

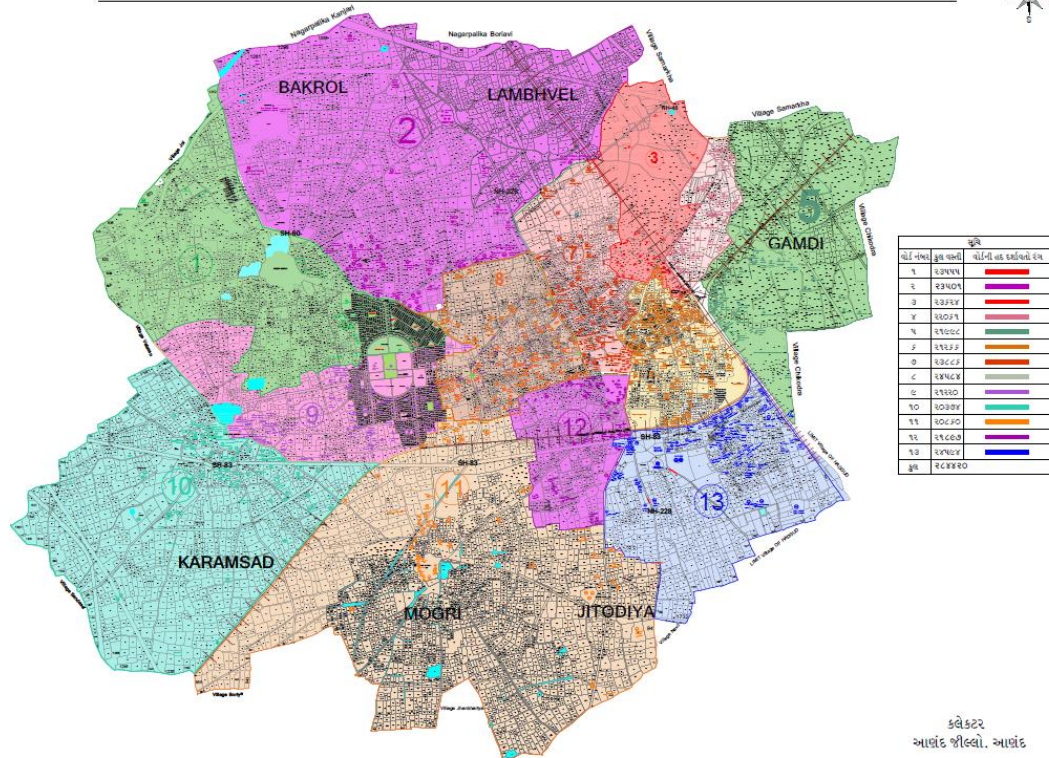


Municipal Corporation Disaster Management Plan

Year – 2026

(MCDMP-Karamsad Anand)

KARAMSAD ANAND MUNICIPAL CORPORATION PROPOSED WARD MAP



Municipal Corporation Karamsad Anand
Gujarat State Disaster Management Authority.



**KARAMSAD
ANAND MUNICIPAL
CORPORATION**



सत्यमेव जयते



FOREWORD

Disasters, whether natural or human-induced, continue to pose significant challenges to sustainable development by affecting lives, livelihoods, infrastructure, and economic growth. Rapid urbanization, environmental degradation, and the increasing impacts of climate change have heightened the vulnerability of communities to various hazards. Extreme weather events such as floods, cyclones, heat waves, and droughts are becoming more frequent and intense, resulting in substantial social and economic losses.

In this changing scenario, it is imperative to adopt a proactive and integrated approach towards disaster risk management. Strengthening preparedness, mitigation, response, and recovery mechanisms, while mainstreaming disaster risk reduction into development planning, is essential for building resilient communities. Active participation of local bodies, stakeholders, community-based organizations, and citizens is crucial in enhancing resilience and ensuring effective disaster management at the grassroots level.

The Municipal Corporation Disaster Management Plan 2026-2027 has been prepared with the objective of providing a comprehensive framework for coordinated action before, during, and after disasters. The plan emphasizes risk assessment, capacity building, resource management, institutional coordination, and community awareness to minimize disaster impacts and safeguard public welfare.

I am confident that this Disaster Management Plan will serve as a valuable guide for all departments, agencies, and stakeholders involved in disaster management. It will strengthen our collective efforts towards creating a safer, more resilient, and disaster-ready city while supporting sustainable development goals.

Mayor
Karamsad Anand Municipal Corporation



**KARAMSAD
ANAND MUNICIPAL
CORPORATION**



सत्यमेव जयते



FOREWORD

Disasters both natural and man-made are barrier to sustained growth as they pose threat to economy as well as to infrastructure. Climate change is a reality and is affecting every walk of our life. Compounded by other facts of environmental changes, viz., land use changes and natural resource degradation. Climate change impacts on natural systems and processes compound to produce extreme events and disasters, causing losses to live, and serious damage to infrastructure and property. Local level resilience, planning, and role of community and capacity building of associated functionaries and stakeholders is pivotal need of the hour for enabling the resilience into development.

Hence, the need is to develop means to grow economically while building resilience to disasters and climate change by incorporating disaster risk reduction strategies and risk transfer. This calls for a paradigm shift in the approach to address both disaster resilience as well as developmental activities.

I hope that the Municipal Corporation Disaster Management Plan 2026-2027 will be beneficial to all the relevant departments and supplement the understanding of disasters and ensure better coordination in Disaster Risk Management.

**Municipal Commissioner
Karamsad Anand Municipal Corporation**

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CHAPTER-1

• Introduction:

The Government of Gujarat has envisaged the development of a holistic approach designed to manage disasters on a more proactive basis. The approach involves formulating a comprehensive policy on all phases of disaster management, and addresses the entire gamut of disasters arising from natural and manmade causes.

Under the DM Act 2005, it is mandatory on the part of Disaster Management Authority (DMA) to adopt a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary and expedient for prevention as well as mitigation of disasters.

The Anand City is prone to many natural and man-made disasters. Natural disaster vulnerability of the City is presented in the Vulnerability Atlas of Gujarat prepared by GSDMA. The Atlas covers hazard vulnerability of the City to flood, wind and earthquakes.

1.1 Objectives and Goal of the Plan:

Section 31 of Disaster Management Act 2005 (DM Act), makes it mandatory to have a disaster management plan for every Corporation. MDMP shall include Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures.

The Municipal Corporation Disaster Management Plan (MCDMP) is the guide for achieving the objective i.e. mitigation, preparedness, response and recovery. This Plan needs to be prepared to respond to disasters with sense of urgency in a planned way to minimize human, property and environmental loss.

1.2 Scope of the Plan:

The scope of this plan, the entities (e.g., departments, agencies, PRIs, ULBs, private sector, NGOs, citizens) and geographic areas to which the plan applies need to be stated explicitly with identified role and responsibilities. The purpose statement need not be complex but should include enough information to establish the direction for the plan. The scope should include all disaster phases (Prevention, Preparedness, Mitigation, Response and Recovery), hazards addressed, area / Corporation etc.

1.3 Authority and Reference:

Mention - references that form the legal basis for actions outlined in this Plan is in accordance with Sections 31 and 32 of the DM Act 2005. Include and cite the legal and administrative basis for evolution of the Plan and implementing MDMP including: Laws & Statutes, Executive Orders / Rules, Regulations, Formal agreement (MoU) – with utility service agencies, telecom service providers, manufacturers of different emergency resources etc.

1.4 Plan Development:

Steps in a collaborative planning process include – formation of team, understanding hazards, vulnerabilities and risk in the Corporation, plan development (develop and analyse course of action, identify resources, identify information needs), plan preparation (write, review, approve and disseminate), plan implementation and maintenance (exercise, review, revise and maintain).

1.5 Stakeholders and their responsibilities

At the Corporation level, Municipal Disaster Management Authority, with the Municipal Commissioner designated as Response Officer (RO), and other line departments at the corporation are responsible to deal with all phases of disaster management within Municipal Corporation.

1.6 How to use the Plan:

- i. Section 31 of DM Act 2005 makes it mandatory for every Corporation to prepare a disaster management plan, for the protection of life and property from the effects of hazardous events within the Municipal Corporation.
- ii. In significant emergencies or disasters, Municipal Commissioner as the chairperson of DMA will have the powers of overall supervision direction and control as may be specified under State Government Rules / State Disaster Management Plan guidelines.
- iii. The Corporation Control Room will be staffed and operated as the situation dictates. When activated, operations will be supported by senior officers from line departments and central government agencies; private sector and volunteer organizations may be used to provide information, data and resources to cope with the situation.
- iv. The DMA may recommend for action under Sec 30 of DM Act.
- v. Facilities that have been identified as vital to operation of the Corporation government functions have been identified.
- vi. The Commissioner or his designee will coordinate and control resources of the Corporation.
- vii. Emergency public information will be disseminated by all available media outlets through the designated media and information officer.
- viii. Coordination with surrounding Corporations is essential, when an event occurs, that impacts beyond Corporation boundaries. Procedure should be established and exercised for inter Corporation collaboration.
- ix. Departments, agencies and organizations assigned either primary or supporting responsibilities in this document must develop implementation documents in order to support this plan.
- x. When local resources prove to be inadequate during emergency operations, request for assistance will be made to the State or higher levels of government and other agencies in accordance with set rules and procedures.

1.7 Approval Mechanism of the Plan:

As defined in Section 30 of DM Act 2005, Disaster Management Authority shall act as the Corporation planning; coordinating and implementing body for disaster management and take all measures for the purpose of disaster management in the Corporation in accordance with the guidelines laid down by the National Authority and the State Authority.

Accordingly, the Municipal Corporation DM plan shall be prepared by the Corporation Authority, after consultation with the local authorities and having regard to the National DM Plan and the State DM Plan.

1.8 Plan review and updation periodicity:

It is recommended that a MDMP be internally reviewed on a yearly basis and either be updated or reaffirmed. The updates or reaffirmed document may also be used to summarize the accomplishments of the past year and help the administration to prioritize mitigation goals for the next year.

CHAPTER – 2 - Hazard, Vulnerability, Capacity and Risk Assessment:

2.1 Hazard Risk Vulnerability Assessment (HRVA) – Authority that carried out HRVA:

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

The table below summarizes the results of an analysis of hazard, risk and disaster impact in Anand city. This analysis indicates that disaster planning at the Anand city level should first focus on the functional response to the Flood and Fire. Typical responses to following disaster events also can apply to Hazards.

The Hazard, Vulnerability, Risk, and Capacity (HVRC) Assessment offers a comprehensive analysis of potential risks and vulnerabilities to various hazards within Karamsad Anand Municipal Corporation. It identifies high-risk areas, vulnerable populations, and critical infrastructure susceptible to disasters. The assessment evaluates the community's ability to cope with crises and identifies areas of need and preparedness. It includes an evaluation of economic, social, housing, and environmental vulnerabilities, as well as an inventory of resources, communication systems, emergency facilities, and volunteer organizations operating within the district. This assessment serves as a valuable tool for enhancing emergency preparedness and response efforts in Karamsad Anand Municipal Corporation.

2.1. Socio – economic profile of the district

Administrative & Demographic Profile (2026 Updated Estimates)

- **Establishment:** Formed on January 1, 2025, by merging the Anand, Vallabh Vidyanagar, and Karamsad municipalities to create a single administrative entity.
- **Population:** The estimated population of the combined Karamsad-Anand Municipal Corporation area is approximately 400,000–430,000+ in 2026.
- **Area:** The corporation covers an area of roughly 85.67 square kilometres.
- **Karamsad Specifics:** As a municipality within the Corporation, Karamsad had a population of 35,285 in 2011, estimated to be around 50,000+ by 2026.
- **Literacy Rate:** The Anand urban agglomeration exhibits a high literacy rate, estimated at 89.76% (males 93.74%, females 85.53%).
- **Sex Ratio:** The area has a sex ratio of 934–955 females per 1000 males in 2026, which is higher than the national urban average

Economic Profile

The economy is diverse, spanning agricultural, dairy, and industrial sectors.

- **Dairy Capital:** The region is the headquarters of the Gujarat Cooperative Milk Marketing Federation (AMUL), National Dairy Development Board (NDDB), and Vidya Dairy.
- **Industrial Belt:** Located near Vitthal Udyognagar, a major industrial estate hosting engineering companies like Elecon Engineering, HLE Glascoat Ltd, and GMM Pfaudler.
- **Agriculture:** Major crops in the region include tobacco and bananas.
- **Revenue Generation:** The newly formed corporation generated over ₹6.43 crore in revenue in early 2025, primarily from property tax, shop rent, and user charges.
- **Major Employer:** The dairy cooperative sector and agricultural processing industries are the largest employers, along with growing service and retail sectors.

Social & Infrastructure Profile

- **Educational Hub:** The region, particularly Vallabh Vidyanagar and Karamsad, is known for

its academic institutions, hosting over 50,000 students, including those at IRMA and Anand Agricultural University.

- **Healthcare:** Karamsad is home to the renowned Shri Krishna Hospital.
- **History:** Karamsad is famously known as the birthplace of Sardar Vallabhbhai Patel, the first Deputy Prime Minister of India.
- **Civic Services:** The corporation offers online services for property tax, professional tax, and complaint redressal through its official app and website.
- **Infrastructure:** The area lies between Ahmedabad and Vadodara, offering high connectivity via rail and the National Expressway

Furthermore, the district grapples with environmental pollution and dust from industrial activities, exacerbating the impact of Flood in monsoon periods, heatwaves during the summer months. Despite these challenges, District remains resilient, with ongoing efforts to enhance disaster preparedness, promote sustainable development, and safeguard the well-being of its inhabitants.

2.2. Hazard, Vulnerability, Vulnerability and Capacity (HRVC) Assessment

Natural	Man made	Climate Induced
		
 Earthquake	 Industrial Accidents	 Heat Wave
 Cyclone	 Fire	
 Floods	 Road Accidents	
 Drought	 Leakage of Gases	

The prominent natural and manmade hazards in the district are as below;

2.2.1. Seasonality of hazards

Hazard	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Earthquake	--	--	--	--	--	--	--	--	--	--	--	--
Cyclone	---	---	---	---	---	--	--	---	---	--	--	--
Flood	---	---	---	---	---	--	---	---	--	--	--	--
Water Logging	---	---	---	---	--	Y	Y	Y	Y	--	--	--
Fire	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Accident	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industrial Accident	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Heat wave	---	---	Y	Y	Y	Y	---	---	---	---	---	---

Snake bite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
------------	---	---	---	---	---	---	---	---	---	---	---	---

Sr. No.	Type of Risk	Sources	Resulting Emergencies	Effect
1.	Environment al risk – Due to man-made disaster (Air pollution)	Leakage, spillage, escaping of toxic, flammable, explosive, reactive, poisoning chemical vapor, dust, fume in atmosphere from storage, manufacturing, handling, transportation operation from the factory by the abnormalities in operation, maintenance, startup / shutdown, failure of equipment, use of substandard / wrong material, civil commotion and armed conflicts, sabotage, war, riots, civil disturbance	Toxic release in atmosphere or Land poisoning or Water poisoning or Fire or explosion or Combination of them	Injury to humans and other living creatures, or Land poisoning or Water poisoning or Damage to property or Plant poisoning or Combination of them
2.	Environment al Risk – Due to man-made disaster (Water pollution)	Leakage, spillage, penetrate of industrial waste such as solid or liquid on or in the land due to abnormalities in operation, maintenance, failure of equipment, civil commotion and armed conflicts, sabotage, breakage or choking of pipeline	Same as above	Same as above
3.	Environmental risk – Due to natural calamities i.e. earthquake, cyclone, flood (water and air pollution)	Leakage, spillage, penetrate of toxic, flammable, explosive, reactive, poisoning chemical vapors, dust, fume in atmosphere from storage, manufacturing, handling, transportation operation from the factory and leakage, spillage penetrate of industrial waste such as solid or liquid on or in the land	Same as above	Same as above

		due to natural calamity		
4.	Environmental risk – Due to man-made Natural Calamity disaster while transporting of chemical by road, rail & pipeline	Leakage, spillage, escaping, penetrate of toxic, flammable, explosive, radioactive, poisoning chemical liquid, vapors, dust, fume in atmosphere or on or in the land due to rupture of pipeline, on or in the land road transport containers / vessel, railway wagon, equipment failure because of natural calamities or manmade or combination of them disaster	Same as above	Same as above

➤ **Earthquake**

Anand district falls under zone-III according to the zoning map therefore Karamsad Ananad Municipal corporation technically fall under zone-III, that's why it can be possible that an earthquake between magnitudes of 4-5 can strike the district. But as there is fault line going through the district, earthquakes of magnitude up to 7 can also strike and very high possibility of failure of various infrastructures and very high chances of risk of loss of live properties too in certain highly populated areas of the district.

The response mechanism would be the same as described with the general response mechanism chapter, here the focus will be on well-populated areas in particular city areas and the district disaster response group.

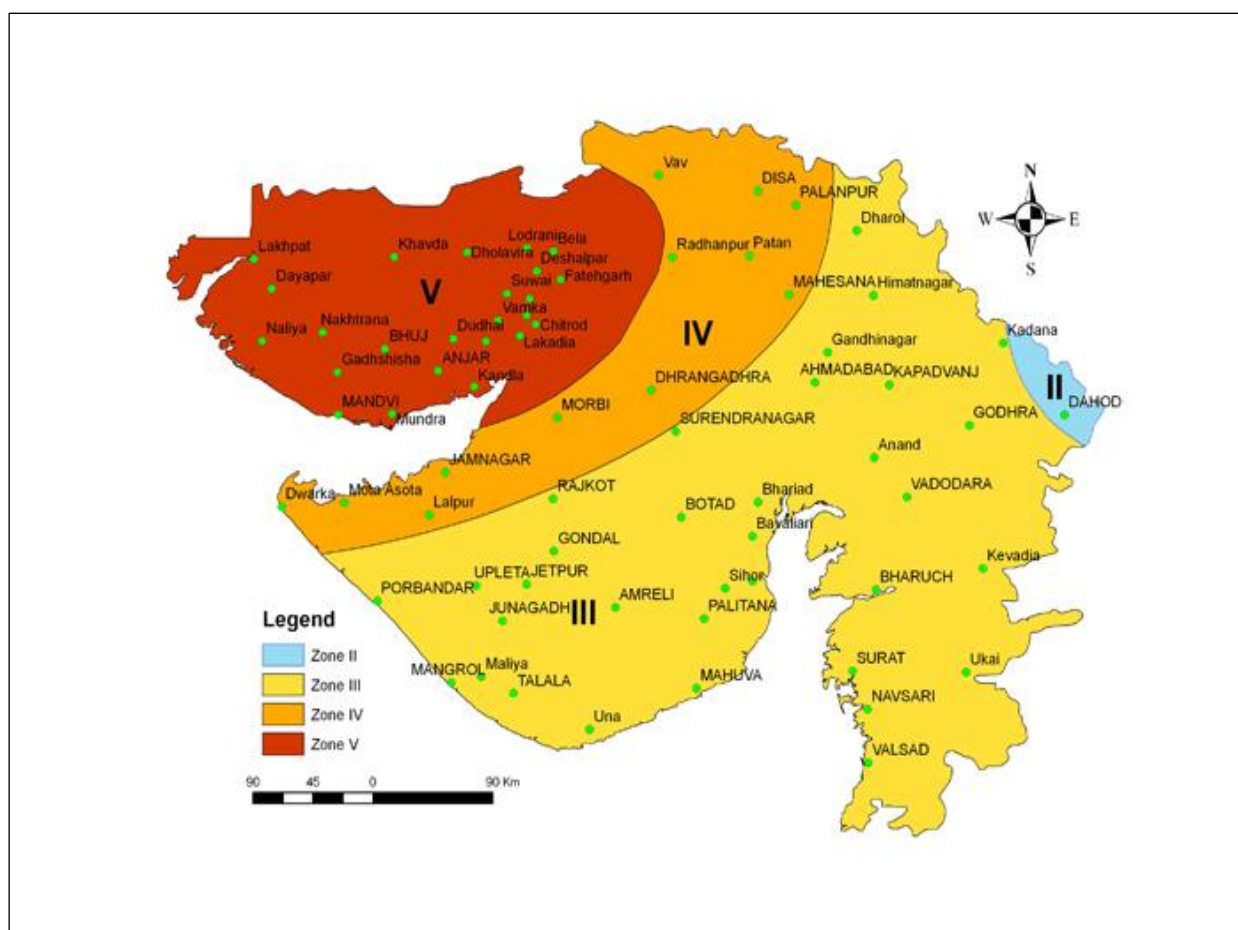
The response mechanism would be the same as described with the general response mechanism chapter, here the focus will be on well-populated areas in particular city areas and the district disaster response group.

- ❖ As disaster declares the response managed and monitored through Disaster Control room and.
- ❖ All concerned MDMC members with Liaison officers and response group members are intimated to respond to the situation as described in the chart below.
- ❖ As per the impact of disaster, it will manage through Municipal

Corporation Disaster control room and DEOC/TEOC and if needed support of State or Central departments will be requested to deal with the situation.

- ❖ Database of SDRN and IDRN (Manually and Electronic) will be referred for flood response.

Zones	Magnitude
Zone – V	Greater than 7
Zone – IV	Greater than 5, Less than or equal to 7
Zone – III	Greater than 4, Less than or equal to 5
Zone – II	Greater than 3, Less than or equal to 4
Zone- I	Less than 3



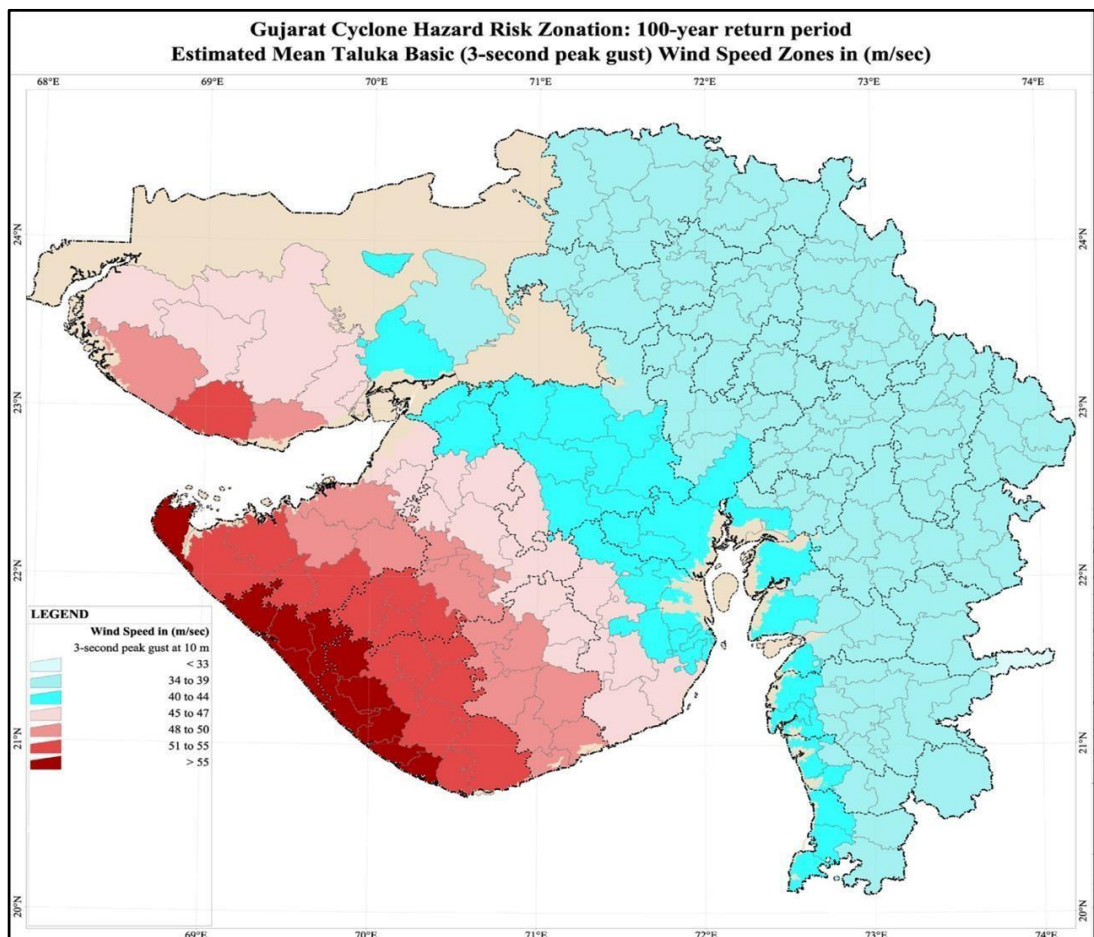
Gujarat Earthquake Hazard Risk Zonation Map

➤ Cyclone

A Cyclone is a swirling cloud of smoke and high-velocity winds. This is born from the sea and comes to land. Due to low pressure in the atmosphere, these cyclonic winds, formed in the Arabian Sea or Bay of Bengal, generally move in the north-west direction and strike the land from the sea. Heavy to very heavy rain can also occur under the effect of storm.

- A massive heat wave in north-west India is a factor in producing cyclones.
- Air becomes lighter or rises due to heating, creating an area of air pressure.
- Another wind moves to this side to fill this space.
- In this way a huge mass of clouds with steam from the Arabian Sea moves forward and rises towards the pressure zone over the coast.

A storm rotates in a counterclockwise direction. It is 8 to 12 km above sea level. Can be up to height. The width of the storm can be 20 to 50 kms. The calm center in the center of the storm is called the “eye” of the storm. The inner circle and the outer circle of the eye are part of the storm. Depending on wind speed and direction.



Gujarat Cyclone Hazard Risk Zonation Map

Cyclones in Gujarat mostly come from the Arabian Sea and move in a north, northwestern direction. It mostly affects coastal areas and bay areas. It includes areas of Kutch, Rajkot, Jamnagar, Porbandar, Anand, Amreli, Bhavnagar, Bharuch, Surat, Valsad districts.

A storm does not have a specific duration. There is a high possibility of a storm coming in Gujarat before or after the monsoon. That is, from the month of May to the month of October, the danger of storms is high. It usually moves at a speed of 15-25 km/h. Speed is less at sea. When it comes to the ground, the speed increases. But there are also cases of storms settling in one place for a long time. In this regard it is imperative to follow the weather forecast. Locally there can be no perfect predictions. Wind direction changes from one side to the other in the areas passing through the center of the storm and the wind calms down in between, so extra care is required.

➤ **Flood**

A flood is an overflow of water on land that is usually dry. Floods can occur due to various reasons, such as heavy rainfall, rapid melting of snow, storm surges from hurricanes or typhoons, overflow of lakes, or the failure of drainage system or levees. Floods can range from minor events, causing minimal damage and inconvenience, to major catastrophes that result in widespread destruction of property, loss of lives, and disruption of communities. Floods can have both immediate and long-term impacts on the affected areas, including damage to infrastructure, contamination of water sources, displacement of populations, and economic losses. Flood management strategies often involve a combination of measures such as early warning systems, floodplain zoning, construction of flood defenses, and sustainable land use planning.

Early Warning & Communication:

GENERAL TERMINOLOGY USED IN WEATHER BULLETINS

(A) Intensity of Rain fall all Terminology Used

1. 0.1. mm to 2.4 mm (24 hrs.)-----Very light rain
2. 2.5 mm to 7.5 mm----- Light rain.
3. 7.6 mm to 34.9 mm ----- Light to Moderate rain
4. 35.0 mm to 64.9 mm----- Moderate rain
5. 65.0 mm to 124.9mm----- Heavy rain
6. Exceeding 125 mm----- Very Heavy rain.

(B) Special distribution of weather phenomenon Percentage Area Covered

Terminology Used

1. 1 to 25-----Isolated
2. 26 to 50 ----- Few Places
3. 51 to 75 ----- Many Places
4. 76 to 100 ----- At most Places

(C) Emergency Situation

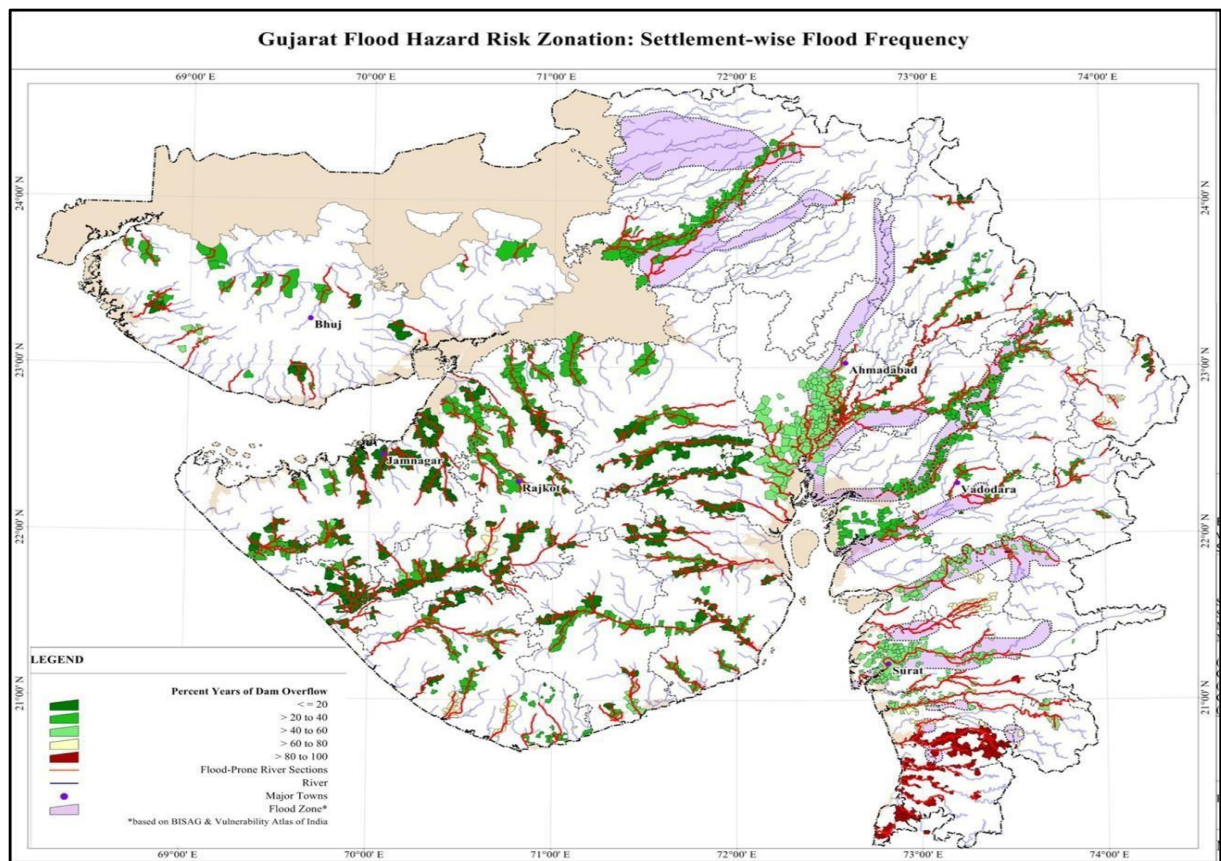
1. When water level is rising above the danger of H.F.L
2. When intensity of rainfall is above 65 mm/hr.
3. When breaches are anticipated and which may cause disaster

4. When water levels are rising abruptly and which may cause disaster

(D)Evacuation

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

As and when the warning come from Indian Metrological department (IMD), or from Irrigation department regarding heavy rainfall or water release the following channel has been intimated and appropriate message conveyed to the concerned department / official / control rooms / community members using telecommunication, wireless message, by fax or in written by DEOC. In city area the route has been finalized for early warning, accordingly early warning task force leading by fire brigade personnel, spreads the message of alert in respective low line areas, in villages local methodologies of early warning has been used (by beating up of drums etc.) to communicate the message of alert to the affected population of the village.



Gujarat Flood Hazard Risk Zonation

➤ **Fire**

Fires in Karamsad Anand Municipal Corporation present a multifaceted challenge, stemming from various causes including accidents, electrical malfunctions, negligence, gas leaks, and mishandling of flammable materials, compounded by the region's industrialization. The bustling industrial landscape increases the risk of fire incidents, requiring stringent safety measures to mitigate potential disasters. Each year, fires claim lives, cause injuries, and inflict substantial damage to property and infrastructure, imposing significant economic burdens on affected individuals and communities. Addressing this threat demands a comprehensive approach encompassing prevention, preparedness, and response strategies. This includes enforcing fire safety regulations, promoting public awareness, conducting regular inspections, and equipping emergency responders with the necessary tools and training to effectively combat fires.

Efforts to mitigate the impact of fires in Karamsad Anand Municipal Corporation must prioritize collaboration among government agencies, industries, emergency services, and community stakeholders. By fostering partnerships and implementing proactive measures, such as enhanced fire safety education and infrastructure improvements, the district can bolster its resilience against fires and minimize the devastating consequences they inflict. Through collective action and a commitment to fire prevention and response, Karamsad Anand Municipal Corporation can work towards ensuring the safety and well-being of its residents while safeguarding against the destructive effects of fires.

Karamsad Anand Municipal Corporation has taken proactive measures to enhance fire safety. District have 3 fire station latest equipment and vehicles and other fire prevention facility with private industries to handle emergency and safeguarding the community against fire-related hazards.

➤ **Heat Wave**

During the summer months in Karamsad Anand Municipal Corporation, the region experiences scorching temperatures, with maximum readings often soaring to 41 degrees Celsius or higher. These extreme heat conditions give rise to severe heat waves, posing significant risks to the population, especially vulnerable groups such as the homeless, gardeners, outdoor laborers, auto drivers, and those engaged in daily wage work under direct sunlight.

The intensity of the heat waves can have devastating consequences, leading to a tragic loss of life among those exposed to prolonged periods of extreme heat. Without adequate shelter or access to cooling facilities, individuals who are forced to work outdoors, often without protective gear, are particularly susceptible to heat-related illnesses such as heatstroke, dehydration, and heat exhaustion.

Among the most vulnerable are the homeless population, who may lack access to shelter or safe refuge from the blistering heat. Additionally, gardeners and outdoor laborers, whose livelihoods depend on working outside, face heightened risks of heat-related ailments due to their prolonged exposure to the sun.

Daily wage workers, including construction laborers and agricultural workers, are also at significant risk, as they are often required to work long hours in the heat to earn a living. Moreover, auto drivers who spend extended periods driving in non-air-conditioned vehicles are exposed to high temperatures, increasing their susceptibility to heat stress.

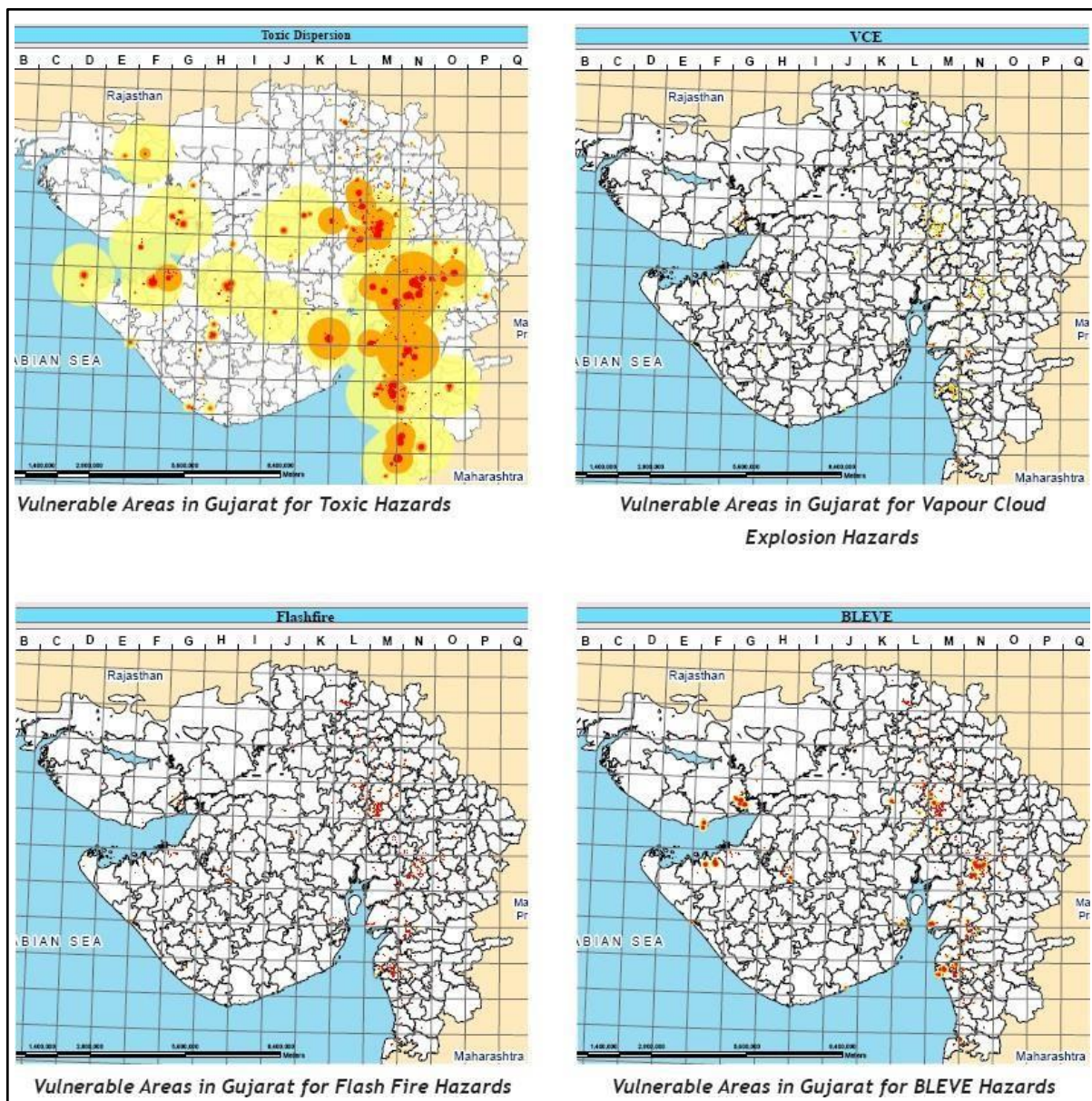
In summary, the severe heat wave conditions experienced during the summer in Karamsad Anand Municipal Corporation pose a serious threat to public health and safety, particularly impacting vulnerable individuals who are unable to escape the scorching temperatures. Efforts to mitigate the impacts of heat waves should include providing access to cooling centers, distributing hydration kits, raising awareness about heat-related illnesses, and implementing measures to protect those most at risk from the adverse effects of extreme heat.

➤ **Industrial and Chemical Disasters**

The major industrial locations in the municipal corporation are Vitthal Udyognagar (V.U. Nagar) GIDC is the largest and most significant industrial estate, specializing in engineering, manufacturing, and pharmaceuticals. It serves as a major hub for SMEs, including industries like paints, plastics, and animal feed, located on the outskirts of KAMC

The municipal corporation has a well-established dairy industry, with AMUL Milk Producers Union Limited playing a major role in its economic development. AMUL has helped thousands of local farmers by providing employment and fair prices for milk production. The cooperative system encourages rural development and improves the standard of living in villages. Modern dairy facilities and milk collection centers have strengthened the dairy sector in the district. The industry also supports related activities such as cattle farming and fodder production. Due to AMUL's success, the district has become an important center for milk and dairy products in Gujarat. The dairy industry continues to contribute significantly to the region's growth and prosperity.

- Fire due to gas leakage.
- Leakage in the main Gas pipeline which is made of steel
- Pipeline breaks due to any other reason.
- Fire in customer area.
- Blockage in pipeline.
- Ruptures in pipelines due to natural calamities like-floods, earthquakes.



Areas of Gujarat Vulnerable to Industrial and Chemical Hazard

2.2 Tools and methodology used for HRVA:

All events or activities carry some risk and are associated with some level of vulnerability. Risk and vulnerability ranking is the process of assigning scores to the risk and possible impact of hazards to be able to compare the likely vulnerability and make informed management decisions about which hazards are of greatest concern and when planning and preparation efforts should be directed. A risk and vulnerability ranking process has accomplished in five steps.

1. Identify the Hazards of Concern: Complete the hazards column for the above mentioned table. Typical hazards have already been identified, but these should be confirmed at this step and additional hazards added as appropriate.
2. Assign the Probability Ratings: Assess the probability-or "livelihood" of each hazard by reaching a consensus on probability and then assign each hazard a "Probability Level," as indicated in above Table.
3. Assign the Impact Ratings: Assess the potential magnitude or impact of each hazard and assign each "Impact Level" in above table. Enter the impact score for each hazard in the table in Step 1.
4. Assign "Vulnerability" Ranking: Multiply probability and impact scores in table in Step 1. The resulting score indicates the vulnerability ranking. Scores above 12 indicate high vulnerability; score between 6 & 12 indicate medium vulnerability and score below 6 indicate low vulnerability.

5. Identify Areas with Highest Vulnerability: Once vulnerability ranks had identified, the locations and populations considered most vulnerable was identified. This aids in knowing where disaster assistance may be most needed, as well as providing a quick indication of where vulnerability reduction efforts could be most productive.

2.3 Capacity Analysis:

3 The Capacity Analysis of Karamsad Anand Municipal Corporation's Disaster Management Plan (MDMP) assesses the corporation's readiness and capability to effectively respond to emergencies. This analysis evaluates the resources, infrastructure, and human capital available for disaster preparedness and response efforts. It identifies strengths, weaknesses, and gaps in the district's capacity, informing strategies to enhance resilience and mitigate risks. By understanding the district's capacity, the MDMP can prioritize investments, allocate resources, and build partnerships to strengthen emergency response mechanisms and better protect the community from potential hazards.

Traditional Coping Capacity:

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

5

Hazard	Early Warning	Preparedness	Early Response
Flood	Monitoring water resources through community	Identification of high elevation places and rescue teams	Evacuation, Search and rescue and First aid support
Cyclone	Information Local Community, Local News, social media.	Evacuate to safe place	Search and rescue and First aid support
Earthquake	---	Identification of Safe Places	Search and rescue and First aid support
Draught	Own assessment mechanism	Fodder storage, Food Storage at individual level	
Industrial/ Chemical Hazard	Local Administration	OCR, DISH and EOC	Local Response Teams

6

6.1 Outcome & recommendations of hazard, risk, vulnerability and capacity analysis.

A number of special programs are in operation for mitigating the impact of natural disasters and local communities have developed their own indigenous coping mechanisms. In the event of an emergency, the mobilization of community action supported by NGOs, add strength to the national disaster management capacity.

Despite initiating various disaster mitigation measures, there has been little improvement. Accordingly, Anand City has taken initiatives for linking disaster mitigation with development plans, promote the application of effective communication systems and information technology, insurance, extensive public awareness and education campaigns, involve the private sector and strengthen institutional mechanisms.

CHAPTER - 3

Institutional arrangements for DM:

The UD&UHD is the key hub for all municipal related development and welfare activities. The State of Gujarat in its Gujarat Municipal Act, 1994 adopted all the 18 functions listed in the XII Schedule of the Constitution of India as per 74th Amendment Schedule II of Gujarat Provincial Municipal Corporations Act, 1949.

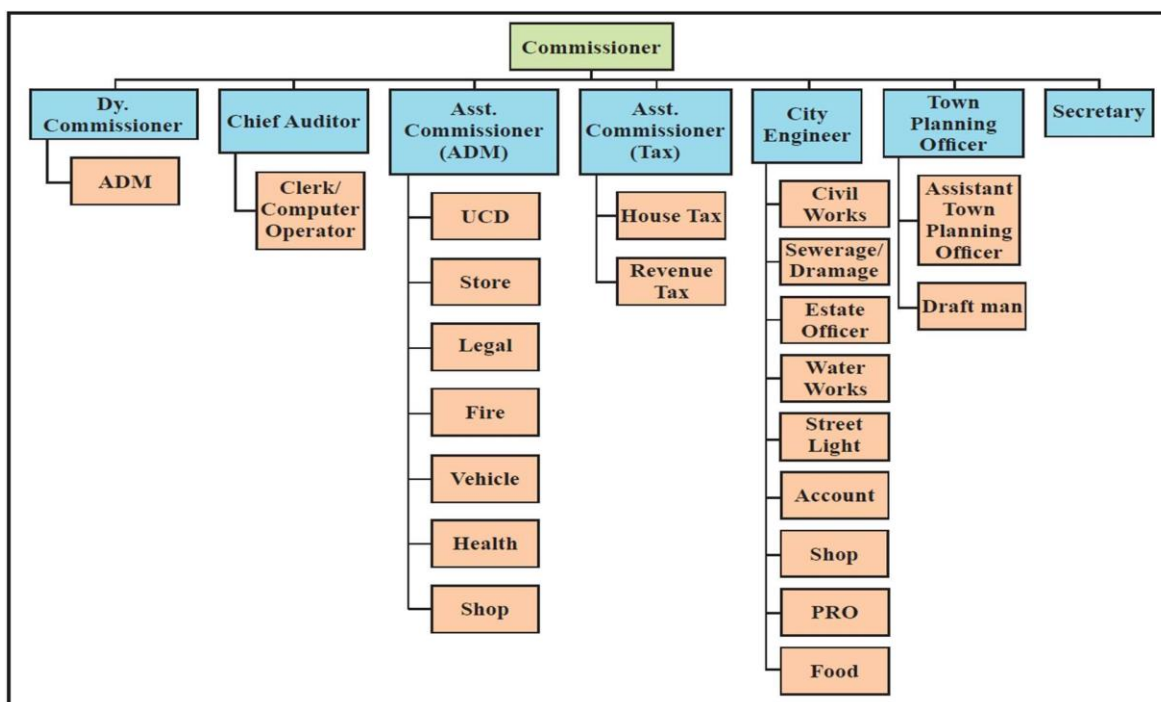
3.1 Organizational Structure

Legal framework constitutes the foundational pivot around which different aspects of an activity are interwoven. It is probably for this reason that in institute modern democratic political systems, it has been found essential to ordain that based on a written Constitution. This enclosed the issues and activities that could not find place in the scheme of a written Constitution, for obvious reasons, have been provided with a sound legal basis by enacting a framework law on the subject. In India, one such issue has been the management of disasters. Despite being one of the most disaster-prone countries in the world, the subject of disaster management could not find a place in the Constitution of India for reasons explained later in the paper. In fact, for a fairly long period of time, disasters, both natural and manmade, had been found to be managed in the classical colonial mode of trial and error resulting into untold miseries for the people and massive loss of lives and Property. The lurking dangers of climate change and its colossal impact on the occurrence of natural disasters prompted the international community to go for a recasting of the disaster management system in all parts of the world. In such an overhaul of the disaster management systems, central place was afforded to the provision of a sound legal framework. In the wake of these persuasions, Indian Parliament enacted the Disaster Management Act in 2005 to provide for the legal framework in which the structures, functionaries and activities related to management of disasters should organize and operational zed to make the country disaster free.

3.2 D.M. organizational structure in the Corporation.

The DM structure in the city is as per the Gujarat State Disaster Management Act – 2003. The City has existing institutional arrangements in place for addressing the roles / responsibilities envisaged through the provisions.

The Commissioner is responsible for coordinating all disaster management activities at the city level. The Commissioner shall approve a city disaster management planning and review all measures relating to preparedness and response to various hazards.



3.3 City Crisis Management Group (Task Force).

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

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

Emergency Taskforce	Functions & Co-ordination with of Control Rooms
1. Coordination and Planning	Coordinate early warning, Response & Recovery Operations
2. Administration and Protocol	Support Disaster Operations by efficiently completing the paper work and other Administrative tasks needed to ensure effective and timely relief assistance
3. Warning	Collection and dissemination of warnings of potential disasters
4. Law and Order	Assure the execution of all laws and maintenance of order in the area affected by the incident.
5. Search and Rescue	Provide human and material resources needed to support local evacuation, search and rescue efforts.
6. Public Works	Provide the personnel and resources needed to support local efforts to re-establish normally operating infrastructure.
7. Water	Assure the provision of sufficient potable water for human and animal consumption (priority), and water for industrial and agricultural uses as appropriate.

Emergency Taskforce	Functions & Co-ordination with of Control Rooms
8. Food and Relief Supplies	Assure the provision of basic food and other relief needs in the affected communities.
9. Power	Provide the resources to re-establish normal power supplies and systems in affected communities.
10. Public Health and Sanitation	Provide personnel and resources to address pressing public health problems and re-establish normal health care systems.
11. Animal Health and Welfare	Provision of health and other care to animals affected by a disaster.
12. Shelter	Provide materials and supplies to ensure temporary shelter for disaster-affected populations
13. Logistics	Provide Air, water and Land transport for evacuation and for the storage and delivery of relief supplies in coordination with other task forces and competent authorities.
14. Survey (Damage Assessment)	Collect and analyse data on the impact of disaster, develop estimates of resource needs and relief plans, and compile reports on the disaster as required for District and State authorities and other parties as appropriate.
15. Telecommunications	Coordinate and assure operation of all communication systems (e.g.; Radio, TV, Telephones and Wireless) required to support early warning or post disaster operations.
16. Media (Public Information)	Provide liaison with and assistance to print and electronic media on early warning and post-disaster reporting concerning the disaster.

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

3.4 The COMPOSITION of the TASKFORCES:

No.	Task Force	Taskforce Leader	Supporting members/ Organizations
1.	Planning and Coordination	Commissioner	SP, RAC, SDM and Mamlatdar City.
2.	Administration & Protocol	Commissioner	SP, RAC, SDM and Mamlatdar City.
3	Damage Survey/ Assessment	Collector	Dy. Commissioner, DIC, Dy. DDO, Ex. Engr., R&B, SDM, Mamlatdar City.
4	Warning	Dy. Commissioner	CFO, PO-Disaster, Mamlatdar City, Control Room, Public Relation Officer (PRO)
5	Communications	Dy. Commissioner	D.E., A.A.E Mobile Operators, Police, Fire
6	Media	PRO	Information Department, Print, Media, TV, Journalists, NGOs
7	Logistics	Store Keeper	Private & Public sector, Municipal water supply board, Mamlatdar City, Supply Mamlatdar
8	Law & Order	SP	Dy. Commissioner, SDM, Dy. SP, Home Guards Commandant, Para-military and Armed Forces.

No.	Task Force	Taskforce Leader	Supporting members/ Organizations
9	Search & Rescue	CFO	DFO, STO, Disaster Mamlatdar, Police, Fire Staff, RTO, State Transport, Health Dept.
10	Public Works	Ex. Engr. R&B (State)	Irrigation, Ex. Engr., NGOs, Water Supply Board, Municipalities, Home Guards, Police
11	Shelter	UCD	Shelter Homes, ICDS, Health, UHC, Transport, Estate Branch, Mamlatdar City.
12	Water Supply	Water Works Dept., Ex. Eng. GWSSB.	Dy. Ex. Engr., Talati, Mamlatdar, TDO, Health, Dy. Engineer
13	Food & Relief Supplies	UCD / Store	SI, Mamlatdar City, Transport, Police, Home guard
14	Power	Roshni Branch, Supt. Engr. PGVCL	Ex. Engr., Dy. Engr. Technical, PGVCL Transport
15	Public Health & Sanitation	Urban Health Officer (MOH)	SI, UHCs, Red Cross, Fire Brigade, NGOs, Doctors, CDHO, Civil Superintendent.
16	Animal Health & Welfare	Veterinary Dept.	Cattle Catching, Veterinary Doctor, NGOs

3.5 Incident Response System in the State

In any disaster response, the initial efforts would always be taken by the Local Administration. However, when Corporation overwhelmed in any situation, the support necessarily has to come from the District and State level. There is a formal Incident Response System in the State. The GSDM Act 2003 empowers Commissioner of Relief to be the Incident Commander in the State and Commissioner in the respective corporation.

3.6 Incident Response System in the City.

The IRS however depend on the nature of the disaster. In case of flood and earthquakes reaching the affected area, rescuing the affected people and providing relief to them is the main task of the responders. People have to leave their home in a hurry and they are not able to take away their valuables. These abandoned houses become vulnerable. The relief materials while being transported also become prone to loot. In such cases, Police and the Armed Forces are the best suited to handle and lead the operations section. In case of fire at Corporation, it has the Chief Fire Officer who is appropriate officer to handle the situation. In case of health-related disaster, it would be the Municipal Health Officer and so on.

Some of the natural hazards have a well-established early warning system. Corporation also has a functional 24 x 7 Control Room. On receipt of information regarding the impending disaster, Control Room informs the CFO / Asst. Commissioner, who in turn will activate the required IRT and mobilize resources. The scale of their deployment will depend on the magnitude of the incident.

In case of Zone / Wards, the respective heads, i.e. Prabhari, SI, Ward Supervisor and Ward Engineer will function as the IC in their respective IRTs. During the pre-disaster period, the Dy. Commissioner has ensured capacity building of IRT members in their respective roles and responsibilities.

3.7 Public and private emergency service facilities available in the City

Following Public and Private Emergency Services Facilities are available in Anand:

1. 108 EMRI Ambulance have their Spot at Major 3 Critical Spots of the City.
2. Municipal Corporation has their Equipped Fire and Emergency Service.
3. R&B, S.T., Forest, Health, Irrigation and Police Department have their limited Emergency Services to co-ordinate during Emergency Situation in City.
4. Gujarat State Disaster Management Authority has also provided fire & emergency equipment to Municipal Corporation, nearby Municipalities and the Emergency Response Centre to respond immediately after a disaster.

3.8 Forecasting and warning agencies

The meteorological department undertakes observations, communications, forecasting and weather services. During the cyclone and flood seasons, the State Government keeps close contact with the IMD – Ahmedabad office for weather related forecasts.

Earthquakes occurring in the State which are of magnitude 3.0 and above on Richter scale are also reported by the India Metrology Department and Institute of Seismological Research to the District Authority immediately.

Initially the District Control Room based at DEOC plays an active role on disseminating of Forecast and Warnings to line departments, Taluka-City level control Rooms and also ensures to reach with widely spread mass public through Local Media.

Alternatively, Anand Agriculture University has their own Forecasting and Warning department who shares their advisories and warnings by e-mail periodically.

CHAPTER – 4

Prevention and Mitigation Measures:

4.1. Prevention measures in development plans and programs:

Individual and Community Level:

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

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

The Commissioner, assisted by the Dy. Commissioner, is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above. Base on the interim assessment of risk and vulnerabilities, the city will focus on the following areas for mitigation, preparedness and prevention;

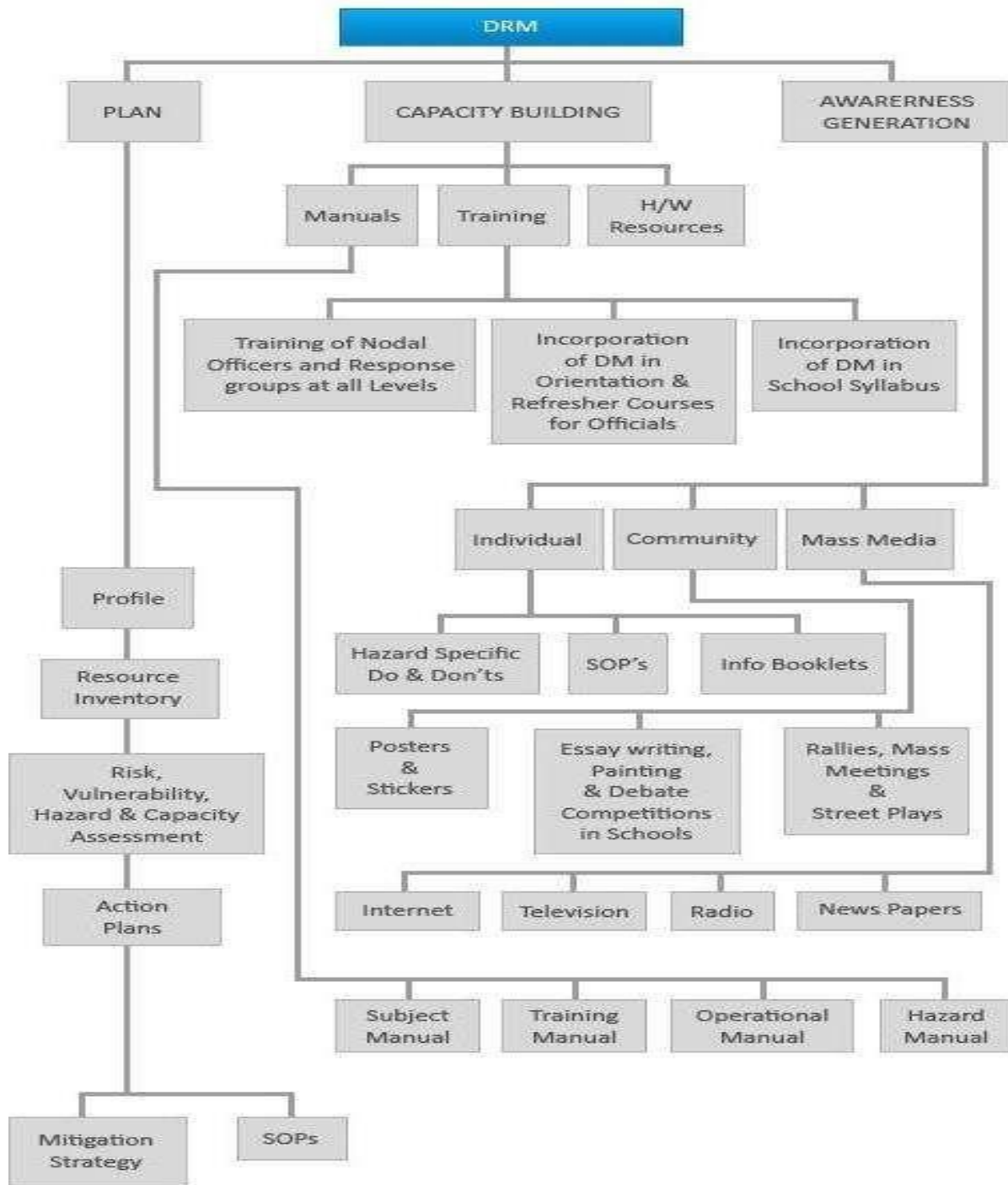
- Resilience of lifeline systems (water, power and communications)
- Reduction in disaster impact on health care facilities, schools and roads
- Vulnerability reduction in flood-prone areas
- Vulnerability reduction to high winds
- Improvement of off-site Preparedness near Industrial sites.

4.2 Special projects proposed for preventing the disasters

Disaster Risk Management Programmed (DRM) has taken strong roots at various levels of administration in Gujarat. The Department of Revenue & Disaster Management is the nodal Department in Government of Gujarat that handles the subject with GSDMA.

Disaster Management Committees are formed at various levels and are assigned the task of implementing the programme. Representation for these committees are drawn from elected representatives, officials of line departments, professional bodies, Civil Defense, NGO and CBO representatives and local opinion leaders.

Major Activities are being carried out under DRM program are Plan Development at Various Levels, Emergency Resources Database maintain through SDRN, Capacity Building through Trainings & Resource Mobilization, Disaster Awareness through Orientations, Campaigning, Media Management and IEC distribution. Coordinate Administration for all Disaster Management Activities with expertise knowledge, logistics and fund allocation.



4.3 Hazard-wise mitigation measures

In the face of increasing menace of hazards, mitigation would remain the key and the most effective strategy to reduce the risks of these hazards. Corporation has its own mitigation strategy according to its own risks, resources and capabilities. In Anand City, there shall be two approaches in disaster mitigation viz. structural mitigation and non-structural mitigation.

Structural mitigation measures generally refer to capital investment on physical constructions or other development works, which include engineering measures and construction of hazard resistant and protective structures and other protective infrastructure.

4.4 Hazard-wise non-structural mitigation measures

The non-structural mitigation is basically framed in such a way that the population of the city will be sensitized on disaster management and their capacity is developed to cope up with a hazardous situation. Anand City has specific plan for non-structural mitigation measures which is an ongoing process in various spheres of life.

Non-structural measures refer to awareness and education, policies techno-legal systems and practices, training, capacity development etc. The technical guidelines, design and training manuals should incorporate suitable disaster risk mitigation measures. There are several non-structural mitigation activities which will be common for all natural hazards.

i) **Capacity Building for Mitigation:**

Recognizing the importance of human resource development and capacity building for effective disaster mitigation, the City will take appropriate steps to develop training curriculum for officials in all sectors at all levels. Efforts will be made by the government to effectively train engineers, architects, masons etc. on disaster mitigation and also create a pool of master trainers for training of the DMC's and DMTs in the City. The Training Institutes, DEOC, BRCs, CHCs etc. will be utilized for trainings of city level officials in disaster management.

ii) **Awareness generation on disaster mitigation:**

Creating awareness among the community through disaster education, training and information dissemination and thus empowering them to cope with hazards are all mitigation strategies. GSDMA has develop a Mass Media Campaign for taking up large-scale awareness generation bringing out specific dos and don'ts through audio, video and print media as well as publicity through pamphlets, posters, bus back panels at all levels.

iii) **Role of local elected body in mitigation:**

Local elected body will be the focal points for mitigation at the city level. Corporators will be involved in all preparedness and mitigation measures. Members of the Elected Wing will coordinate the functioning of the preparation and maintenance of resource inventory, conducting mock drills etc. During disasters also, they will coordinate with the administration for evacuation, response, relief distribution etc.

4.5 DRR provisions as per Sendai Framework (SFDRR)

Disaster Risk Reduction Post-2015

There has been a significant shift from the approach of Managing Disasters to Managing Risk. The three landmark global agreements viz.–the Sendai Framework for Disaster Risk Reduction 2015-30 (SFDRR), Sustainable Development Goals (SDG) and the Paris Agreement (CoP21) set the stage for future global action on DRR, sustainable development and climate change.

Sendai Framework of Actions for Disaster Risk Reduction 2015-2030

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

The Four priorities of action are:-

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

The seven global targets are: -

- A. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 1 lacks global mortality rates in the decade 2020-2030 compared to the period 2005-2015.
- B. Substantially reduce the number of affected people globally by 2030, aiming to lower the average figure per lacks in the decade 2020-2030 compared to the period 2005-2015.
- C. Reduce direct disaster economic loss in relation to global gross domestic product by 2030.
- D. Reduce disaster damage to critical infrastructure & disruption of basic services, among them health & educational facilities, including through developing the resilience by 2030
- E. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
- F. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
- G. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

Sustainable Developmental Goals: -

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

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

The CoP21 the Paris Climate Conference held in December 2015 led to a new international climate agreement, applicable to all countries, aim in gat “holding the increase in the global average temperature to well below 2°C above-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”. The Paris Agreement recognized the need for loss and damage associated with the effects of climate change. The agreement identified areas of cooperation central to DRR and called for investments to address the underlying risk drivers associated with rising greenhouse gas (GHG) emission levels and to inspire innovation and low-carbon growth.

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

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

1. All development sectors to imbibe principles of Disaster Risk Management.
2. Work towards risk coverage for all-starting from poor households to small and medium enterprises to multi-national corporations to nation states.
3. Encourage greater involvement and leadership of women in disaster risk management.
4. Invest in risk mapping globally related to hazards such as earthquakes based on widely accepted standards and parameters.
5. Leverage technology to enhance the efficiency of disaster risk management efforts.
6. Development work of universities to work on disaster issues.
7. Utilize the opportunities provided by social media and mobile technologies.
8. Build on local capacity and initiative. Response agencies need to interact with the communities and make them familiar with the essential drill of disaster response.
9. Ensuring that disaster learning is well documented.
10. Bring about greater cohesion in international response to disasters.

CHAPTER – 5

Preparedness Measures:

5.1. Identification of stakeholders involved in disaster response

Preparedness measures go hand in hand for vulnerability reduction and rapid professional response to disasters. Experience has shown that destruction from natural hazards can be minimized by the presence of a well-functioning warning system, combined with preparedness on the part of the vulnerable community. A community that is prepared to face disasters, receives and understands warnings of impending hazards and has taken precautionary and mitigation measures will be able to cope better and resume their normal life sooner. The State will make concerted efforts to put in place a mechanism focused towards preparedness at all levels, for all disasters that the city is vulnerable to. The effort will be to reduce loss of lives, livelihood and property to the extent possible in the event of a disaster.

Corporation Level:

Specialized Response Teams at the city level will be designated from the Fire Service personnel and equipped for immediate response in any disaster within the city. In the event of a request from a neighboring city / district, these teams will be authorized to operate along with NDRF / SDRF under the direction of the Chief Fire Officer of the city.

5.2 Activation of Incident Response System

There is a formal Incident Response System in the State. The DM Act 2003 empowers the Collector to be the Incident Commander in the District and the Commissioner in the respective City. The detail on the disaster response structure is mentioned in Para 9 in chapter 1.

The NDMA guidelines provide for emergency organizations where different departments, agencies and even private resources (e.g. industries) temporarily align their priorities with the emergency response objective under a unified command. This system is called Incident Response System (IRS) and discussed in detail in the text. It is important to recognize that organization under the IRS and the existing structures of the Local Crisis Group and District Crisis Group are not in conflict although there can be differences in terminologies for some positions in the emergency organization. The IRS gives an emergency organization structure called Incident Response Teams (IRTs) that are pre-designated as per the identified emergency scenarios. While there is a general structure, IRTs are not prescriptive about who must fulfil what position or role instead the decision rests with the local or district level authorities. Therefore, the organizations and people that are given specific roles as per existing LCG and DCG structure can be given similar roles or positions in the IRT structure and a coordination between IRTs as per IRS and those as per existing LCG / DCG structures is achieved. The IRS provides additional advantages of being scalable by including additional and higher levels of response in the same unified command structure being flexible by transferring command and other sections of IRS to qualified people as scale and nature of emergency changes, and with a unified command so that there is one authorized, and accountable (technically qualified) incident commander and the command can be transferred up as the scale of emergency increases. The IRS also requires documentation of decisions, actions, and learning so that not only continuous improvement can be achieved but also accountability is fixed.

A traditional command structure exists in the administrative hierarchy which manages disasters in India. It has been planned to strengthen and professionalize the same by drawing upon the principles of the ICS with suitable modifications. The ICS is essentially a management system

to organize various emergency functions in a standardized manner while responding to any disaster. It will provide for specialist incident management teams with an incident commander and officers trained in different aspects of incident management, such as logistics, operations, planning, safety, media management, etc. It also aims to put in place such teams in each district by imparting training in different facets of incident management to district level functionaries. The emphasis will be on the use of technologies and contemporary systems of planning and execution with connectivity to the joint operations room at all levels.

5.3 Protocol for seeking help from other agencies...

(State Government, Govt. of India, NDRF, SDRF, Army, Navy and Air Force etc...)

For the management and control of the adverse consequences of any disaster will require coordinated, prompt and effective response systems at the central and state government levels, also especially at the city and ward levels.

There are various agencies / organizations / departments and authorities that constitute a core network for implementing various disaster management related functions / activities. It also includes academic, scientific and technical organizations which have an important role to play in disaster management. These agencies (State Government, NDRF, SDRF, Army, and Police) shall be called upon to assist the administration only when the situation is beyond the coping capability.

5.4 Checking and certification of logistics, equipment's and stores

Certification of logistics: the process of response includes personnel, equipment's, vehicles, facilities...etc, all of which will depend upon the acquisition, transport, and distribution of resources, the provision of food and water, and proper medical attention. The Logistic section is responsible for all task and functions related to provision of material and other resources needed for operations and the physical and material support and operation of the incident management team. This section includes transportation taskforce established to support disaster operations. Logistics tasks are through the following units: 1. storage and supply, 2. Facilities, 3. staff support, 4. communications, 5. transportation (include ground, air water).

5.5 Operational check-up of Warning System

The goal of any warning system is to maximize the number of people who take appropriate and timely action for the safety of life and property. All warning systems start with the detection of the event and with their timely evacuation. Warning systems should encompass three equally important elements viz detection and warning, dissemination of warning down to the community level and the subsequent quick response. Experience has shown that destruction from natural hazards can be minimized by the presence of a well-functioning warning system. Operational check-ups of warning system in district have been done annually by concerned departments and also during mock drills initiate during monsoon.

5.6 Seasonal inspection of facilities and critical infrastructure

All responsible Departments shall have to carry out periodic inspection of such facilities through their respective branch head at the frequency set by them and maintain records on the same. Normally as a pre-monsoon drive in month of April-May, an instruction passed to all departments to carry out seasonal inspections and submit report to Dy.MC before the pre-monsoon meeting held at collector office chaired by District Collector. Compiled and consolidate report of all Facilities and Critical infrastructure has to be submit at State EOC every year.

5.7 Command and coordination – identification of quick response teams

Command and coordination of quick response teams establish the framework within which a single leader or committee can manage the overall disaster response effort. A single Incident Commander is responsible for the successful management of the response during operational period in an area. If the incident grows in size and extends throughout many jurisdictions, multiple incident commanders can be useful with an area command authority may be established to coordinate among the incidents.

5.8 NGOs and other stakeholders' coordination – Activate NGO coordination cell

Local community groups and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the AMC. They should actively participate in all training activities as may be organized and should familiarize themselves with their role in disaster management. It is a duty of every citizen, NGOs and stakeholders to assist the corporation or such other person entrusted with or engaged in disaster management whenever his/her aid is demanded generally for the purpose of disaster management.

5.9 Seasonal preparedness for seasonal disasters like flood, cyclone heat and cold waves

While analyzing the past experiences pertaining to various natural disasters, communities develop the seasonality calendar based on the occurrence of disaster events. In the calendar below prepared by the community show the month of the disaster occurrence & month for preparedness.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Flood					√	√	√	√	√	√		
Cyclone				√	√	√			√	√	√	
Cold / Heat	√	√	√	√	√						√	√

Main Seasonal Preparedness Strategies:

1. Mapping of the flood prone areas is a primary step involved in reducing the risk of the region. Historical records give the indication of the flood inundation areas and the period of occurrence and the extent of the coverage. Warning can be issued looking into the earlier marked heights of the water levels in case of potential threat.
2. The onset of cyclones is extensive and often very destructive. A hazard map will illustrate the areas vulnerable to the cyclone in any given year. The map is prepared with data inputs off past climatologically records, history of wind speed, frequency of flooding etc.
3. Land use control will reduce the danger of life and property when waters inundate the flood plains. In areas where people already have built their settlements, measures should be taken to relocate to better sites so as to reduce vulnerability. No major development should be permitted in the areas which are subjected to high flooding.
4. Construction of engineered structures in the flood plains and strengthening of structures to withstand flood forces and seepage. The buildings should be constructed on an elevated area. If necessary, build on stilts or platform. They should be wind and water resistant. Protect river embankments. Communication lines should be installed underground. Provide strong halls for community shelter in vulnerable locations.
5. Flood Control aims to reduce flood damage. Measures such as reforestation, protection of vegetation, clearing of debris, conservation of ponds and lakes, etc.
6. Structural measures include storage reservoirs, flood embankments, drainage channels, anti-erosion works, detention basins, etc. and non-structural measures include flood forecasting, flood proofing, disaster preparedness, etc.

CHAPTER – 6

Capacity Building and Training Measures:

6.1 Formation of persons and training for -

Karamsad Anand Municipal corporation administration has identified several stake holders from line departments, corporate sectors, NGOs and volunteers in disaster risk management activities. Students, teachers, home guards, police personnel, NCC and NSS students were also involved in trainings. Officers and community were also oriented on their services so that they can give their service at the time of any emergency.

(i) Search & rescue:

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

(ii) Early Warning:

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

(iii) Evacuation:

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

At the city level, members of the WDMCs or ward level team will coordinate the evacuation procedures to the pre-designated relief centers, taking special care of the vulnerable groups of women, children, old people etc. according to the plans.

(iv) Damage & Loss Assessment:

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

Immediately after a disaster event, damage assessment will be conducted in 2 phases viz. Rapid Damage Assessment and Detailed Damage Assessment.

- **Rapid Damage Assessment (RDA):**

Rapid Damage Assessment shall emphasize on a rapid appraisal of the situation and extent of damage to provide resources for effective relief and rescue. Rapid Damage Assessment (RDA) will be conducted at the local level, where the disaster has occurred. The RDA team will be headed by the local Incident Commander and will comprise of the Talati, MO of the Sub-Division Hospital, Junior Engineer PWD, and some prominent local persons may be involved at the discretion of the local Incident Commander. The RDA team will report to the Dy. Commissioner its assessment of the damage.

- **Detailed Damage Assessment (DDA):**

Detailed Damage Assessment will be done at the city level during the recovery stage involving skilled personnel. The aim of this assessment is to estimate economical and financial aspects of damage, the detailed building damage, agricultural damage, and property damage and also to propose retrofitting or strengthening. The DDA team will be headed by the Dy. Commissioner and will comprise of the Relief Officer, Executive Engineer PWD, Chief Medical Officer of the city, members of prominent NGOs working in the district and any other expert at the discretion of the Dy. Commissioner. The team will assess the damage on the basis of the format developed in advance by the Disaster Management Authority.

6.2 Training need analysis

Training Analysis is most often used as part of the system development process. Due to the close tie between the design of the system and the training required, in most cases it runs alongside the development to capture the training requirements.

The training need analysis is done considering variable factors of intensity, affected population and severity of damage need to be quickly assessed based on which government and non-government agencies can allocate and deploy relief. All the government line departments who have a stake in different phases of the disaster management will have to identify their roles and carry out training need analysis of their personnel.

6.3 Arrangements for training and capacity building

Training on search and rescue, rehearsals, evaluation and inventory updating for response activities will be carried out during normal time. CFO will ensure that all the DMC members acquires knowledge and skills to perform their assigned role through regular refresher trainings. Basic and detailed training modules in disaster preparedness have been incorporated along with training methodologies for trainers, for community preparedness and manuals for trainings.

For capacity building several Search & Rescue as well as First aid trainings organized for beneficiaries, disaster management teams and committee members to be trained at city level.

Activity	Responsibility
1. Training to civil defense personal in various aspect of disaster management	☑ Home Dept.
2. Training to home Guards personal in various aspect of disaster management including search and rescue	☑ Commandant General Home Guards
	☑ Director Civil Defense
	☑ GSDMA/GIDM
3. Training to NCC and NSS personal in various aspect of disaster management	☑ Education Dep.
	☑ Director NCC
	☑ GIDM

Activity	Responsibility
4. Training to educational and training institutions personal in various aspect of disaster management	☐ NIDM ☐ GSDMA/GIDM
5. Training to civil society, CBOs and corporate entities in various aspect of disaster management	☐ NIDM ☐ GSDMA/GIDM ☐ NGOs
6. Training to fire and emergency service personal in various aspect of disaster management	☐ NIDM ☐ UDD ☐ Municipal Corporation ☐ GSDMA/GIDM
7. Training to police and traffic personal in various aspect of disaster management	☐ NIDM ☐ GSDMA/GIDM ☐ Home Dept. ☐ Police training Institute
8. Training to State Disaster Response Force (SDRF) Teams in various aspect of disaster management	☐ NIDM/NDRF ☐ Home Dept. ☐ Addl. DGP (Arms) ☐ Addl. DGP (Training) ☐ GSDMA/GIDM
9. Training to media in various aspect of disaster management	☐ NIDM ☐ Information Dept. ☐ Information Training Centre ☐ GSDMA/GIDM
10. Training to govt. officials in various aspect of disaster management	☐ NIDM ☐ GSDMA/GIDM ☐ Departmental Training Institutes
11. Training to engineers, architects, structural engineers, builders and masons in various aspect of disaster management	☐ Departmental Training Institutes under R&B and Irrigation Dept. ☐ NIDM ☐ GSDMA/GIDM

6.4 Community awareness, education and preparedness

Community is the first and last to face the disaster. Equipping them, educating and preparing them for the recurring disasters are of vital importance. The most vulnerable areas are to be identified and periodic awareness programmed are to be provided at the Ward level, Educational Institutions, Social Organizations etc. It is essential to examine the various methods in which the community can be effectively involved in planning for disaster management. A community which is aware and well equipped to handle disasters will boldly face them.

Community awareness will be raised regarding dos and don'ts with the involvement of Corporators and CBOs. Revenue Tax branch will be the nodal agency for this activity. Increasing community awareness about the mitigation measures that can protect the lives and properties from the hazards.

The Community awareness task can be performed by, Advertisement, hording, booklets, leaflets, banners, shake-table, demonstration, folk dancing and music, jokes, street play, exhibition, TV Spot, radio spot, audio-visual documentary and school campaign.

6.5 Community warning system

It is often observed that communities living in remote and isolated locations do not receive timely and reliable warnings of impending disasters. Hence, it is necessary to have robust and effective early warning systems. Which can play crucial role in saving lives and limiting the extent of damage to assets and services. Outreach and reliability of warnings are key factors for planning and implementing response measures. Post disaster advisories like information on rescue, relief and other services are important to ensure law and order with safety of citizens. A community that is prepared to face disasters, receives and understands warnings of impending hazards and can able to cope better and resume their normal life sooner.

6.6 Procurement (Tents, blankets, tarpaulins, equipment etc.)

Facilitating procurement related to disaster management of materials, equipment and services in connection with the disaster management and ensuring their quality is lies with the Store Branch. Standing Committee has the power to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster or alternatively can arrange for centralize procurement of additional relief material required for relief operations (on the basis of need assessment).

6.7 Protocol and arrangements for VIP visits

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

6.8 Media management / information dissemination

Media management utilised to ensure precise communication of the impact of disaster and relief measures being taken and generate goodwill among community and other stakeholders. Ensure that the information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day. Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s. Establish Information Centres at strategic locations for providing information about persons evacuated to the relief centres/hospitals. Establish Media/Press Centre for media management and information dissemination. Ensure that the information to media/general public about the response of the State Government is released in an organized manner along with following points.

1. Broadcast programs to raise people's awareness of disaster prevention measures
2. Develop news sources in emergency situation
3. Publicize station frequency
4. Broadcast public planning meetings
5. Compile local knowledge on signs of impending disaster and share it with community
6. Broadcast emergency evacuation announcements
7. All announcements broadcast in a reassuring and calm manner

6.9 Documentation

Documentation of all response/relief and recovery measures should be done with –

1. Documentation of disasters and to make it available in easy accessible format
2. Undertake research studies and application of outcomes in disaster management practices
3. Documenting field data, experience and indigenous technological knowledge from local community
4. Development of plan by using available resources like SDRN, IDRN, etc.
5. Assimilate all reports and transaction of information during the disaster for easy documentation

CHAPTER - 7

Response and Relief Measures:

Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until it is declared to be over.

Since response is conducted during periods of high stress in a highly time-constrained environment and with limited information and recourses (in majority of the cases), it is by far the most complex of four functions of disaster management.

Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear vision about hazards, its consequences and actions that need to be taken in the event of it.

7.1 Response flow chart

The Urban Development and Urban Housing Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation in corporation areas. The District EOC, ERCs and other control rooms at the district level as well as city level control rooms should be activated with full strength. The Administration may publish a notification in the official gazette, declaring such area to be disaster-affected under DM Act (Section 32 (2) (a)).

7.2 Warning and alert

On the receipt of warning or alert from any such agency which is competent to issue such a warning, or on the basis of reports from District Collector of the occurrence of a disaster, the response structure of the administration will be put into operation. The Commissioner will assume the role of the Chief of Operations during the emergency situation in Corporation area.

The details of agencies competent enough for issuing warning or alert pertaining to various types of disasters are given below;

Disaster	Agencies
Earthquakes	IMD, ISR
Floods	IMD, Irrigation Department
Cyclones	IMD
Tsunami	IMD, ISR, INCOIS
Drought	Agriculture Department
Epidemics	Health & Family Welfare Department
Industrial & Chemical Accidents	Industry, Labor & Employment Department, DISH
Fire	Fire & Emergency Services

7.3 District Crisis Management Group meeting

The Collector & DM is responsible to hold regular Crisis Management Group meetings on disaster management including government, NGOs and private sectors. The CMG Committee held various meeting and had detailed interaction with members and management of Crisis. Director DISH is the Member Secretary and Dy.MC is the member of CMG.

7.4 Activation of Emergency Control Room

So, far as Emergency Control Room is concern Anand Municipal Corporation is having dedicated Fire and Emergency Service Control Room, which is 24 x 7 operational on 91-2692-243101. The Incident Commander – Fire officer takes charge at the Fire & Emergency Control Room and commands the emergency operations as per the Incident Command System organizational chart.

Control rooms of line departments and City Taluka EOC (located at the Office of Anand Mamlatdar) activate from 1st June every year for Monsoon Season and will be operational till 30th November. The Liaison Officers of the Anand City Taluka is SDM Anand, shall take charge of the Control Room. Dy.MC of KAMC shall coordinate between the task group members working at disaster sites and TEOC for mobilization of resources and dissemination of instructions received from TEOC/DEOC.

7.5 Response planning, preparedness, Quick assessment of damages and need

Response planning:

Response planning can help mitigate the destructive effects of a disaster by ensuring timely and effective provisions of humanitarian aid to those most in need. “Time spent in disaster response planning equals time saved when a disaster occurs”. Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks.

Considering all this points, this response plan has been developed. For the first time Incident Command System (ICS) has also been introduced in response plan along with the resource inventory that is directly linked to the website. The plan incorporates multi-level institutional as well as Response plan mechanism at various levels.

Preparedness:

Preparedness measures go hand in hand for vulnerability reduction and rapid professional response to disasters and assist all the government departments to plan and priorities preparedness activities while ensuring active community participation. Preparedness actions are to be taken before a disaster to reduce the probability of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction that is preparedness.

The main objectives of various preparedness measures are: -

- i) Minimizing the loss of human lives.
- ii) Minimizing the loss of livestock.
- iii) Minimizing the loss to property and infrastructure.
- iv) Minimizing ill effects on the health of affected population.
- v) Bringing the human activities in the locality to normal condition soon after.

In situations of emergency, the Commissioner will use his own discretion on the preparedness measures for facing the impending disaster.

Quick assessment of damages and need:

Various spatial data with socio-economic, housing, infrastructure and other variables that can provide a quick assessment of the risks and vulnerabilities of disasters based on which appropriate mitigation strategies can be developed. Based on primary data...

1. IC will call and activate the Quick Response Team. Will done Quick Assessment of the S& R operations through Aerial surveys.
2. The Nodal Officer from Police will activate the Quick Response teams and will done Quick assessment of law-and-order situation in affected areas.
3. Water Supply nodal officer will activate their quick response teams for Quick assessment of water line damage and Quick assessment of water contamination levels and taking steps to restore clean drinking water.
3. AMC (Admin) and PO-UCD will do Quick assessment of damaged areas and areas that can be used for relief camps for the displaced population. Coordinate with the Government agencies for quick assessment of evacuation needs such as the number of people to be evacuated and mode of evacuation
4. City Engineer of Corporation will make a quick assessment of the damages and losses caused by the disaster in the affected area as regards the population, agriculture, infrastructure, livelihoods and environment.
5. SDM and Liaison officer will Instruct Quick Assessment Task Force to submit preliminary need and loss assessment report of the affected areas.

7.6 Warning dissemination

The dissemination of warning is the most critical function in order to give early warning to the community. It has to be fast in order to give reasonable amount of time for communities to prepare for any eventuality. Due consideration has to be given to the points mentioned below before sending across the information.

1. Warning dissemination will be done to all the important stakeholders at the Ward level in urban areas for early warning communication.
2. Making use of the fastest means to communicate the message in the most lucid manner so as to prevent spread of rumor and panic among the masses.
3. Bulk Voice SMS Service is the best means of communication to large masses without any effort and within no time. A voice recorded message from the official number shall be sent to the database of numbers identified for information dissemination with the help of Mobile service providers & Telephone department.
4. PRO and Vehicle branch will incorporate to arrange dissemination of information through various means of communication such as Radio, TV, Cable Network, and SMS about warnings to districts/areas which are likely to be hit by disasters.

As soon as the warning of an impending calamity is received, the Control Rooms at the Fire Station, Corporation Office and Mamlatdar City level will be on a state of alert. The Incident Commander will take charge of the control room and oversee the dissemination of warning to the community.

7.7 Resource mobilization & seeking external help for assistance

KAMC authority will try their best to contain the situation with the available local resources. However, if they find that the situation is beyond their control and the district level resource mobilization is required, they will seek help of their superiors or call the meeting of Dignitaries.

Control Room will inform DEOC if external help/resources are needed. District Collector will decide if any external help (out of district) is required for immediate priorities. If required, liaise with the state, national and international agencies for mobilization of additional resources and will make arrangement to avail the external helps to manage to disaster.

7.8 First assessment report

Dy.MC will instruct Quick Assessment Task Force to submit preliminary need and loss assessment report of the affected areas. Quick assessment Team will submit First Assessment Report to Dy.MC duly signed by Executive Engineer. SDM-Anand as a Liaison Officer will collect preliminary first assessment report from the sites and submits compiled report to DEOC.

To make a first assessment report of damage, the assessment report will contain the following basic elements or activities...

1. Human and material damage
2. Resource availability and local response capacity
3. Options for relief assistance and recovery
4. Needs for other city / district / state assistance

7.9 Media management / information dissemination and coordination

Media management:

The role of media in informing the people and the authorities during emergencies becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response. During any emergency, people seek up-to-date, reliable and detailed information. Municipal Corporation has established an effective system of collaborating with the media during emergencies. Both print & electronic media regularly briefed at specified time intervals about the events as they occur and the prevailing situation on ground.

Information dissemination and Coordination:

Dissemination of information is the prime duty of information department in coordination with PRO during any emergency. Functions of information department during Emergency are...

1. Collect correct information from authorities onsite.
2. Keep the list of persons rescued with full details.
3. Keep the list of persons missing / Dead and the locations.
4. Keep a track of which team is positioned with location.
5. Ensure that the information to media/general public about the response of the Government is released in an organized manner.
6. Organize media briefing at predetermined intervals.

7.10 Emergency Response Functions:

Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. Response functions essentially outline the strategy, resources needed, evacuation, search & rescue, etc.

Evacuation:

In many emergencies, local authorities would set up public shelters in schools, shelter homes, municipal buildings and places of worship. While they often provide water, food, medicine and basic sanitary facilities.

Search and Rescue:

At city level whatever help would be required during disaster, that will be immediately informed to the Fire department by the CFO and possible support Police and other line agencies in the city would be tapped up. If the Commissioner thinks that it cannot cope with the disaster then he can ask help from the Collector and SP.

Cordoning the area:

SDM and Police department will be cordoning off affected areas for restricting entries of rail or road traffic and instruct to cordon affected areas and setting up of check posts to control entry and exit. The Dy. SP will send instructions for the cordoning off of the area. People should not be allowed access anywhere close to the site of the disaster.

Traffic control:

The Dy. SP will co-ordinate the work of Traffic control and Traffic arrangements towards the disaster affected areas. Transport Officer has responsibility for the ground transportation of personnel and equipment. Make alternate arrangements to open the roads to traffic at the earliest.

Law & order and safety measures:

SDM is responsible for assuring the execution of all laws and maintenance of order in the area affected by the incident. The law-and-order section incorporates law and order taskforce which may be created to deal with a disaster with sufficient safety measures. It will arrange law and order against theft in the disaster affected area and co-ordinate with the search and rescue operations. It will also arrange for security at the relief camps/ relief material storages. It is also responsible to maintain law and order at the time of distribution of relief material.

Dead body disposal:

The health department will start the procedure for post mortem of the dead persons as per the rules. Disposal of dead bodies is to be carried to prevent the outbreak of epidemics. Arrangement should be made to issue death certificates of the deceased to the relatives.

Carcass disposal:

The animal husbandry departments with necessary equipment in case of cattle death are there in the affected areas for the disposal of carcass with a view to restoration of public life and result oriented work.

7.11 Humanitarian Relief and Assistance:

The government use term “humanitarian assistance” or “disaster relief” to refer activity that address human suffering caused by natural disasters like cyclones, droughts, earthquakes or floods. The spiritual traditions influence the humanitarian impulses of Indian decision makers. India’s cultural tradition of giving, the population generally endorses relief efforts by the State.

UN agencies and international NGOs will be operating in the country at the time of the disaster event will be allowed to provide humanitarian assistance to people in the affected area in coordination with the concerned Ministries/Departments and the State Government under existing protocol in place. External assistance will be provided in a responsible and coordinated manner to minimize its impact on resources as well as ensure good quality and accountability standards.

In case of large-scale emergency relief coordination center will establish at the airport, railway/ bus station, etc. for arrival of S&R and Medical Teams coming for humanitarian aid.

7.12 Reporting:

The occurrence of disaster may be reported by the concern monitoring authority to the Commissioner by the fastest means. On the basis of reports from Commissioner of the occurrence of a disaster, the response structure of the State Government will be put into operation.

Situation reports:

All the situation reports of ward area or city taluka received at the SDM office will be communicated to the Nodal officer. Dy. MC will report the occurrence of emergency to Commissioner, Relief Commissioner, GSDMA and SEOC. By receiving information through Control rooms, DEOC will reporting of pre and post disaster work to SEOC and GSDMA.

Ward Prabharis/ Ward Officers/ Ward Engineers/ SI are responsible to communicate the immediate emergency as well as updated situations to AMC, Dy.MC and Concern Branch Heads and detail report should submits to DEOC in time manner.

Death, Emergency & Primary reports should submit immediate with Top Priority in Primary Situation Report format developed by SEOC. Detail Emergency update reports should submit on Daily Basis by City Taluka Mamlatdar and compiled report should reach to SEOC.

Media release:

The Corporation has established an effective system of collaborating with the media during emergencies. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground.

7.13 Demobilization and winding up:

Specific demobilization guidelines provide organized and agreed-to procedures to help facilitate and more organized and expedited return to normal operating conditions, and help to minimize costs by standing down response resources in a timely manner.

Issues to consider for demobilization include: 1. Do not release or demobilize response resources unless approved by the On-Scene Incident Commander, 2. Assign personnel to identify surplus resources and probable resource release times, 3. Establish demobilization priorities.

(i) Documentation:

Documentation of an emergency incident is a critical part of an emergency plan. Documentation must be specific to the incident.

(ii) Success stories:

Developing a success story requires the right questions, through the eyes of an individual or several individuals, of positive impact.

(iii) Lessons for future

Each organization will provide activities undertaken and lessons learned report during any disaster response operations. The lessons learnt from the past will be utilised while updating the plan, formulating DM strategy, for future references and for training purposes.

CHAPTER – 8

Reconstruction, Rehabilitation and Recovery Measures:

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

8.1 General Policy Guidelines:

A plan of recovery will help better coordination between various development agencies. Damage Assessment and Needs Assessment shall be the basis of recovery planning. Various Sectors for recovery process may be -

- Essential Services- Power, Water, Communication, Transport, Sanitation, Health
- Infrastructural: Housing, Public Building and Roads
- Livelihood: Employment, Agriculture, Cottage Industry, Shops and Establishments

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

The approach to re-construction and recovery is guided by the **National Disaster Management Policy 2009** of which salient clauses / sections are stated in the following para.

Section 9.1.1 of the NDMP states that - the approach to the reconstruction process has to be comprehensive so as to convert adversity into opportunity. Incorporating disaster resilient features to 'build back better' will be the guiding principle. The appropriate choice of technology and project impact assessment needs to be carried out to establish that the projects do not create any side effects on the physical, socio-cultural or economic environment of the communities in the affected areas or in their neighbourhood. Systems for providing psycho-social support and trauma counselling need to be developed for reconstruction and recovery phase.

Section 9.2.1 of NDMP states that - Reconstruction plans and designing of houses need to be a participatory process involving the government, affected community, NGOs and the corporate sector. After the planning process is over, while owner driven construction is a preferred option, contribution of the NGOs and corporate sector will be encouraged. Reconstruction programme will be within the confines and qualitative specifications laid down by the Government.

Section 9.3.1 states - Essential services, social infrastructure and intermediate shelters/camps will be established in the shortest possible time. For permanent reconstruction, ideally, the work including the construction of houses must be completed within two to three years. Concerned Central Ministries/Departments and the State Governments should create dedicated project teams to speed up the reconstruction process.

Section 9.3.2 of NDMP states - that - Contingency plans for reconstruction in highly disaster prone areas need to be drawn out during the period of normalcy, which may include architectural and structural designs in consultation with the various stakeholders.

As per the section 9.5.1 of NDMP – the State governments will have to lay emphasis on the restoration of permanent livelihood of those affected by disasters and special attention to the needs of women-headed households, artisans, farmers and people belonging to marginalised and vulnerable sections.

8.2 Detailed damage and loss assessment

A detailed damage and loss assessment must be conducted before commencing reconstruction and rehabilitation activities. The relevant departments and local authorities shall initiate detailed assessment at their respective level for damages sustained in housing, industry/ services, infrastructure, agriculture, health / education assets in the affected regions. Immediate recovery can continue from a day to two months, depending upon the extent of damage.

The assessment teams are to report the following information for further action.

- | | |
|--|--|
| ☐ Boundaries of the disaster(s). | ☐ Access point(s) to the disaster area(s). |
| ☐ Status of the transportation system. | ☐ Status of communication system |
| ☐ Disaster casualty information | ☐ Status of medical systems |
| ☐ Shelter / mass care information | ☐ Damage to utility system |
| ☐ Status of critical facilities | ☐ Status of security within the affected area(s) |

8.3 Short-term recovery program

Short-term recovery phase starts during the first hours and days after an emergency event. The principal objectives are to restore the necessary structural [facilities, critical systems/ infrastructure, roadways and grounds] and non-structural, (power, water, sanitation, telecommunications).

The Short-term recovery with urgent measures to be undertaken includes the following:

- a) Roads and Bridges: This covers construction of all critical roads and bridges necessary to provide connectivity with immediate effect.
- b) Drinking Water Supply: Restoration of Drinking Water supply has to be done by setting up of new hand pumps, tube wells or setting up of piped water supply in areas with no access to potable water. In case of floods, setting up of raised hand pumps is required.
- c) Electricity: Restoration of power supply is also critical to immediate recovery.
- d) Communication Network: After disasters, communication networks may be disrupted. The networks of mobile services providers have to be put back in operation at the earliest to make search and rescue easier, as well as to expedite coordinated response measures.
- e) Food: Supply of food in relief phase is more important. It becomes important to elicit support from various NGOs, Grain merchants and volunteers.
- f) Debris Removal and Disposal of Dead Bodies: Removal of debris or trees from transportation routes for effective rescue and relief measures.

8.4 Long-term recovery program

Long term recovery efforts must focus on redeveloping and restoring the socio-economic viability of the disaster area(s). The reconstruction phase requires a substantial commitment of time and resources by government and NGOs. The activities involved would most often be the result of a catastrophic event that has caused substantial, long term damage over a very large area.

These efforts includes:

1. Long term reconstruction of public infrastructures and social services damaged by the disaster.
2. Re-establishment of adequate housing to replace that which has been destroyed.
3. Restoration of jobs that was lost.
4. Restoration of the economic base of the disaster area(s).

CHAPTER – 9

Financial Resources for Implementation of MDMP:

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

9.1 Financial resources for implementation of plan:

(According to ACT No. 53 of 2005 – the Disaster Management Act, 2005, Chapter IX, Finance, Account and Audit.) 48-Establishment of funds by the State Government :

The State Government shall immediately after notifications issued for constituting the State Authority and the District Authorities, establish for the purposes of this Act the following funds, namely :-

- a) the fund to be called the Disaster Response Fund;
- b) the fund to be called the Disaster Mitigation Fund;

(i) National, State and District Disaster Response Fund:

- * The Ministry of Finance has allocated funds for strengthening Disaster Management Institutions for capacity building and response mechanisms, as per the recommendation of Finance Commission.
- * To carry out Emergency Response & Relief activities after any disaster the State Disaster Response Fund is made available to Commissioner of Relief, Revenue Department under which the Central Government will share 75% and the Govt. of Gujarat has to share 25%.
- * To provide for relief for famine, drought, floods and other natural calamities, Response Fund are provided in the state budget under the head “2245-Relief on account of Natural Calamities”. Besides establishment charges, funds are provided for the grant of gratuitous relief in the shape of concessional supply of food, cash payment to indigent persons, cash doles to disabled supply of seed, fodder, medicines, prevention of epidemics, provision for drinking water, transport facilities for goods and test relief works as at District level.

(ii) National, State and District Disaster Mitigation Fund:

- * At the National level, Prime Minister’s Relief Fund was created shortly after Independence with public contribution to provide immediate relief to people in distress for Disaster Mitigation:
 - a. Immediate financial assistance to victims and next of kin.
 - b. Assist search and rescue.
 - c. Provide Health care to the victims.
 - d. Provide Shelter, food, drinking water and sanitation.
 - e. Temporary restoration of roads, bridges, communication facility and transportation.
 - f. Immediate restoration of education and health facilities.
- * At the state level, provisions have been made to provide immediate support to the distressed people affected by natural calamities and road, air and railways accidents under the Chief Minister’s Relief Fund for Disaster Mitigation.

(iii) State Budget:

The Authority, submit to the State Government for approval a budget in the prescribed form for the next financial year, showing the estimated receipts and expenditure, and the sums which would be required from the State Government during that financial year.

As per the provisions of The Gujarat State Disaster Management Act, 2003 the Authority may accept grants, subventions, donations and gifts from the Central or State Government or a local authority or any individual or body, whether incorporated or not.

(iv) Centrally sponsored schemes:

Name	Purpose	Finance Arrangements	Activities that can be taken under scheme	Nodal Agency
NDRF (NCCF)	Relief Assistance	100% Central Gov.	Cash and kind relief	Revenue Department
SDRF (CRF)	Relief Assistance	75% Centre, 25% State	Cash and kind relief	Revenue Department
Planning Commission (13th FC) 11-15	Capacity Building	100% Centre	Trainings, Awareness IEC material, Mock drills	Revenue Department

(v) District Planning Fund:

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

Budget planning is a comprehensive exercise for annual financial planning. For Disaster Management, there can be two categories of budget heads viz. a) Line Department's own fund through various schemes and programs; and b) Additional budget required particularly for DM activities.

(vi) Disaster Insurance:

Disaster Insurance can be seen as an effective risk transfer mechanism and an integral part of an overall disaster risk management strategy. Most of the losses suffered in natural disasters are not insured, for reasons such as lack of interest in insurance. Homeowners or renter's insurance is one's protection against a devastating loss. Insurance can be designed as a package for disaster preparedness by involving stakeholders such as private organizations, community based organizations, corporations and civil societies as partners. Such products will help communities to reduce their risks and enhance their risk coping abilities.

(vii) Micro Financing:

Microfinance groups have better access to various financial services, better access to credit, more functional bank accounts and more people with insurance. These all reduce vulnerability. Microfinance services often include insurance for such risks as the death of a breadwinner or livestock, healthcare expenses, funeral expenses, and property damage from theft/fire. These risks are mostly independent in the sense that they do not affect whole communities or risk pools at a time. Disasters also take the lives of people and livestock and cause damages to property and crops.

CHAPTER – 10

Procedure for Monitoring, Evaluation, Updation and Maintenance of Plan:

Plan maintenance is a dynamic process of updating the plan on a periodic basis. The backbone of maintaining the plan is carrying out mock drills and updating the plan based on lessons learnt thereof. This is a method of identifying the gaps and putting in place a system to fill the same. Regular updating of stakeholder details, contact numbers and resource inventory is another inherent and essential function of plan maintenance.

10.1 Authority for maintaining and reviewing the plan:

(According to ACT No. 31 of 2005 – The Disaster Management Act, 2003, Chapter IV, District Plan.) the District Plan.-

- (1) There shall be a plan for disaster management for every district of the State.
- (2) The District Plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National Plan and the State Plan, to be approved by the State Authority.
- (4) The District Plan shall be reviewed and updated annually.
- (5) The copies of the District Plan referred to in sub-sections (2) and (4) shall be made available to the Departments of the Government in the district.
- (6) The District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government.
- (7) The District Authority shall, review from time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

The Plan should be maintained and reviewed regularly, based on inputs as under:

- (a) Drills and Rehearsals
- (b) Recommendations from all Depts. in their Annual DM Report
- (c) Lessons learnt from Disasters in other Districts, States and countries
- (d) Directions from GSDMA, Ministry of Home Affairs, NDMA, Government etc...

(i) Schedule for updation & revision of plan,

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

Schedule for updation of plan: Every year as a part of pre monsoon, DDMC will update plan in the month of May-June and will revise in the month of October-November every year.

(ii) Schedule for Mock Drills

The district police department, Home guards, Civil Defence personnel, Fire Service officials, SRTs, QRTs, DMCs and DMTs will undergo periodic mock drills for different disasters, coordinated by the District Collector at the district level and by the Relief Commissioner at the State level. It is mandatory to have mock-drills at least twice in a year for fire and earthquake.

CHAPTER – 11

Coordination Mechanism for Implementation of Plan:

Dealing with a major disaster requires resources from outside the Corporation. When the capacities of a Corporation administration are overwhelmed, higher levels are called upon to assist. Likewise, assets and capabilities in the corporate and non-governmental sectors available around the Corporation may be brought to bear.

There are many actions undertaken by participants in disaster management that support this goal, both pre-disaster (to forestall or reduce potential damage) and post-disaster (to recover from actual damage) and ideally these activities would reduce the potential effects of a disaster significantly. For achieving this objective, the plan should have a pre-established and practiced mechanism for Inter, intra and extra agency coordination.

Communication is the most important tool for effective coordination. Generally, Emergency Operation center (EOC) is the enabler of communication and coordination. EOC communication and coordination plan (EoC-SoP) should specify procedures for interfacing with different stakeholders during all phases of emergency, as stated in the MDMP framework.

Pre-Disaster meetings to review the Plan with all stakeholders is done as per following Schedule.

Sr.	Pre-Disaster Meeting Date	Meeting Chaired By	Attendee's Details
1	09-03-2026	Collector sir	All Districts and Corporation level HoDs.
2		Commissioner sir.	All Corporation level Branch HoDs and all Engineers
3			

Review Meeting for Disaster Prevention work scheduled for all Corporation Level Branch Head of the Departments chaired by Commissioner Sir.

CHAPTER – 12

Standard Operating Procedures (SOPs) and Check List:

The SOPs are intended to be used by persons who are unfamiliar with disaster management topics but are intended to be task specific and not as replacements for full plans. Through Standard Operating Procedures (SOPs) of Line Departments detailing how specific disaster response actions will be accomplished.

Each Department and Govt. agency involved in Disaster Mgmt. and Mitigation will:

- Designate a Nodal officer for emergency response and will act as the contact person for that department / agency.
- Ensure establishment of fail-safe two-way communication with the Corporation, district and other emergency control rooms and within the organisation.
- Emphasis on communication systems used regularly during L-0 with more focus on the use of VHF's with automatic repeaters, mobile phones with publicised numbers, HF radio sets etc. It should be remembered that SAT phones fail during prolonged emergencies and electric failure if the phones cannot be re-charged.
- Work under the overall supervision of the IC / the Commissioner during emergencies.

SOPs (Standard Operating Procedures) of Line Departments:

Roles and Responsibilities of officials and departments:

MUNICIPAL COMMISSIONER

On receiving the information about emergency, the Anand Municipal Corporation will coordinate with administration by making arrangements like:

- ☐ To receive casualties during an emergency in the corporation run Hospitals.
- ☐ To mobilize the fire fighting equipment for Civil Hospital.
- ☐ To check for expected effected effects to the citizens of Anand and to take actions accordingly.
- ☐ To make schools available for shelters.
- ☐ To inform the concerned department heads such as water and sewage supply, electricity section, hospitals, education department etc. about their plans and their functions and preparedness during emergencies.
- ☐ To have sanitization facility at central offices and to follow all the official precautionary measures during daily work done.

Superintendent of POLICE

- ☐ To prepare action plan for Disaster Management for the city.
- ☐ To maintain the law and order inside the city
- ☐ Cordon the area and road for movement of unnecessary people.
- ☐ To access the situation and report immediately.
- ☐ To evacuate, rehabilitate and observe the shelter & transportation work during the emergency as per situation.
- ☐ To support health care facilities to maintain the area announced for containment plan.
- ☐ To actively present in all mock exercises/ Training and other departmental activities.

Role of Health Department

As the Health and medical services are comes under essential services and they play vital roles in any kind of Disaster and in serious pandemic condition.

- ▣ To prepare an Health action plan on Disaster for Local authority and hospitals.
- ▣ To educate the departmental staff specially Para medical staff and Pharmacist about safety and all precautionary measures.
- ▣ To educate about public health seriousness and basic safety practices.
- ▣ All UHCs should have all equipped instruments and other medical appliances.
- ▣ To distribute the IEC Material as an awareness campaign.
- ▣ To focus on ongoing OPD Cases and their less chances of contamination and observe serious cases during flood or major injury in any accidental cases.
- ▣ To sterilised the equipment and medical essentials after every uses.
- ▣ To have a keen surveillance on control of any epidemic.
- ▣ To ensure the arrangement & preparedness for medical treatment.
- ▣ To keep their eye on all primary functionalities and activities of UHCs and other Hospitals
- ▣ To keep all the emergency vehicles like ambulance and other instruments to face any kind of emergency situation.
- ▣ To keep all the emergency contact details updated of the Municipal Corporation and district authority officials.
- ▣ To actively present in all mock exercises/ Training and other departmental activities.
- ▣ To focus on areas prone to this epidemics and assessment of requirements to control and ultimately eradicate the epidemic.
- ▣ To have sanitization facility at all the health care centres especially to prevent contamination during any kind of disease spread.

Role of Education department

- ▣ To educate students as all as their parents about any kind of and basic precautionary steps.
- ▣ Availability of Personal protective equipment like Hand wash, Soap and Sanitizer etc.
- ▣ To Distribute of IEC Materials to all the students as awareness campaign.

Role of Civil Defence

- ▣ To keep their eye on shelter places for people, migrant, labour workers and poor people as to arrange food, shelter and proper hygiene condition.
- ▣ To Stock piling of food and essential commodities.
- ▣ To ensure availability of sufficient food ready for distributaries at various locations.
- ▣ To manage the procurement of Food, material movement and inventory management.
- ▣ To Take appropriate preservative methods to ensure that food and other relief stock are not damaged during storage,
- ▣ To prepare own detailed action plan to ensure effective handling of emergency.
- ▣ To have the entire emergency vehicle and contact details updated.

Role of Transportation Department

- ▣ To respond to collector and police instructions in different kinds of emergency
- ▣ To provide adequate requirements for both persons and material.
- ▣ To arrange for deployment of vehicles with full fuel levels.
- ▣ To streamline traffic flow and parking yard movement.
- ▣ To co-ordinate in deployment of vehicles, if required.
- ▣ To participated meeting, mock drills & training.
- ▣ To prepare own detailed action plan to ensure effective handing at the time of actual emergency.

Role of Fire & Emergency service Department

- ▣ Inspection, survey & assess the situation where incident occur & give the report.
- ▣ To decide the proper & effective actions and immediate response actions to control the emergency, under intimation to Central Control Room or Chief Officer.
- ▣ Proper training to fight against different hazards
- ▣ Rescue, Evacuation, Remove of debris, other emergency work as directed or instructed.
- ▣ To maintain the adequate fire fighting, equipments, self-breathing apparatus, emergency equipments, and personal protective equipments with keeping in working order.
- ▣ The knowledge & information on different type of alternative resources, various types of extinguishing media, chemical properties and their hazards with safe handling procedure.
- ▣ To participate the meetings Mock Drill / Rehearsal & training.
- ▣ To liaison with Central Control Room and other emergency services.
- ▣ Prepare their own details action plan & to ensure the provisions to handle the emergency.
- ▣ Other duties as required during actual emergency.

Role of PRO, EDP & Media

- ▣ Display information in each wards and public gathering places and on official website too.
- ▣ To circulate awareness campaign messages via Mass SMS system if required.
- ▣ To circulate official notifications as well as for video advertisement in Local TV channels.

Role of PGVCL and Street Light

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

Role of NGOs

- ▣ The voluntary organization or NGOs are playing vital role during any kind of emergency or serious disaster condition. Being a part of voluntary service providers they can take part in food, water, shelter as well as rescue operations.
- ▣ To aware local people by meeting while keeping proper safety precautions.

IEC Activities

- ▣ News Paper advertisement for any disaster in Gujarati language.
- ▣ FM Radio channel and multiplex theatre advertisement for Disaster and its effect.
- ▣ Pamphlets and Flyer Distribution in Public Place guidelines given from local govt., and Gujarat state disaster management authority.

Roles and Responsibilities: Municipal Corporation Officers

Executive Engineer (Water works)

- ▣ To monitor water inflow and discharge rate and alert the team if danger level occurs at Kalva, Narsinh Maheta Lake, Sudarshan Talav, Willington Dam, Hasnapur Dam, Sonrakh and Damodar Kund.
- ▣ Gates operating to be done at Willington Dam with taking proper actions.
- ▣ To inspect the Gates of Dams to check all greasing must be done at the gates.
- ▣ To arrange alternatives water pumps if it's not working during flood from nearby areas.
- ▣ During flood pump/motors should available in each zone/wards.

Role of City Engineer

- ☐ To check whether river danger levels arises up to warning signs, then with in touch with all officials including fire brigade and announces alert condition.
- ☐ To inspect all the Living centre/ Shelter places.
- ☐ To check on low lying areas and if flood conditions arise then prior surveying to be done.

Chief Fire Officer

- ☐ To conduct a pre-meeting with respect to emergency situation with all station officers and make them alert for any trigger mechanism of flood and cyclonic condition.
- ☐ To inspect all the emergency and rescue vehicle, equipment and maintenance to be done priory.
- ☐ Boat inspection to be done in such a manner before flood condition arises.
- ☐ Preparation of rescue and operation priors in throughout the city.
- ☐ To announce and ware general public about the water level at warning signs via T.V, media, FM radio, doordarshan etc. so that people get shifted prior.
- ☐ To inform about early communication of probable rainfall/ flood condition to Control Rooms and Municipal Commissioner of Anand.
- ☐ To keep standby 5 buoy, 5 jacket, 2 ropes to all the ward offices (Each).
- ☐ To check on staff and area wise boat details, training centre detail, extra staff details, announcement strategies via TV, media and FM, if more boats required then to ask from NDRF, SDRF Army officials etc.

Executive Engineer (Estate Branch)

- ☐ If any work going on in corporation related to road or bridge then to send work stop notice and barricade the locations with warning boards.
- ☐ To keep warning boards and barricading must as required.
- ☐ To remove excess water from roads and buildings while flooded.
- ☐ To maintain status of HFL level and gather all the documented report with photographs.

Officer (Encroachment)

- ☐ To work as per order from STPO and Dy. Municipal commissioner during flood and to look after liaison with police department.
- ☐ If Kalva / Sonrakh water level rises up to danger level, then closure of bridge must with keeping securities for round check- up.

Executive Engineer (Transport)

- ☐ To present at workshop and supply necessary equipment during flood.
- ☐ To keep operator for pump operation of all locations and maintenance should must.

Officer (Parks and Garden)

- ☐ To have a helping hand during flood with fire brigade officials.
- ☐ If requires maintain contractor list during tree depraved condition.

Garage

- ☐ To check Diesel and petrol condition/ availability of each emergency vehicle.
- ☐ To have proper availability of driver cum operator and assistant.
- ☐ To arrange of Jeep, truck, hydra, crane and dumpers if required.
- ☐ If requires, talk to executive engineers while emergency repairing situation of vehicles appears.
- ☐ Use walkie-talkie if telephone is not available.

Annexure



ANNEXURE – 1

Anand city profile

1.1 Introduction

History of Karamsad and Anand Municipal Corporation

The history of Karamsad is closely associated with the development of the Charotar region and the growth of Anand as an important educational, agricultural, and cooperative center in Gujarat.

Early History of Karamsad

Karamsad is one of the prominent villages of the Charotar region in central Gujarat. The settlement is believed to have developed several centuries ago as an agricultural community inhabited mainly by the Patidar community. The fertile lands of the Charotar tract contributed significantly to the prosperity of the village.

Karamsad gained national importance as the birthplace of Sardar Vallabhbhai Patel, one of the foremost leaders of India's freedom movement and the architect of national integration after independence. His birthplace in Karamsad has become an important memorial and attracts visitors from across the country.

During the British period, the region formed part of the Kaira District under the Bombay Presidency. Agriculture remained the primary occupation, and the local economy benefited from fertile soil and irrigation facilities.

Development of Anand

The nearby town of Anand gradually emerged as a commercial and educational hub of central Gujarat. During the late 19th and early 20th centuries, Anand developed as an important railway and market center due to its strategic location between Ahmedabad and Vadodara.

After India's independence, Anand became internationally known because of the dairy cooperative movement led by Verghese Kurien. The establishment of Amul and the Kaira District Cooperative Milk Producers' Union transformed the region into the center of India's White Revolution.

The success of the dairy industry brought rapid urbanization, industrial growth, and educational development to Anand and nearby areas including Karamsad.

Formation of Anand District

Originally, Anand was part of the old Kheda (Kaira) district. To improve administrative efficiency, the Government of Gujarat created the new Anand District on 2 October 1997.

The district headquarters was established at Anand. The district included important towns and talukas such as Anand, Petlad, Borsad, Umreth, Khambhat, Sojitra, and nearby villages including Karamsad.

Establishment of Anand Municipal Corporation

With rapid population growth, urban expansion, and increasing civic requirements, the urban area of Anand continued to expand over the years. Educational institutions, cooperative industries, healthcare facilities, and residential development contributed significantly to the modernization of the region.

To strengthen urban administration and improve civic infrastructure, the Government of Gujarat upgraded the municipal governance structure of Anand by establishing the Anand Municipal Corporation.

The municipal corporation was formed to provide improved urban services such as water supply, sanitation, roads, drainage, public health, urban planning, and environmental management for Anand city and adjoining urban areas including Karamsad, Vallabh Vidya

Nagar,Mogari,Jitodiya,Lambhvel,Gamdi,Bakrol.

Present Significance

Today, Karamsad and Anand are recognized for their historical, educational, and cooperative importance. Karamsad remains an important heritage town due to its association with Sardar Vallabhbhai Patel, while Anand is widely known as the “Milk Capital of India” because of the success of the dairy cooperative movement led by Amul.

Together, the region represents a unique blend of historical heritage, agricultural prosperity, educational excellence, and modern urban development in Gujarat.

Area & Administration:

The district consists of 13 wards through which the administrative function has been operated. There is a separate department specific administrative tructure existed and functioning accordingly.

Area & Administration of Karamsad–Anand Municipal Corporation

Karamsad-Anand Municipal Corporation (KAMC) is the principal urban local body responsible for civic administration and urban governance in the Anand–Karamsad region of Gujarat. The corporation was officially established on 1 January 2025 through the merger of Anand, Karamsad, Vallabh Vidyanagar, and surrounding urban and semi-urban areas.

Geographical Area

The jurisdiction of the municipal corporation covers approximately 85.67 square kilometres and includes the urban areas of Anand, Karamsad, Vallabh Vidyanagar, along with adjoining villages and peri-urban settlements such as Mogri, Jitodia, Gamdi, Lambhvel, and nearby developing residential zones.

The corporation area is strategically located between Ahmedabad and Vadodara, making it an important educational, commercial, and cooperative hub in central Gujarat. Anand is widely recognized as the “Milk Capital of India” because of the headquarters of Amul located in the city.

Population

According to recent municipal data, the estimated population of the Karamsad–Anand Municipal Corporation area in 2024 was approximately 4,00,378 residents. The urban region continues to grow rapidly due to educational institutions, healthcare facilities, industrial development, and residential expansion.

Administrative Structure

The corporation functions under the provisions of the Gujarat Provincial Municipal Corporations Act, 1949 and operates under the Urban Development and Urban Housing Department of the Government of Gujarat.

The administration of the corporation consists of:

- Mayor / President of the Corporation
- Municipal Commissioner
- Elected Corporators representing municipal wards
- Standing Committees for finance, public works, sanitation, health, and urban planning
- Administrative departments handling taxation, engineering, water supply, public health, and town planning.

At present, the executive administration is headed by the Municipal Commissioner appointed by the Government of Gujarat. Milind Bapna has served as Municipal Commissioner following the formation of the corporation.

Civic Functions and Services

The Karamsad–Anand Municipal Corporation is responsible for providing essential civic infrastructure and urban services, including:

- Urban planning and development
- Road construction and maintenance
- Water supply and drainage systems
- Solid waste management

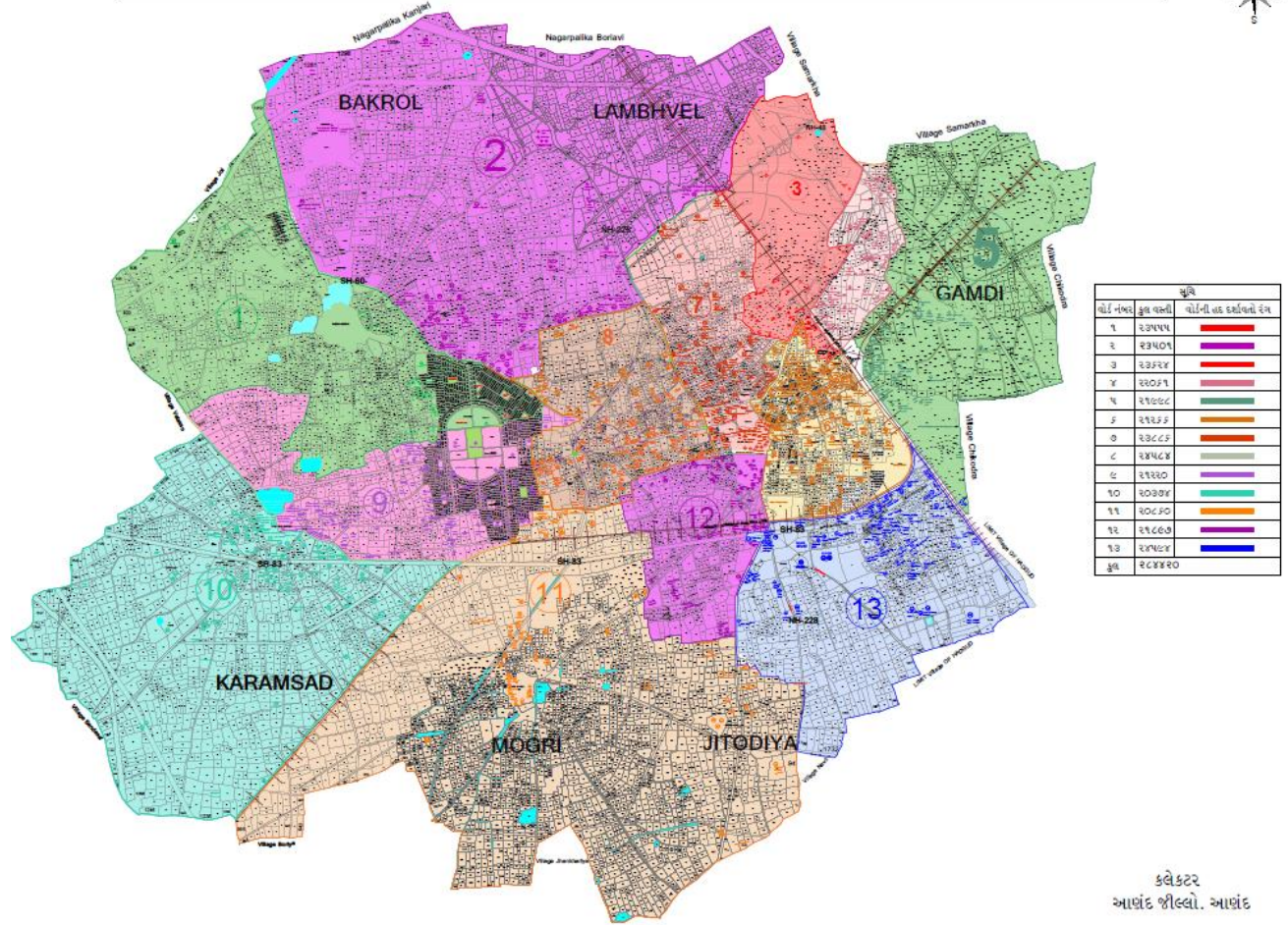
- Street lighting
- Public health and sanitation
- Property tax administration
- Building permissions and town planning regulations
- Birth and death registration services.

The corporation also promotes digital governance through online citizen services and complaint management systems for residents.

Recent Urban Governance Developments

The first municipal elections for the newly formed Karamsad–Anand Municipal Corporation were conducted in 2026 as part of Gujarat local body elections. The elections marked the beginning of elected urban governance under the new municipal corporation framework.

KARAMSAD ANAND MUNICIPAL CORPORATION PROPOSED WARD MAP



1.2 Location and Linkages

KAMC is located in seismically active zone of Seismic Zone II. The corporation's extended jurisdiction population (including adjacent areas and newly integrated peripheral villages) reaches roughly 418,840 city as per Census 2011 is 319,462 constituting 1.24% of the state's total urban population.

Though the city misses connectivity by air, it is well connected by the means of roadways and railways.

- **Road Connectivity**

Karamsad Anand Municipal Corporation has excellent road infrastructure, enabling quick commuting across the Charotar region:

Major Highways: The city is located just off **National Highway 48 (NH-48)** (formerly NH-8), which provides a direct, high-speed route to major commercial hubs like Ahmedabad and Vadodara.

Proximity to Cities: Karamsad is situated 35 km from Vadodara and 75 km from Ahmedabad, both of which are easily accessible by car or state transport buses. The **Ahmedabad-Vadodara Expressway** passes right through the broader Anand vicinity, cutting down travel time significantly.

Local Roads: The area is served by well-maintained, clean internal roads (like the Karamsad-Vidhyanagar road), linking it seamlessly to the educational institutions of Vallabh Vidyanagar and the rest of the corporation's jurisdiction.

- **Rail and Connectivity**

1. Mainline & Express Connectivity

Anand Junction is strategically located between Ahmedabad and Vadodara, connecting major national routes.

Local Trains: Serves multiple daily MEMU and DEMU trains to key regional destinations like Ahmedabad, Bharuch, Godhra, Dahod, and Dakor.

2. Branch Lines

Khambhat Branch: A dedicated broad-gauge branch line operates directly to the coastal town of Khambhat.

Godhra Branch: An active line connecting Anand to Godhra and passing through the Hindu pilgrimage site of Dakor.

3. High-Speed Rail

Anand serves as a primary stop on the under-construction Mumbai-Ahmedabad High-Speed Rail Corridor. The station boasts a unique, milk-drop-inspired architecture and will significantly cut travel times between Ahmedabad and Mumbai.

1.3 Climate and Topography

Anand is hot and dry for most of the year, with distinct seasonal variations:

Temperatures:

Sweltering summers dominate from April to early June, where daily highs consistently exceed 38 Celsius and can peak at 40 Celsius to 41 Celsius. Winters (November to February) are mild and dry, with pleasant daytime temperatures and cooler nights averaging 15 Celsius

Precipitation:

The city experiences a humid monsoon season from mid-June to September, bringing an average annual rainfall of approximately 680mm to 850 mm.

Humidity:

Humidity levels spike significantly during the monsoon months, sometimes reaching 80% to 90%, while dry weather dominates in winter.

Topography

Anand sits in the fertile, flat alluvial plains of central Gujarat, sitting slightly elevated above surrounding coastal plains:

Elevation

The AMC jurisdiction has an average elevation of approximately 39 meters to 128 feet above mean sea level.

Landscape

The terrain is largely level and is extensively utilized for both dense urban settlements and high-yield agricultural/horticultural farming on the fringes of the city.

Hydrology

The natural drainage flows southwest toward the Gulf of Cambay, with the Mahi River serving as a key natural boundary and a vital source of groundwater recharge for the region's deep aquifers.

1.4 Demographic Profile

Gender Ratio: The gender ratio sits at approximately 921 females per 1,000 males in the broader region, with the urban elector ratio steadily improving through civic drives.

Literacy Rate: The city is a prominent educational hub (home to institutions in nearby Vallabh Vidyanagar) with an average literacy rate of 78.45%. Male literacy stands at 91.82% and female literacy at 76.36%.

Age Distribution: Roughly 11% to 13% of the municipal population is under the age of 6

1.5 Population

Population growth of any place not only depends upon natural increase, but also on its socio-economic development. Slow and steady socio-economic development had a significant impact on the urbanization in the city, while future growth is governed to a large extent by the development patterns in the city.

The Anand Municipal Corporation (Nagar Seva Sadan) services an estimated metropolitan population of approximately 436,000 as of 2026. In the official 2011 Census

1.6 Tourism

The Karamsad–Anand Municipal Corporation area is best known as the homeland of Sardar Vallabhbhai Patel and as the heart of Gujarat's cooperative dairy movement. It offers a mix of heritage, educational, cultural, and religious tourism.

Top places to visit

- Sardar Patel Memorial, Karamsad
The region's most important attraction. The memorial complex includes galleries, exhibits, gardens, and information about Sardar Patel and his brother Vithalbhai Patel. It is built on a large campus in Karamsad and attracts visitors from across India.
- Sardar House
The ancestral home where Sardar Patel spent his childhood. Visitors can view photographs, historical displays, and documentary presentations about his life and India's freedom movement.
- Sardar Vallabhbhai Patel's School
The school associated with Sardar Patel's early education, offering an interesting glimpse into local history
- Dr. Kurien's Museum
Dedicated to Verghese Kurien, this museum showcases the story of India's dairy revolution and the success of the cooperative movement centered in Anand.
- University Museum
Located in the educational hub of Vallabh Vidyanagar, it contains exhibits related to regional history and culture.
- BAPS Shri Swaminarayan Mandir
A beautiful temple known for its architecture and peaceful atmosphere.

Parks and local attractions

- Nehru Park, Anand – Popular for evening walks and family outings.
- Shaheed Chowk, University Circle – Landmark in Vallabh Vidyanagar's university district.
- I Love ANAND – A photo spot for visitors exploring the city.

Religious tourism

Karamsad and nearby Anand feature several important temples, including the historic Santaram Temple, local Swaminarayan temples, Jain temples, and shrines such as Bapeshwar Mahadev. These sites attract devotees throughout the year.

1.7 Economic Base

The economy of the Karamsad–Anand Municipal Corporation (KAMC) area is one of the strongest among medium-sized urban regions in Gujarat. Its economic base rests on five major pillars:

1. Dairy and Cooperative Sector (Primary Economic Driver)

The region is internationally known as the home of the dairy cooperative movement led by Amul. Anand is often called the "Milk Capital of India" because the headquarters of the Kaira District Cooperative Milk Producers' Union (Amul) is located here. The dairy sector supports thousands of farmers, generates employment in processing, logistics, marketing, packaging, and research, and has driven the region's prosperity for decades.

2. Agriculture and Agro-Based Economy

The fertile Charotar region surrounding Anand and Karamsad remains an important agricultural area. Major crops include:

- Tobacco
- Banana
- Vegetables
- Cereals and fodder crops

Agriculture and dairy farming are closely linked, creating a strong rural-urban economic ecosystem.

3. Manufacturing and Industrial Development

The nearby industrial estate of Vithal Udyognagar is one of Gujarat's significant industrial clusters. Industries in and around Anand manufacture:

- Engineering equipment
- Industrial machinery
- Agricultural machinery
- Electrical products
- Food processing products

Companies such as Elecon Engineering and other engineering firms contribute substantially to industrial output and employment.

4. Education and Knowledge Economy

The KAMC area includes the educational hub of Vallabh Vidyanagar. Major institutions include:

- Sardar Patel University
- Anand Agricultural University
- Charusat University

These institutions attract students from across India and abroad, creating demand for housing, retail, healthcare, transport, and professional services.

5. Service Sector and Urban Economy

As the newly formed municipal corporation grows, the service sector is expanding rapidly:

- Retail trade
- Banking and finance
- Healthcare
- Hospitality
- Information technology services

- Real estate and construction

The municipal area now serves a population of over 400,000, increasing demand for urban services and infrastructure.

Economic Profile Summary

Sector	Importance
Dairy & Cooperatives	Very High
Agriculture	High
Manufacturing & Engineering	High
Education & Research	High
Services & Commerce	Growing Rapidly
Tourism	Moderate

In summary, the Karamsad–Anand Municipal Corporation economy is built on a unique combination of dairy cooperatives, fertile agriculture, engineering industries, educational institutions, and a growing service sector. This diversified base has made Anand one of Gujarat's most prosperous urban regions.

1.8 Industrial Development in Anand

Gujarat is the most industrialized state in India and has been recognized nationally and globally for offering conducive business ecosystem that is supported by state-of-the-art infrastructure. This can be attributed by Gujarat's sector specific policies driven approach. Gujarat has not only attracted investment from large industries, but major part of investment has also come from MSMEs both from manufacturing and services sector.

The area under the Karamsad–Anand Municipal Corporation is one of the most economically dynamic urban regions of Central Gujarat. The municipal corporation encompasses Anand, Karamsad, Vallabh Vidyanagar, Vitthal Udyognagar, and surrounding urbanizing areas. Historically known for agriculture and dairy cooperatives, the region has evolved into a diversified industrial and educational hub.

1.9 Water Supply System

The water supply system of the Karamsad–Anand Municipal Corporation (KAMC) is one of the most critical urban infrastructure services, responsible for providing safe and reliable drinking water to residents, commercial establishments, institutions, and industries within Anand, Karamsad, Vallabh Vidyanagar, and newly merged urban areas. Water supply management is a statutory responsibility of KAMC and is handled through its Water Works and Engineering Department.

KAMC is responsible for:

- Source development and augmentation
- Water treatment
- Water transmission and distribution
- Operation and maintenance of water supply infrastructure
- Water quality monitoring
- Metering and billing
- Consumer grievance redressal

- Expansion of water supply networks to newly merged areas

These services are provided through the municipal water supply department under the supervision of the Municipal Commissioner and engineering staff.

Treatment Process

Typical treatment stages include:

1. Raw water intake
2. Aeration
3. Coagulation and flocculation
4. Sedimentation
5. Rapid sand filtration
6. Chlorination/disinfection
7. Clear water storage
8. Distribution to service reservoirs

Following the formation of KAMC in 2025, the service area expanded significantly to include:

- Anand
- Karamsad
- Vallabh Vidyanagar
- Mogri
- Gamdi
- Jitodia
- Lambhvel
- Other merged urban and peri-urban settlements

The municipal corporation is progressively integrating these areas into a unified water distribution network.

1.10 Urban Roads Infrastructure and Street Lighting

Urban roads and street lighting are critical components of municipal infrastructure that support mobility, economic development, public safety, emergency response, and overall quality of life. The newly formed Karamsad–Anand Municipal Corporation is responsible for planning, construction, maintenance, and modernization of road networks and public lighting systems across Anand, Karamsad, Vallabh Vidyanagar, and the surrounding merged urban areas. Existing Status.

The road network within KAMC consists of:

- National Highway linkages connecting Ahmedabad and Vadodara
- State Highways connecting Anand with Nadiad, Sojitra, Borsad, and Petlad
- Major Arterial Roads
- Sub-Arterial Roads
- Collector Roads
- Internal Residential Roads
- Industrial Estate Roads
- Institutional Roads serving educational campuses

The road system supports residential, commercial, educational, agricultural, and industrial activities throughout the municipal area.

Street Lighting Infrastructure

Existing Street Lighting Network

Street lighting is installed along:

- Major arterial roads
- Commercial streets
- Residential roads
- Parks and public spaces
- Bridges and junctions
- Industrial areas

The system is intended to provide:

- Road safety
- Pedestrian security
- Crime prevention
- Night-time mobility
- Enhanced urban aesthetics

Types of Street Lights

The municipal area contains a mix of:

- LED street lights
- Decorative lighting fixtures
- High-mast lighting systems
- Conventional street lighting installations

1.11 Urban Amenities

Urban amenities are essential facilities and services that contribute to the quality of life, health, safety, recreation, education, and economic well-being of citizens. The Karamsad–Anand Municipal Corporation (KAMC), established in 2025, is responsible for providing and maintaining urban amenities across Anand, Karamsad, Vallabh Vidyanagar, Mogri, Jitodia, Lambhvel, Gamdi, and adjoining areas. KAMC serves an urban population of approximately 400,000 people spread over about 85.67 sq. km.

1.12 Educational Infrastructure

The Karamsad–Anand Municipal Corporation (KAMC) region is widely recognized as one of Gujarat's foremost educational hubs. The presence of internationally reputed universities, professional colleges, research institutions, schools, and training centers has transformed the Anand–Karamsad–Vallabh Vidyanagar region into a major center for higher education, research, innovation, agriculture, rural management, engineering, and healthcare education. The historical development of Vallabh Vidyanagar as an educational township has played a pivotal role in shaping the region's academic landscape.

Established in 1955, Sardar Patel University (SPU) is one of Gujarat's oldest and most prestigious universities. The university campus occupies approximately 500 acres and includes:

- Arts colleges
- Science colleges
- Commerce colleges
- Engineering institutions
- Research laboratories
- Hostels
- Residential facilities
- Libraries

The university has played a major role in making Vallabh Vidyanagar a nationally recognized educational township. es

- Student Hostels
- Auditorium Facilities

Anand Agricultural University (AAU) was established in 2004 and is one of India's leading agricultural universities. The university supports education, research, and extension services in:

- Agriculture
- Horticulture
- Agricultural Engineering
- Food Processing
- Home Science
- Veterinary Sciences

AAU operates:

- 7 Colleges
- 17 Research Centers
- 6 Extension Education Institutes across multiple districts of Gujarat.

CHARUSAT is one of Gujarat's leading private universities offering:

- Engineering
- Pharmacy
- Management
- Computer Science
- Medical Sciences
- Applied Sciences
- Nursing

The university is recognized for:

- Industry-oriented education
- Innovation and entrepreneurship
- Research collaborations
- Modern campus infrastructure

It is frequently highlighted among the major educational landmarks of the KAMC region.

IRMA is India's premier institution for rural management education. Established with the vision of supporting cooperative and rural development, the institute offers:

- Postgraduate education
- Research programs
- Executive education
- Development management training

IRMA's 60-acre residential campus includes:

- Modern classrooms
- Seminar halls
- Library facilities
- Hostels
- Auditorium
- Research infrastructure

The institute is located near major institutions such as AAU, SPU, NDDB, and Amul, creating a unique academic ecosystem. initiative. . premier institutions such as , Anand Agricultural University, Charotar University of Science and Technology, and Institute of Rural Management Anand. Together, these institutions create a comprehensive ecosystem of higher education, research, innovation, skill development, and professional training that significantly contributes to

the socio-economic development of the municipal corporation and the wider Charotar region.

ANNEXURE – 2

Details of Hospital available in KAMC					
No	Hospital Name	Doctor Name	Mobile Number	Address1	Address2
1	Usha Nursing Home,Anand	Dr.Dipan Thakkar	9825571710	Dr.Cook Road	Anand
2	Neena Nursing Home,Anand	DrJitendraMShah	9427856050	Nr.Pionner High School	Anand
3	Zakaria Hospital,Anand	Dr.	9429184022	Polson Road	Gujrati Chowk
4	Matru Mangalam Hospital,Anand	DrMinesh Trivedi	9375011632	Opp.New Bus Stand	Anand
5	Zydus Hospital,Anand	Dr.	9687638955	Lambhvel Road	Anand
6	Maa Hospital,Anand	Dr.Kumud.V.Macwan	9825257487	Opp.Kalpna Talkies	Anand
7	Ridham Maternity Home,Anand	Dr.Rajesh Prajapati	9879678269	Laparoscopy Centre	Anand
8	Meera Hospital,Anand	DrNeha Patel	9426005401	Vendor Chokdi	Anand
9	Shree Maternity Nursing Home,Anand	DrShefali Shah	9825171090	Dr.Cook Road	Opp.Old.D.S.P.Office
10	Priya Hospital and IVF centre,Anand	Dr Jitendra Patel	9825611106	B/h Crescent Hotel	Lambhavel Road
11	Morli Hospital,Anand	Dr.Pradip Vaid	9879005743	Ramkrishna Shopping Centar	Mefer Road
12	Apara Hospital,Anand	DrAjay Kothiyala	9824323603	Shubhlaxmi Shopping Centar	Station Road
13	Kusum Children Hospital,Anand	Dr.Mrugen Mehta	7046888350	Nr.Pionner High School	Anand
14	Dravid Hospital Maternity Home,Anand	Dr.Sumatiben Dravid		B/h.J.K.Mistry	Subhash Road
15	Rutu General Hospital,Anand	Dr Paresh M Dave	9825044474	Mahavir Marg	Azanta Society
16					
17	Parul Hospital Anand	DrNimeshTPatel	9825610610	Kalpna Talkies Road	Nr.Ashwini Hospital
18	Ashka Hospital,Anand	Dr.Alkesh.K.Soni	9825182124	Nr.Ganesh Chokdi	Anand
19	Shreeji Prasutigruh,Anand	Dr.Belaben Shah	9825094525	Laxmi Talkies	Char Rasta
20	Gauri Nursing Home,Anand	DrHetaliVyas	9825291716	B/h.Charotar Bank	Anand

21	Amardeep Hospital,Anand	Dr.Alpa.A.Shah	9825092316	Mahavir Marg	Anand
22	Akshaydeep Hospital,Anand	Dr Dipal Patel	9106934049	Dr.Cook Road	Opp.Old DSP Office
23	Chirag Hospital,Anand	Dr.Kanu.H.Nayak	9925038799	Shubhlaxmi Shopping Centar,	Station Road
24	Emery Hospital,Anand	DrPrityben	9825265635	Dairy Road	Opp.Panchayat Offices
25	Shreemati Shardaben IHomioHospitalAnand	Drkamlaben Patel	9898176832	Opp.Amul Dairy Road	Anand
26	Shreeji ClinicAnand	Dr Mausami Tiwari	9879789186	Jitodiya Road	G-1 Akruti Nagar
27	Dattu Hospital,Anand	DrBipin Vyas	9879145561	Nr.Meldimata Mandir	Mahavier Marg
28	Ashwini Medical Center,Anand	DrNandkishor Panchal	9825334035	B/h Kalpna Talkies	Anand
29	Paavan Hospital, Maternity and surgical nursing home,Anand	Anjanaben Patel	9825251568	Vidhyanagar Road	Opp.Big Bazar
30	SARLA MATERNITY AND NURSING HOME ,Anand	DrManish Trivedi	8140000721	Mahavir Marg	Anand
31	Faizan Hospital,Anand	DrParlika Joshi	9913249858	Bhalej Road	Nr.Overbridge
32	Nitin.N.Patel S Hospital,Anand	DrNitinNPatel	9426340666	Laxmi Talkies	Nr.Char Rasta
33	Garima Hospital,Anand	Dr. Rama Shrivastava	9825642800	Naya Padkar Road	Anand
34	Niramay Hospital,Anand	DrPCBavishi	9825654826	In.Naya Padkars Khancha	Station Road
35	Ortho Rab Hospital,Anand	Dr Ashish Brahmbhatt	9879691425	Nr.Bachpan School	100 Feet Road
36	Anand Orthopedic Hospital,Anand	DrAtit Kotawala	9879570477	Beside.Bagiwala	Bhalej Road
37	Smit Orthopedic Hospital,Anand	DrNirajKShah	9825256987	Mahavir Marg	Anand
38	Shreeji Womens Hospital,Anand	Dr.Ankit Thakkar	9099907743	201,Radha Swami Pletinam	Yogi Petrol Pump
39	Spandan Hospital,Anand	DrPuvaish Patel	9974704289	In.Bachpan School	100 Feet Road
40	Aum HospitalAnand	DrApurva Modi	9099010250	Nr.Vendor Chokdi	Anand
41	Vihar Hospital,Anand	Samir Patel	8141877077	Dr.Cook Road	Anand

42	Deep Hospital,Anand	DrParimal Salvi	9825086000	Bhalej Road	Anand
43	Arpan Hospital,Anand	DrHemant Antani	9825158181	Opp.Charotar Bank	Juna Rasta
44	Rajal Surgical Hospital,Anand	DrAjayGVyas	9825291766	Mahavir Marg	Anand
45	Suvidha Nursing HomeAnand	DrKumar Doshi	9898040605	Nr.Pionnerhigh School,Vendor Char Rasta	Anand
46	Aditya Hospital,Anand	Dr.Bhupendra Rajguru	9825977050	Dr.Cook Road	Anand
47	Adarsh Hospital,Anand	DrSharadchandra Shah	9825233931	Rajdip Complex	Bhalej Road
48	Krishna Children Hospital,Anand	Dr.Sachin Arora	9426575003	Nr.Pionnerhigh School	Vendor Char Rasta
49	Jivandeep Hospital,Anand	Dr Himanshu Patel	9825043735	Shubh Laxmi Shopping Center	Station Road
50	Dr.Mahendra.K.Shahs Hospital,Anand	DrMahendraKShah	9879344040	Bhalej Road	Anand
51	Arpita Nursing Home,Anand	Dr.Mukund.D.Patel	9825268791	Opp.Sharda High School	Anand
52	Parimal Nursing Home,Anand	Dr.G.M.Mannari	9825046137	In.Nayapadkars Gali	Anand
53	Ruchi Children Hospital,Anand	Dr.Ashok.P.Patel	9875011257	Bardanwala Complex	Anand
54	Astha Hospital,Anand	Dr.Hemant Bhatt	9825170744	Opp.Juni D.S.P.Office	Anand
55	Anuj Clinic,Anand	Dr.Kirit.F.Amin	9824010442	Station Road	Anand
56	Palak Hospital,Anand	Dr.Viren Shah	9825459385	Opp.C.P.College	Bhalej Road
57	Purohit Hospital,Anand	DrHarendra Purohit	9825279339	Bardanwala Complex	Anand
58	Surgical Hospital,Anand	Dr.Yogesh.P,Patel	9426394450	Opp.J.K.Mistry	Subhash Road
59	Saarthi Hospital Anand	DrChintan Vyas	9879577370	Opp.Grand Hotel	Nr.Borsad Chokdi
61	Shraddha Hospital,Anand	Dr.Chetan Chudasama	9825245108	14-A.Patel Colony	Mahavir Marg
62	Life Line Hospital,Anand	DrRaisa Anand	9099198963	Nr.Panghat Hotel	Anand
63	Amit Hospital,Anand	Dr.R.L.Kathrani	9825277875	Opp.Police Choki	Bhalej Road
64	Surgicare Hospital,Anand	Dr.Shailesh Shah	9825094525	Nr.Laxmi Cinema	Anand
66	Sangopan Hospital,Anand	Dr Lopa Dala	9925077370	Opp.Tha Grand Hotel	Anand Sojitra Road
69	Anand Health Center	Dr.Janak.J.Patel	9825369507	Opp.New Bus Stand	Anand

70	Killol Hospital,Anand	Dr Rashmin Cecil	9825256967	Medli Mata Mandir Road	Mahavir Marg
71	Prerna Hospital,Anand	DrBharatAPatel	9825870832	1 St Floor,Commerce Centre	Gopal Talkies Croosing
72	Shashwat Hospital,Anand	Dr.Amit Prajapati	9824583945	Shreeji Sankalp Complex,1st Floor	Nr.Indira Staue
73	Sparsh Womens Hospital,Anand	Dr.Chetna Vyas	9712088832	Nr.Anand Mercantile Bank	Opp.Pioneer School
74	Charutar Hospital,Anand	DrSamir Rawal	9825447000	Charutar Burna & Plastic Surgery Hospital	Bhalej Road
75	Shree Rang Avdhoot Lakva Kendra,Anand	Dr Jaydutt Vyas	9825351902	Nr.Amul Dairy Road	Jalaram Colony
76	Dr.Dhruvpal Sisodiya Ortho & Icar Hospital,Anand	Dr Kiran Patel	9825098696	Nr.Mahavir Marg	Anand
77	Shrey Hospital,Anand	Dr.Dipak Shah	9099016121	Nr.Laxmi Talkies	Char Rasta
78	Sanjivani Hospital,Anand	DrJayant Macwan	9825043580	Mahavir Marg	Anand
79	Himalaya HospitalAnand	DrSanjay Brahmbhatt	9825258771	Opp.Spring Wood Flats	Nr.Panghat Hotel
80	Akshar Hospital,Anand	Dr.Chirag Modi	9429414851	Kalpana Cinema	Anand
81	Navjivan Orthopedic Hospital,Anand	Bhavin Rupera	9825143533	B/h Panghat Hotel	Off Anand Lambhavel Road
87	Pooja Surgical Hospital Anand	Dr Snehal Adiwala	9825351833	Gopal Chokdi	Station Road
90	Hope Womens Hospital,Anand	Dr.Dipak Pandya	9879542824	48-Laksh Iris	Lambhvel Road
91	Chaitanya Hospital,Anand	Dr.Ketan Malvi	8589867878	Vikas Chambers	Nr.New Bus Station
92	Raj Nursing Home,Anand	DrRaginiben Patel	9825168567	Opp.Naya Padkar	Anand
93	Astha Children Hospital,Anand	Dr.Sonal D Maru	9824889140	Opp.New Bus Stand Road	Kalpna Cinema
94	Smit Children Hospital,Anand	Dr.Biren Patel	9825171047	Bhalej Road 2nd Floor	Rangoli Complex
95	Parimal Health Care Anand	Dr Alpa Pandya	8849170304	Nr.Naya Padkar Press	Station Road
96	Anand Laproscopy Centre	Dr Sunil Vyas	9825092550	Yogi Tilak Society	Nr.Himalaya Retreat
97	Tej Orthopedic Hospital Anand	Dr Kiran Patel	9825098696	Nr.Mahavir Marg	Anand

98	Prernaa Hospital	Dr Bharat A Patel	9825870832	Commerce Center	Station Road
99	Swasan Chest Hospital ICU	Dr Rushabh Zankat	8160889905	301.302 Radha Swami Samyak	Nr.Indira Gandhi
101	Iris Hospital Anand	Dr G M Mannari, Dr.Amit Patel	9825046137	Lambhvel Road	Anand
102	Swastik Hospital And Icu Anand	Dr Ravi Vamora	9712984856	201.R.S.Platinum Building	Nr.New Bus Stand
103	Sat Kaival Hospital Anand	Dr Nayana Patel	9825158227	Station Road	Nr.Naya Padkar
104	Khushboo E N T Surgical Hospital Anand	Dr Dharmendra Patel	9879017468	Commerce Centre	Opp.Bavaji Nivas
105	Priya Hospital And IVF Center	DrJitendra Patel	9825611106	B/h Crescent Hotel	Lambhavel Road
106	Sparsh Womens Hospital Anand	Dr Chetna S Vyas	9712088832	Neptune Vidhi Complex	Opp.Himalaya Retreat
107	Priya Hospital And IVF Center Anand	Dr Jitendra Patel	9825611106	B/h Crescent Hotel	Opp.Radhaswami Samyak
108	Amit Hospital Anand	Dr R L Kathrani	9825277875	Nr.Kalpna Cinema	Opp.X-Ray House
109	Pulmocare Hospital End ICU Anand	Dr Jaimin Mansuriya	9711132299	Mahavir Chowk	Nr.Vendor Chokdi
110	Unity Hospital And ICU Anand	Dr Anas Vora	9099901179	Nr.Sardar Baug	Police Chowki,100 Feet Road
111	Pulse Cardiac Institute Anand	Dr Kaushal Gandhi	9428151412	Above SBI Bank	Nr.Indira Gandhi Statue
112	Urban Health Centre Bakrol	Dr Drashti Delwadia	9925552957	Nr.Bus Stand	Bakrol
113	Tulip Heart Center And ICU	Dr Himanshu Meghnathi	9426363831	Shop No.2 To 8,Third Floor	Shree Yogim Sankul
114	Surya Hospital And ICU	Dr Bhupendra Rathod	9978641430	Opp.Pioneer School	Nr.N.S.Patel Circle
115	Faith Hospital And ICU	Dr Soeb Malek	7436043843	2nd Floor,K-10 Arcade	Opp.Diya Cinema
116	Vedanta Orthopedic And Womens Hospital Anand	Dr Dipali R Patel	8758480641	F.F. 101/2/3 First Floor	Radha Madhav Compelx
117	Vedanta Orthopedic And Women s Hospital Bakrol	Dr Dipali R Patel	8758480641	F.F.101/2/3 First Floor	Radha Madhav Complex

118	Shlok Superspecialty Care Anand	Dr Kairavi A Pandya	8980970099	12/29/206/2/4,4 th Floor	Priya Hospital IVF Center
119	Avira Hospital Anand	Dr Vivek Sidhapura	7600018974	201.R.S.Platinum Building	Nr.New Bus Stand
120	Swastik Hospital And ICU Anand	Dr Ravikumar Varmora	9712984856	1 St Floor Rangoli Complex	Nr.N.S.Patel Circle
121	Sankalp Hospital Anand	Dr Saurabh Parmar	9099913460	Sun House Complex	Opp.Ajanta Show Room
122	Madhav Children Hospital And NICU Anand	Dr Hardik Kumar Gupta	9099371305	2nd Floor Vandematram Complex	Opp.Pioneer High School
123	Hridansh Hospital Anand	Dr Viral M Patel	8980105181	1 St Floor Shiv Orbit,	Nr.New Bus Staion
124	Rudraksh Women s Hospital Anand	Dr Shree Ashok Jani	9725554301	First Floor,Bardanwala Complex	Nr.Gurudwara Circle,
125	Smit Children Hospital Anand	Dr Biren A Patel	9825171047	2nd Floor	Rangoli Complex
126	Zakaria Hospital Anand	Dr.Sofini Solanki	9979293715	Zakaria Building	Opp.Jumma Masjid
127	Thesia General Hospital Anand	Dr Kirtika Patel	9016344687	Bhalej Road	Opp.Bagiwala
128	Shraddha Multicare Hospital Anand	Dr Ujjaval V Patel	9727673448	Nr Nishant Eye Hospital	Anand Lambhavel Road
129	Ansh Hospital Anand	Dr Priyank Patel	6359555625	1st Floor Rangoli Complex	Nr.N.S.Patel Circle
130	Doctor House Anand	Dr Nimesh Patel	9825610610	Doctor House	Opp.Kalpana Cinema
134	Primary Health Center,Vallabh Vidyanagar	Dr.Shruti.Vaghel	7567870029	Nana Bazar	V.V.Nagar
135	Sanskar Women Hospital,Vallabh Vidyanagar	Dr.Ritesh.B.Patel	9687629433	B/h Prerna Hospital	Bakrol Road
136	Shree Krishna Hospital,Karamsad	Dr	9974296497	Anand-Sojitra Road	Karamsad
137	Primary Health Center	Dr	9429468337	Opp Mahicanal Colny	Railway Station Road
138	Akansha Hospital,Lambhavel	Dr.Nayna Patel	9033124884	Nr.Shristi English Meedium School	Lambhvel

ANNEXURE – 3

Details of Ambulance

Ambulance Information : KAMC, Anand				
Sr. No.	Institution	Ambulance with Ventilator	Ambulance without Ventilator	Total
1	Primary Health Center	0	2	2
2	District Hospital	0	2	2
3	108 EMRI	2	4	6
4	KAMC, Anand	0	1	1
5	Private Hospital			
	1. Sanjivani Trust, Anand (Dr. Shailesh Shah-9825094525, 02692- 257835)	1	1	2
	7. Shree Krishna Hospital, Karamsad (02692-228259)	1	2	3
	8. Zydus Hospital, Anand (Mrunal Zariwala-9510250273)	1	1	2
	9. Iris Hospital, Anand (Harshaben-9033050232)	1	1	2
	10. Akanksha Hospital, Anand (Radheshyam-7859997872)	1	0	1
TOTAL		7	14	21

ANNEXURE – 4

List of Swimmers

No	Name	Address	Contact Number
1	MANDOD PARIMALBHAI DALUBHAI	FIRE STATION ANAND	9723183765
2	HIMMATBHAI MAHENDRABHAI BHURIYA	FIRE STATION ANAND	9925749850
3	HITESHBHAI JIVANBHAI VASAVA	FIRE STATION ANAND	9099452559
4	VISHAL BHUPATSINH DOD	FIRE STATION ANAND	9004332365
5	ABDULBHAI ASMALBHAI BHATHANIYA	FIRE STATION ANAND	9898263611
6	PRADIPKUMAR ASHOKBHAI PARMAR	FIRE STATION ANAND	9574727290
7	BHAVESH RAMASHIBHAI VARU	FIRE STATION ANAND	9067660380
8	AJAYBHAI MOHANBHAI DAMOR	FIRE STATION ANAND	6351013004
9	SAHDEVVSINH JASHVANTSINH RATHOD	FIRE STATION ANAND	9724073283
10	MAKSADMIYA MANUMIYA BELIM	FIRE STATION ANAND	9998408968
11	MAHENDRASINH KHUMANSINH RATHOD	FIRE STATION ANAND	7600522059
12	JAYESHBHAI PRABHATBHAI THAKOR	FIRE STATION ANAND	9909634189
13	JITENDRABHAI MAGANBHAI THAKOR	FIRE STATION ANAND	9601810585

ANNEXURE – 5

- Resources available with KAMC Fire Department

NO	FIRE DEPARTMENT	RESOURCES AVAILABLE	CONTACT NO
1	FOR FIRE, ACCIDENT, RESCUE CALL	FIRE FIGHTER, FOAM TANDER, EMERGENCY RESCUE VEHICLE, TURN TABLE LEADER (TTL), AMBULANCE, ANTIMYATRA VEHICLE.	02692-243101 02692-267165

ANNEXURE – 6

Heat Wave Action Plan:

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

Key strategies

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

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

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

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

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

Identification of Colour Signals for Heat Alert:

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

ANNEXURE – 7

Evacuation plan:

On the basis of assessment of the severity of the disaster, the State shall issue appropriate instructions on actions to be taken including evacuation to the Commissioner, who will then supervise evacuation.

The Commissioner will give direction to the Branch Heads and Ward Officers and all concerned departments for evacuation based on situation. This will be carried out under supervision of Secretary Branch, UCD Branch & Fire Branch.

At the ward level, members of the elected wing and ward level staffs will coordinate the evacuation procedures to the pre-designated relief centres, taking special care of the vulnerable groups of women, children, old people etc.

Types of evacuation:

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

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

Evacuation Team Members are mainly responsible to evacuate and carry out search and rescue operation during the time of emergency. The members of this team are mainly young men and women of the village, ex-service men; swimmers, etc. Rescue kits necessary to carry out the activities of this team would be ideally made locally with indigenous materials available. These members are trained with the help of Civil Defence, Police, Fire services etc.

☑ In cases where the approach road is clear, people will be evacuated by local tractor/trolley, ST bus & other big vehicles. The people trapped in areas surrounded by water will be rescued by the Mamlatdar, local police & local swimmers through boats.

☑ Vehicle branch will be directed to arrange & supply vehicle for evacuation & rescue operation.

☑ Make transport arrangement for mobilization of all emergency response teams.

☑ Ensure that the arrangement for basic amenities (shown below) at evacuation/relief centres are made by the respective departments:

o Drinking water, o Food, o Sanitation and hygiene, o Lighting, o Health Care

☑ Ensure that law and order is maintained at evacuation centres and in the affected areas as well.

☑ Maintain the records of area-wise population, shelter centres in your area for effective emergency evacuation.

All evacuations will be ordered by the SDM/Mamlatdar or by the SP or Fire Brigade, after consultation with the Commissioner. SP should ensure appropriate security and maintenance of law and order during evacuation process and render all possible assistance to the Ward level Task Force members. All voluntary evacuations should be immediately reported to the Collector.

All Primary Schools and Higher Secondary Schools and Community Centres will be utilised for Evacuation. Collector-Anand had ordered DEO/DPEO to handover schools to taluka authority for shelter as and when Evacuation took place.

ANNEXURE – 8

Shelter Management Plan:

As per instruction of a Commissioner or message for SEOC, Dy. Commissioner will do operation of relief and shelter with staff, group members and maintain the records of area-wise population, shelter centres in your area for effective emergency evacuation.

Based on the warning issued by IMD, pin point the area and wards likely to be affected by Disasters and start the procedure for identifying safe places / shelters for evacuation in those wards.

Generally public buildings are given first priority for shelter because they are lesser in number and at the time of disaster people can take shelter in these public buildings.

Shelter Management Team takes care of the identified shelter buildings in pre, during and post disaster scenario. Care needs to be taken to stock necessary material such as food, drinking water, medicines, bleaching powder, firewood, lantern, etc. Special care needs to be taken for the animal stock during any disaster. The team needs to ensure hygiene in and around the shelter place. Women are generally active members of the shelter team as they are well acquainted with house management, and are able to manage shelters during emergency. The team leader or any other team member should have the keys of the safe shelters so that prior to the disaster they will clean up the place and make available the necessary materials like food, water, medicines, bleaching powder, firewood, lantern, etc. required for the evacuees during disaster period.

The most important action by the police is to cordon off the site of the accident, divert and regulate traffic, and evacuate/shelter in place citizens in close proximity on a priority basis.

Ward wise data of safe sheltering for evacuation available on SDRN should be referred and the Ward Prabhati/ Ward level officers/ Branch 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. Arrange to shift evacuated persons to temporary shelters and ensure provision of food, water facilities, blankets and storage of relief materials.

Arrange for complaints regarding missing persons and initiate search in shelters, hospitals and police records. The villagers identify safe areas such as strong houses /buildings, raised platforms etc. These act as a shelter place for the people in the event of an evacuation. It would be useful to identify the alternate approach routes which could be used during the time of an emergency.

Field visit to the affected areas and shelter/ relief camp sites and report preparation and forward to Commissioner for approval, sanction and onward action. Check the condition of safe shelter during his visits in the district places and if necessary gets it repaired by co-coordinating with the local authorities, available financial resources and voluntary organizations.

Setting up relief camps and tents using innovative methods that can save time. Instruct local authorities to set up important telecom and other service related facilities. Initiate, direct and market procurement of food available from different inventories and ensuring food supplies to the affected population. Prepare take-home food packets for the families. Ensure distribution of relief material to the all the people including vulnerable groups of the target area such as women with infants, pregnant women, children, aged people and handicapped. Ensuring supports from all corners to Local Administration.

ANNEXURE – 9

Medical and Hospital Management Plan:

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

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

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

- ⑦ UHC team will rush to affected village and start curative services as well as preventive and control measure of an outbreak.
- ⑦ At the site team will carry out house to house surveillance.
- ⑦ Tam will guide and give health education regarding disease, and for prepare dispose of night soil, house hold garbage etc.
- ⑦ Along with curative and control Measure team will carry out focal spray of insecticide and disinfectant in affected family and surrounding 50 House.
- ⑦ Team will carry out super dose chlorination of all pre identified sources of potable water in the affected village also distribute chlorine tablet for domestic use.
- ⑦ Team will prepare program for regular chlorination through Health worker and Panchayat Machinery.
- ⑦ Male Health supervisor made responsible for checking the chlorination He is instructed to maintain register of R.C. test and asked to report regular.
- ⑦ To maintain sanitary condition, Retail shop of food and food preparation, Fruit shop, Ice-cream and Cold drink shop must be check-up.
- ⑦ Team will take water sample, food sample, blood, urine, stool as per necessity and if possible carry out laboratory analysis on the spot or will send the sample to Baroda laboratory with special Messenger.
- ⑦ If it is necessary team will carry out vaccine immunization.
- ⑦ With the help of Panchayat machinery Health Worker / supervisor make it possible to dispose, spoil food.
- ⑦ Medical officer are instructed to take active support of youth forums, Mahila Mandal, Corporators and other NGO in their jurisdiction.
- ⑦ Male supervisor made responsible for reporting of all activity carried out to the district health officer.
- ⑦ If it is necessary other medical team and logistic will deputed from non-affected area.

ANNEXURE – 10

Media Management Plan:

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

Timely mass media communication about impending disasters can lead to appropriate individual and community action, which is the key to implementing effective prevention strategies including evacuation and survival of people. Such communications can educate, warn, inform, and empower people to take practical steps to protect themselves from natural hazards.

Anand Corporation has established an effective system of collaborating with the media during emergencies. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground. A similar set up is also active at the City Taluka Control room (i.e. Mamlatdar office).

Dy. Director, Information will establish media management / information cell for public information, guidance and rumor control and will assure following activities...

1. For Preparedness:

- ☐ Broadcast programs to raise people's awareness of disaster prevention measures
- ☐ Develop news sources in emergency situation
- ☐ Place broadcast equipment, microphone, tape/CD, transmitter, antennae in safety.

2. For Mitigation:

- ☐ Develop networks with Control Room, NGOs, local government offices & stakeholders.

3. For Response:

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

Control Room have to be ensured that the interaction with media is a two-way process through which not only the Control Room provides the information / updates to the media but the media too, through their own sources / resources draws the attention of the Control Room officials to the need and requirement of the affected people.

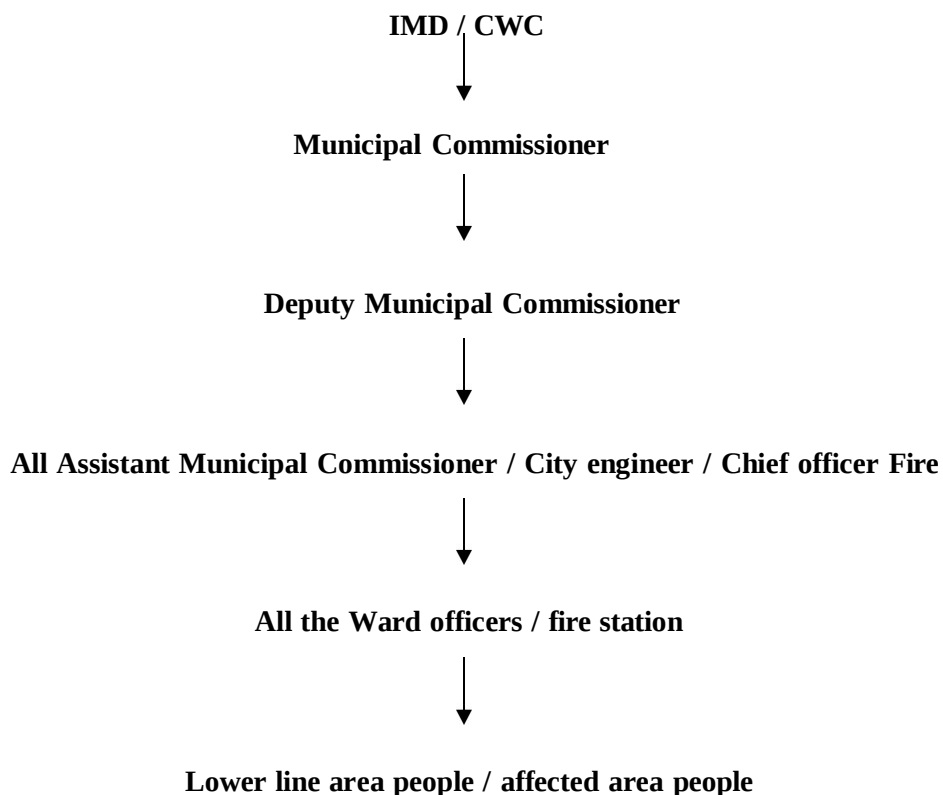
ANNEXURE – 11

Early Warning & Communication:

When the warning comes from India Metrological department (IMD), or from Irrigation dept. regarding heavy rainfall or water release the following channel has been intimated & appropriate message conveyed to the concerned department / official / control rooms / community members using telecommunication, wireless message, by fax or in written at corporation level. where as in city area the route has been finalized for early warning, accordingly early warning task force leading by fire brigade personnel, spreads the message of alert in respective low line areas, in wards local methodologies of early warning has been used (by beating up of drums etc.) to communicate the message of alert to the affected population of the city.

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

Early Warning & Communication Chart:



When early warning has been circulated the same department heads, focal officials and administrative heads will put their own DM plan in to the action and the response activities will be carried out accordingly.

ANNEXURE – 12

Fire Management Plan

Anand city is surrounded by Forest and GIDC sectors, high rise buildings, multi and super specialty hospitals and educational institutions. Fire Hazard is mainly occurred due to electrical short circuit or mainly any chemical leakage or spillage in industrial sectors. With a team of 40 plus members Anand fire & emergency services works efficiently for fire control and rescue operation. Anand Fire brigade is having 1 existing and 3 proposed fire stations.

Chain of command under Jurisdiction limit:

Fire call received at Fire brigade main control room or at Corporation control room



Fire Calls forwarded to fire station in charge and also to Chief Fire Officer



Respective station officers to be alert and action taken for particular situation



For external support CFO to inform Municipal commissioner and Mayor

Chain of command outer Jurisdiction limit:

Fire call received at control room



Fire Calls forwarded to fire station in charge and also to Chief Fire Officer



**Respective station officer to be alert and action to be taken with help of local officials
(Chief Officers / Mamlatdars of other cities and local fire team)**

NO.	Types of vehicles	Vehicle number
1	Fire fighter	GJ-23-G-268
2	Fire fighter	GJ-23-G-0271
3	Fire fighter	GJ-23-G-270
4	Fire fighter	GJ-18-GB-6072
5	Fire fighter (Gajraj)	GJ-23-GA-0755
6	Mini fire fighter	GJ-23-G-346
7	Mini fire fighter	GJ-23-GA-0883
8	Mini fire fighter	GJ-23-GA-1681
9	Mini fire fighter	GJ-23-GA-1694
10	Emergency rescue vehicle	GJ-18-GB-8333
11	Emergency rescue vehicle	GJ-23-GA-1528
12	water cum foam tender	GJ-23-GA-1276
13	water cum foam tender	GJ-23-GA-1676
14	TTL	GJ-18-GC-0437
15	Tata Zenon piloting	GJ-23-GA-0732
16	Tata yodhdha	GJ-18-GB-3300
17	Toyota con way vehicle	GJ-23-GA-1720

Sr.No	Name	Total
1	Gum boot	36
2	Rubbies gloves	6 Pair
3	PVC suit	4
4	High visibility vest	4
5	BA set	5
6	Safety Belt	3
7	Single Layer nomex suit	6
8	life buoy jacket	15
9	Safety Helmet	25
10	Safety goggles	2
11	Chemical goggles	3
12	Firefighting Foam	2040 Litre.

ANNEXURE – 12

Format of Primary Situation Report:

Emergency Control Room – City- Anand Address- Sardar Ganj Anand Phone No. - 02692243101 Fax No. Email Address: -anandfirebrigade101@gmail.com

No. Fire/Disa/...../Pri.Rep./2025

Date: - / / 2025

Primary Situation Report of Calamity / Accident

1	Type of Calamity	
2	Name, Address details of a person/s injured/ death in Calamity/ Disaster (If Available)	
3	Place of Calamity (Place/Ward/City/District)	
4	Date / Time	
5	Reason of Accident / Calamity	
6	Description of Accident, Calamity, Disaster	
7	Activity / Process done at Ward / City / District Place	

This is the Primary Situation Report sent to you. Detail Report will be sent to your office later on.

**Designation,
Office of the..... ,
(District / City / Ward)**

**To,
Hon. Collector sir,
DEOC, Collector office, Anand,
Ph. - 0285-2633446, Fax. - 0285-2633449**

**Copy to...
Director of Relief,
SEOC, Gandhinagar.**

ANNEXURE – 13

Projects for prevention of disasters:

1. DRM (Disaster Risk Management) Programme:

DRM (Disaster Risk Management Programme) is one of the major initiatives of Gujarat State Disaster Management Authority to build/strengthen capacity of various stakeholders for an effective response during disasters. The DRM Programme is formulated with a goal of sustainable reduction in disaster risk in most hazard prone districts in Gujarat state.

2. NCRMP (National Cyclone Risk Management Program):

Gujarat being prone to cyclones, it is the topmost priority of the State Government to reduce the effect of cyclone and minimize the loss to property and lives in the coastal regions of the State through creation of suitable infrastructure. Gujarat has therefore been included in the NCRMP initiated by the National Disaster Management Authority and funded by the World Bank. Two important components i.e. construction of Multi-Purpose Cyclone Shelters (MPCS) and construction and repair of missing roads will be implemented as part of NCRMP.

3. School Safety Programme:

Gujarat School Safety Initiative (GSSI), is the pilot program designed for promoting a culture of disaster safety in schools and reduce risk through structural and non-structural measures in the schools. GSDMA develops Information, Education and Communication material for the purpose of dissemination of information among school students and teaching. Gujarat State Disaster Management Authority has successfully celebrated Gujarat School Safety Week 2017 in all the Government Primary Schools. As a preparatory activity for School Safety Week 2017, 257 master trainers were trained at state level. 53,206 principals and teachers of all government primary schools were trained for preparation of School Disaster Management Plan of their respective schools and for conducting mock drills in schools.

4. Special Flood Rescue Training Programme:

GSDMA has tied up with a local agency and initiated Special Flood Rescue Training Programme to train volunteers and other stakeholders in flood rescue. The stakeholders include firemen, fire officers, home guards, police, etc.

5. Aapda Mitraa:

As part of capacity building measures, GSDMA is now initiating a project - 'Aapda Mitra' on training of community volunteers in conducting basic search & rescue operations and to assist the district administration for effective disaster response. For successful implementation of this program it is planned that 6 Aapda Mitra would be trained from each District and Taluka. The fully residential training would be conducted at the 11 designated training centres of SDRF/SRPF. The duration of the training would be of 2 weeks. At the end of the training, they would be certified as 'Aapda Mitra' by GSDMA and also provided with an identity card for the same. The 'Aapda Mitra' shall remain present for assistance during any emergency.

ANNEXURE - 14

GENERAL TERMINOLOGY USED IN WEATHER BULLETINS

(A) Terminology for intensity of 24 hour accumulated rainfall

S. No.	Terminology	Rainfall (mm)	Rainfall (cm)	Percentile
1.	Very light rainfall	Trace -2.4		
2.	Light rainfall	2.5-15.5	Up to 1	Up to 65
3.	Moderate rainfall	15.6-64.4	2-6	65-95
4.	Heavy Rainfall	64.5- 115.5	7-11	95-99
5.	Very Heavy Rainfall	115.6-204.4	12-20	99.0-99.9
6.	Extremely heavy rainfall	Greater than or equal to 204.5 mm	21 cm or more	>99.9
7.	Exceptionally Heavy Rainfall	When the rainfall observed is a value near about the highest recorded rainfall at or near the station for the month or the season. However, this term will be used only when the actual rainfall amount exceeds 12 cm		

(B) Terminology for Spatial Distribution of rainfall

Spatial Distribution of Rainfall	Descriptive term used	Criteria for observed/forecast weather
Dry	Dry	No station reported/expecting rainfall
Isolated	One or two Places	≤25% of stations get/expected to get rainfall
Scattered	At a few Places	(26–50)% of stations get/expected to get rainfall
Fairly Widespread	At many Places	(51–75)% of stations get/expected to get rainfall
Wide spread	At most places	(76–100)% of stations get/expected to get rainfall

(C) Emergency Situation

1. When water level is rising above the danger of H.F.L1.
2. When intensity of rainfall is above 65 mm/hr.
3. When breaches are anticipated and which may cause disaster
4. When water levels are rising abruptly and which may cause disaster

(D) Evacuation

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

ANNEXURE - 14

Guidelines regarding bore well safety measures by Supreme Court:

Safety measures/guidelines as given in the Order dated 11.02.2010 of Hon'ble Supreme Court is to be observed by all the States: -

- i) The owner of the land/premises, before taking any steps for construction bore well/tube well must inform in writing at least 15 days in advance to the concerned authorities in the area, i.e., District Collector/District Magistrate/Sarpanch of the Gram Panchayat/ Concerned officers of the Department of Ground Water/ Public Health/Municipal Corporation, as the case may be, about the construction of bore well/tube well.
- ii) Registration of all the drilling agencies, viz., Govt./Semi Govt./Private etc. should be mandatory with the district administration.
- iii) Erection of signboard at the time of construction near the well with the following details:-
(a) Complete address of the drilling agency at the time of construction/ rehabilitation of well. (b) Complete address of the user agency/owner of the well.
- iv) Erection of barbed wire fencing or any other suitable barrier around the well during construction.
- v) Construction of cement/concrete platform measuring 0.50x0.50x0.60 meter (0.30 meter above ground level and 0.30 meter below ground level) around the well casing.
- vi) Capping of well assembly by welding steel plate or by providing a strong cap to be fixed to the casing pipe with bolts and nuts.
- vii) In case of pump repair, the tube well should not be left uncovered.
- viii) Filling of mud pits and channels after completion of works.
- ix) Filling up abandoned Bore wells by clay/sand/boulders/pebbles/drill cuttings etc. from bottom to ground level.
- x) On completion of the drilling operations at a particular location, the ground conditions are to be restored as before the start of drilling.
- xi) District Collector should be empowered to verify that the above guidelines are being followed and proper monitoring check about the status of boreholes/tube-wells are being taken care through the concerned State/Central Government agencies.
- xii) District/Block/Village wise status of bore wells/tube-wells drilled viz. No. of wells in use, No. of abandoned bore wells/tube wells found open, No. of abandoned Bore wells/tube wells properly filled up to ground level and balance number of abandoned Bore wells/tube-wells to be filled up to ground level is to be maintained at District Level. In rural areas, the monitoring of the above is to be done through village Sarpanch and the Executive from the Agriculture Department.
- xiii) If a Bore well/tube-well is 'Abandoned' at any stage, a certificate from the concerned department of Ground Water/Public health/Municipal Corporation/Private contractor etc. must be obtained by the aforesaid agencies that the 'Abandoned' Bore well/tube well is properly filled up-to the ground level. Random inspection of the abandoned wells is also to be done by the Executive of the concern agency/department. Information on all such data on the above are to be maintained in the District Collector/Block Development Office of the State.



Contact Directory



1. Gujarat State's Administrative Emergency Contact Nos.

Sr.	District Name	Code No.	Collector			DDO		SP		RAC	DEOC
			Office	Fax	Mobile	Office	Mobile	Office	Mobile	Mobile	Office
1	Ahmedabad	079	27551681	27552144	9978406201	25506487	9978406226	26890440	9978406062	9978405173	27560511
2	Amreli	02792	222307	222710	9978406202	222313	9978406227	222333	9978405063	9978405203	230735
3	Anand	02692	262271	261575	9978406203	241110	9978406228	260027	9978405064	9978405175	243222
4	Banaskantha	02742	257171	252063	9978406204	254060	9978406229	257015	9978405065	9978405176	250627
5	Bharuch	02642	240600	240602	9978406205	240603	9978406230	223633	9978405066	9978405177	242300
6	Bhavnagar	0278	2428822	2427941	9978406206	2426810	9978406231	2520050	9978405067	9978405178	2521554
7	Botad	02849	231301	231302	9978405931	2426810	9978406231	231407	9712415910	9727758035	271340
8	Dahod	02673	239001	239005	9978406207	239066	9978406232	222300	9978405068	9978405179	239277
9	Dang	02631	220201	220294	9978406208	220254	9978406233	220248	9978405021	9978405180	220347
10	Gandhinagar	079	23259030	23259040	9978406209	23222618	9978406234	23210901	9978405070	9978405181	23256639
11	Jamnagar	0288	2555869	2555899	9978406210	2553901	9978406235	2554203	9978405071	9978405210	2553404
12	Devbhumi Dwarka	02833	223804	232102	9978405933	2553901	9978406235	232002	9978405976	9727763794	232804
13	Anand	0285	2636100	2635599	9978406211	2635315	9978406236	2635633	9978405250	9978405211	2633448
14	Gir Somnath	02876	240001	243300	9978405934	2651001	9978406236	222250	9978405974	9727756448	240063
15	Kheda	0268	2553334	2553358	9978406212	2557262	9978406237	2550150	9978405072	9978405597	2553356
16	Kutch	02832	220020	250430	9978406213	250080	9978406238	250444	9978405073	9978405212	252347
17	Mehsana	02762	222200	222202	9978406214	222301	9978406239	222122	9978405074	9978405213	222220
18	Narmada	02640	222161	222171	9978406216	222086	9978406241	222315	9979405076	9978405188	224001
19	Navsari	02637	244999	281540	9978406215	244299	9978406240	245333	9978405075	9978405187	259401
20	Panchmahal	02672	242800	242899	9978406217	253377	9978406242	242200	9978405077	9978405189	242536
21	Mahisagar	02674	250666	250655	9978405936	253377	9978406242	250815	7874376004	9727354151	250666
22	Patan	02766	233301	233055	9978406218	232936	9978406243	230104	9978405078	9978405190	224830
23	Porbandar	0286	2221800	2222527	9978406219	2243804	9978406244	2211222	9978405079	9978405191	2220800
24	Rajkot	0281	2473900	2453621	9978406220	2477008	9978406245	2433444	9978405082	9978405218	2471573
25	Morbi	02822	241701	241602	9978405932	247708	9978406245	243471	9978405975	9727759674	2427592
26	Sabarkantha	02772	241001	241611	9978406221	242350	9978406246	247333	9978405081	9978405219	249039
27	Arvalii	02772	247800	247801	9978405935	242350	9978406246	247333	9879910101	9879044388	247810
28	Surat	0261	2652525	2655757	9978406222	2422160	9978406247	2651831	9978405082	9978405220	2465112
29	Surendranagar	02752	2820200	283862	9978406223	283752	9978406248	282100	9978405083	9978405224	283400
30	Tapi	02626	224460	221281	9978405364	222141	9978405263	220400	9978405488	9978405415	223332
31	Vadodara	0265	2423100	2431093	9978406224	2432027	9978406249	2412255	9978406094	9978405196	2427592
32	Chota Udaipur	02669	233003	233002	9978405937	2432027	9978406249	233077	9978405977	9824048430	233022
33	Valsad	02632	253613	243417	9978406225	253184	9978406250	254222	9978405085	9978405253	243238

2. Municipal Corporation Officer's Contacts.

No.	Officer's Name	Position	Office No.	Mobile No.
1	Shree R. N. Dodiya	Commissioner	02692-243942	9978411491
2	Shree S. K. Garval	Dy. Commissioner	02692-243942	9978411094
3	Shree P. R. Sangada	Dy. Commissioner	02692-243942	9978411243
4	Miss Rinkitaben Chodhari	Town Planning Officer	--	9099380525
5	Shree Kiran C. Mali	Chief Auditor	--	9913374365
6	Shree Kalpesh V. Parmar	Secretary	--	9825407715
7	Shree Jigar R Patel	Executive Engineer (Water Works)	--	7777924888
8	Shree Paresh G. Mistry	Tax Officer	--	7574831722
9	Shree Rajesh Patel	(I/C) Program Officer ICDS	--	9737375380
10	Shree Rajesh Patel	Medical Officer of Health	---	9737375380
11	Shree Ankitaben Bohara	Account Officer	--	9023594948
12	Shree Vijaybhai Bariya	Electric Engineer	--	9428012015
13	Shree Vijaybhai Bariya	(I/C) Transport Officer	--	9428012015
14	Shree Jigar R Patel	City Engineer, E & B		7777924888
15	Shree Viralbhai	Program Officer, Disaster-Fire	--	9510843873
16	Shree Vibhakar J. Rao	(I/C) Sanitation Superintendent	--	7574831712
17	Shree Kalpesh V. Parmar	(I / C) Office Superintendent		9825401175
18	Shree Paresh G. Mistry	(I/C) House Tax Superintendent	-	7574831722
19	Shree Kalpesh V Parmar	PA to Commissioner	--	9825407715
20	Shree Hemendra R. Sanghvi	Establishment Cleark		
21	Shree Jayeshbhai Vaghela	(I/C) Chief Surveyer	--	7574831709
22	Shree Rakeshbhai Patel	(I/C) Store Keeper	--	9898593438
23	Shree Rajeshbhai Barot	Shop Inspector	--	9925031662
24	Shree Maulikbhai Suthar	PA to Deputy Commissioner(East)	--	9725005972
	Shree Santoshbhai Rajguru	PA to Deputy Commissioner(West)	--	9924122785
25	Dr. Rajeshbhai Patel (I/C)	Biologist, Malaria Branch	--	9737375380
26	Shree Pareshbhai Mistry	(I/C) Professional Tax Officer	--	7574831722
27	Shree Dharmeshbhai Gor	Fire Officer	02692243101	7574831711
28	Shree Niravbhai Shah	(I/C) Legal Officer	--	9879592575
29	Shree Yarifali Saiyad	Birth-Death Branch, Sub-Registrar	--	7574831716
30	Shree Shakilbhai Malek	Project Officer, U. C. D.	--	9998870446
31	Shree Divyangbhai Gajjar	(I/C) D. E.. Garden	--	9913009690
32	Shree Jugalbhai Prajapati	D.E. Drainage	--	9909413073
33	Shree Rupakumari Mistry	PA to Mayor	--	9016099321
34	Shree Vivekbhai Patel	PA to Deputy Mayor	--	9714278371

3. Control Rooms and Zonal Office's Contacts.

Sr. No	Location	Officer Name	Tel. No	Mob. No
1	Sardar Ganj fire station	Anand fire station	02692243101	7574831711
2	Anand sojitra road fire station		02692297096	
3	V. V. Nagar Office			7574831711

4. Municipal Corporation- Community Leader's Contacts.

Sr.	Designation	Name	Tel. No	Mob. No
1	Mayor	Shree Deepikaben Patel	02692 242342,43,44	9974130076
2	Deputy Mayor	Shree Kamleshbhai Dabhi	02692 242342,43,44	9173335522
3	Standing Chairman	Shree Mayurbhai Suthar	02692 242342,43,44	8866804951

5. Municipal Corporation- Ward wise list of Corporators

Sr.	Ward No.	Ward wise Elected Corporator Name	Mobile No.
1	1	Shree Nikita Chetankumar Rathod	9023765086
2	1	Shree Nikitaben Bhavinkumar Patel	9979978342
3	1	Shree Jayantibhai Somabhai Chauhan	9824738716
4	1	Shree Alpesh Fatesinh Padhiyar	9925034374
5	2	Shree Hansaben Deepaksinh Chauhan	8780588488
6	2	Shree Dipikaben Bhupendrabhai Patel	9974130076
7	2	Shree Kiransinh Ramsinh Parmar	9924763313
8	2	Shree Mitesh Bakulchandra Patel	8866462556
9	3	Shree Reshma Mahamad Rafi Mansuri	9409547512
10	3	Shree Najmabanu Firozkhan Pathan	9879969422
11	3	Shree Maheshbhai Thakorabhai Vasava	9898340000
12	3	Shree Dr.Javed Sattarabhai Vahora	9898582884
13	4	Shree Erika Vipul Macwan	9586844686
14	4	Shree Ayman Moinuddin Nathani	9662975126
15	4	Shree Salimsha Kalusha Diwan	9898101826
16	4	Shree Nurmahammad Mahmmadbhai Vahora	9824597992
17	5	Shree Ranjanben Rameshbhai Vasava	9824905873
18	5	Shree Premilaben Arvindbhai Parmar	9924812742
19	5	Shree Bhaveshkumar Mohanlal Solanki	9978777377
20	5	Shree Rohitkumar Kundansinh Vaghela	9904947447
21	6	Shree Hiralben Arpankumar Shah	8849830725
22	6	Shree Kavita Jignesh Patel	9879145545
23	6	Shree Dr. Swapnil Dinubhai Patel	9925010970
24	6	Shree Nishitkumar Sharadbhai Patel	9825043134
25	7	Shree Jashodaben Rajeshkumar Bhavnani	9662299566
26	7	Shree Gargi Chandrakant Patel	9687666610
27	7	Shree Prabhat Hirabhai Prajapati	9726867090
28	7	Shree Mayurkumar Jagdishbhai Patel	9825055415

Sr.	Ward No.	Ward wise Elected Corporator Name	Mobile No.
29	8	Shree Pritiben Sunilkumar Shah	9879650762
30	8	Shree Hardikaben Ankitkumar Thakkar	7622018184
31	8	Shree Amitkumar Bhailalbhai Thakor	9099250051
32	8	Shree Harekrushna Vitthalbhai Patel	9727718083
33	9	Shree Niraliben Hirenbbhai Patel	9824199991
34	9	Shree Rupal Balkrishna Patel	9904120978
35	9	Shree Kamleshbhai Devendrasinh Dabhi	9173335522
36	9	Shree Amitkumar Bhanubhai Purohit	9824311005
37	10	Shree Krutika Saumil Patel	9913262121
38	10	Shree Mayuriben Dilipkumar Ray	9409239561
39	10	Shree Bharatbhai Ranchhodbhai Solanki	8238528331
40	10	Shree Vikasbhai Chandreshbhai Patel	9726181811
41	11	Shree Varshaben Bhavinbhai Parmar (Shilpa)	9714964842
42	11	Sonal Nishantbhai Shah (Pinki)	9925620808
43	11	Shree Milankumar Mahendrabhai Patel (Sarpanch)	9979470789
44	11	Shree Hardik Ghanshyambhai Patel (Sunny)	9904201727
45	12	Shree Dhuliben Bhikhabhai Vankar	9099735656
46	12	Shree Rupalben Vanishkumar Patel (Dal)	9712955002
47	12	Shree Mayurbhai Amrutbhai Suthar	8866804951
48	12	Shree Mahendrasinh Mathurbhai Solanki (Popatbhai)	7874200002
49	13	Shree Chetnaben Jitendrakumar Chavda	9898516109
50	13	Shree Mayuriben Nalinbhai Patel	9016611231
51	13	Shree Rajeshbhai Babubhai Padhiyar	9824838775
52	13	Shree Ketan Ramanbhai Barot (Ketan Barot)	9601143787

6. Sanitation Inspector: Ward 1 to 13

Sr.	Ward No.	Name of Sanitation Inspector	Mobile No.
1	1	Rohitbhai S. Machhi	9898758979
2	2	Rohitbhai S. Machhi	9898758979
3	3	Arjunbhai Vaghela	7984672903
4	4	Arjunbhai Vaghela	7984672903
5	5	Maheshbhai Vaghela	8160157181
6	6	Jashvantbhai Chauhan	9558061188
7	7	Jashvantbhai Chauhan Jagdishbhai Vaghela	9558061188 7574831741
8	8	Jagdishbhai Vaghela	7574831741
9	9	Amitbhai Vaghela	9099268798
10	10	Avinash Damor	9512990659
11	11	Maheshbhai Vaghela	8160157181
12	12	Jagdishbhai Vaghela	7574831741
13	13	Jagdishbhai Vaghela	7574831741

7. Shelter Details (Municipal Corporation Area):

Sr.	Name / Address of shelter	Shelter Contact No.	Ward No	Capacity
1	Pandit Dindayal Upadhyay Shelter Home, Near Mahavir Zupadpatti,Mahavir Marg,Anand.	9166107519	3	200

Maps City Political Map (Election Ward Boundary).

