumer Chopra | Director ISR     | 66739002                  | -   | 9426564038<br>9910414038 |
| 3   | Shri Santosh Kumar   | Scientist-D      | 66739023                  | -   | 99252 43646              |
| 4   | Data Centre          | -                | 66739000<br>(F) 66739028  | -   | -                        |

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

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

## 7. Information and Communication

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

## 8. 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,<br>Chief Nautical officer, GMB,<br>Gandhinagar  | 23234716                      | 9979669659                 | 23234716     | solankiashwin@yahoo.com                          |
| 2        | Magdalla     | Capt. Rakesh Mishra,<br>Port Officer, 3 <sup>rd</sup> Floor, BSNL Bhawan,<br>Falsawadi, Nr. Belgium Tower, Surat-395003 | 0261-2430533                  | 9601254062                 | 0261-2435645 | pomagdalla@gmail.com                             |
| 3        | Gandhinagar  | Shri Gauravkumar Mehta &<br>Shri Ankur gupta (I/C)<br>Control Room, Head office,<br>Gandhinagar                         | 23238346                      | 9099938014 &<br>9909954710 | 23234704     | gkmehtaa@gmail.com &<br>ankurgupta.gmb@gmail.com |
| 4        | Bharuch      | Capt. Kuldeep singh(I/C),<br>Nautical officer & Port Officer,<br>GMB Near ST Bus Stand,<br>Bharuch                      | 02642-241772                  | 9998057507                 | 02642-243140 | dahejportoffice@gmail.com                        |
| 5        | Bhavnagar    | Capt. Sudhir Chhadha, Port Officer, GMB,<br>New Port, Bhavnagar   | 0278-2210558;<br>0278-2561221 | 9925153073                 | 0278-2571221 | sudhir_chadha@yahoo.com                          |
| 6        | Alang        | Capt. Sudhir Chhadha,<br>Port Officer (I/C)<br>GMB, Alang   | 02842-235621                  | 9925153073                 | 02842-235955 | alanggmb@yahoo.com                               |

|    |                     |  |                                       |                |                  |  |
|----|---------------------|--|---------------------------------------|----------------|------------------|--|
|    |                     | Ship recycling<br>Yard, Tal.<br>Talaja, Dist.<br>Bhavnagar,<br>ALANG   |                                       |                |                  |  |
| 7  | Jafrabad            | Capt. Sudhir<br>Chhadha, (I/C)<br>Port Officer<br>GMB ,<br>Jafrabad Port,<br>Dist.Amreli   | 02794-<br>245443                      | 99251530<br>73 | 02794-<br>245165 | gmbpojfd@gmail.c<br>om                   |
| 8  | Veraval             | Capt. Arvind<br>Kumar Mishra,<br>Port<br>Officer(I/C),<br>Gujarat<br>Maritime Board<br>Veraval Port,<br>Veraval  | 02876-<br>221139;<br>02876-<br>220001 | 90996947<br>47 | 02876-<br>243138 | poveraval@gmail.c<br>om                  |
| 9  | Porbandar           | Capt. Banshiva<br>Ladva, I/C Port<br>Officer, Gujarat<br>Maritime<br>Board,<br>Vaghesweari<br>Plot, Port<br>Colony No-1,<br>Porbndar port,<br>Porbandar. | 0286-<br>2242404                      | 98254121<br>86 | 0286-<br>2253664 | popbr1@rediffmail.<br>com                |
| 10 | Jamnagar            | CAPT. Banshiva<br>Ladva<br>Port Officer,<br>GMB, GMB<br>Complex,<br>Jamnagar   | 0288-<br>2712307                      | 96381121<br>86 | 0288-<br>2712815 | pojarn.gmb@gmail.<br>com                 |
| 11 | Navlakhi<br>(Morbi) | Capt. Niraj<br>Hirwani,<br>Pilot officer,<br>Near Rly.<br>Crossing, Char<br>Godown,<br>Morbi   | 02822-<br>227304                      | 95588016<br>12 | 02822-<br>234465 | <u>pfsonavlakhi@gmail</u><br><u>.com</u> |
| 12 | Okha                | CAPT.<br>R.K.Raman,<br>Port Officer,<br>GMB, Okha<br>Port, OKHA  | 02892-<br>262109                      | 99251530<br>38 | 02892-<br>262002 | portofficerokp@gm<br>ail.com             |
| 13 | Mandvi              | Shri R.C.Patel,<br>Port Officer, I/C   | 02834-<br>222633                      | 99251530<br>83 | 02834-<br>230033 | pomgmb@yahoo.c<br>o.in                   |

|  |  |                         |  |  |  |  |
|--|--|-------------------------|--|--|--|--|
|  |  | Mandvi Port,<br>Mandvi. |  |  |  |  |
|--|--|-------------------------|--|--|--|--|

### 9. 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<br>23229390                 | -        | 8275711100 |
| 4   | BSNL. Gandhinagar   | Shri R.Kumar Divi. Eng. (External)               | 23249555                             | -        | 9426604777 |
| 5   | BSNL. Gandhinagar   | Shri Shashank Johri Commercial Officer           | 23240999<br>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-<br>26481260                     | 26481420 | 9426622244 |
| 8   | Vodafone            | Head (Admin & Safty)<br>rajesh.roy2@vodafone.com | 079-<br>26577228<br>079-<br>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-<br>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            |
| <b>Sr. No.</b> | <b>Local Office</b>     | <b>Extn.No.</b> |
| 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             |
| <b>S. No.</b>  | <b>Other Office</b>     | <b>Extn.No.</b> |
| 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 | Water Supply            | 218 |
| 20 | R & B                   | 219 |

**2. Ahmedabad(STD Code :-079)**

| Sr. No. | Designation            | Name                 | Office             | Resi     | Mobile     | Fax                              | Email ID   |
|---------|------------------------|----------------------|--------------------|----------|------------|----------------------------------|--|
| 1       | Collector              | Shri K.K.Nirala      | 27551681           | 22863598 | 9978406201 | 27552144                         | <a href="mailto:collector-ahd@gujarat.gov.in">collector-ahd@gujarat.gov.in</a>           |
| 2       | Police Commissioner    | Shri Aashish Bhatiya | 25633434, 25886551 | 26924972 | 9978406258 | 25630600                         | <a href="mailto:cp-ahd@gujarat.gov.in">cp-ahd@gujarat.gov.in</a>                         |
| 3       | Municipal Commissioner | Shri Mikesh Kumar    | 25352828, 25391811 | -        | 9978405060 | 25354638, 26841203               | <a href="mailto:mc@ahmedabadcity.gov.in">mc@ahmedabadcity.gov.in</a>                     |
| 4       | D D O                  | Shri Arun MaheshBabu | 25506487           | -        | 9978406226 | 25511359<br>25511289<br>25507762 | <a href="mailto:ddo-ahd@gujarat.gov.in">ddo-ahd@gujarat.gov.in</a>                       |
| 5       | DSP (Rural)            | Shri Rajendra Asari  | 26890440           | -        | 9978406342 | 22686145                         | <a href="mailto:spsp-ahd@gujarat.gov.in">spsp-ahd@gujarat.gov.in</a>                     |
| 6       | Resi. Addl. Collector  | Shri H.M.Vora        | 27551682           | -        | 9978405173 | 27552144                         | <a href="mailto:addl-collector-ahd@gujarat.gov.in">addl-collector-ahd@gujarat.gov.in</a> |
| 7       | DRDA                   | Shri Pankaj Ondhiya  | 26643148           | -        | 9978407442 | 26643147                         | -  |
| 8       | ARDC                   | Shri Y.D.Gohil       | 27551047           | -        | 9978405198 | 27552144                         | <a href="mailto:addrdc-ahd@gujarat.gov.in">addrdc-ahd@gujarat.gov.in</a>                 |
| 9       | DSO                    | Shri Kajalben Tuvar  | 27551691           | -        | 9687361449 | 27552144                         | <a href="mailto:dso-ahd@gujarat.gov.in">dso-ahd@gujarat.gov.in</a>                       |
| 10      | Dy. DDO (Revenue)      | Shri G.D. Prajapati  |                    | -        | 9428001131 | 25507152                         | -  |



|    |                              |                    |          |          |                           |          |  |
|----|------------------------------|--------------------|----------|----------|---------------------------|----------|--|
| 11 | CDHO                         | Dr. S.K.Patel      | 25501204 | -        | 9099064001/<br>9099064799 | -        | <a href="mailto:cdho.health.ahmedabad4@gmail.com">cdho.health.ahmedabad4@gmail.com</a> |
| 12 | DEO, City                    | Shree R.C.PATEL    | 27912966 | -        | 9909970201                | -        | <a href="mailto:ahmcdeo@gmail.com">ahmcdeo@gmail.com</a>                               |
| 13 | DEO, Rural                   | Shree Rakesh Vyas  | 27913264 | -        | 9909970202                | 27910571 | <a href="mailto:ahmrdeo@gmail.com">ahmrdeo@gmail.com</a>                               |
| 14 | DPEO                         | Shri N.M.Patel     | 25507126 | -        | 9909971649                | 25501956 | <a href="mailto:dpeo.ddo.ahd@gmail.com">dpeo.ddo.ahd@gmail.com</a>                     |
| 15 | Dy.Muni.Commi.<br>(C.Z.)     | Shri V.K.Mehta     | 25391811 | 27436318 |                           | 22160774 | <a href="mailto:vkmehta@ahmedabadcity.gov.in">vkmehta@ahmedabadcity.gov.in</a>         |
| 16 | Dy.<br>Muni.Commi.(E.Z.<br>) | Shri Om Prakash    | 22970500 | 27543419 |                           | 25353114 |  |
| 17 | Dy.<br>Muni.Commi.(N.Z<br>)  | Shri K.B.Thakkar   | 22801182 | 22800803 |                           | 22804912 | -  |
| 18 | Dy.<br>Muni.Commi.(S.Z.<br>) | Shri R.K.Mehta     | 25465255 | 26460622 |                           | 25452253 | -  |
| 19 | Dy. Muni.Comi.<br>(N.W.Z.)   | Shri Mukesh Gadhvi | 26841201 |          |                           | 26841203 |  |
| 20 | Dy.Muni.Commi.<br>(W.Z)      | Shri Nitin Sangvan | 27552586 | 26600438 |                           | 27551163 |  |

|    |                        |                       |                                  |          |                          |          |  |
|----|------------------------|-----------------------|----------------------------------|----------|--------------------------|----------|--|
| 21 | Shasanadhikari         | Dr. L.D.Desai         | 26427014                         | 22977998 | 9375687555<br>9879313109 | 26460576 | <a href="mailto:aoschoolboard@gmail.com">aoschoolboard@gmail.com</a>           |
| 22 | General Manager DIC    | Shri R K Vasava       | 25508339                         | -        | 9904094573               | 25502801 | <a href="mailto:gm-dic-ahd@gujarat.gov.in">gm-dic-ahd@gujarat.gov.in</a>       |
| 23 | <u>Dy.Dir.Info</u>     | Shri R.B. Kher        | 25501123<br>26308405<br>22681375 | -        | 9978405783<br>9106678817 | -        | <a href="mailto:dbcwo-ahd@gujarat.gov.in">dbcwo-ahd@gujarat.gov.in</a>         |
| 24 | Chief Fire Officer     | Shri M. F. Dastoor    | 22148466<br>/67/68               |          | 9327038754               |          | <a href="mailto:mfdastoor@gmail.com">mfdastoor@gmail.com</a>                   |
| 25 | Control Room Mam.Disa. | Shri Priti M.Patel    | 27560511                         | -        | 7436063785               | 27552144 | <a href="mailto:dismgmt-ahd@gujarat.gov.in">dismgmt-ahd@gujarat.gov.in</a>     |
| 26 | DPO                    | Shri Prashant Makwana | 27560511                         | -        | 9825498315               | 27552144 | <a href="mailto:prashant.makwana@yahoo.co.in">prashant.makwana@yahoo.co.in</a> |

### 3. Amreli (STD Code :02792)

| Sr. No. | Designation          | Name                    | Office | Res i  | Mobile     | Fax    | Email ID                        |
|---------|----------------------|-------------------------|--------|--------|------------|--------|---------------------------------|
| 1       | Collector            | Shri Ayush Oak          | 222307 | 222301 | 9978406202 | 22210  | collector-amr@gujarat.gov.in    |
| 2       | SP                   | Shr Nirlipt Rai         | 222333 | 222424 | 9925143505 | 222711 | sp-amr@gujarat.gov.in           |
| 3       | D D O                | Shri Tejas Parmar (IAS) | 222313 | 222431 | 9974806227 | 222378 | ddo-amr@gujarat.gov.in          |
| 4       | DSP (Rural)          | Shri M.S.RANA           | 222797 | 222094 | 9978407960 | -      | sp-amr@gujarat.gov.in           |
| 5       | Resi. Addl.Collector | Shri A.B.Pandore        | 228903 | 228913 | 9978405203 | 222589 | add-collectoramr@gujarat.gov.in |

|    |                           |                   |        |         |            |        |                             |
|----|---------------------------|-------------------|--------|---------|------------|--------|-----------------------------|
| 6  | DRDA                      | Shri P.M.Dobriya  | 223563 | 222286  | 7567031983 | 222022 | drdaamreli@yahoo.com        |
| 7  | DSO                       | Shri M.M.Barasra  | 222807 | 231322  | 9428280084 | 231322 | dso-amr@gujarat.gov.in      |
| 8  | Dy. DDO (Revenue)         | Shri Y.P.Joshi    | 223546 | -       | 7567017226 | 222378 | dyddo-amr@gujarat.gov.in    |
| 9  | CDHO                      | Shri H.F.Patel    | 232344 | -       | 9727779661 | 222115 | dso.health.amreli@gmail.com |
| 10 | DEO, City                 | shriM.G.Prajapati | 222936 | -       | 9909970203 | -      | deoamreli@gmail.com         |
| 11 | DPEO                      | Shri C.M.Jadav    | 222109 |         | 9909970203 | 222109 | dpeoamreli@gmail.com        |
| 12 | General Manager Dic       | Shri P.B.Patel    | 222529 | 2630325 | 8128991427 | 220152 | gm-dic-amr@gujarat.gov.in   |
| 13 | Dy.Dir .Info              | Shri B.S.Basia    | 222529 | 223837  | 9226232134 | 221780 | amrelisse@gmail.com         |
| 15 | Mam-Disaster              | Shri B.K.Pandya   | 230735 |         | 9429585891 | 221600 | dismgmt-amr@gujarat.gov.in  |
| 16 | DPO - DisasterManagem ent | Miss Mansi Singh  | 230735 |         | 8319460485 | 221600 | dismgmt-amr@gujarat.gov.in  |

#### 4. Anand (STD Code : 02692)

| Designation | Name              | Phone Numbers (Code No.) |        |            | Email Id                     |
|-------------|-------------------|--------------------------|--------|------------|------------------------------|
|             |                   | Office                   | Fax    | Mobile     |                              |
| Collector   | Shri R G Gohel    | 268<br>262271            | 261575 | 9978406203 | collector-and@gujarat.gov.in |
| SP          | Shri Ajit Rajiyan | 2692<br>260027           | 260623 | 9978405064 | sp-and@gujarat.gov.in        |
| DDO         | Shri Ashish Kumar | 2692                     | 263895 | 9978406228 | ddo- and@gujarat.gov         |
| RAC         | P C THAKOR        | 264110<br>263873         |        | 9978405175 | rdc-and@gujarat.gov.in       |
| CDHO        | Dr. M D Chari     | 269253                   |        | 7567870001 | cdho.health.anand@           |

|   |                            |                 |        |            |                                    |
|---|----------------------------|-----------------|--------|------------|------------------------------------|
|   |                            | 277             |        |            | g<br>mail.com                      |
| DPEO  | Shri Nivedita<br>Chaudhary | 26292<br>263205 |        | 9909971653 | dpeoanand1@gmail.c<br>Om           |
| Executive<br>Engineer ,<br>State, R&B           | Shri Hanubhai Rathod       | 2692<br>260455  | 26532  | 9879529103 | eenbanand@gmail.com                |
| Executive<br>Engineer,<br>Panchayat<br>,<br>R&B | Shri Nikhil Popat          | 2692<br>261597  | 261597 | 9601940005 | arbcee@gmail.com                   |
| Chief Fire<br>Officer                           | Shri Dharmesh Patel        | 2692<br>243101  | 244881 | 7574831711 | anand_nagarpalika@<br>ya hoo.co.in |
| Factory<br>Inspector                            | Shri J J Patel             | 2692<br>264396  | 264396 | 9638233484 | Astdish-<br>and@gujarat.gov.in     |
| Mamlatdar                                       | Shri                       | 2692<br>266193  | 266193 | 9099041102 | dismgmt-<br>and@gujarat.gov.in     |
| DM  | Maheshwari Rathod          | 243222          |        |            | dismgmt-<br>and@gujarat.gov.in     |
| DPO   | Shri V S Tiwari            | 2692<br>266193  | 266193 | 7878128303 | dismgmt-<br>and@gujarat.gov.in     |
| Red Cross<br>Secretary                          | Shri Suresh Gami           |                 |        | 9426182556 | Sureshgami_2@rediff<br>mail.com    |

**5. Arvalli (STD Code : 02774)**

| Sr.No. | Designation          | Name                        | Office       | Resi   | Mobile     | Fax    | E mail ID  |
|--------|----------------------|-----------------------------|--------------|--------|------------|--------|--|
| 1      | Collector            | Shri Amrutesh Aurangabadkar | 02774-250200 | 247804 | 9978405935 | 250202 | <a href="mailto:collectoraravalli@gmail.com">collectoraravalli@gmail.com</a>             |
| 2      | DDO                  | Shri Anil Dhameliya         | 02774-241544 | 241488 | 9978406496 | 240744 | <a href="mailto:ddo.arvalli@gmail.com">ddo.arvalli@gmail.com</a>                         |
| 3      | DSP                  | Shri Mayur Patil            | 02774-248666 | 248415 | 9978405978 | 248406 | <a href="mailto:dysp-hq-arv@gujarat.gov.in">dysp-hq-arv@gujarat.gov.in</a>               |
| 4      | Resi. Addi.Collector | Shri R.J.Valavi             | 02774-245800 | 241802 | 9727756393 | 250202 | <a href="mailto:collectoraravalli@gmail.com">collectoraravalli@gmail.com</a>             |
| 5      | Director DRDA        | Shri B.D.Davera             | 02774-240433 |        | 9979877055 | 246461 | <a href="mailto:drda.arvalli@gmail.com">drda.arvalli@gmail.com</a>                       |
| 6      | DSO                  | i/C Shri S.G.Parmar         | 02774-243001 |        | 9387667563 | 250202 | <a href="mailto:dsoarvmodasa@gmail.com">dsoarvmodasa@gmail.com</a>                       |
| 7      | DY.DDO               | Smt.R.D.Barot               | 02774-250034 |        | 9979895007 |        | <a href="mailto:dyddomhl@gmail.com">dyddomhl@gmail.com</a>                               |
| 8      | CDHO                 | Dr Amarnath Verma           | 02774-248911 |        | 7575800951 |        | <a href="mailto:cdho.health.arvalli@gmail.com">cdho.health.arvalli@gmail.com</a>         |
| 9      | DEO                  | smt G.H.Patel               | 02774-250190 |        | 7574812280 |        | <a href="mailto:aravallideo@gmail.com">aravallideo@gmail.com</a>                         |
| 10     | DPEO                 | Shri A.K.Modh               | 02774-250190 |        | 7567029560 |        | <a href="mailto:dpeoarvalli@gmail.com">dpeoarvalli@gmail.com</a>                         |
| 11     | General Manager DIC  | Shri D.D.Solanki            | 02774-250182 |        | 9974171249 |        | <a href="mailto:gm-dic-ara@gujarat.gov.in">gm-dic-ara@gujarat.gov.in</a>                 |
| 12     | Dy.Director Info.    | I/C Shri Haresh Parmar      | 02774-240948 |        | 9687609143 | 248444 | <a href="mailto:aravallimedia.dmooffice@gmail.com">aravallimedia.dmooffice@gmail.com</a> |

|    |                     |                    |              |  |            |        |  |
|----|---------------------|--------------------|--------------|--|------------|--------|--|
| 13 | Fire Officer Modasa | Shri Divynag Bhatt | 02774-246209 |  | 9427698947 | 248209 | <a href="mailto:np_modasa@yahoo.co.in">np_modasa@yahoo.co.in</a>           |
| 14 | Mamlatdar Disaster  |                    | 02774-250221 |  |            | 250202 | <a href="mailto:disaster.arvalli@gmail.com">disaster.arvalli@gmail.com</a> |
| 15 | DPO (GSDMA)         | I/C Shri.K.B.Patel |              |  | 9974332782 |        | <a href="mailto:kanupatel11@gmail.com">kanupatel11@gmail.com</a>           |

#### 6. Banaskantha (STD Code: - 02742)

| Sr.No. | Designation                   | Name                           | Office | Resi   | Mobile     | Fax    | Email ID   |
|--------|-------------------------------|--------------------------------|--------|--------|------------|--------|--|
| 1      | Collector                     | Shri Sandip Sangale            | 257171 | 257007 | 9978406204 | 252740 | <a href="mailto:collector-ban@gujarat.gov.in">collector-ban@gujarat.gov.in</a>           |
| 2      | D D O                         | Shri Ajay Dahiya               | 254060 | 253029 | 9978406229 | 252063 | <a href="mailto:ddo-ban@gujarat.gov.in">ddo-ban@gujarat.gov.in</a>                       |
| 3      | DSP (Rural)                   | Shri Tarun Duggal              | 257015 | 257014 | 9978405065 | 252190 | <a href="mailto:sp-ban@gujarat.gov.in">sp-ban@gujarat.gov.in</a>                         |
| 4      | Resi. Addl. Collector         | Shri L B. Bambhaniya           | 254004 | 254311 | 9978405176 | 252740 | <a href="mailto:rdc-ban@gujarat.gov.in">rdc-ban@gujarat.gov.in</a>                       |
| 5      | DRDA                          | Shri R.V. Vala                 | 260004 | 264002 | 9925042038 | -      | <a href="mailto:drdabanas@gmail.com">drdabanas@gmail.com</a>                             |
| 6      | DSO                           | Shri S.G. Chavda               | 254309 | 254289 | 7567021929 | -      | <a href="mailto:dso-ban@gujarat.gov.in">dso-ban@gujarat.gov.in</a>                       |
| 7      | Dy. DDO (Revenue)             | Shri A.D. Chauhan              | 257087 | -      | 9925375859 | 257445 | <a href="mailto:dyddo-vikas-ban@gujarat.gov.in">dyddo-vikas-ban@gujarat.gov.in</a>       |
| 8      | CDHO                          | Shri Dr. Manish Fency          | 250004 | -      | 9727730004 | -      | <a href="mailto:cdho.health.banaskantha@gmail.com">cdho.health.banaskantha@gmail.com</a> |
| 9      | DEO                           | Shri J P Prajapati (i/c)       | 257055 | -      | 9909970210 | -      | <a href="mailto:bns-deo@gmail.com">bns-deo@gmail.com</a>                                 |
| 10     | DPEO                          | Shri J P Prajapati             | 257063 | -      | 9909971654 | -      | <a href="mailto:dpeobanaskantha@gmail.com">dpeobanaskantha@gmail.com</a>                 |
| 11     | General Manager<br>DIC        | Shri P.P. Trivedi              | 254307 | -      | 9824260270 | -      | <a href="mailto:gm-dic-ban@gujarat.gov.in">gm-dic-ban@gujarat.gov.in</a>                 |
| 12     | Dy. Dir. Info                 | Shri D P Rajput                | 252664 | -      | 9427514033 | -      | <a href="mailto:cdmo.ban@gmail.com">cdmo.ban@gmail.com</a>                               |
| 13     | Control Room<br>Mam. Disaster | Shri. Hiteshbhai Chavda        | 250627 | -      | 8758645586 | 252740 | <a href="mailto:dismgmt-ban@gujarat.gov.in">dismgmt-ban@gujarat.gov.in</a>               |
| 14     | D.P.O – Disaster              | Shri<br>Sanjaykumar.N. Chauhan | 250627 | -      | 9537511458 | 252740 | <a href="mailto:sanjaykumarchauhan91@gmail.com">sanjaykumarchauhan91@gmail.com</a>       |

#### 7. Bharuch (STD CODE: 02642)

| Sr.<br>No. | Designation of<br>the Officer | Name of officer  | Telephone Numbers |                  |             |  |
|------------|-------------------------------|------------------|-------------------|------------------|-------------|--|
|            |                               |                  | Office            | Residence        | Mobile      |  |
| 1          | Collector                     | Dr.M.D. Modiya   | 240600<br>244500  | 223701<br>223703 | 99784 06205 | <a href="mailto:collector-bha@gujarat.gov.in">collector-bha@gujarat.gov.in</a> |
| 2          | P.A. to the                   | Shri P B Purohit | 240600            | -                | 99247 95935 |  |

|    |   |                                 |                  |                      |                               |  |
|----|---|---------------------------------|------------------|----------------------|-------------------------------|--|
|    | Collector   |                                 |                  |                      |                               |  |
| 3  | Resident Additional Collector                     | Shri J D Patel                  | 222332           | 221050               | 99784 05177                   | <a href="mailto:add-collector-bha@gujarat.gov.in">add-collector-bha@gujarat.gov.in</a> |
| 4  | District Supply Officer                           | Shri I.J. Gamit                 | 241,500          |                      | 75670 21674<br>99258 98191    | <a href="mailto:dso-bha@gujarat.gov.in">dso-bha@gujarat.gov.in</a>                     |
| 5  | District Supply Mamlatdar, GSCSC                  | Shri T C Patel                  | 241799           |                      | 63599 45824<br>9924204677     |  |
| 6  | Deputy Collector - MDM                            | Smt Rasilaben Rayaka            | 240045           |                      | 75670<br>21674,99250<br>07390 |  |
| 7  | Deputy Collector - Election                       | Shri Bhogayata                  | 242751           |                      | 99784 05290                   |  |
| 8  | Asst. Commissioner Land Acqui.Cell, SSPA, Bharuch | Shri H.M. Rathwa                | 220600           |                      | 99784 23014                   |  |
| 9  | Chitnis   | Shri Kamlesh Chaudhari          | 243514           |                      | 99091 18307                   |  |
| 10 | Additional Chitnis                                | Shri M R Vyas (I/c.)            | 243499           |                      | 94268 93999                   |  |
| 11 | Extra Chitnis                                     | Shri Jignesh Bhingaradia (I/c.) | 243751           |                      | 99747 60173                   |  |
| 12 | Disaster Mamlatdar(I/c)                           | Shri Kamlesh Chaudhari          | 242300           | 26421077 (Toll Free) | 99091 18307                   | <a href="mailto:dismgmt-bha@gujarat.gov.in">dismgmt-bha@gujarat.gov.in</a>             |
| 13 | District Project Officer, GSDMA                   | Saibal Sarkar                   | 265050<br>242300 |                      | 9717393310                    | <a href="mailto:sjiyani@gmail.com">sjiyani@gmail.com</a>                               |
| 14 | Mamlatdar (RTS)                                   | Shri Kamlesh Chaudhari I/C      | 243514           |                      | 99091 18307                   |  |
| 15 | Mamlatdar (Election)                              | Shri P J Somani (I/c)           |                  |                      | 9737675251                    |  |
| 16 | Public Relation Officer                           | Shri Kamlesh Chaudhari          | 243599           |                      | 99091 18307                   |  |

|    |  |   |                          |  |                               |  |
|----|--|---|--------------------------|--|-------------------------------|--|
| 17 | DMO, DUDA  | Shri Sanjay Soni                        | 264700                   |  | 95740 07002                   |  |
| 18 | JTP, BAUDA   | Shri Atul Dandavade                     | 222075<br>222074         |  | 98243 33070                   |  |
| 19 | Accounts Branch  | Shri Rajesh Mehta                       | 243599                   |  | 9427585332                    |  |
| 20 | P.R.O. (I/c)   | Shri Kamlesh Chaudhari<br>I/C           | 243599                   |  | 99091 18307                   |  |
| 20 | DIO - NIC -<br>Computer Centre                         | Shri Pallav Kendurkar                   | 242544                   |  | 94291 09472                   |  |
| 21 | Dist. Proj.<br>Manager (DST)                           | Anand Nadurbarkar                       |                          |  | 9510878159<br>81606 50978     |  |
| 22 | GSWAN Control<br>Room                                  | Shri Divyesh<br>Shri Milin              |                          |  | 99094 15995<br>9998668257     |  |
| 23 | Spl. L.A.O.,<br>Bharuch (I/c)                          | Shri R K Bhargava I/C                   | 240900                   |  | 75670 11411                   |  |
| 24 | Spl. L.A.O.,<br>ONGC,<br>Ankleshwar (I/c)              | Shri R.K. Bhagora                       | 237562                   |  | 75670 11436                   |  |
| 25 | Inspector<br>Registration<br>Sub Registrar,<br>Bharuch | Shri S J Karthiya<br><br>Shri K J Patel | <br><br>241458<br>260401 |  | 94277 04343<br><br>9638185489 |  |
| 27 | Sub Registrar,<br>Jambusar                             | Shri Nilesh B Shah                      |                          |  | 76005 02661<br>98259 58975    |  |
| 28 | Assistant<br>Geologist                                 | Shri Keyur Rajpura                      | 260043                   |  | 94083 84893                   |  |
|    | Assistant<br>Geologist I/c                             | Sunita Aroda                            |                          |  | 97277 06371                   |  |
|    | Superwiser<br>Geolist                                  | Nishant Ghogari                         |                          |  | 8238696887                    |  |
| 29 | Deputy Collector,<br>Stamp Duty (I/c)                  | U N Jadeja                              | 240650                   |  | 9726512588                    |  |
|    | Stamp Inspector  | S N Patel                               | 240650                   |  | 9427945750                    |  |



|    |  |                         |                  |  |             |  |
|----|--|-------------------------|------------------|--|-------------|--|
| 30 | District Planning Officer                    | Shri I G Patel          | 240771           |  | 9427678984  |  |
|    | Research Officer<br>Bharuch Planning Officer | Shri N K Shah           |                  |  | 82000 85950 |  |
| 31 | Project Administrator,<br>TSP, Bharuch       | Shri J.P. Asari         | 222232<br>222331 |  | 94272 34099 |  |
| 32 | Spl. LAO,<br>Narmada Yojana                  | Shri A.V. Dave          | 228550           |  | 98253 18118 |  |
| 33 | Spl. LAO, Karjan<br>Yojana (I/c)             | Smt Rasilaben Rayaka    | 221238           |  | 99250 07390 |  |
| 34 | Aadhar Card<br>Branch (UAID)<br>(I/c)        | Shri A S Trivedi (I/c.) | 268872           |  | 7778031188  |  |

#### 8. Bhavnagar (STD Code :- 0278)

| No. | Designation            | Name                     | Phone Numbers (Code No.) |            | Email                            |
|-----|------------------------|--------------------------|--------------------------|------------|----------------------------------|
|     |                        |                          | Office                   | Mobile     |                                  |
| 1   | Collector              | Shri Gaurang Makwana     | 0278 2428822             | 9978406206 | collector-bav@gujarat.gov.in     |
| 2   | Municipal Commissioner | Shri M.A. Gandhi         | 0278 2510532             | 9978403000 | comm@bmc.gujarat.gov.in          |
| 3   | DDO                    | Shri Varunkumar Baranval | 0278 2426810             | 9978406231 | ddo-bav@gujarat.gov.in           |
| 4   | SP                     | Shri Jaypalsinh Rathore  | 2782520050               | 9978405067 | sp-bav@gujrat.gov.in             |
| 5   | DCF, Forest            | Dr. Sandip Kumar         | 0278 2428644             | 9913144339 |                                  |
| 6   | RAC                    | Shri Umesh Vyas          | 0278 2421881             | 9978405178 | add-collector-bav@gujarat.gov.in |
| 7   | DSO                    | Bhumika Koriya           | 0278 2428908             | 7567021670 | dso-bav@gujarat.gov.in           |

|    |  |                      |              |            |  |
|----|--|----------------------|--------------|------------|--|
| 8  | Dy. Controller, Civil Defence                        | B.H.Talati           | -            | 9925228838 |  |
| 9  | Mamlatdar DM   | Hetal Makwana        | 0278 2521555 | 9429222522 | <a href="mailto:dismgmt-bav@gujarat.gov.in">dismgmt-bav@gujarat.gov.in</a>   |
| 10 | DPO GSDMA  | Dimpal Teraiya       | 0278 2521554 | 9824438275 | <a href="mailto:teraiya.dimpal.89@gmail.com">teraiya.dimpal.89@gmail.com</a> |
| 11 | Superintendent Civil Hospital                        | Dr. Vikas Sinha      | 0278 2423250 | 9879579193 |  |
| 12 | CDHO   | A.K.Taviyad          | 0278 2423665 | 9727779662 |  |
| 13 | DPEO   | K.D. Kansagara       | 0278 2523582 | 9909970212 |  |
| 14 | Executive Engineer (Irrigation), Panchayat           | D.R.Patel            | 0278 2430155 | 9825352556 |  |
| 15 | Executive Engineer (R&B), Panchayat                  | D.R.Patel            | 0278 2422548 | 9825352556 |  |
| 16 | Executive Engineer (R&B), State                      | D.L.Mer              | 0278 2423383 | 9825819776 |  |
| 17 | Superintending Engineer- PGVCL                       | J.M.Rathod           | 2433043      | 9879203840 |  |
| 18 | District Agriculture Officer                         | S.R.Kosambi          | 0278 2439931 | 7600530340 |  |
| 19 | Dy.Director-Animal Husbandary                        | B.M.Shah             | 0278 2524376 | 9426936997 |  |
| 20 | Chief Fire Officer-BMC                               | Dr. Mahesh Hirpara   | 0278 2430061 | 9727712177 |  |
| 21 | Deputy/Assistant Director Industrial Health & Safety | Y.M.Patel            | 0278 2428473 | 9099046683 |  |
| 22 | Regional Officer-GPCB                                | K.R. Upadhyay        | 0278 2524108 | 9427307949 |  |
| 23 | District Homeguard Commandant                        | Shambhusinh Sarvaiya | 0278 2423011 | 9998613672 |  |
| 24 | District Education Officer                           | N.G.Vyas             | 0278 2426629 | 9909971655 |  |
| 25 | Dy. Director-Information Department                  | J.B.Vasaiya          | 0278 2424994 | 9099962079 |  |
| 26 | Ass.Director, Fisheries                              | Smt. S.A.Bhardiya    | 0278 2427567 | 9426466624 |  |
| 27 | Airport-Director                                     | Sudha R. Murli       | 0278 2212971 | 9427211500 |  |
| 28 | DRM-Railway  | Pratik Goswami       | 0278 2445475 | 9724097000 |  |

|    |                                       |             |              |            |  |
|----|---------------------------------------|-------------|--------------|------------|--|
| 29 | Divisional Controller-State Transport | P.M. Patel  | 0278 2422699 | 9998953211 |  |
| 30 | Port Officer                          | Shri Mishra | 02842 235621 | 9099694747 |  |

### 9. Botad (STD Code: 02849)

| Sr.No. | Designation             | Name                     | Office                       | Resi | Mobile                   | Fax          | e-mail  |
|--------|-------------------------|--------------------------|------------------------------|------|--------------------------|--------------|---|
| 1      | Collector               | Mr.Vishal Gupta (IAS)    | 02849-271301                 | -    | 9978405931               | 02849-271304 | <a href="mailto:collector.botad@gmail.com">collector.botad@gmail.com</a> ; <a href="mailto:collector-botad@gujarat.gov.in">collector-botad@gujarat.gov.in</a> |
| 2      | S.P.                    | Mr.Harshad Mehta (G.P.S) | 02849-231400                 | -    | 9978405988               | 02849-231405 | <a href="mailto:sp-botad@gujarat.gov.in">sp-botad@gujarat.gov.in</a>  |
| 3      | D D O                   | Mr.Lalit Narayan (IAS)   | 02849-255222                 | -    | 9978406493               | 02849-255333 | <a href="mailto:ddo.botad@gmail.com">ddo.botad@gmail.com</a>  |
| 4      | Dy.SP                   | Mr. R.N.Nakum            | 02849-251416                 | -    | 9978407988<br>9825488608 | 02849-251416 | <a href="mailto:sdpo-botad-bav@gujarat.gov.in">sdpo-botad-bav@gujarat.gov.in</a>  |
| 5      | Resi.<br>Addl.Collector | Mr. B.N. Patel (G.A.S)   | 02849-271307                 | -    | 9727758035               | 02849-271304 | <a href="mailto:addl-collector-bot@gmail.com">addl-collector-bot@gmail.com</a>  |
| 6      | DRDA                    | Mr. I.V.Desai ( I/C)     | 02849-271621                 | -    | 9913625642               | -            | <a href="mailto:drda-botad@gmail.com">drda-botad@gmail.com</a>  |
| 7      | DSO                     | Mr. A.D. Miyatra (I /C)  | 02849-271324<br>02849-271425 | -    | 9727366843               | 02849-271304 | <a href="mailto:dso.collectorbotad@gmail.com">dso.collectorbotad@gmail.com</a>  |
| 8      | Dy. DDO<br>(Revenue)    | Mr. I.V.Desai (G.A.S)    | 02849-231530                 | -    | 9913625642               | 02849-255333 | <a href="mailto:dyddoestbotad@gmail.com">dyddoestbotad@gmail.com</a>  |
| 9      | CDHO                    | Dr. J.S. Kanoriya (I/C)  | 02849-231534                 | -    | 6359661011               | -            | <a href="mailto:cdho.health.botad@gmail.com">cdho.health.botad@gmail.com</a>  |
| 10     | DEO                     | Su.D.J.Patel             | 02849-271327                 | -    | 7574812276               | -            | <a href="mailto:botaddeo@gmail.com">botaddeo@gmail.com</a>  |
| 11     | DPEO                    | Mr. S.J.Dumaraliya       | 02849-271387                 | -    | 9925292171               | -            | <a href="mailto:dpeobotad@gmail.com">dpeobotad@gmail.com</a>  |
| 12     | Shasanadhikari          | Mr.P.D.Mori              | 02849-242713                 | -    | 9737957757               | -            | <a href="mailto:botadmsb@gmail.com">botadmsb@gmail.com</a>  |

|    |                           |                                       |                              |    |            |              |  |
|----|---------------------------|---------------------------------------|------------------------------|----|------------|--------------|--|
| 13 | General Manager DIC       | Mr.J.D.Ninama                         | 02849-271612                 | -  | 8460827541 | ---          | <a href="mailto:gm-dic-bot@gujarat.gov.in">gm-dic-bot@gujarat.gov.in</a> |
| 14 | Dy.Dir. Info              | Mr. D.P.Pandya (I/C)                  | 02849-271350-                | -  | 9879537553 | 02849-271353 | <a href="mailto:mahitibotad2014@gmail.com">mahitibotad2014@gmail.com</a> |
| 15 | Fire supervizer           | Mr.Udayraj khachar                    | 02849-252420                 | -  | 6354556654 | ---          | <a href="mailto:np_botad@yahoo.co.in">np_botad@yahoo.co.in</a>           |
| 16 | Control Room Dy.Mam.Disa. | Mr. M.B.Mesariya                      | 02849-271340<br>02849-271341 | -  | 9925139009 | ---          | collector.botad@gmail.com;<br>disas.collector@gmail.com                  |
| 17 | Mamlatadar - 2            | Mr. G.A.Rathod (I/C)                  | 02849-271340<br>02849-271341 | -- | 8780245300 | ---          | collector.botad@gmail.com;<br>disas.collector@gmail.com                  |
| 17 | DPO(Disaster)             | Mr. Prashant Makwana I/C (Ahmedabad ) | -                            | -  | 9825498315 | ---          | -  |

#### 10. Chota Udepur (STD Code : 02669)

| Sr. No. | Designation          | Name                       | Office | Resi   | Mobile     | Fax    | Email ID                          |
|---------|----------------------|----------------------------|--------|--------|------------|--------|-----------------------------------|
| 1       | Collector            | Shri Sujal J Mayatra,IAS   | 233003 | 233003 | 9978405937 | 233002 | collector-cho@gujarat.gov.in      |
| 2       | DSP                  | Shri M.S.Bhabhor(IPS)      | 233077 |        | 9978405977 |        | control-sp-cpr@gujarat.gov.in     |
| 3       | D D O                | Shri Mihir Patel,IAS       | 233050 | 240005 | 9978406468 | 233251 | ddochhotaudepur@gmail.com         |
| 5       | DSP (Rural)          | Shri J.G.Chavda            | 233104 |        | 9978408194 |        |                                   |
| 6       | Resi. Addl.Collector | Shri K.S.Vasava            | 233004 |        | 7574953262 | 233002 | collector-cho@gujarat.gov.in      |
| 7       | DRDA                 | Shri.P.A.Gamit             | 232755 |        | 9909289180 |        | drdachhotaudepur@gmail.com        |
| 8       | DSO                  | Miss.Ankita K. Parmar(GAS) | 232626 |        | 9925007405 |        | dsochhota@gmail.com               |
| 9       | Dy. DDO (Revenue)    | Shri P.M.Acharya           | 233023 |        | 9925045103 |        | daochhotaudepur@gmail.com         |
| 10      | CDHO                 | Shri M.R.Chaudhary         |        |        | 9426770602 |        | dho.health.chhotaudepur@gmail.com |
| 11      | DEO                  | Shri.B.D.Bariya            | 232137 |        | 9909976194 |        | deochhotaudepur@gmail.com         |
| 12      | DPEO                 | Shri.B.D.Bariya            | 232137 |        | 9909976194 |        | dpochhotaudepur@gmail.com         |

|    |                           |                       |                 |  |            |  |                                |
|----|---------------------------|-----------------------|-----------------|--|------------|--|--------------------------------|
| 13 | General Manager<br>DIC    | Shri P.B.Patel        | 233640          |  | 8128991427 |  | gm-dic-chh@gujarat.gov.in      |
| 14 | <u>Dy.Dir.Info</u>        | Shri.C.F.Vasava       |                 |  | 9978440878 |  | infochhota@gmail.com           |
| 15 | Chief Fire Officer        | Shri Shivhari Sharma  | 232059          |  | 9737282888 |  | Np.cudepur@yahoo.com           |
| 16 | Control Room<br>Mam.Disa. | Miss.Riddhi K Parmar  | 233,022,233,021 |  | 9428832579 |  | disasterchhotaudepur@gmail.com |
|    |                           |                       |                 |  | 9426185224 |  | pandyakinjald@gmail.com        |
| 17 | DPO                       | Miss Kinjal D. Pandya | 233,022,233,021 |  | 8200688146 |  | disasterchhotaudepur@gmail.com |

### 11. Dahod (STD Code:02673)

| Sr. No. | Designation               | Name                       | Office | Mobile     | Fax    | Email ID   |
|---------|---------------------------|----------------------------|--------|------------|--------|--|
| 1       | Collector                 | Shri Vijay Kharadi-<br>IAS | 239001 | 9978406207 | 239005 | collector-dah@gujarat.gov.in   |
| 2       | D D O                     | Shri Ruchit Raj-<br>IAS    | 293066 | 9978406232 | 293066 | <a href="mailto:ddodahod@gmail.com">ddodahod@gmail.com</a>                 |
| 3       | DSP (Rural)               | Shri Hitesh Joysar-<br>IPS | 222300 | 9978405068 | 220800 | <a href="mailto:dahodsp@gmail.com">dahodsp@gmail.com</a>                   |
| 4       | Resi. Addl.Collector      | Shri M J Dave-<br>GAS      | 239111 | 9978405179 | 239005 | <a href="mailto:racdahod@gmail.com">racdahod@gmail.com</a>                 |
| 5       | DRDA                      | Shri C B Balat-<br>GAS     | 239055 | 7567033431 | 239050 | drdadahod1@gmail.com   |
| 6       | DSO                       | Shri V A Khant-<br>GAS     | 239250 | 1567022178 | 239250 | <a href="mailto:dsodahod@gmail.com">dsodahod@gmail.com</a>                 |
| 7       | Dy. DDO (Revenue)         | Smt.N P Patdiya            | 239150 | 9879373813 |        | dyddorevdahod@gmail.com  |
| 8       | CDHO                      | Shri R D Pahadiya          | 239130 | 7567895134 |        | <a href="mailto:cdmodahod@gmail.com">cdmodahod@gmail.com</a>               |
| 9       | DEO, Rural                | A B Prajapati              | 239100 | 9909970224 |        | deodahod1@gmail.com  |
| 10      | DPEO                      | Shri B D Patel             | 239113 | 9909971662 |        | <a href="mailto:dpeodahod@gmail.com">dpeodahod@gmail.com</a>               |
| 11      | General Manager DIC       | Shri J B Dave(i/c)         | 266086 | 7567020896 | 267416 | gm-dic-dah@gujarat.gov.in  |
| 12      | <u>Dy.Dir.Info</u>        | Shri                       | 239242 |            |        | <a href="mailto:ddinfodahod@gmail.com">ddinfodahod@gmail.com</a>           |
| 14      | Control Room<br>Mam.Disa. | Shri P B Kunbhani          | 239277 | 9879836437 | 239277 | <a href="mailto:dismgmt-dah@gujarat.gov.in">dismgmt-dah@gujarat.gov.in</a> |

**12. Devbhoomi Dwarka (STD Code: 02833)**

| S.No. | Designation                           | Name                                | Office                       | Residence | Mobile                 | Fax     | Email Id  |
|-------|---------------------------------------|-------------------------------------|------------------------------|-----------|------------------------|---------|---|
| 1     | Collector                             | Shri Dr. Narendra Kumar Meena (IAS) | 232803                       | 232456    | 9978405933             | 232102  | collector-devbdwarka@gujarat.gov.in                           |
| 2     | D D O                                 | Shri D.J. Jadeja (IAS)              | 235947                       | -         | 9978406492             | 235947  | ddo-dev@gujarat.gov.in  |
| 3     | SP                                    | Shri Rohan Anand(IPS)               | 233223                       | -         | 9978405976             | 232002  | sp-jam-dbdwarka@gujarat.gov.in,<br>spdevbhumi@gmail.com       |
| 4     | Resident Additional Collector         | Shri K.M. Jani                      | 232620                       | -         | 9727763794             | 232102  | addl-collector-dev@gujarat.gov.in                             |
| 5     | Director-DRDA                         | Shri. Y. D. Shrivastava (I/C)       | 235947                       | -         | 9825262319             | -       | drda.dwarka@gmail.com   |
| 6     | Executive Engineer, R & B (State)     | Shri J. R. Ojha                     | 02883-2550362                | -         | 9426464610             | 2678106 | rnb-jam@gujarat.gov.in  |
| 7     | Executive Engineer, R & B (Panchayat) | Shri A.J. Chauhan                   | 234211                       | -         | 9825873849             | -       | eedwarka@yahoo.com  |
| 8     | Executive Engineer,GWSSB              | Shri P. M. Nagar                    | 234781, 235765               | -         | 9978406618             | -       | eedbdgsswb1@gmail.com   |
| 9     | DSO                                   | Shri. P.B. Manguda                  | 235990                       | -         | 9687888998             | 232102  | supp-devbdwarka@gujarat.gov.in                                |
| 10    | Dy. DDO (Revenue)                     | Shri. Y. D. Shrivastava             | 235947                       | -         | 9825262319             |         | dy.ddo.gen@gmail.com  |
| 11    | CDHO                                  | Dr. R. B. Patel                     | 234001                       | -         | 9099900607             | 2671097 | cdho.health.dwarka@gmail.com<br>dpmcc.health.dwarka@gmail.com |
| 12    | DEO                                   | Shri B.H Vadhel (I/C)               | 235976                       | -         | 7567806316, 7069008475 | -       | deodevbhumidwarka@gmail.com                                   |
| 13    | DPEO                                  | Shri B.H Vadhel                     | 236376                       | -         | 7567806316, 7069008475 | -       | dpeodevbhoomidwarka@gmail.com                                 |
| 14    | RO-GPCB                               | Shri B.G. Sutreja                   | 0288-2752366                 | -         | 7574827580             | -       | ro-gpcb-jamn@gujarat.gov.in                                   |
| 15    | ARTO,                                 | Shri V.S. Chauhan                   | 233300                       | -         | 9586571977             | -       | arto-trans-dbd@gujarat.gov.in                                 |
| 16    | PO-GMB, Okha                          | Captain Neeraj Hiravani             | 02892-262001, 262049, 262039 | -         | 9512200035             | 262002  | portofficerokp@gmail.com                                      |
| 17    | Superintendent of Fishries            | Shri Rahul Lashkari                 | 02892-262076                 | -         | 9724268863             |         | asfokha@gmail.com   |

|    |   |                     |                                     |   |                           |         |  |
|----|---|---------------------|-------------------------------------|---|---------------------------|---------|--|
| 18 | Assistant Director,<br>Industrial Safety &<br>Health  | Shri B. S Patel     | 0288-2678206                        | - | 9408872078                |         | ad4-dish-brd@gujarat.gov.in<br>astdish-jam@gujarat.gov.in  |
| 19 | General Manager DIC                                   | Shri P.B Patel      | 2670380                             | - | 9106540764                | 2660392 | gm-dic-dbd@gujarat.gov.in  |
| 20 | Dy. Director Information                              | Smt U.J. Kotak      | 235932                              | - | 9067393800                | 232073  | informationdev<br>dwarka@gmail.com   |
| 21 | Executive Engineer-<br>PGVCL, Khambhaliya<br>Division | Shri M.G. Chavada   | 234791/94<br>O.236963<br>FAX.235088 | - | 9879200762                | -       | <a href="mailto:delkhdo.pgvcl@gebmail.com">delkhdo.pgvcl@gebmail.com</a><br><a href="mailto:hrjmnkhdo.pgvcl@gebmail.com">hrjmnkhdo.pgvcl@gebmail.com</a> |
| 22 | Executive Engineer-<br>PGVCL, Dwarka<br>Division      | Shri M.A. Vghela    | 02892-234610                        | - | 7567109172                | -       | <a href="mailto:ee.dwarkado.pgvcl@gebmail.com">ee.dwarkado.pgvcl@gebmail.com</a>   |
| 23 | Assistant Director,<br>Industrial Safety &<br>Health  | Shri B. S Patel     | 0288-2678206                        | - | 9408872078                | -       | ad4-dish-brd@gujarat.gov.in<br>astdish-jam@gujarat.gov.in  |
| 24 | Disaster Mamlatdar                                    | NA                  | 232183,<br>232125,<br>232084        | - | -                         | 232102  | <a href="mailto:disa-devbdwarka@gujarat.gov.in">disa-devbdwarka@gujarat.gov.in</a>   |
| 25 | District Project Officer-<br>GSDMA                    | Shri Mohit Sisodiya | 232183,<br>232125,<br>232084        | - | 9407115141,<br>8770399561 | 232102  | <a href="mailto:disa-devbdwarka@gujarat.gov.in">disa-devbdwarka@gujarat.gov.in</a>   |

### 13. Gandhinagar (STD Code :079)

| Sr.No. | Designation            | Name                              | Office no. | Mobile     | Fax      | Email ID                  |
|--------|------------------------|-----------------------------------|------------|------------|----------|---------------------------|
| 1      | Collector              | Shri kuladip aary                 | 23259030   | 9978406209 | 23256949 | ddo-gnr@gujarat.gov.in    |
| 2      | Police Commissioner    | Shri Mayur chavad                 | 23210901   | 9978405070 | 23210906 | sp-gnr@gujarat.gov.in     |
| 3      | Municipal Commissioner | Dr.Ratankanvar<br>H.gadhavicharan | 23220440   | 9978445135 | 23221419 | gmc8gandhinagar@gmail.com |
| 4      | D D O                  | Shri R.R.Raval                    | 59035      | 9978405181 |          | ddo-gnr@gujarat.gov.in    |
| 5      | D.I.G.P Gnadhinagar    | Mayankshih chavada                | 23222618   | 9978406999 |          | -                         |
| 6      | Resi. Addl.Collector   | shri.H.M.Jadeja                   | 23259035   | 9978405181 |          | rdc-gnr@gujarat.gov.in    |
| 7      | DRDA                   | shri.harsh.yadav                  | 9408600045 | 9978499101 |          | drda.gnr@gmail.com        |
| 8      | DSO                    | shri nirupa Gathvi                | 59182      | 8460152641 |          | -                         |
| 9      | Dy. DDO (Revenue)      | shri Vadar                        | 23244721   |            |          | ghengineer@ugvclmail.com  |

|    |                          |                    |          |            |   |                                   |
|----|--------------------------|--------------------|----------|------------|---|-----------------------------------|
| 10 | CDHO                     | Dr.M.H.Solnki      | -        | 9909942202 |   |                                   |
| 11 | DEO -Gadhinagar          | Dr.Bharat. Vather  | 56955    | 9909970227 |   | dpeogandhinagar@gmail.com         |
| 12 | DPEO                     | Archna.V.prajapati |          | 9909997167 |   | distaff-sahyog-sje@gujarat.gov.in |
| 13 | Shasanadhikari           | Kiran Patel        | -        | 9978011701 |   | shasandhikarigar@gmail.com        |
| 14 | Dy.Muni.Commi.           | P.C.Dave           | -        | 9978407123 |   | gmc8gandhinagar@gmail.com         |
| 15 | Dy.Dir manager Dic       | Vargish Abraham    | -        |            |   |                                   |
| 16 | General Manager DIC      | Rikesh shah        | -        | 9879054980 | - | -                                 |
| 17 | Chief Fire Officer       | Mahesh.modh        | 23971335 | 9427955551 |   |                                   |
| 18 | Control RoomDy Mam.Disa. | R.C.Raol           | -        | 9898040585 | - |                                   |
| 19 | DPO (GSDMA)              | megha rabari       | -        | 8160439782 | - | megharabari96@gmail.com           |

#### 14. Gir Somnath (STD Code-02876)

| Sr. No. | Designation                  | Name                    | Office no.   | Resident     | Mobile      | Fax    | Email ID   |
|---------|------------------------------|-------------------------|--------------|--------------|-------------|--------|--|
| 1       | Collector                    | Shri Ajay Prakash       | 02876-285001 | 02876-240005 | 9978405934  |        | <a href="mailto:collectorgirsomnath@gmail.com">collectorgirsomnath@gmail.com</a>         |
| 2       | D.D.O                        | Shri.D.B.Rahevar        | 02876-285255 | -            | 99784 06495 | 249255 | <a href="mailto:ddo.girsomnath@gmail.com">ddo.girsomnath@gmail.com</a>                   |
| 3       | D.S.P.                       | Shri. Rahul tripathi    | 02876-222250 | -            | 9978405974  | 222110 | <a href="mailto:sp-gir@gujarat.gov.in">sp-gir@gujarat.gov.in</a>                         |
| 4       | R.A.C                        | Shri.B.S.Prajapati (IC) | 02876-285003 | -            | 9727756448  | -      | -  |
| 5       | D.R.D.A.                     | Shri.Dr.B.S.Prajapati   | 02876-245271 | -            | 8849152853  | -      | <a href="mailto:drdagirsomnath@gmail.com">drdagirsomnath@gmail.com</a>                   |
| 6       | D.S.O.                       | Shri.Sushil Parmar      | 02876-285032 | -            | 9724363100  | -      | <a href="mailto:dsogirsomnath@gmail.com">dsogirsomnath@gmail.com</a>                     |
| 7       | Dy. D.D.O.<br>(Revenue)      | S.mt. I.G.Gohil         | 02876-249249 | -            | 75678 63927 | -      | <a href="mailto:ddogs@gmail.com">ddogs@gmail.com</a>                                     |
| 8       | C.D.H.O.                     | Shri.Chetan Maheta      | 02876-240051 | -            | 7567889923  | -      | <a href="mailto:cdho.health.girsomnath@gmail.com">cdho.health.girsomnath@gmail.com</a>   |
| 9       | DEO -Gir Somnath             | Shri B.S.Kaila          | 02876-221095 | -            | 7574822584  | -      | <a href="mailto:girsomnathdeo@gmail.com">girsomnathdeo@gmail.com</a>                     |
| 10      | D.P.E.O.                     | Shri.B.S.Kaila (IC)     | 2876-244500  | -            | 7574822584  | -      | <a href="mailto:girsomnathdpeo@gmail.com">girsomnathdpeo@gmail.com</a>                   |
| 11      | General Manager<br>DIC       | Shri.P.B.Patel          | 02873-244222 | -            | 9106540764  | -      | <a href="mailto:gm-dic-gir@gov.gujarat.in">gm-dic-gir@gov.gujarat.in</a>                 |
| 12      | Dy.Dir.Info                  | Shri.Himmat Gonjiya     | 02876-240108 | -            | 9426985625  | 240109 | <a href="mailto:mahitigirsomnath@gmail.com">mahitigirsomnath@gmail.com</a>               |
| 13      | Control Room Dy<br>Mam.Disa. | Shri.V.S.Chavda         | 02876-285063 |              | 9726785181  |        | <a href="mailto:dismgmt-girsomnath@gujarat.gov.in">dismgmt-girsomnath@gujarat.gov.in</a> |



|    |                |                  |              |   |            |   |  |
|----|----------------|------------------|--------------|---|------------|---|--|
| 14 | D.P.O. (GSDMA) | Shri K.S.Trivedi | 02876-285063 | - | 9426969236 | - | <a href="mailto:dismgmt-girsomnath@gujarat.gov.in">dismgmt-girsomnath@gujarat.gov.in</a> |
|----|----------------|------------------|--------------|---|------------|---|--|

### 15. Jamnagar (STD Code : 0288)

| Sr. No. | Designation                | Name                     | Office  | Resi    | Mobile                   | Fax                | e-mail   |
|---------|----------------------------|--------------------------|---------|---------|--------------------------|--------------------|--|
| 1       | Collector                  | Shri Ravi Shankar        | 2555869 | 2554059 | 9978406210               | 2555899            | <a href="mailto:collector-jam@gujarat.gov.in">collector-jam@gujarat.gov.in</a>     |
| 2       | Municipal Commissioner     | Shri Satish Patel        | 2552321 | 2552372 | 7567038888               | 2554454            | <a href="mailto:mcjamnagar@gmail.com">mcjamnagar@gmail.com</a>                     |
| 3       | D D O                      | Dr.Vipin Garg            | 2553901 | 2552402 | 9978406235               | 2552394            | <a href="mailto:ddo-jam@gujarat.gov.in">ddo-jam@gujarat.gov.in</a>                 |
| 4       | SP                         | Shri Sharad Singhal      | 2554203 | 2555868 | 9978405071               | 2556382            | <a href="mailto:sp-jam@gujarat.gov.in">sp-jam@gujarat.gov.in</a>                   |
| 5       | Resi. Addl.Collector       | Shri Rajendra Sarvaiya   | 2550284 | 2672131 | 9978405210               | 2555899            | <a href="mailto:addl-collector@gujarat.gov.in">addl-collector@gujarat.gov.in</a>   |
| 6       | Director-DRDA              | Shri R.M.Rayzada         | 2753289 | 2662106 | 9978982383               | 2756557            | <a href="mailto:drda.jam@gmail.com">drda.jam@gmail.com</a>                         |
| 7       | District Supply Officer    | Shri Keyur Jethva        | 2553897 | -       | 7567022435<br>9638377777 | 2553897            | <a href="mailto:dso-jam@gujarat.gov.in">dso-jam@gujarat.gov.in</a>                 |
| 8       | Dy. DDO (Revenue)          | Ms.Afsana Makva          | 2555749 | 2756346 | 9427597592               | 2552394            | <a href="mailto:dyddo-rev-jam@gujarat.gov.in">dyddo-rev-jam@gujarat.gov.in</a>     |
| 9       | Dy.DDO (Panchayat)         | Ms.Afsana Makva          | 2553901 | -       | 9825717188               |                    | <a href="mailto:dyddo-pan-jam@gujarat.gov.in">dyddo-pan-jam@gujarat.gov.in</a>     |
| 10      | CDHO-District Panchayat    | Dr.A.G.Bathvar           | 2671097 | -       | 7567880001               | 2552394            | <a href="mailto:cdho.health.jamnagar@gmail.com">cdho.health.jamnagar@gmail.com</a> |
| 11      | District Education officer | Shri Sursinh Dodia       | 2553321 | -       | 9909970206               | 2553321            | <a href="mailto:jamndeo@gmail.com">jamndeo@gmail.com</a>                           |
| 12      | District Pri. Edu.Officer  | Shri Sursinh Dodia       | 2676532 | -       | 9909971674               | 2671532<br>2552394 | <a href="mailto:dpeojamnagar@gmail.com">dpeojamnagar@gmail.com</a>                 |
| 13      | Dy.Muni.Commi.             | Shri A.K.Vastani         | 2550231 | 2553740 | 9510018599               | 2554454            | <a href="mailto:amccomm@yahoo.com">amccomm@yahoo.com</a>                           |
| 14      | Shasanadhipkari            | Shri C.M.Mehta           | 2671195 | -       | 8780995489               | 2554454            | <a href="mailto:aomsd.jamnagar1@yahoo.com">aomsd.jamnagar1@yahoo.com</a>           |
| 15      | General Manager DIC        | Shri D.M.Joshi           | 2660381 | -       | 9328966697               | 2660391            | <a href="mailto:gm-dic-jam@gujarat.gov.in">gm-dic-jam@gujarat.gov.in</a>           |
| 16      | Dy.Dir. Info               | Shri Raju Jani           | 2679234 | -       | 9913615298               | 2661267            | <a href="mailto:informationjam@gmail.com">informationjam@gmail.com</a>             |
| 17      | Chief Fire Officer         | Shri K.K.Bishnoi         | 2672208 | -       | 9879531101               | 2554454            | <a href="mailto:knbishnoi@gmail.com">knbishnoi@gmail.com</a>                       |
| 18      | DPO                        | Shri Yashvantsinh Parmar | 2553404 | -       | 8469288345               | 2541485            | <a href="mailto:dismgmt-jam@gujarat.gov.in">dismgmt-jam@gujarat.gov.in</a>         |
| 19      | Control Room Mam.Disa.     | Shri K.B.Sanghvi         | 2553404 | -       | 7284049595               | 2541485            | <a href="mailto:dismgmt-jam@gujarat.gov.in">dismgmt-jam@gujarat.gov.in</a>         |
| 20      | Ex.Engineer-GWSSB          | Shri C.B.Zala            | 2677279 | -       | 9978407184               | 2555146            | <a href="mailto:phwjaml@gmail.com">phwjaml@gmail.com</a>                           |

|    |                                   |                        |         |         |            |   |  |
|----|-----------------------------------|------------------------|---------|---------|------------|---|--|
| 21 | RTO                               | Shri J.J.Chaudhri      | 2672100 | -       | 9408701779 | - | <a href="mailto:rtojamnagar10@yahoo.in">rtojamnagar10@yahoo.in</a>           |
| 22 | Dy,DDO Dev.                       | Ms.Kirtan Parmar       | 2554203 |         | 9374111262 |   | -  |
| 23 | Ex.Enineer R&B-State              | Shri Sachin Oza        | 2550362 |         | 9426464610 | - | <a href="mailto:rnb-jam@gujarat.gov.in">rnb-jam@gujarat.gov.in</a>           |
| 24 | PO-GMB                            | Cap.B.N.Ladva          | 2711805 | 2711808 | 9638112186 | - | <a href="mailto:pojamgmb@gmail.com">pojamgmb@gmail.com</a>                   |
| 25 | SE-PGVCL                          | Shri N.P.Shah          | 2550301 |         | 9925209912 |   | <a href="mailto:sejmn.pgvcl@gebmil.com">sejmn.pgvcl@gebmil.com</a>           |
| 26 | DCF                               | Shri R.Shenthilkumaran | 2679357 | 2665110 | 9800293321 | - | <a href="mailto:mnpforest@yahoo.com">mnpforest@yahoo.com</a>                 |
| 27 | Dy.Dire-DISH                      | Shri M.G.Bariya        | 2678206 |         | 9426122924 |   |  |
| 28 | Asst.Director Fishries            | Ms.Bharti S.Tank       | 2564904 |         | 9427736551 |   | <a href="mailto:asdirjam@gmail.com">asdirjam@gmail.com</a>                   |
| 29 | Dy.DEO                            | Ms.Mitaben Joshi       | 2663681 | -       | 9978405278 |   | <a href="mailto:eo-jam@gujarata.gov.in">eo-jam@gujarata.gov.in</a>           |
| 30 | RM-GIDC                           | Shri Paneliya          |         |         | 9879110081 |   | <a href="mailto:rmjmn@gidcgujarat.org">rmjmn@gidcgujarat.org</a>             |
| 31 | District Registrat<br>Cooperative | Shri Manoj Lokhande    | 2674186 |         | 9427019121 |   |  |
| 32 | Divisional Controller-ST          | Shri M.B.Rawal         |         |         | 6359919034 |   | <a href="mailto:dcjmn98@gmail.com">dcjmn98@gmail.com</a>                     |
| 33 | Ex.Engineer-salinity<br>control   | N.H.Sadiya             | 2570423 |         | 8980725349 |   |  |
| 34 | RO GPCB                           | Shri Sutreja           |         |         | 7574827580 |   | <a href="mailto:ro-gpcb-jamn@gujarat.gov.in">ro-gpcb-jamn@gujarat.gov.in</a> |
| 35 | Dy.Director Animal<br>Husbandary  | Dr.Bhagirath Patel     |         |         | 9825717188 |   |  |
| 36 | District planning officer         | Shri Jethabhai Dodia   |         |         | 9824848818 |   |  |

#### 16. Junagadh (STD Code :0285)

| Sr. No. | Designation               | Name                      | Office  | Resi    | Mobile     | Fax     | Email ID   |
|---------|---------------------------|---------------------------|---------|---------|------------|---------|--|
| 1       | 2                         | 3                         | 4       | 5       | 6          | 7       | 8  |
| 1       | Collector                 | Dr. Sourabh Pardhi        | 2630100 | 2650203 | 9978406211 | 2635599 | <a href="mailto:collector-jun@gujarat.gov.in">collector-jun@gujarat.gov.in</a>                 |
| 2       | DSP                       | Shri Saurabh Singh        | 2635633 | 2655644 | 9978405250 | 2634501 | <a href="mailto:sp-jun@gujarat.gov.in">sp-jun@gujarat.gov.in</a>                               |
| 3       | Municipal<br>Commissioner | Shri Tushar sumera        | 2650450 | 2652988 | 9426250200 | 2651510 | <a href="mailto:municipalcorporationjund@yahoo.co.in">municipalcorporationjund@yahoo.co.in</a> |
| 4       | D D O                     | Shri Praveen<br>Chaudhary | 2635315 | 2651202 | 9978406236 | 2636317 | <a href="mailto:ddo-jun@gujarat.gov.in">ddo-jun@gujarat.gov.in</a>                             |

|    |                         |                       |                    |         |            |         |  |
|----|-------------------------|-----------------------|--------------------|---------|------------|---------|--|
| 5  | Resi. Addl. Collector   | Shri D K Baria        | 2636666            | -       | 9978405211 | 2635599 | <a href="mailto:add-collector-jun@gujarat.gov.in">add-collector-jun@gujarat.gov.in</a>         |
| 6  | DRDA                    | Shri R.J. Jadeja      | 2633179            | 2670690 | 7567035902 | 2636080 | <a href="mailto:drda.jun1@gmail.com">drda.jun1@gmail.com</a>                                   |
| 7  | Dy. DDO (Revenue)       | Shri P S Baraiya      | 2636032            | -       | 7567017608 | 2633021 | <a href="mailto:ddo-jun@gujarat.gov.in">ddo-jun@gujarat.gov.in</a>                             |
| 8  | DSO                     | Shri N D Govani (i/c) | 2631480            | -       | 7567021546 | 2635782 | <a href="mailto:dso-jun@gujarat.gov.in">dso-jun@gujarat.gov.in</a>                             |
| 9  | CDHO                    | Dr. C A Maheta        | 2633074            | 2657679 | 7567885111 | 2633131 | <a href="mailto:cdho.health.junagadh@gmail.com">cdho.health.junagadh@gmail.com</a>             |
| 10 | DEO                     | Shri N K Makvana      | 2630151            | -       | 9909970207 | -       | <a href="mailto:junagadhdeo@gmail.com">junagadhdeo@gmail.com</a>                               |
| 11 | DPEO                    | Shri K A Patel        | 2634136            | 2631509 | 9909971279 | 2632136 | <a href="mailto:dpeojunagadh@gmail.com">dpeojunagadh@gmail.com</a>                             |
| 12 | Dy. Muni.Commi.         | Shri J.N. Likhiya     | 2650450            | -       | 9099877477 | 2650450 | <a href="mailto:municipalcorporationjund@yahoo.co.in">municipalcorporationjund@yahoo.co.in</a> |
| 13 | Gen.Mana.DIC            | Shri P.S. Parmar      | 2630625<br>2631325 | -       | 9408635025 | 2634671 | <a href="mailto:gm-dic-jun@gujarat.gov.in">gm-dic-jun@gujarat.gov.in</a>                       |
| 14 | Dy. Director (Info.)    | Shri Arjun Parmar     | 2627281            | 2675366 | 9426520131 | 2651359 | <a href="mailto:cdmo-jun@gujarat.gov.in">cdmo-jun@gujarat.gov.in</a>                           |
| 15 | Fire Superintendent     | Shri Bhumit Mistri    | 2620841            | 2654101 | 9712110044 | 2651510 | <a href="mailto:municipalcorporationjund@yahoo.co.in">municipalcorporationjund@yahoo.co.in</a> |
| 16 | Control Room Mam. Disa. | Shri A.M. Bhatt (I/C) | 2633446<br>2633448 | -       | 9429765444 | 2633449 | <a href="mailto:dismgmt-jun@gujarat.gov.in">dismgmt-jun@gujarat.gov.in</a>                     |
| 17 | DDMO Disaster Mgmt.     | Shri Yakin Shivani    | 2633447            | -       | 9427433979 | 2633449 | <a href="mailto:yakin.shivani@gmail.com">yakin.shivani@gmail.com</a>                           |

### 17. Kheda (STD Code :0268)

| Sr No | Designation         | Name              | Office  | Resi    | Mobile     | Fax     | Email ID   |
|-------|---------------------|-------------------|---------|---------|------------|---------|--|
| 1     | Collector           | Shri I.K.Patel    | 2553334 | 2556700 | 9978406212 | 2553358 | <a href="mailto:collectorofficekheda@gmail.com">collectorofficekheda@gmail.com</a>   |
| 2     | DDO                 | Shri D.S.Gadhvi   | 2557262 | 232802  | 9978406237 | 2557567 | <a href="mailto:dyddi-vikeas@gov.in">dyddi-vikeas@gov.in</a>                         |
| 3     | DSP                 | Shree Divy Mishra | 2550250 | -       | 9978405072 | 2552750 | <a href="mailto:sp-khe@gujarat.gov.in">sp-khe@gujarat.gov.in</a>                     |
| 4     | Resi.Add. Collector | Shri Ramesh Merja | 2553336 | 2532777 | 9978405597 | 2553358 | <a href="mailto:add-collectorkhe@gujarat.gov.in">add-collectorkhe@gujarat.gov.in</a> |
| 5     | DRDA                | Shri R.T.Zala     | 2550221 | -       | 7567036029 | 2551169 | <a href="mailto:drda.khe@gmail.com">drda.khe@gmail.com</a>                           |
| 6     | DSO                 | Shri B.A. Patel   | 2553839 | -       | 7567021504 | 2551131 | <a href="mailto:dso-khe@gujarat.gov.in">dso-khe@gujarat.gov.in</a>                   |
| 7     | Dy.DDO (Revenue)    | Su Shri Sonalben  | 2557230 | -       | 7567018023 | 2557567 | <a href="mailto:ashokkumar6327@gmail.com">ashokkumar6327@gmail.com</a>               |

|    |  |                             |         |         |            |         |  |
|----|--|-----------------------------|---------|---------|------------|---------|--|
|    |  | Solnaki                     |         |         |            |         |  |
| 8  | CDHO   | Dr.D.C.Jagani               | 2556273 | -       | 9909966909 | -       | cdho.health.kheda@ gujart.gov.in   |
| 9  | District Forest Officer                                | Dr.T.Karuppasamy            | 2550316 |         | 7574950045 |         |  |
| 10 | Executive Engineer ,MGVCL                              | Shri S.N.Chavda             | 2562204 |         | 9925208353 |         |  |
| 11 | Executive Engineer , water Supply Sewerage Board       | Shri P.S.Dangi              | 2560996 |         | 9978445246 |         |  |
| 12 | Executive Engineer , State, R&B                        | Shri P.M.Modi               | 2566404 | -       | 9879529103 | -       | ec-khe@gujarat.gov.in  |
| 13 | Executive Engineer , Panchayat, R&B                    | Shri K.H.Rathod I/C         | 2557640 | -       | 9586440844 | -       | -  |
| 14 | Executive Engineer ,Irrigation Nadiad                  | Shri B.G.Prashnani          | 2566653 |         | 9427316009 |         |  |
| 15 | Deputy / Assistant Director Industrial Health & Safety | (I/C) D.B.Gamit             | 2568986 | -       | 9978262544 | -       | Dy-khe@gujarat.gov.in  |
| 16 | DEO  | Su Shri Kajalben G.Dave     | 2550183 | 2550388 | 9909971682 | 2550183 | <a href="mailto:khedeo@gmail.gov.in">khedeo@gmail.gov.in</a>             |
| 17 | DPEO   | I/C Su Shri Kajalben G.Dave | 2557452 | -       | 9909971682 | -       | <a href="mailto:dpo-khe@gujarat.gov.in">dpo-khe@gujarat.gov.in</a>       |
| 18 | Dy. Director information                               | Su Shri Ila ben vyas        | 2550903 | -       | 9909957289 | 2552187 | cdmo-khe@gujarat.gov.in  |
| 19 | General Manager DIC                                    | Tanviben Patel              | 2555003 | -       | 7567020727 | 244716  | <a href="mailto:gm-dic-khe-Gujarat.gov.in">gm-dic-khe-Gujarat.gov.in</a> |
| 20 | Chief Fire Officer                                     | Shri Dixit Patel            | 2550106 | -       | 9879253440 | -       | nadiadmunicipality@ yahoo.com  |
| 21 | Mam.Disa. Control Room                                 | Shri H.B.Rathod             | 2553356 | -       | 9825542167 | 2553358 | <a href="mailto:eoc.kheda@gmail.com">eoc.kheda@gmail.com</a>             |
| 22 | District Project Officer                               | Shri Sachi Desai            | 2553357 |         | 9725678973 | 2553358 | <a href="mailto:sacheedesai@gmail.com">sacheedesai@gmail.com</a>         |

**18. Kutch (STD Code : 02832)**

| Sr. No. | Designation               | Name                   | Office     | Mobile      | Fax    | Email  |
|---------|---------------------------|------------------------|------------|-------------|--------|--|
| 1       | Collector                 | Smt Praveena D.K.      | 2832250020 | 9978406213  | 250430 | <a href="mailto:collector-kut@gujarat.gov.in">collector-kut@gujarat.gov.in</a>         |
| 2       | D D O                     | Shri Prabhav Joshi     | 2832250080 | 9978406238  | 250355 | <a href="mailto:ddo-kut@gujarat.gov.in">ddo-kut@gujarat.gov.in</a>                     |
| 3       | DSP (Western)             | Shri Saurabh Tolambiya | 2832250444 | 9978405073  | 250427 | <a href="mailto:sp-kut@gujarat.gov.in">sp-kut@gujarat.gov.in</a>                       |
| 4       | DSP (Eastern)             | Smt Parikshita Rathor  | 2836280287 | 9978405690  | 280211 | <a href="mailto:sp-east-kut@gujarat.gov.in">sp-east-kut@gujarat.gov.in</a>             |
| 5       | Resi. Addl. Collector     | Shri K S Jhala         | 2832250650 | 9978405212  | 250430 | <a href="mailto:add-collector-kut@gujarat.gov.in">add-collector-kut@gujarat.gov.in</a> |
| 6       | DRDA                      | Shri Mehul Joshi       | 2832231577 | 7567035930  | 231342 | <a href="mailto:drda-kut@gujarat.gov.in">drda-kut@gujarat.gov.in</a>                   |
| 7       | DSO                       | M/s R.N. Chaudhary     | 2832221453 | 9408308508  | 227495 | <a href="mailto:dso-kut@gujarat.gov.in">dso-kut@gujarat.gov.in</a>                     |
| 9       | CDHO                      | Dr. P.K. Kannar        | 2832252207 | 9909949304  | 221666 | <a href="mailto:cdho.health.kutch@gmail.com">cdho.health.kutch@gmail.com</a>           |
| 10      | DEO                       | Dr. B.N. Prajapati     | 2832250156 | 9909970204  | 250156 | <a href="mailto:kutchhdeo@gmail.com">kutchhdeo@gmail.com</a>                           |
| 11      | DPEO                      | Shri S.B. Parmar       | 2832221103 | 9909971683  | 252403 | <a href="mailto:dpckutchh@gmail.com">dpckutchh@gmail.com</a>                           |
| 12      | General Manager<br>DIC    | Shri K.P.Der           | 2832250501 | 9879596947  | 251874 | <a href="mailto:gm-dic-kut@gujarat.gov.in">gm-dic-kut@gujarat.gov.in</a>               |
| 13      | <u>Dy.Dir.Info</u>        | Shri Mitesh Modasiya   | 2832224859 | 95864 43968 | 250954 | <a href="mailto:ddibhuj@gmail.com">ddibhuj@gmail.com</a>                               |
| 14      | Chief Fire Officer        | Shri Anil Maru         | -          | 9925170506  | -      | <a href="mailto:anilkumarafire1@gmail.com">anilkumarafire1@gmail.com</a>               |
| 15      | Control Room<br>Mam.Disa. | Shri C.R. Prajapati    | 2832250923 | 9537798343  | 224150 | <a href="mailto:dismgmt-kut@gmail.com">dismgmt-kut@gmail.com</a>                       |
| 16      | DPO                       | Shri Mehul Padharia    | 2832250923 | 9557920767  | 224150 |  |

**19. Mahisagar (STD Code: 02674)**

| Sr. No. | Designation          | Name            | Office       | Resi         | Mobile     | Fax    | Email ID   |
|---------|----------------------|-----------------|--------------|--------------|------------|--------|--|
| 1       | Collector            | Mr. R B Barad   | 02674-250664 | 02674-253555 | 9978405936 | 250655 | <a href="mailto:collector-mah@gujarat.gov.in">collector-mah@gujarat.gov.in</a>         |
| 2       | D D O                | Ms. Neha Kumari | 02674-250945 | -            | 9978406497 | 250946 | <a href="mailto:ddo-mahi@gujarat.gov.in">ddo-mahi@gujarat.gov.in</a>                   |
| 3       | SP                   | Mrs. Usha Rada  | 02674-254001 | -            | 9978405980 | 250816 | <a href="mailto:sp-lunav-mahi@gujarat.gov.in">sp-lunav-mahi@gujarat.gov.in</a>         |
| 4       | Resi. Addl. Collecto | Mr. R R Thakkar | 02674-250165 | -            | 9727763950 | 250655 | <a href="mailto:add-collector-mah@gujarat.gov.in">add-collector-mah@gujarat.gov.in</a> |

|    |                           |                          |               |   |            |   |                                 |
|----|---------------------------|--------------------------|---------------|---|------------|---|---------------------------------|
|    | r                         |                          |               |   |            |   |                                 |
| 5  | DRDA                      | Mr. J K Jadav            | 02674- 251123 | - | 9687606497 | - | drda.mahisagar@gmail.com        |
| 6  | DSO                       | Mr. R.B. Ansari          | 02674-250722  | - | 7574898793 | - | dso-mahi@gujarat.gov.in         |
| 7  | Dy. DDO<br>(Revenue)      | Mrs.C N Bhabhor          | 02674-250946  | - | 9428446244 | - | dyddo.mahi.mahekam@gmail.com    |
| 8  | CDHO                      | Mr. S.B. Shah            | 02674-252702  | - | 7573006978 | - | cdho.health.mahisagar@gmail.com |
| 9  | DEO                       | Mrs. S T Patel           | 02674-250901  | - | 7574822583 | - | deomahisagar@gmail.com          |
| 10 | DPEO                      | Mr.M G Malek             | 02674-255590  |   | 7567804983 | - | dpeomahisagar@gmail.com         |
| 11 | General<br>Manager DIC    | Mr. D R Rathva           | -             | - | 9638222418 | - | gm-dic-lun@gujarat.gov.in       |
| 12 | <u>Dy.Dir.Info</u>        | Shri Sanjay<br>Shah(I/c) | 02674-254051  | - | 9879961441 | - | mahimahiti254051@gmail.com      |
| 13 | Control Room<br>Mam.Disa. | Mr. B S Makwana<br>(I.C) | 02674-252300  | - | 9427391326 | - | disaster.mahisagar@gmail.com    |
| 14 | DPO                       | Mr.Jigar<br>Makwana      | 02674-252301  | - | 9898100757 | - | jigarmakwana@live.com           |

## 20. Mehsana (STD Code : 02762 )

| Sr. No | Designation             | Name                | Office          | Resi            | Mobile                   | Fax    | Emil ID                           |
|--------|-------------------------|---------------------|-----------------|-----------------|--------------------------|--------|-----------------------------------|
| 1      | Collector               | shri H.K.Patel      | 222200/ 222211  | 253365 / 222201 | 9978406214               | 222202 | collector-meh@gujarat.gov.in      |
| 2      | DDO                     | shri M.Y.Daxini     | 222301/ 222302  | 222304          | 9978406239               | 221447 | ddo-meh@gujarat.gov.in            |
| 3      | DSP                     | Shri Manish Singh   | 222122          | 222123          | 9978405074               | 222125 | dsp-meh@gujarat.gov.in            |
| 4      | Rasi.Addi.<br>collector | Shri P. B. Rathod   | 222203/ 222204  | 222205          | 9978405213               | 222202 | add-collector-meh@gujarat. gov.in |
| 5      | DRDA                    | Shri Mehul Dave     | 222328 / 222329 | 232638          | 9979861690               | 222230 | drda.meh2@gmail.com               |
| 6      | DSO                     | Kum. Krupali Mistry | 222208          | -               | 7567022373<br>9426247583 | 222209 | dso-meh@ gujarat.gov.in           |

|    |                               |                      |        |   |                          |        |  |
|----|-------------------------------|----------------------|--------|---|--------------------------|--------|--|
| 7  | I/C Dy.DDO<br>(Revenue)       | Shri B. S. Chaudhary | 221866 | - | 9408240909               | 221447 | dyddo.mkm.meh@gmail.com  |
| 8  | CDHO                          | Dr.Tushar K.Soni     | 222324 | - | 9909966907               | 220282 | <a href="mailto:dpmu.health.mehsana@gmail.com">dpmu.health.mehsana@gmail.com</a>   |
| 9  | DEO                           | I/O Smt. S. D. Patel | 221171 | - | 9909970213               | 221171 | mahedeo@gmail.com  |
| 10 | DPEO                          | Smt. S.D.Patel       | 222320 | - | 9909971684               | -      | dpeomehsana@gmail.com  |
| 11 | General Manager<br>DIC        | Shri S. V. Solanki   | 257409 | - | 9825336449<br>9328274990 | 254924 | gm-dic-meh@gujarat.gov.in  |
| 12 | <u>Dy.Dir.Info</u>            | Shri R. R. Turi      | 221888 | - | 9978405870<br>9978405441 | 221617 | cdmo-meh@gujarat.gov.in  |
| 13 | I/C Chief Fire<br>OFFICER     | Shri N.B.Singhane    | 225606 | - | 9969228348               | 225705 | shinganenb@ongc.co.in  |
| 14 | Control Room<br>Mam. Disaster | Shri K. S. Ninama    | 222220 | - | 8347062985               | 222202 | dismgmt-meh@gujarat.gov.in   |
| 15 | DPO                           | Smt. Anjela Gamdiya  | 222220 | - | 9898283817               | 222202 | <a href="mailto:dpo-meh@gujarat.gov.in">dpo-meh@gujarat.gov.in</a><br><a href="mailto:angelchrist90@gmail.com">angelchrist90@gmail.com</a> |

### 21. Morbi (STD Code: 02822)

| S.No. | Designation                                  | Name                     | Mobile     | Landline No. | Email Id   |
|-------|--|--------------------------|------------|--------------|--|
| 1     | Collector                                    | Shri J.B. Patel          | 9978405932 | 240701       | <a href="mailto:collector-mor@gujarat.gov.in">collector-mor@gujarat.gov.in</a> |
| 2     | DDO  | Shri S.M. Khatana        | 9978406470 | 222899       | <a href="mailto:ddo-morbi@gujarat.gov.in">ddo-morbi@gujarat.gov.in</a>         |
| 3     | S P  | Shri Karanraj<br>Vaghela | 9978405975 | 342471       | <a href="mailto:sp-morbi@gujarat.gov.in">sp-morbi@gujarat.gov.in</a>           |
| 4     | Resi. Addl. Collector                        | Shri. Ketan P.Joshi      | 9927759674 | 240701       |  |
| 5     | Dy. District Development<br>Officer (Mehsul) | Shri. P.V. Vasaiya       | 9825791455 | 222899       | <a href="mailto:dyddo.morvi@gmail.com">dyddo.morvi@gmail.com</a>               |
| 6     | Deputy Conservator of Forest                 | Shri. N.A. Khavadiya     | 7574950203 | 241611       | <a href="mailto:forest.dcfshraj@gmail.com">forest.dcfshraj@gmail.com</a>       |

|    |  |                                    |                          |         |  |
|----|--|------------------------------------|--------------------------|---------|--|
| 7  | Dy. Police Office                          | Shri. D.G. Chaudgri                | 9913970000               | 243473  | -  |
| 8  | Chief District Health officer              | Dr. J.M. Katira                    | 9727700025               | 222707  | <a href="mailto:cdho.health.morbi2@gmail.com">cdho.health.morbi2@gmail.com</a>   |
| 9  | Director, DRDA                             | Shri D.D. jadeja                   | 9978405234               | 220780  | <a href="mailto:morbidrda@gmail.com">morbidrda@gmail.com</a>   |
| 10 | DSO  | Ms. Pravinaben Pandavadra          | 9714766685               | 227844  | <a href="mailto:dsomorbi36@gmail.com">dsomorbi36@gmail.com</a>   |
| 11 | Medical Superintendent(Civil Hospital)     | Dr. Dudrachia<br>RMO Dr. R. Sardva | 7567876154<br>9825983301 | 230538  |  |
| 12 | CDMO                                       | Dr. P. That<br>Dudarejia           | 7567876154               | 230538  | <a href="mailto:cdmo.health.morbi@gmail.com">cdmo.health.morbi@gmail.com</a>   |
| 13 | DEO  | Mr. B M Solanki                    | 7574812279               | 222875  | <a href="mailto:morbideonew@gmail.com">morbideonew@gmail.com</a><br><a href="mailto:morbideo36@gmail.com">morbideo36@gmail.com</a> |
| 14 | DPEO                                       | Shri Mayurbhai Parekh              | 9824262237               | 222710  | <a href="mailto:dpeomorbi@gmail.com">dpeomorbi@gmail.com</a>   |
| 15 | General Manager, DIC                       | Shri. G.P. Zala                    | 9909578681               | 242715  | <a href="mailto:gm-dic-mor@gujarat.gov.in">gm-dic-mor@gujarat.gov.in</a>   |
| 16 | Ass. Director of Information               | Shri G.R.Padwa                     | 9429199886               | 241012  | <a href="mailto:informationmorbi@gmail.com">informationmorbi@gmail.com</a>   |
| 17 | Port Officer, GMB                          | Cap. Neeraj Hirwani                | 9512200035               | 229101  | <a href="mailto:pilotofficergmb@gmail.com">pilotofficergmb@gmail.com</a>   |
| 18 | Chief Fire officer                         | Shri. Kalpesh Bhat                 | 9099064847               | 230800  | -  |
| 19 | Executive Engineer, R & B (State)          | Shri. B.P. Joshi                   | 9998017171               | 240524  | <a href="mailto:exe.mor.rnb@gmail.com">exe.mor.rnb@gmail.com</a>   |
| 20 | Executive Engineer, R & B (Panchayat)      | Shri A.N. Choudhary                | 9825406053               | 222840  | <a href="mailto:expmorrnb@gmail.com">expmorrnb@gmail.com</a>   |
| 21 | Executive Engineer, irrigation (State)     | Shri B.K. Valgotar                 | 9429955178               | 2222897 | <a href="mailto:exeirripor@gmail.com">exeirripor@gmail.com</a>   |
| 22 | Executive Engineer, irrigation (Panchayat) | Shri D.V. Malvaliya                | 9909957832               | 222848  | <a href="mailto:morbipanchayatirrigation@gmail.com">morbipanchayatirrigation@gmail.com</a>   |
| 23 | Executive Engineer GWSSB                   | Shr. P. A. Solanki                 | 9978406632               | 223839  | <a href="mailto:eephwdmrb@gmail.com">eephwdmrb@gmail.com</a>   |



|    |                                       |                             |            |        |  |
|----|---------------------------------------|-----------------------------|------------|--------|--|
| 24 | Superintendent Engineer, PGVCL,       | Shri. B.M. Bhlani           | 9925209959 | 242291 | <a href="mailto:asmrb.pgvcl@gebmail.com">asmrb.pgvcl@gebmail.com</a>         |
| 25 | Dy Director of Animal husbandry       | Dr. D.A. Bhoraniya          | 9898598397 | 222712 | <a href="mailto:drdayal98397@gmail.com">drdayal98397@gmail.com</a>           |
| 26 | District Agriculture officer          | Shri. D.B. Gajera           | 9998546369 | 222709 | <a href="mailto:daomorbi@gmail.com">daomorbi@gmail.com</a>                   |
| 27 | Program Officer ICDS                  | Shri. M.V. Joshi            | 9512700677 | 222716 | <a href="mailto:icds.morbi@gmail.com">icds.morbi@gmail.com</a>               |
| 28 | Director Industrial Safety and Health | Shri. B.V. Bharthi          | 9879512123 | 242350 | <a href="mailto:dydlabmorbi@gmail.com">dydlabmorbi@gmail.com</a>             |
| 29 | ST Manager depot.                     | Shri. Dleep Samlanu Porsang | 9998953191 | 230701 | -  |
| 30 | Superintendent of Fisher              | Shri. K.V. Ramani           | 8141789262 | 243577 | <a href="mailto:sfmorbi@gmail.com">sfmorbi@gmail.com</a>                     |
| 31 | Regional officer, GPCB                | Shri. N.I. Kapadiya         | 9824466902 | 228001 | <a href="mailto:ro-gpcb-morb@gujarat.gov.in">ro-gpcb-morb@gujarat.gov.in</a> |
| 32 | Manager BSNL                          | Shri. R.G. Gami             | 9427561061 | 220895 | <a href="mailto:cscmorbi1990@gmail.com">cscmorbi1990@gmail.com</a>           |
| 35 | Mamlatdar Disaster                    | Shri B.B.Kasundra           | 9879188224 | 243300 | <a href="mailto:dmcemorbi@gmail.com">dmcemorbi@gmail.com</a>                 |
| 37 | DPO Disaster                          | Amreen Khan                 | 9907698161 | 243435 | <a href="mailto:dmcemorbi@gmail.com">dmcemorbi@gmail.com</a>                 |
| 38 | Dy. Mamlatdar Disaster                | Shri. Maheshbhai Kunvariya  | 9099189540 | 243436 | <a href="mailto:dmcemorbi@gmail.com">dmcemorbi@gmail.com</a>                 |

## 22. Narmada (STD Code : 02640)

| S.No. | Designation                  | Name                 | Office | Residence | Mobile     | Fax    | Email Id   |
|-------|------------------------------|----------------------|--------|-----------|------------|--------|--|
| 1     | Collector                    | Shri M.R.Kothari     | 222161 | 222162    | 9978406216 | 222171 | <a href="mailto:collector-nar@gujarat.gov.in">collector-nar@gujarat.gov.in</a> |
| 2     | Police Commissioner (If any) |                      |        | -         |            |        |  |
| 3     | SP                           | Shri Himnkar Sinh    | 222316 | 222166    | 9978405076 | 222316 | <a href="mailto:sp-nar@gujarat.gov.in">sp-nar@gujarat.gov.in</a>               |
| 4     | D D O                        | Dr. Jincy R. William | 224820 | 222081    | 9978406241 |        | <a href="mailto:ddo-nar@gujarat.gov.in">ddo-nar@gujarat.gov.in</a>             |
| 5     | Resident Additional          | Shri H. K. Vyas      | 222326 | 220058    | 9978405188 | 222171 | <a href="mailto:rdc-nar@gujarat.gov.in">rdc-nar@gujarat.gov.in</a>             |

|    |                           |                     |        |   |            |           |  |
|----|---------------------------|---------------------|--------|---|------------|-----------|--|
|    | Collector                 |                     |        |   |            |           |  |
| 6  | Executive Engineer, R & B | Shri I. V. Patel    | 223032 | - | 9726395949 | 222939    | <a href="mailto:rnb_rajpipla@yahoo.in">rnb_rajpipla@yahoo.in</a>   |
| 7  | DSO                       | Shri U. N. Pathan   | 224828 | - | 8980035040 | 221314    | <a href="mailto:dsonarmada@gmail.com">dsonarmada@gmail.com</a>   |
| 9  | CDHO                      | Dr. K. P. Patel     | 221806 | - | 7573972948 |           | <a href="mailto:cdho.health.narmada@gmail.com">cdho.health.narmada@gmail.com</a>   |
| 10 | DEO                       | Dr. N. D. Patel     | 222603 | - | 9909970226 | 222603    | <a href="mailto:narmdeo@gmail.com">narmdeo@gmail.com</a>   |
| 11 | DPEO                      | I/C Dr. N. D. Patel | 222920 | - | 9909970226 | 222085-86 | <a href="mailto:dpcnarmada@gmail.com">dpcnarmada@gmail.com</a>   |
| 12 | General Manager DIC       | Shri H. R. More     | 224182 |   | 9824067451 | 222438    | <a href="mailto:gm-dic-nar@gujarat.gov.in">gm-dic-nar@gujarat.gov.in</a>   |
| 13 | Dy. Director Information  | Shri Y. R. Gadiwala | 224038 | - | 9428694976 | 220146    | <a href="mailto:cdmo-nar@gujarat.gov.in">cdmo-nar@gujarat.gov.in</a><br><a href="mailto:ddinarmada@gmail.com">ddinarmada@gmail.com</a>     |
| 14 | Fire Officer              | Shri Mukesh Solanki | 220763 | - | 9978233384 | 220654    | <a href="mailto:rajpiplanagarapalika@gmail.com">rajpiplanagarapalika@gmail.com</a>   |
| 15 | Disaster Mamlatdar        | Shri M.S. Solanki   | 224001 | - | 9825852608 | 224719    | <a href="mailto:dismgmt-nar@gujarat.gov.in">dismgmt-nar@gujarat.gov.in</a>   |
| 16 | DPO                       | Shri Bantish Parmar | 224911 | - | 8866621514 | 224719    | <a href="mailto:dponar.gsdma@gmail.com">dponar.gsdma@gmail.com</a><br><a href="mailto:parmarbantish@gmail.com">parmarbantish@gmail.com</a> |

### 23.Navsari (STD Code : 02637)

| Sr. No. | Designation           | Name                      | Office | Resi   | Mobile     | Fax    | Email ID   |
|---------|-----------------------|---------------------------|--------|--------|------------|--------|--|
| 1       | Collector             | Shri Ardra Agarwal I.A.S  | 244999 | 246000 | 9978406215 | 281540 | <a href="mailto:collector-nav@gujarat.gov.in">collector-nav@gujarat.gov.in</a>         |
| 2       | D D O                 | Mrs. Prashsti parik       | 244299 | 246057 | 9978406240 | 230475 | <a href="mailto:ddo-nav@gujarat.gov.in">ddo-nav@gujarat.gov.in</a>                     |
| 3       | DSP                   | Shri Girish Pandia        | 245333 | 244330 | 9978406240 | 247510 | <a href="mailto:sp-nav@gujarat.gov.in">sp-nav@gujarat.gov.in</a>                       |
| 4       | Resi. Addl. Collector | Shri K. J. Rathod         | 246299 | 248399 | 9978405187 | 281540 | <a href="mailto:add-collector-nav@gujarat.gov.in">add-collector-nav@gujarat.gov.in</a> |
| 5       | DRDA                  | Shri P.K.Hadula           | 281083 | 281375 | 9825518780 | 281377 | <a href="mailto:drdanav@gmail.com">drdanav@gmail.com</a>                               |
| 6       | DSO                   | Smt. Pritiben Thakkar     | 248155 | -      | 9924074750 | 248155 | <a href="mailto:dso-nav@gujarat.gov.in">dso-nav@gujarat.gov.in</a>                     |
| 7       | Dy. DDO (Revenue)     | Shri R.I. Shaikh          | 244399 | -      | 7567017683 | -      | <a href="mailto:dy.ddo@gmail.com">dy.ddo@gmail.com</a>                                 |
| 8       | CDHO                  | Dr.Bhavsar                | 280143 | -      | 9099086001 | 232533 | <a href="mailto:cdho.health.navsari@gmail.com">cdho.health.navsari@gmail.com</a>       |
| 9       | DEO, Rural            | Shri R,M, Chaudhary       | 232572 | 235755 | 9909970223 | 232572 | <a href="mailto:navsarideo@gmail.com">navsarideo@gmail.com</a>                         |
| 10      | DPEO                  | Shri R,M, Chaudhary (I/C) | 258467 | -      | 9909971688 | 231810 | <a href="mailto:dpcnavsari@gmail.com">dpcnavsari@gmail.com</a>                         |
| 11      | General Manager       | Shri S. B. Vasava         | 248873 | -      | 7567020860 | 288873 | <a href="mailto:dm-dic-nav@gujarat.gov.in">dm-dic-nav@gujarat.gov.in</a>               |

|    |                        |                         |        |        |            |        |  |
|----|------------------------|-------------------------|--------|--------|------------|--------|--|
|    | DIC                    |                         |        |        |            |        |  |
| 12 | Dy. Dir. Info          | Shri Raj Jethva         | 244914 | 259780 | 9824532939 | 249611 | <a href="mailto:navsariadi@gmail.com">navsariadi@gmail.com</a>     |
| 13 | Fire Officer           | Kishorbhai Mangela(I/C) | 259001 | -      | 9879654125 | -      | <a href="mailto:np-navsari@yahoo.co.in">np-navsari@yahoo.co.in</a> |
| 14 | Control Room Mam.Disa. | Roshani Patel           | 259401 | -      | 7567004630 | 281540 | <a href="mailto:dismgmtnav@gmail.com">dismgmtnav@gmail.com</a>     |
| 15 | DPO                    | Shri Ankit Parmar       | 259401 | -      | 9714343111 | 281540 | <a href="mailto:prmrankit3@gmail.com">prmrankit3@gmail.com</a>     |

#### 24. Panchmahal (STD Code: 02672)

| Sr. No. | Designation            | Name              | Office | Mobile     | Fax              | Email ID   |
|---------|------------------------|-------------------|--------|------------|------------------|--|
| 1       | Collector              | Shri Amit Arora   | 242800 | 9978406217 | 242899           | <a href="mailto:collector-pan@gujarat.gov.in">collector-pan@gujarat.gov.in</a> |
| 2       | D D O                  | Shri A J Shah     | 253377 | 9978406242 | 253350           | <a href="mailto:ddo-pan@gujarat.gov.in">ddo-pan@gujarat.gov.in</a>             |
| 3       | DSP (Rural)            | Dr.Leena Patil    | 242200 | 9978405077 | 242812           | <a href="mailto:sp-pan@gujarat.gov.in">sp-pan@gujarat.gov.in</a>               |
| 4       | Resi. Addl.Collector   | Shri. M L Nalvaya | 242450 | 9978405189 | 241965           | <a href="mailto:rdc-pan@gujarat.gov.in">rdc-pan@gujarat.gov.in</a>             |
| 5       | DRDA                   | Shri R P Chaudhry | 253391 | 9427619801 | 253393           | <a href="mailto:dr-pan@gujarat.gov.in">dr-pan@gujarat.gov.in</a>               |
| 6       | DSO                    | Shri N B Rajput   | 242936 | 9924111329 | 242776           | <a href="mailto:dso-pan@gujarat.gov.in">dso-pan@gujarat.gov.in</a>             |
| 7       | Dy. DDO (Revenue)      | Shri C D Ratthwa  | 253352 | 9712397727 | 253350<br>253361 | <a href="mailto:dyddo-pan@gujarat.gov.in">dyddo-pan@gujarat.gov.in</a>         |
| 8       | CDHO                   | Shri S K Modh     | 253367 | 7567893600 | 250668           | <a href="mailto:dpc-panchmahal@yahoo.com">dpc-panchmahal@yahoo.com</a>         |
| 9       | DEO, Rural             | Shri B S Panchal  | 242240 | 9909970209 | 242240           | <a href="mailto:panchmahaldeo@gmail.com">panchmahaldeo@gmail.com</a>           |
| 10      | DPEO                   | Dr.V M Patel      | 253376 | 9228470597 | 253350           | <a href="mailto:dpeogodhra@gmail.com">dpeogodhra@gmail.com</a>                 |
| 11      | General Manager DIC    | Shri Jigar Dave   | 247216 | 7567020896 | 242271           | <a href="mailto:gm-dic-pan@gujarat.gov.in">gm-dic-pan@gujarat.gov.in</a>       |
| 12      | <u>Dy.Dir.Info</u>     | Shri R R Rathod   | 249111 | 9408727845 | -                |  |
| 13      | Chief Fire Officer     | Shri P.F.Solanki  | 241584 | 8780272718 | -                |  |
| 14      | Control Room Mam.Disa. | Shri V K Atiya    | 242536 | 8320119443 | 240921           | <a href="mailto:dimgmt-pan@gujarat.gov.in">dimgmt-pan@gujarat.gov.in</a>       |

**25. Patan (STD Code: 02766)**

| Sr. | Designation            | Name                 | Office          | Resi   | Mobile     | Fax    | E-MAIL   |
|-----|------------------------|----------------------|-----------------|--------|------------|--------|--|
| 1   | Collector              | Shri Anand Patel     | 233301          | 233300 | 9978406218 | 233055 | collector-pat@ gujarat.gov.in  |
| 2   | D.D.O                  | Shri D K Parekh      | 232936          | 231446 | 9978406243 | 234294 | <a href="mailto:ddo-pat@ gujarat.gov.in">ddo-pat@ gujarat.gov.in</a>   |
| 3   | S.P.                   | Shri Axayraj Makwana | 230104 / 223555 | 230500 | 9978405078 | 230182 | <a href="mailto:sp-patan@ gujarat.gov.in">sp-patan@ gujarat.gov.in</a>   |
| 4   | Resi.Addi. Collector   | Shri N D Paramar     | 233400          | 233401 | 9978405190 | --     | add-collector-pat@ gujarat.gov.in  |
| 5   | D.R.D.A.               | Shri Mukesh Parmar   | 291706          | --     | 9998418903 | 221111 | <a href="mailto:drda.pat@gujarat.gov.in">drda.pat@gujarat.gov.in</a><br><a href="mailto:drda-pat@gmail.com">drda-pat@gmail.com</a> |
| 6   | D.S.O.                 | Smt. G.N.DESAI       | 224660          | --     | 9909770389 | 224660 | <a href="mailto:dso-pat@ gujarat.gov.in">dso-pat@ gujarat.gov.in</a>   |
| 7   | Dy.DDO (Revenue)       | Smt Ritaben Pandya   | 232521          | -      | 9426301928 | -      | dyddo-rev-pat@ gujarat.gov.in  |
| 8   | C.D.H.O.               | Dr. DS Slavi         | 220592          | --     | 9909981895 | --     | cdho.health.patan @gmail.com   |
| 9   | D.E.O.                 | Shri A P Zala        | 230025          | -      | 9909970222 | 230025 | <a href="mailto:patandeo@gmail.com">patandeo@gmail.com</a>   |
| 10  | D.P.E.O.               | Shri BA Chaudhari    | 234239          | --     | 9909971692 | --     | dpcpatan@gmail.com   |
| 11  | General Manager D.I.C. | Shri S.V.Solanki     | 222023          | --     | 9978408845 | --     | gm-dic-pat@ gujarat.gov.in   |
| 12  | <u>Dy.Dir.Info</u>     | Smt.Amitbhai Gadhavi | 222158          | --     | 9924391616 | --     | ddiinfopatan@gmail.  |
| 13  | Mam.Disa               | Hitesh Rawal         | 224830          | --     | 9825220025 | 224830 | deocpatan@gmail.com  |

|    |              |                |        |    |            |        |                             |
|----|--------------|----------------|--------|----|------------|--------|-----------------------------|
| 14 | DPO -(GSDMA) | Shri K.S.Patel | 224830 | -- | 9426533915 | 224830 | dismgmt-pat@ gujarat.gov.in |
|----|--------------|----------------|--------|----|------------|--------|-----------------------------|

## 26. Porbandar (STD Code: 0286)

|    |                                   |                        |         |         |            |         |  |
|----|-----------------------------------|------------------------|---------|---------|------------|---------|--|
| 1  | Collector                         | Shri D.N. Modi         | 2221800 | 2243801 | 9978406219 | 2222527 | <a href="mailto:collector-por@gujarat.gov.in">collector-por@gujarat.gov.in</a>       |
| 2  | District Development Officer      | Shri V.K. Advani       | 2243803 | 2212638 | 9978406244 | 2212477 | <a href="mailto:ddo-por@gujarat.gov.in">ddo-por@gujarat.gov.in</a>                   |
| 3  | District Superintendent of Police | Shri Ravi Mohan Saini  | 2211222 | 2211223 | 9978405079 | 2243015 | <a href="mailto:sp-por@gujarat.gov.in">sp-por@gujarat.gov.in</a>                     |
| 4  | Resident Additional Collector     | Shri Rajesh M. Tanna   | 2221085 | 2245801 | 9978405191 | 2222527 | <a href="mailto:collector-por@gujarat.gov.in">collector-por@gujarat.gov.in</a>       |
| 5  | Deputy Conservator of Forest      | Shri D.J. Pandya       | 2242551 | -       | 9429551267 | 2210373 | <a href="mailto:dcfpbr@gmail.com">dcfpbr@gmail.com</a>                               |
| 6  | Director, DRDA                    | Shri S.D.Dhanani       | 2213736 | -       | 9825292364 | -       | <a href="mailto:drda.por@gmail.com">drda.por@gmail.com</a>                           |
| 7  | DSO                               | Shri Vivek Tank        | 2220070 | -       | 9909003272 | 2220071 | <a href="mailto:dso-por@gujarat.gov.in">dso-por@gujarat.gov.in</a>                   |
| 8  | Dy. DDO (Revenue)                 | Shri D.V. Vala         | 2252806 | -       | 9574513898 | 2212477 | <a href="mailto:ddo-por@gujarat.gov.in">ddo-por@gujarat.gov.in</a>                   |
| 9  | CDHO                              | Shri Dr A.G. Rathod    | 2241134 | -       | 9512015633 | 2242731 | <a href="mailto:cdho.health.porbandar@gmail.com">cdho.health.porbandar@gmail.com</a> |
| 10 | CDMO cum Civil surgeon            | Dr. J.D. Parmar        | 2240923 | -       | 9099079117 | -       | <a href="mailto:cdmo.health.porbandar@gmail.com">cdmo.health.porbandar@gmail.com</a> |
| 11 | DEO                               | Shri K.V. Miyani       | 2251350 | -       | 9909970225 | 2253108 | <a href="mailto:porbandardeo@gmail.com">porbandardeo@gmail.com</a>                   |
| 12 | DPEO                              | Shri K.V. Miyani (i/c) | 2252808 | -       | 9909970225 | 2252808 | <a href="mailto:dpeoporbandar@gmail.com">dpeoporbandar@gmail.com</a>                 |
| 13 | General Manager DIC               | Shri K.B. Mori         | 2222168 | -       | 9227753653 | 2222169 | <a href="mailto:gm-dic-por@gujarat.gov.in">gm-dic-por@gujarat.gov.in</a>             |
| 14 | Asst. Director of Information     | Shri Naresh Mehta      | 2222470 | -       | 9825263775 | 2222480 | <a href="mailto:informationpor@gmail.com">informationpor@gmail.com</a>               |

|    |   |                         |                     |   |             |              |  |
|----|---|-------------------------|---------------------|---|-------------|--------------|--|
| 15 | Port Officer, GMB                               | Shri Niraj Hirvani      | 2242408             | - | 9512200035  | 2244013      | <a href="mailto:gmbporbandar@gmail.com">gmbporbandar@gmail.com</a>               |
| 16 | Chief Fire Officer                              | Shri L.R.Joshi          | 2249850             | - | 9727751800  | -            | <a href="mailto:jlalit619@gmail.com">jlalit619@gmail.com</a>                     |
| 17 | Executive Engineer, R & B(state)                | Shri S.R. Patel         | 2240948/<br>2242547 | - | 97120 17210 | 242466       | <a href="mailto:ee_rnb_pbr@yahoo.co.in">ee_rnb_pbr@yahoo.co.in</a>               |
| 18 | Executive Engineer, R & B(Panchayat)            | Shri J.J. Pandya (I/C)  | 2212971             | - | 9825166618  | 2213224      | <a href="mailto:exernbddopor@gmail.com">exernbddopor@gmail.com</a>               |
| 19 | Executive Engineer,irrigation (Panchayat)       | Shri B.K. Valgotar(I/C) | 2212667             | - | 9429955178  | -            | <a href="mailto:exeiri-ddo-por@gujarat.gov.in">exeiri-ddo-por@gujarat.gov.in</a> |
| 20 | Executive Engineer,irrigation (State)           | Shri B.K. Valgotar      | 2222897             | - | 9429955178  | -            | <a href="mailto:exeirripor@gmail.com">exeirripor@gmail.com</a>                   |
| 21 | Executive Engineer, salinity control            | Shri B.K. Valgotar      | 2220503             | - | 9429955178  | -            | <a href="mailto:eescdnpbr@yahoo.in">eescdnpbr@yahoo.in</a>                       |
| 22 | Executive Engineer, GWSSB                       | Shri L.M. Sindhal       | 2242528             | - | 9978406843  | -            | <a href="mailto:eeprgwssb@gmail.com">eeprgwssb@gmail.com</a>                     |
| 23 | Superintendent Engineer, PGVCL                  | Shri D.B. Kodyatar      | 2240952/<br>2240947 | - | 9825603182  | 2240952      | <a href="mailto:Sepbr.pgvcl@gebmail.com">Sepbr.pgvcl@gebmail.com</a>             |
| 24 | Dy Director of Animal husbandry                 | Shri K.V. Raval         | 2213681             | - | 9925028054  | -            | <a href="mailto:dydir-ah-por@gujarat.gov.in">dydir-ah-por@gujarat.gov.in</a>     |
| 25 | District Agricultural Officer                   | Shri J.N. Parmar        | 2252809             | - | 9428242657  | -            | <a href="mailto:dao-ddo-por@gujarat.gov.in">dao-ddo-por@gujarat.gov.in</a>       |
| 26 | District Social welfare officer, Zila panchayat | Shri S.T. Sagathiya     | 2245897             | - | 9427243857  | -            | <a href="mailto:swo-ddo-por@gujarat.gov.in">swo-ddo-por@gujarat.gov.in</a>       |
| 27 | Programme officer(ICDS), Zila panchayat         | Smt Anjanaben Joshi     | 2247800             | - | 9429515359  | -            | <a href="mailto:po1.icds.porbandar@gmail.com">po1.icds.porbandar@gmail.com</a>   |
| 28 | Director, Industrial Safety & Health            | Shri J.M. Dvivedi       | 0285-<br>2636946    | - | 98241 90891 | 0285-2635013 | <a href="mailto:dydish-jun@gujarat.gov.in">dydish-jun@gujarat.gov.in</a>         |
| 29 | General manager S.T.                            | Smt H.R. Katara         | 2242409             | - | 6359918582  | -            | <a href="mailto:dmpbr@gsrtc.in">dmpbr@gsrtc.in</a>                               |

|    |   |                          |                     |   |             |         |  |
|----|---|--------------------------|---------------------|---|-------------|---------|--|
|    | depot                                     |                          |                     |   |             |         |  |
| 30 | Assistant Director of Fishries department | Shri V.K. Gohel          | 2242491             | - | 9408320907  | 2240949 | <a href="mailto:adfporbandar@gmail.com">adfporbandar@gmail.com</a>             |
| 31 | District Commandant, Home guard           | Shri Suresh Sikotra      | 2215250             | - | 9824225080  | -       | <a href="mailto:sisikotra@gmail.com">sisikotra@gmail.com</a>                   |
| 32 | Secretary, Indian Red Cross               | Shri Akbar Sorathiya     | -                   | - | 9998996939  | -       | <a href="mailto:redcrosspbr@gmail.com">redcrosspbr@gmail.com</a>               |
| 33 | Scientific officer, GPCB                  | Shri R.C.Vasava          | 2220050             | - | 9879383575  | -       | <a href="mailto:ro-gpcb-porb@gujarat.gov.in">ro-gpcb-porb@gujarat.gov.in</a>   |
| 34 | Commander, Indian coast guard             | DIG I.S. Chauhan         | 2242451             | - | 9099906726  | 2210559 | <a href="mailto:dhq1@indiancoastguard.nic.in">dhq1@indiancoastguard.nic.in</a> |
| 35 | Airport Director                          | Shri P.K. Sharma         | 2222234/<br>2222173 | - | 9925012668  | 2220031 | <a href="mailto:apdporbandar@AAI.AERO">apdporbandar@AAI.AERO</a>               |
| 36 | DE, BSNL                                  | Smt. Manjuben Modhvadiya | 2251400/<br>2251200 | - | 9429810303  | 2251500 | <a href="mailto:bsnlsdotpbd@gmail.com">bsnlsdotpbd@gmail.com</a>               |
| 37 | ARTO, Porbandar                           | Shri B.N chavda          | -                   | - | 9998856708  | -       | <a href="mailto:rtoporbandar25@yahoo.in">rtoporbandar25@yahoo.in</a>           |
| 38 | Disaster Mamlatdar                        | Sushree Neha Sojitra     | 2220800             | - | 96873 75750 | 2220801 | <a href="mailto:dismgmt-por@gujarat.gov.in">dismgmt-por@gujarat.gov.in</a>     |
| 39 | DPO                                       | Shri Likun Patra         | 2220800             | - | 7359214530  | 2220801 | <a href="mailto:dismgmt-por@gujarat.gov.in">dismgmt-por@gujarat.gov.in</a>     |
| 40 | EME, 108 EMRI, Porbandar                  | Shri Milan Jani          |                     |   | 9909344108  |         |  |
| 41 | Weather Observatory Officer, Porbandar    | Shri M. Chaudhry         | 2220955             |   | 9898739974  |         | <a href="mailto:amspbd@gmail.com">amspbd@gmail.com</a>                         |

### 27. Rajkot (STD Code: 0281)

| SR No. | Designation         | Name               | Office             | Resi    | Fax                | Mobile      | Email ID   |
|--------|---------------------|--------------------|--------------------|---------|--------------------|-------------|--|
| 1      | Collector           | SMT REMYA MOHAN    | 2473900<br>2479351 | 2472900 | 2453621<br>2479351 | 99784 06220 | <a href="mailto:Collector-raj@gujarat.gov.in">Collector-raj@gujarat.gov.in</a> |
| 2      | Police Commissioner | SHRI MANOJ AGRAWAL | 2459888            | 2450888 | 2458526            | 99784 06298 | <a href="mailto:cp_raj@gujarat.gov.in">cp_raj@gujarat.gov.in</a>               |

|    |                              |                           |                    |         |         |                          |  |
|----|------------------------------|---------------------------|--------------------|---------|---------|--------------------------|--|
| 3  | Muni.Commissioner            | Shri Udit Agarwal         | 2224133<br>2239973 | 2465859 | 2224258 | 97145 03701              | mc_rmc@rmc.gov.  |
| 4  | D.D.O.                       | SHRI ANIL<br>RANAVASIYA   | 2477008            | 2477144 | 2479128 | 99784 06245              | <a href="mailto:ddo-raj@gujarat.gov.in">ddo-raj@gujarat.gov.in</a>             |
| 5  | D.S.P. (Rural)               | Shri Balram Mina          | 2446333            | --      | 2476052 | 99784 05080              | <a href="mailto:sp-rural-raj@gujarat.gov.in">sp-rural-raj@gujarat.gov.in</a>   |
| 6  | Addi. Collector              | SHRI P.B. PANDYA          | 2476374            | 2451666 | 2453621 | 99784 05218              | <a href="mailto:Collector-raj@gujarat.gov.in">Collector-raj@gujarat.gov.in</a> |
| 7  | DRDA                         | SHRI J K PATEL            | 2474305            | --      | 2451892 | 9978447471               | <a href="mailto:drdaraj2002@yahoo.com">drdaraj2002@yahoo.com</a>               |
| 8  | ARDC                         | --                        | --                 | --      | --      | --                       | --   |
| 9  | D.S.O.                       | INC. M.K. PATEL           | 2476891            | 2476813 | 2476891 | 9727763124               | --   |
| 10 | Dy.DDO (Revenue)             | SHRI D V<br>MAKWANA       | 2441248            | --      | 2441248 | 7567018789               | <a href="mailto:dyddo-rev-raj@gujarat.gov.in">dyddo-rev-raj@gujarat.gov.in</a> |
| 11 | CDHO                         | SHRI DR. MANISH<br>MEHATA | 2443235            | 2479148 | 2476361 | 97277 00031              | <a href="mailto:cdho.health.rajkot@gmail.com">cdho.health.rajkot@gmail.com</a> |
| 12 | DEO, City                    | SHRI R.S.<br>UPAADHYAY    | 2223453            | --      | --      | 9909970214               | <a href="mailto:rajkotdeo@gmail.com">rajkotdeo@gmail.com</a>                   |
| 13 | DEO, Rural                   | SHRI R.S.<br>UPAADHYAY    | 2223453            | --      | --      | 9909970214               | <a href="mailto:rajkotdeo@gmail.com">rajkotdeo@gmail.com</a>                   |
| 14 | DPEO                         | SHRI M.G. VYAS            | 2444437            | --      | --      | 9909971694               | <a href="mailto:dpeorajkot@yahoo.com">dpeorajkot@yahoo.com</a>                 |
| 15 | Dy. Muni.Com. (C.Z.)         | SHRI C.K.NANDANI          | 2220938            | --      | --      | 9714503704               | <a href="mailto:cnandani@rmc.gov.in">cnandani@rmc.gov.in</a>                   |
| 16 | Dy. Muni.Com. (E.Z.)         | SHRI C.V.<br>GANATRA      | 2389274            | --      | --      | 9714503703               | <a href="mailto:dmcez@rmc.gov.in">dmcez@rmc.gov.in</a>                         |
| 17 | Dy. Muni.Com. (N.Z.)         | SHRI D.J. JADEJA          | 2235418            | --      | --      | 9409700123               | <a href="mailto:dmcwz@rmc.gov.in">dmcwz@rmc.gov.in</a>                         |
| 21 | Shasanadhipkari              | SHRI S.B.Dodiya           | 2227231            | --      | --      | 9898579880               | <a href="mailto:msbrmcrajkot@gmail.com">msbrmcrajkot@gmail.com</a>             |
| 22 | Gen. Manager DIC             | SHRI G.P.ZALA             | 2476376            | --      | 2476293 | 9909578681               | <a href="mailto:gm-dic-raj@gujarat.gov.in">gm-dic-raj@gujarat.gov.in</a>       |
| 23 | Dy Director (Info.)          | SHRI K.A.<br>KARAMTA      | 2223264            | --      | 2229325 | 9978405786               | <a href="mailto:rajkot.information@gmail.com">rajkot.information@gmail.com</a> |
| 24 | Chief Fire Officer           | SHRI B.J. THEBA           | 2227222            | 2227222 | 2226185 | 97145 03715              | <a href="mailto:ssyshailash@yahoo.com">ssyshailash@yahoo.com</a>               |
| 25 | Control Room<br>Mam.Disaster | Shri Ashok Trivedi        | 2471573<br>1077    | --      | 2471574 | 9427204934               | <a href="mailto:disastercellrajkot@gmail.com">disastercellrajkot@gmail.com</a> |
| 26 | DPO (GSDMA)                  | Shri Priyank Singh        | 2471573            | --      | 2471574 | 8401595144<br>7990365385 | <a href="mailto:disastercellrajkot@gmail.com">disastercellrajkot@gmail.com</a> |

### 28. Sabarkantha (STD Code: 02772)

| S.No. | Designation | Name | Office | Residence | Mobile | Fax | Email Id |
|-------|-------------|------|--------|-----------|--------|-----|----------|
|-------|-------------|------|--------|-----------|--------|-----|----------|



|    |                                      |                        |          |        |            |        |  |
|----|--------------------------------------|------------------------|----------|--------|------------|--------|--|
| 1  | Collector                            | Shri C J Patel         | 241001   | 223001 | 9978406221 | 241611 | collector-sab@gujarat.gov.in                                       |
| 2  | DSP                                  | Shri Chaitanya Mandlik | 247333   | 223333 | 9978405081 | 247933 | sp-sab@gujarat.gov.in  |
| 3  | D D O                                | Shri Rajendra Patel    | 242350   | 222351 | 9978406246 | 240872 | ddo-sab@gujarat.gov.in   |
| 4  | Resident Additional Collector        | Shri V L Patel         | 246012   | 228001 | 9978405219 | -      | add-collector-sab@gujarat.gov.in                                   |
| 5  | Executive Engineer, R & B            | Shri S G patel         | 241651   | 222871 | 9909233266 |        | <a href="mailto:rnb-sab@gujarat.gov.in">rnb-sab@gujarat.gov.in</a> |
| 6  | DSO                                  | Rahul Chaudhry         | 240698   | -      | 9724330906 | 240492 | dso-sab@gujarat.gov.in   |
| 7  | CDHO                                 | Dr Rajesh patel        | 246422   | 234633 | 9687679002 | 234633 | cdho-sab@gujarat.gov.in  |
| 8  | DEO                                  | Shri Sanjay Vyas       | 240793   | 244235 | 9909970217 | 240793 | deo.sabarkantha@gmail.com  |
| 9  | DPEO                                 | Shri Mitaben gadhvi    | 240694   | -      | 9909971696 |        | dpc-sabarkantha@gmail.com  |
| 10 | General Manager DIC                  | Shri R S Shah          | 240948   | -      | 9879054980 | 245274 | dic-sab@gujarat.gov.in   |
| 11 | Dy. Director Information             | Shri Arvind Machhar    | 241699   | -      | 9824112410 | 240699 | info-sab@gujarat.gov.in  |
| 12 | Director, Industrial Safety & Health | Shri H B Patel         | 23233231 |        | 9624000903 |        |  |
| 13 | Fire Officer                         | Shri Pratapsinh Devda  | 246720   | -      | 9974605342 |        | np_himatnagar@gmail.com  |
| 14 | Secretary, Red Cross                 | Shri Hasmukh Soni      | 240789   | -      | 9427691082 |        |  |
| 15 | Disaster Mamlatdar                   | Shri Urvish Valand     | 249039   | -      | 9558103639 | 230100 | dismgmt-sab@gujarat.gov.in   |
| 16 | DPO                                  | Shri K B Patel         | 249039   |        | 9974332782 | 230100 | <a href="mailto:kanupatel11@gmail.com">kanupatel11@gmail.com</a>   |

### 29. Surat (STD Code : 0261)

| Sr. No. | Designation | Name               | Office          | Resi                | Mobile      | Fax     | Email ID                     |
|---------|-------------|--------------------|-----------------|---------------------|-------------|---------|------------------------------|
| 1       | Collector   | Dr. Dhaval A Patel | 2652525/2655151 | 2669080/<br>2669580 | 99784-06222 | 2655757 | collector-sur@gujarat.gov.in |

|    |                         |                         |                 |         |             |         |                                 |
|----|-------------------------|-------------------------|-----------------|---------|-------------|---------|---------------------------------|
| 2  | Police Commissioner     | Shri R. B. Bhrahmbhat   | 2244440         | 2668555 | 99784-65080 | 2241304 | cp-sur@gujarat.gov.in           |
| 3  | Municipal Commissioner  | Shree Banchhanidhi Pani | 2422244         | 2258393 | 97243-45000 | 2422110 | commissioner@suratmunicipal.org |
| 4  | D D O                   | Shree Hitesh Koya       | 2422160-2425751 | --      | 99784-06247 | 2412543 | ddo-sur@gujarat.gov.in          |
| 5  | DSP (Rural)             | Shree A.M.Muniya        | 2651831/32/33   | --      | 99784-05082 | 2651834 | sp-sur@gujarat.gov.in           |
| 6  | Resi. Addl. Collector   | Shree S.D.Vasava        | 2660011         | --      | 99784-05220 | 2655757 | rdc-sur@gujarat.gov.in          |
| 7  | DRDA                    | Shree U.P Machhar       | 2780272         | 2795715 | 98253-36987 |         | drdasurat@gmail.com             |
| 8  | ARDC                    | Shri. N.G. Gamit        | 2425751         | -       | 99783-54901 |         |                                 |
| 9  | DSO                     | Smt. Ashtha Solanki     | 6599749         |         | 99784-05223 | 2655752 | dso-sur@gujarat.gov.in          |
| 10 | Dy. DDO (Revenue)       | I/c. Shree V.K.Shambhad | 2422160-2425751 | --      | 75670-17800 | 2412543 | dyddo-rev-sur@gujarat.gov.in    |
| 11 | CDHO                    | Dr. H.J.Chaudhari       | 2430780/589     | --      | 97277-09501 | 2412543 | cdho.health.surat3@gmail.com    |
| 12 | DEO, City               | Shree H.S.Rajyaguru     | 2662903         | 2652049 | 99099-70218 | 2662902 | suratdeo@gmail.com              |
| 13 | DEO, Rural              | Shree Ashok Munia       | 2595903         | 2652049 | 99784-05082 | 2595903 | dpcsurat@gmail.com              |
| 14 | DPEO                    | Shree J.M.Khradi        | 2595903         | 2652049 | 95375-36433 | 2595903 | dpcsurat@gmail.com              |
| 15 | Dy.Muni.Commi. (C.Z.)   | Shree K.S.Patel         | 2423750         | 2254605 | 97243-45218 | 2420548 | amc.cz@suratmunicipal.org       |
| 16 | Dy. Muni.Commi.(E.Z.)-A | Shree D.M. Jariwala     | 2547750         | --      | 97243-45216 | 2543640 | amc.ez@suratmunicipal.org       |
| 17 | Dy. Muni.Commi.(E.Z.)-B | Shree. N.B. Upadhyay    | 2547750         |         | 97243-45001 | 2543640 | amc.ez@suratmunicipal.org       |
| 18 | Dy. Muni.Commi.(N.Z.)   | Shree D.M.Patel         | 2480518/2485700 | --      | 97243-45210 | 2486300 | amc.nz@suratmunicipal.org       |
| 19 | Dy. Muni.Commi.(S.Z.)   | Shree A.M.Dubey         | 2277043/278429  | --      | 97243-45466 | 2272147 | amc.sz@suratmunicipal.org       |
| 20 | Dy. Muni.Comi.(N.W.Z.)  | Shree R.J. Pandya       | 2667926/2665511 | --      | 97243-45420 | 2668426 | amc.nz@suratmunicipal.org       |
| 21 | Dy.Muni.Commi. (S.E.Z.) | Shree J.M. Desai        | 2331903-04-05   | --      | 97243-45216 | 2420548 | amc.cz@suratmunicipal.org       |
| 22 | Shasanadhikari          | Shree Vimal M. Desai    | 2455301/2455302 | 2760987 | 99096-58181 | 2450322 | info@msbsurat.in                |
| 23 | General Manager DIC     | Shree Mitesh Ladani     | 2465925         | --      | 88799-66892 | 2465929 | jm-dic-sur@gujarat.gov.in       |
| 24 | <u>Dy.Dir.Info</u>      | Shree M.S.Valvi         | 2464225         | --      | 98794-12185 | 2465542 | infosurat2013@gmail.com         |
| 25 | Chief Fire Officer      | (I.C) B.K.Pareekh       | 2423751         | --      | 97243-45553 | 2451935 |                                 |
| 26 | Control Room            | Dr. Dipal.A.Bharai      | 2663200         | --      | 81601-08818 | 2664800 | dismgmt-sur@gujarat.gov.in      |

|    |                  |                      |         |    |             |         |                            |
|----|------------------|----------------------|---------|----|-------------|---------|----------------------------|
|    | Mam.Disa.        |                      |         |    |             |         |                            |
| 27 | DPO              | Shree Kaushik Poriya | 2663200 | -- | 90339-20674 | 2664800 | kaushikgsdma@gmail.com     |
| 28 | DY.Mam. Disaster | Smt. R.N. Patel      | 2663200 | -- | 99130-72614 | 2664800 | 66.disastersurat@gmail.com |

### 30. Surendranagar(STD Code : 02752)

| Sr.No. | Designation                           | Name                  | Office            | Resi   | Mobile                   |  | Fax    |
|--------|---------------------------------------|-----------------------|-------------------|--------|--------------------------|--|--------|
| 1      | Collector                             | Shri K. Rajesh, (IAS) | 282200            | 240005 | 9978406223               | <a href="mailto:collector-snr@gujarat.gov.in">collector-snr@gujarat.gov.in</a>     | 283862 |
| 2      | D D O                                 | Shri S.L.Shah I/C     | 283752            | 283501 | 99784 06248              | <a href="mailto:ddo-snr@gujarat.gov.in">ddo-snr@gujarat.gov.in</a>                 | 283862 |
| 3      | DSP                                   | Shri Mahendra Bagria  | 282100            | 285051 | 99784 05083              | <a href="mailto:sp-control-srn@gujarat.gov.in">sp-control-srn@gujarat.gov.in</a>   | 282815 |
| 4      | Resi.<br>Add.Collector                | Shri N. D. Zala       | 285200            |        | 99784 05224              | <a href="mailto:rdc-srn@gujarat.gov.in">rdc-srn@gujarat.gov.in</a>                 | 283862 |
| 5      | Dir. DRDA                             | Shri S.L.Shah         | 284808/<br>284809 |        | 7567039837<br>9879388262 | <a href="mailto:drda-snr@gujarat.gov.in">drda-snr@gujarat.gov.in</a>               | 284276 |
| 6      | Dy. DDO<br>(Revenue)                  | shri B M Suryavanshi  | 285602            |        | 8866224659               |  | 283402 |
| 7      | DSO                                   | Shri Chetan Misan )   | 284351            | 282407 | 7043047360               | <a href="mailto:dso-srn@gujarat.gov.in">dso-srn@gujarat.gov.in</a>                 | 283884 |
| 8      | CDHO                                  | Shri P. K. Parmar     | 283706/<br>285383 |        | 9727721376               | <a href="mailto:cdho-srn@gujarat.gov.in">cdho-srn@gujarat.gov.in</a>               | 282383 |
| 9      | DEO                                   | shir S.M. Barad       | 284710            |        | 9909970219               | <a href="mailto:dpeosnr@gmail.com">dpeosnr@gmail.com</a>                           | 284170 |
| 10     | DPEO                                  | Shri H.H.Chodhari     | 283099            |        | 99099 71695              | <a href="mailto:dpeosnr@gmail.com">dpeosnr@gmail.com</a>                           | 282973 |
| 11     | Gen. DIC                              | Shri b j nakum        | 283465            |        | 9924025050               | <a href="mailto:dic-snr@gujarat.gov.in">dic-snr@gujarat.gov.in</a>                 | 282046 |
| 12     | Dy. Director<br>( Information )       | shri Hetal B. dave    | 282253            |        | 9825599149               | <a href="mailto:information-snr@gujarat.gov.in">information-snr@gujarat.gov.in</a> |        |
| 13     | Fire branch ( I/C)<br>Surendranagar   | Shir R K Zala         | 282250            |        | 97277 78087              | <a href="mailto:np_surendranagar@yahoo.co.in">np_surendranagar@yahoo.co.in</a>     | 283612 |
| 14     | Control Room<br>Disaster<br>Mamlatdar | Smt S R Kelaiya       | 283400            |        | 97123 59331              | <a href="mailto:dismgmt-snr@gujarat.gov.in">dismgmt-snr@gujarat.gov.in</a>         | 284300 |
| 15     | DPO - GSDMA                           | Shri Nilesh Parmar    | 283400            | -      | 97121 85595              | <a href="mailto:dismgmt-snr@gujarat.gov.in">dismgmt-snr@gujarat.gov.in</a>         | 284300 |

### 31. Tapi (STD Code : 02626)

| Sr. No. | Designation                        | Name               | Office No.   | Resi. No.    | Mobile No. | Fax No. | E-Mail ID                     |
|---------|------------------------------------|--------------------|--------------|--------------|------------|---------|-------------------------------|
| 1       | 2                                  | 3                  | 4            | 5            | 6          | 7       | 8                             |
| 1       | Collector                          | Shri R.J.Halani    | 02626-224460 | 02626-220221 | 9978405364 | 221281  | collector-tapi@gujarat.gov.in |
| 2       | DDO                                | Shri Neha Singh    | 02626-222141 | 02626-220222 | 9978405263 | 222142  | ddo-tapi@gujarat.gov.in       |
| 3       | DSP                                | Shri N.N.Chaudhari | 02626-222700 | 02626-222722 | 9978405488 | 220100  | sp-tapi@gujarat.gov.in        |
| 4       | Resi.Addl.Collector                | Shri B.B.Vahoniya  | 02626-224450 | 02626-221222 | 9978405415 | 221281  | collector-tapi@gujarat.gov.in |
| 5       | DFO                                | Shri Anand Kumar   | 02626-222019 | —            | 8980613505 | 222339  | dcfvyara1@gmail.com           |
| 6       | DRDA                               | Shri J.J.Ninama    | 02626-223232 | —            | 7567042193 | 224001  | drda.tap@gmail.com            |
| 7       | DSO                                | Smt. N.H.Patel     | 02626-224401 | —            | 9879598335 | 221281  | collector-tapi@gujarat.gov.in |
| 8       | Dy. DDO (Revenue)                  | Shri G.R.Vasava    | 02626-220405 | —            | 9427878247 | 222142  | ddo-tapi@gujarat.gov.in       |
| 9       | CDHO                               | Dr.Harshad B.Patel | 02626-220376 | —            | 7434065700 | 220453  | cdho.health.tapi@gmail.com    |
| 10      | DEO                                | Shri B.M.Patel     | 02626-221624 | —            | 9099071307 | 221623  | tapideo@gmail.com             |
| 11      | DPEO                               | Shri J.M.Patel     | 02626-222057 | —            | 9099237135 | 221623  | tapidpc@gmail.com             |
| 12      | General Manager<br>DIC             | Shri M.M.Gamit     | 02626-221820 | —            | 9979117143 | 221810  | gm-dic-tap@gujarat.gov.in     |
| 13      | <u>Dy.Dir.Info</u>                 | Shri R.R.Tadvi     | 02626-222980 | —            | 9909237547 | 222980  | tapiadi932@gmail.com          |
| 14      | Chief Fire Officer                 | Shri S.N.Panchal   | 02626-222022 | —            | 9925031901 | 221015  | vyaranagar@yahoo.co.in        |
| 15      | Control Room<br>Mamlatdar Disaster | —                  | —            | —            | —          | —       | —                             |

### 32. The Dang (STD Code : 02631)

| S.No. | Designation                   | Name                | Office | Residence | Mobile     | Fax    | Email Id                      |
|-------|-------------------------------|---------------------|--------|-----------|------------|--------|-------------------------------|
| 1     | Collector                     | Shree N.K.Damor     | 220201 | 220202    | 9978406208 | 220294 | collector-dang@gujarat.gov.in |
| 2     | Police Commissioner (If any)  | -                   | -      | -         | -          | -      | -                             |
| 3     | SP                            | -                   | -      | -         | -          | -      | -                             |
| 4     | DSP                           | Mrs. Sweta Srimali  | 220248 |           | 9978405021 | 220226 | dang@gujarat.gov.in           |
| 5     | D D O                         | Shree H.K.Vadvaniya | 220254 | 220235    | 9978406233 | 220444 | ddo-dang@gujarat.gov.in       |
| 6     | Resident Additional Collector | Shree T.K. Damor    | 220221 | -         | 9978447801 | 220294 | rac-dang@gujarat.gov.in       |
| 7     | Executive Engineer, R & B     | Shree J. K. Patel-  | 220228 | 220476    | 9426439165 | -      | r&bdang@gmail.com             |

|    |   |                         |        |        |            |        |                                |
|----|---|-------------------------|--------|--------|------------|--------|--------------------------------|
| 9  | DRDA  | Shree D. R. Asari       | 220217 | 220206 | 7567034465 | 220214 | drda-dan@gujarat.gov.in        |
| 10 | DSO   | Shree P. F. Patel (I/C) | 220272 | -      | 9712624231 | 220384 |                                |
| 11 | CDHO  | Dr .Sanjay Shah         | 220344 | -      | 9427119204 | 220444 | dcp.health.dang@gujarat.gov.in |
| 12 | DEO, City                                     | -                       |        | -      |            |        |                                |
| 13 | DEO, Rural                                    | Shree M.C.Bhusara       | 220208 | -      | 9909971663 | 220408 | dangldeo@gujarat.gov.in        |
| 14 | DPEO  | Shree M.C.Bhusara(I/C)  | 220337 | -      | 9909971688 |        |                                |
| 15 | Shasanadhikari                                | -                       | -      | -      | -          | -      | -                              |
| 16 | General Manager DIC                           | -                       | -      | -      | -          | -      | -                              |
| 17 | Dy. Director Information                      | Shree Kanubhai Parmar   | 220326 | -      | 8141778910 | 220581 | -                              |
| 18 | Assitant Director, Industrial Safety & Health | -                       | -      | -      | -          | -      | -                              |
| 19 | Fire Officer                                  | -                       | -      | -      | -          | -      | -                              |
| 20 | Secretary, Rec Cross                          | -                       | -      | -      | -          | -      | -                              |
| 21 | Disaster Mamlatdar                            | Shree Jayesh Patel      | 220346 | -      | 9408957558 | -      | mamlatdar@gmail.com            |
| 22 | DPO   | Shree Chintan Patel     | 220347 | -      | 8866641248 | -      | chintucn3@gmail.com            |

### 33. Vadodra (STD Code : 0265)

| Sr.No | Designation            | Name                         | Office   | Resi    | Mobile     | Fax     | Email ID                     |
|-------|------------------------|------------------------------|----------|---------|------------|---------|------------------------------|
| 1     | 2                      | 3                            | 4        | 5       | 6          | 7       | 8                            |
| 1     | Collector              | Ms. Shalini Agrawal (IAS)    | 2433000  | 2313131 | 9978406224 | 2431093 | collector-vad@gujarat.gov.in |
| 2     | Commissioner of Police | Shri Anupamsinh Gehlot (IPS) | 2431414  | 2322232 | 9978405299 | 2432582 | cp-vad@gujarat.gov.in        |
| 3     | Municipal Commissioner | Shree Nalin Upadhyay (IAS)   | 2433344  | 2791300 | 9978406985 | 2433060 | commissioner@vmc.gov.in      |
| 4     | D.D.O.                 | Shri Kiran B Jhaveri (IAS)   | 24 32027 | 2338476 | 9978406249 | 2431078 | ddo-vad@gujarat.gov.in       |
| 5     | D.S.P.                 | Shree Sudhir Desai           | 2412255  | 2459293 | 9978406094 | 2432604 | sp-vad@gujarat.gov.in        |
| 6     | Resi. Addl. Collector  | Shri D R Patel               | 2419700  | -       | 9978405196 | 2431093 | -                            |
| 7     | D.R.D.A.               | Shri B B Chaudhary           | 2487432  | -       | 7567043376 | 2485608 | drdavad@yahoo.com            |
| 8     | DSO                    | Shree Shailesh D. Goklani    | 2433201  | 2464066 | 7567022247 | 2418900 | dso-vad@gujarat.gov.in       |
| 9     | Dy. D.D.O.             | Shri Swetaben                | 2431770  | -       | 7567017977 | 2431036 | dyddorevvado@gmail.com       |

|    |                                |                                  |         |         |                           |         |  |
|----|--------------------------------|----------------------------------|---------|---------|---------------------------|---------|--|
|    | (Revenue)                      | B.Rathod                         |         |         |                           |         |  |
| 10 | C.D.H.O. I/C                   | U.T.Tilavat                      | 2432383 | -       | 8980039101/<br>8980039102 | 2431036 | <a href="mailto:cdho.health.vadodara@gmail.com">cdho.health.vadodara@gmail.com</a> |
| 11 | D.E.O.                         | Shree U. N.Rathod                | 2461703 | 2711416 | 9909987576                | 2461703 | <a href="mailto:vadodeo@gmail.com">vadodeo@gmail.com</a>                           |
| 12 | D.P.E.O.                       | Smt. Chaudhary                   | 2436411 | -       | 9909987576                | 2431078 | <a href="mailto:dpeovadodara@gmail.com">dpeovadodara@gmail.com</a>                 |
| 13 | Dy. Muni.<br>Commi.            | Shri Sudhirbhai<br>K.Patel       | 2433233 | 2782278 | 9909919529                | 2433060 | <a href="mailto:vmcdymca@gmail.com">vmcdymca@gmail.com</a>                         |
| 14 | Shasanadhipkari                | Shri Dharmendrasinh<br>Chudasama | 2418388 | -       | 9574555837                | 2417620 | npssvadodara@yahoo.com &<br>msbvdr@gmail.com                                       |
| 15 | General Manager<br>D.I.C.      | Shri H N Mewada                  | 2423246 | -       | 9825075598                | 2426516 | <a href="mailto:gm-dic-vad@gujarat.gov.in">gm-dic-vad@gujarat.gov.in</a>           |
| 16 | Dy. Director<br>Information    | Shri Babubhai P.Desai            | 2458761 | -       | 9978405785                | 2431377 | <a href="mailto:cdmo-vad@gujarat.gov.in">cdmo-vad@gujarat.gov.in</a>               |
| 17 | Chief Fire Officer             | Shri Parth Brahmhatt<br>I/c      | 2420881 | 2420882 | 9924025094                | 2420881 | <a href="mailto:cfovadodarafire@gmail.com">cfovadodarafire@gmail.com</a>           |
| 18 | Mamlatdar Disast.<br>Managmnt. | Smt. Rekhaben Modha              | 2427592 |         | 9714556264                |         | <a href="mailto:vad.deoc@gmail.com">vad.deoc@gmail.com</a>                         |
| 19 | DPO(GSDMA)                     | Smt. Shlesha Parmar              | 2427592 | -       | 9737988891                | 2431093 | <a href="mailto:dpovadodara.gsdma@gmail.com">dpovadodara.gsdma@gmail.com</a>       |

#### 34. Valsad (STD Code : 02632)

| Sr. No. | Designation         | Name              | Office           | Resi   | Mobile                   | Fax    | Email ID   |
|---------|---------------------|-------------------|------------------|--------|--------------------------|--------|--|
| 1       | 2                   | 3                 | 4                | 5      | 6                        | 7      | 8  |
| 1       | Collector           | Shri.C.R.Kharsan  | 253613           | 253060 | 9978406225               | 243417 | <a href="mailto:collector-val@gujarat.gov.in">collector-val@gujarat.gov.in</a>         |
| 2       | DDO                 | Shri Arpit Sagar  | 253184           | 253086 | 9978406250               | 253829 | <a href="mailto:ddo-val@gujarat.gov.in">ddo-val@gujarat.gov.in</a>                     |
| 3       | DSP (Rural)         | Shri. Sunil Joshi | 254222           | 253093 | 9978405085               | 253408 | <a href="mailto:sp-val@gujarat.gov.in">sp-val@gujarat.gov.in</a>                       |
| 4       | Resi.Addl.Collector | Shri N.A.Rajput   | 253731           | 244476 | 9978405253               | 243417 | <a href="mailto:add-collector-val@gujarat.gov.in">add-collector-val@gujarat.gov.in</a> |
| 5       | DRDA                | Shri. B.K.Vasava  | 254093<br>244303 |        | 9978405650               | -      | <a href="mailto:drda.val@gmail.com">drda.val@gmail.com</a>                             |
| 6       | DSO                 | Shri. D.I.Patel   | 244192           | -      | 9974309633               | 252251 | <a href="mailto:dso-val@gujarat.gov.in">dso-val@gujarat.gov.in</a>                     |
| 7       | Dy.DDO (Revenue)    | Shri. D.V.Makvana | 254282           | -      | 7567018018               | -      | <a href="mailto:dyddorev.val@gmail.com">dyddorev.val@gmail.com</a>                     |
| 8       | CDHO                | Dr. A.B.Patel     | 253080           | -      | 9426553969<br>9727782001 | -      | <a href="mailto:cdho.health.valsad@gmail.com">cdho.health.valsad@gmail.com</a>         |
| 9       | DEO, Rural          | Shri. K.F.Vasava  | 254228           | -      | 9909970216               | 254228 | <a href="mailto:vlstddeo@gmail.com">vlstddeo@gmail.com</a>                             |

|    |                        |                          |                  |        |            |        |  |
|----|------------------------|--------------------------|------------------|--------|------------|--------|--|
| 10 | DPEO                   | Shri. Y.H.Patel          | 253210           | -      | 9909987577 | -      | <a href="mailto:dpeovalsad@gmail.com">dpeovalsad@gmail.com</a>             |
| 12 | General Manager DIC    | Shri.G.L.Patel           | 254283<br>244100 | 244160 | 7567021207 | 244987 | <a href="mailto:gm-dic-val@gujarat.gov.in">gm-dic-val@gujarat.gov.in</a>   |
| 13 | <u>Dy.Dir.Info</u>     | I/C Shri.M.S.Valvi       | 253817           | -      | 9879412185 | 256595 | <a href="mailto:ddivalsad@gmail.com">ddivalsad@gmail.com</a>               |
| 15 | Control Room Mam.Disa. | I/C Shri.Hardik Satasiya | 243238           | -      | 8460473071 | -      | <a href="mailto:dismgmt-val@gujarat.gov.in">dismgmt-val@gujarat.gov.in</a> |
| 16 | DPO                    | Shri.Jayvirsinh Raol     | 243238           | -      | 8849000397 | -      | <a href="mailto:raoljayvir09@gmail.com">raoljayvir09@gmail.com</a>         |

### 35. Municipal Commissioners

| No. | Designation                                  | Name                | Office    | Resi     | Mobile     | Fax                |
|-----|--|---------------------|-----------|----------|------------|--------------------|
| 1   | <b>AHMEDABAD (079) Control Room 25353858</b> |                     |           |          |            |                    |
|     | Municipal Commissioner                       | Shri Vijay Nehra    | 25352828, | 26420600 | 9978405060 | 25354638, 26841203 |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri Rakesh Shankar | 25350606  | 27436318 | 9727764919 | 22160774           |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri J S Prajapati  | -         | 27543419 | 9925522224 | 25353114           |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri Thakkar        | 22800803  | 22800803 | 9099996588 | 22804912           |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri Kuldeep Arya   | 25462252  | 26460622 | 8469233111 | 25452253           |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri Y.K.Mehta      | 26841201  |          | 9825056777 | 26841203           |
| 2   | <b>VADODARA (0265)</b>                       |                     |           |          |            |                    |
|     | Municipal Commissioner                       | Shree Ajay Bhadoo   | 2433344   | 2791300  | 9978406358 | 2433060            |
|     | Dy. Muni. Commi.                             | Shri Dhiren Talpada | 2466476   | -        | 9879509207 | 2433060            |
| 3   | <b>RAJKOT (0281)</b>                         |                     |           |          |            |                    |
|     | Muni.Commissioner                            | SHRI                | 2224133   | 2465859  | 9714503701 | 97145 03701        |
|     | Dy. Muni.Com. (C.Z.)                         | SHRI C.K.NANDANI    | 2220938   | --       | --         | 9714503704         |
|     | Dy. Muni.Com. (E.Z.)                         | SHRI                | 2389274   | --       | --         | 9714503703         |
|     | Dy. Muni.Com. (N.Z.)                         | SHRI D.J.JADEJA     | 2235418   | --       | --         | 9409700123         |
| 4   | <b>SURAT (0261)</b>                          |                     |           |          |            |                    |
|     | Municipal Commissioner                       | Shri M.Thennarasan  | 24222240  | 2258393  | 9724345000 | 2422110            |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri K.S.Patel      | 2423750   | 2254605  | 9724345218 | 2420548            |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri J.M.Desai      | 2547750   | --       | 9724345216 | 2543640            |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri D.M.Patel      | 2480518/  | --       | 9724345210 | 2486300            |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri D.M.Jariwala   | 2278429/  | --       | 9724345211 | 2272147            |
|     | Dy.Muni.Commi. (C.Z.)                        | Shri A.M.Dube       | 2663049-  | --       | 9724345466 | 2668426            |

|   |                          |                        |          |         |                          |          |
|---|--------------------------|------------------------|----------|---------|--------------------------|----------|
|   | Dy.Muni.Commi. (C.Z.)    | Shri K.S.Patel         | 2423750  | 2254605 | 9724345218               | 2420548  |
| 5 | <b>JAMNAGAR (0288)</b>   |                        |          |         |                          |          |
|   | Municipal Commissioner   | Shri S.A.Patel         | 2552321  | 2552372 | 9327372179               | 2554454  |
|   | Dy.Muni.Commi.           | Shri Mukesh Kumbharana | 2550231  | 2553740 | 9909917511<br>7016478897 | 2554454  |
| 6 | <b>BHAVNAGAR (0278)</b>  |                        |          |         |                          |          |
|   | Commissioner BMC         | Shri M.A. Gandhi       | 2510532  | 2518141 | 9978403000               | 2428628  |
|   | Dy. Muni. Comm.          | Shri.N.D.Govani        | 2439292  | -       | 9898601071               | -        |
|   | Dy. Muni. Comm. (Esta)   | Shri J.A.Rana          | 2439797  | -       | 9825466966               | 2439292  |
| 7 | <b>JUNAGADH (0285)</b>   |                        |          |         |                          |          |
|   | Municipal Commissioner   | Shri Tushar Sumera     | 2650450  | 2652988 | 9978400501               | 2651510  |
|   | Dy. Muni.Commi.          | Shri M. K. Nandaniya   | 2650450  | -       | 9909922526               | 2650450  |
| 8 | <b>GANDHINAGAR (079)</b> |                        |          |         |                          |          |
|   | Municipal Commissioner   | Dr.Ratankavar          | 23220440 | ---     | 99784 45135              | 23221419 |
|   | Dy. Muni. Commissioner   | Shri Bharat Joshi      | 23256981 |         | 99784 07123              |          |



### III. Important Websites

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

**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      | M. F. Dastoor            | 9327038754 | Raj Kumar            | 9227135277 | Radhika Tiwari                           | 8849344852 |
|         |                  | Mahesh Mod CFO           | 9427955551 |                      |            |  |            |
| 2       | Vadodara         | Parth Brahmbhatt         | 9924025094 | Harsh Vardhan        | 8141438666 | Chirasmita Barik                         | 9737478088 |
|         |                  |                          |            |                      |            | Shlesha Mistry                           | 9737988891 |
| 3       | Gandhidham-Kutch | Ilesh Kher               | 9879515966 | Narendra Bhai Gadhvi | 9825572188 | Mehul Padaria                            | 7987702303 |
| 4       | Surat            | Basant Pareek            | 9724345553 | Jagdish Patel        | 9724345684 | Nital Doshi                              | 8780656017 |
|         |                  |                          |            |                      |            | Kaushik Kumar                            | 9033920674 |
| 5       | Rajkot           | B. J. Theba              | 9714503715 | Shailesh Nadiyapara  | 9714912125 | Priyank Singh                            | 8401595144 |

## 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.

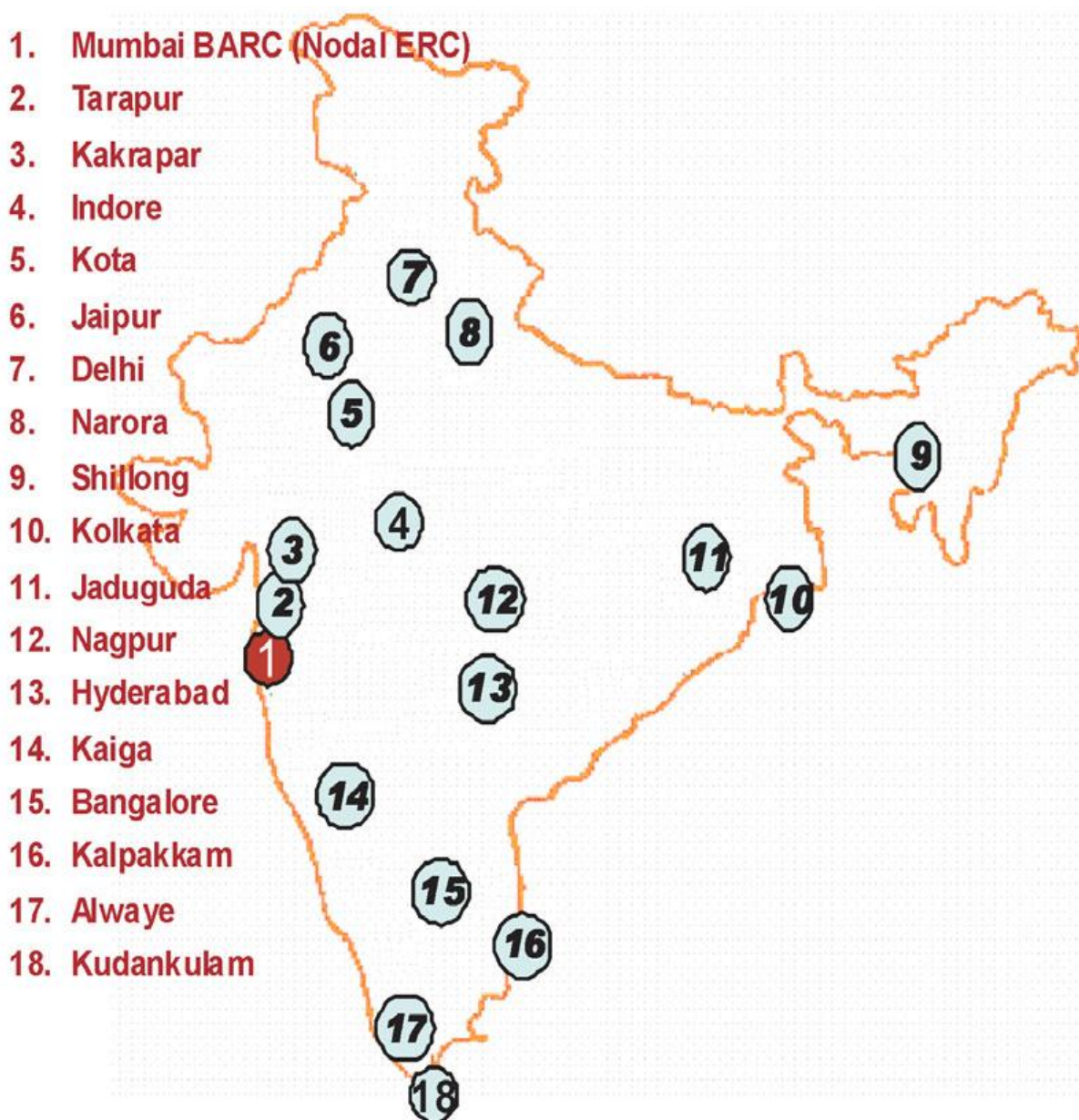
| Observed Conditions   | None                     | Minor                    | Moderate                 | Severe                   |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| ● Collapse, partial collapse, or subsidence or uneven 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 106-107)

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

| <b>Situation</b>   | <b>Initial Inner Cordoned Area (Safety Perimeter)</b>                      |
|--|--|
| <b>Initial Determination (Radiological Emergency in Open Area)</b>   |  |
| 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  |
| <b>Suspected bomb (potential RDD), exploded or unexploded</b>  | <b>400m radius or more to protect against an explosion</b>                 |
| <b>Initial Determination (Radiological Emergency Inside a Building)</b>  |  |
| Damage, loss of shielding or spill involving a potentially dangerous source  | Affected and adjacent areas (including floors above and below)             |
| <b>Fire or other event involving a potentially dangerous source that can spread materials throughout the building (e.g., through the ventilation system)</b> | <b>Entire building and appropriate outside distance as indicated above</b> |
| <b>Expansion Based on Radiological Monitoring</b>  |  |
| Ambient dose rate of 100 $\mu$ 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 dose<sup>1</sup> (whole body)**

1. 20 mSv averaged over five consecutive years, calculated on a sliding scale of five years<sup>2</sup>; (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 <sup>3</sup>                | 500 mSv per year     |
| 3. iii) Extremities<br>(hands and feet) | 500 mSv per year     |

**C) Pregnant woman**

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

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



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