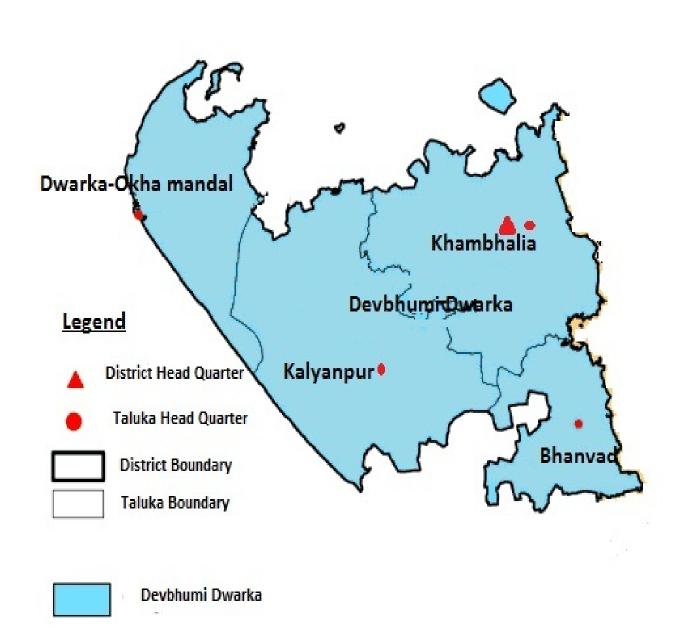
# **District Disaster Management Plan**

## **DEVBHUMI DWARKA**





## COLLECTOR OFFICE DEVBHUMI DWARKA 2024



Website: http://devbhumidwarka.gujarat.gov.in

## Shri G.T.Pandya, IAS Collector & District Magistrate Devbhumi Dwarka

## **FOREWORD**

Each and every part of the world faces variety of disasters from time to time. At any moment some part of the earth and its habitants are attacked with some kind of disasters. Devbhumi Dwarka is a multihazard prone District. Time and again it is affected by Draught, Scarcity, Flood, Cyclone, Earthquake and of course by Industrial and Chemical Accidents.

This district has been carved out from the undivided Jamnagar district. Hence the new administrative set up has to understand the requirements of the new district. At the same time it has provided us with an opportunity to look more closely to various factors affecting Disaster Management.

I am very happy to present the District Disaster Management Plan for Devbhumi Dwarka. Apart from the Search and Rescue Training Programme, there are other important functions to be performed during the occurrence of disasters to make the disaster management plan successful. After detail brain storming, team work has been planned, where individual responsibilities have been decided. All the Talukas/Nagar Palikas have been given details of resource inventories, geographical conditions and skilled man power for possible disasters. They also have a search and rescue team, medical and paramedical assistance, maintenance of law and order team in case of occurrence of disaster.

Apart from Search and Rescue and First Aid, the schools and other educational institutes have been given an action plan and their teachers have been trained for that. The Industrial sector of the district have been asked to prepare such action plans which can be implemented during disasters. For this, "Mutual – Aid Scheme" alongwithneighbouring district of Jamnagar is developed as an advanced preparation for the remedy of industrial accidents. Each action plan is tested in the form of mock drill.

Every Stake holder for ex. Revenue, Panchayat, Police,R&B, Health Departments etc, have collectively worked for preparation of this plan.

I hope that each and every administrative unit of the district, industrial conglomerates and Mutual Aid Members will use this action plan in the true spirit. We wish that no disaster ever occur, but in case of such occurrence, preparedness of macro to micro level will be very helpful to the people of the district. Hope for safe world.

I think this plan will be useful to all the departments to understand the roles and responsibilities-SOP, District Hazard, Risk, and vulnerability assessment of the district.

Place: Khambhaliya Date: 14/05/2024 Bhupesh Jotania Resident Additional Collector & Additional District Magistrate Devbhumi Dwarka

## **Preface**

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

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

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

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

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

(Bhupesh Jotania)

District- Khambhaliya Date: 13/05/2024

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# Chapter 1 INTRODUCTION



## Chapter: 1 Introduction

In recent years earthquakes, floods, tropical storms, droughts and other calamites have killed millions of people, inflicted injury, disease and caused homelessness and misery to around one billion others in the world. These have caused damage to infrastructure worth millions of rupees. Disaster destroys decades of human effort and investments, thereby, placing new demands on society for reconstruction and rehabilitation. Disaster management thus requires a multidisciplinary and proactive approach. The community, civil society organizations, media and the proverbial man on the street, everyone has to play a role in case such exigency occurs. The various prevention and mitigation measures outlined below are aimed at building up capabilities as also how to deal with disasters.

## **1.1 OBJECTIVE**

The objective of a District Disaster Management Plan (DDMP) is to localize a Disaster and contain its effect to the greatest extent so as to minimize its impact on life, environment and property. Response to any disaster, in the absence of a well-defined plan, would be arbitrary, leading to overemphasis of some actions and absence of other critical actions. A formal plan for Managing Disaster is therefore necessary. This Disaster management plan has a strong preparedness focus which aims at reducing our vulnerability to disasters and at the same time, it includes a plan of action/response mechanism for dealing with earthquakes, floods, cyclones, epidemics, industrial and chemical accidents, road accidents and fires.

This document provides basic information required for the management of disasters in Devbhumi Dwarka District to:

•Define the Risks and Vulnerabilities of citizens of the district,

• Identify private and public sector stakeholders with prime and supportingresponsibilities to reduce or negate these vulnerabilities

•Define actions to be taken to avoid or mitigate the impacts of possible disasters in the district.

Subsidiary plans are developed at the:

- Village Disaster Management Plan (VDMP) at village level,
- Taluka Disaster Management Plan (TDMP) at taluka level,
- City Disaster Management Plan (CDMP) at Nagarpalika/Municipality Level,
- Off-site Emergency Management Plan for major industrial sites located in the district

Standard Operating Procedures (SOPs) of all Line Departments detailing how specific disaster response actions will be accomplished.Developing and maintaining SOPsare the responsibility of parties with designated prime orsupporting tasks assigned by this plan.Keeping in view all the possible aspects of the aforesaid problem in mind and to keep the Administration prepared in all possible ways to respond properly to various Disaster situations with minimum delay, possible Disaster situations have been identified and the component plans have also been identified & mentioned in detail in this document.

Human play roles directly or indirectly behind the occurance of disaster, but largely disasters can be classified in follworing two categories:

## 1. Natural Calamities

- \* Floods \* Earthquake
- \* Cyclone \* Fire
- \* Biological Disaster or Epidemic of Human/livestock/crops

## 2. Man Made Calamities

- \* Industrial Disaster \* Radiological Disaster
- \* Accidents \* Railways
- \* Road \* Air
- \* Building Collapse \* Bomb Blast (Terrorist Activities)
- \* Stampede at crowded Places \* Food Poisoning

The mode, degree and extent of response to fight out any Disaster depend upon the nature, degree and extent of Disaster, but some points are common to all kinds of situations. For example, first and foremost, appropriate and adequate steps for preventing the disaster should be undertaken. Secondly, preparedness is required to contain the damages and casualties resulting from the Disaster. Thirdly, steps for rehabilitation and restoration of community life within a reasonable time should be focused on.

Hence, some necessary and common steps are as below:

- 1.Establishment of Central Control Rooms and capacity enhancement of Emergency Operation Centers.
- 2.District Disaster Management Committee to meet post early warning or immediatelypost disaster occurrence.
- 3.A general line of action and some special duties to various officers and departments will have to be assigned, keeping in mind a timeline for finishing specific tasks.
- 4.Voluntary Organizations may have to be involved and their role will have to be clearly specified and coordinated.
- 5. Media may have to be briefed to suppress all kinds of rumors.
- 6.Information regarding resource inventory of Health Services, Transport Services, Evacuation& Rehabilitation Centers and Food etc. needs to be kept handy so that resources can be deployed where required.
- 7.Consistent follow-up of relief operations and constant reporting of pre and post disaster work.

Broad guidelines have been given in the following pages and "Standard Procedure" has been formulated which is to be adhered to by all concerned. Once the Disaster take place and the authorities are informed of the same, they will take the necessary action with the help of the individual Disaster management plans prepared for the respective Disaster/situations.

The main objectives of various preparedness measures are:

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

To achieve the above objectives, different tasks have to be performed by Government Departments and other agencies before, during and after the Disaster. Each Department's role and responsibilities have to be clearly identified and an action plan needs to be drawn up by each department. For close cooperation between the various Department and Agencies, close coordination is required between the Collector at the District Headquarters and Prant Officers (SDM) at the Sub-division or taluka level. The responsibility to manage any type of Disaster in the district rests with the **District Disaster Management Committee** headed by the Collector Devbhumi Dwarka, who may, depending upon the gravity of the situation, seek the help of **State Disaster Management Committee** and the **National Disaster ManagementCommittee**. This tiered and hierarchical structure ensures that the best possible response is accorded to any disaster situation, depending upon the severity of damage. For operational expediency, the level of Disasters have been categorized and classified as under:

## Level of Disasters

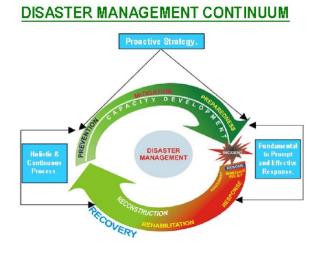
L concept has been developed to define different levels of disasters in order to facilitate the responses and assistances to States and Districts.

L0 level denotes normal times which will be utilized for close monitoring, documentation, prevention and preparatory activities. Training on search and rescue, rehearsals, evaluation and inventory updation for response activities will be carried out during this time.

L1 level specifies disaster that can be managed at the District level, however, the State and centre will remain in readiness to provide assistance if needed.

L2 level disaster situations are those, which require assistance and active participation of the state, mobilization of its resources for management of disasters.

L3 level disaster situation is in case of large scale disaster where the State and District authorities have been overwhelmed and require assistance from the Central Government for reinstating the State and District machinery as well as for rescue, relief, other response and recovery measures. In most cases, the scale and intensity of the disaster as determined by the concerned technical agency like IMD are sufficient for the declaration of L3 disaster.



## 1. Introduction:

- a. What is Disaster?
- b. Aim/Objective/Necessity of the plan
- c. Authority and Responsibilities
- d. Approach to Disaster Management:-
- e. Plan Review and updation

## a. What is disaster?

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

## b. Aim/ Objective of the Disaster Management Plan

Recognizing the fact that most tasks and actions before and following a disaster are common at the district level, theDevbhumi Dwarkadistrictadministration hasused amulti-disaster approach (all disasters covered by one plan) while developing disaster management plan for the district. The present plan is not intended to provide comprehensive explanations and background information about a disaster, or serve as a training manual on how to respond to a disaster or conduct a disaster related task. This is simply a multi hazard Management Plan consisting details regarding different hazards affect the district with the response structure to deal with , and having linkages of subsidiary DM plans of all levels and of sectors with it.

## ✤ Following are the main objectives of this Plan.

- To protect and minimize loss of human lives from effects of disasters.
- Promoting a culture of prevention, preparedness and safety by ensuring that disaster management receives the highest priority at all levels.
- Ensuring that community is the most important stakeholder in the disaster management process.
- To minimize sufferings of people due to different disasters.
- Mainstreaming disaster management concerns into the developmental planning process.
- To minimize property and Infrastructure damage and losses.
- Reduce vulnerability aspect of both people and infrastructure due to different disasters.
- Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
- To create awareness and preparedness and provide advice and training to the agencies involved in disaster management and to the community.
- To assess the risks and vulnerabilities associated with various disasters.
- To provide clarity on roles and responsibilities for all stakeholders concerned with disaster management so that disasters can be managed more effectively.
- To strengthen the capacities of the community and establish and maintain effective systems for responding to disasters.
- To strengthen the existing Response mechanism.
- To incorporate all concerned aspects of DM for pre, during and post disaster phenomena.
- To integrate and link up of all level specific and department specific DM plan.

#### **Disaster Risk Reduction Post-2015**

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

#### Sendai Framework of Actions for Disaster Risk Reduction 2015-2030

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

#### The Four priorities of action are:-

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

## The seven global targets are: -

- A. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015
- B. Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015
- C. Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030
- D. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their 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 into a strong commitment by all stakeholders to implement the global goals.

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

The CoP 21 the Paris Climate Conference held in December 2015 led to a new international climate agreement, applicable to all countries, aiming at "holding the increase in the global average temperature to well below 2°C above-industrial levels and pursuing efforts to limit the 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.

The State Disaster Management Plan (SDMP) has tried to envisage coherence across the states. Efforts for DRR, sustainable development, and the actions in response to climate change. Prime Minister's 10-Point Agenda towards Disaster Risk Reduction

The Prime Minister, Shri Narendra Modi, listed a Ten -Point Agenda in his inaugural speech at the Asian Ministerial Conference on Disaster Risk Reduction 2016, held in New Delhi in 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. Develop a network of universities to work on disaster issues.
- 7. Utilize the opportunities provided by social media and mobile technologies.
- 8. Build on local capacity and initiative. Response agencies need to interact with 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.

## \* Scope of the Plan:

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

## c. Authority and Responsibilities:-

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

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

## **D.Approach to Disaster Management:-**

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

## **D.1Warning, Relief and Recovery:**

Necessary actions are intended to eliminate the loss of life and property and hardship due to disasters. Plans and SOPs at District level should provide as seamless as possible provision of warning, relief and recovery assistance to avoid or reduce losses and hardship.

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

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

## **D.2 Mitigation, Preparedness and Prevention:**

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

- Long term planning for mitigation, preparedness and prevention investments in the district,
- Enforcement of regulations, particularly building and safety codes and land use plans,
- Review and evaluation of development plans and activities to identify ways to reduce risks and vulnerability, and,
- Capacity building including warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability. The Collector, assisted by the District Development Officer, is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above.

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

- Precise risk and Vulnerability assessment
- Planning and efficient allocation of resources,

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

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

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

#### **D.3Finance:**

The financialarrangement is as per the fund granted by GSDMA / State nodal agencies to the district.District Collector has authorities to distribute / impart the fund to the counter partners of Disaster management in the District as per required activities, according to the instructions of Government of Gujarat.

a. Preparations and Revision of The Plan :-

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

- When significant changes in the nature of any hazards
- Lessons learnt following any major disaster or
- When there is any significant change to organization or responsibility of primary members of the task forces defined in the plan.
- DDMC shall compile its learning and proposed new mechanisms for improvement of the capacity to deal with disasters

## Chapter: 1 Introduction

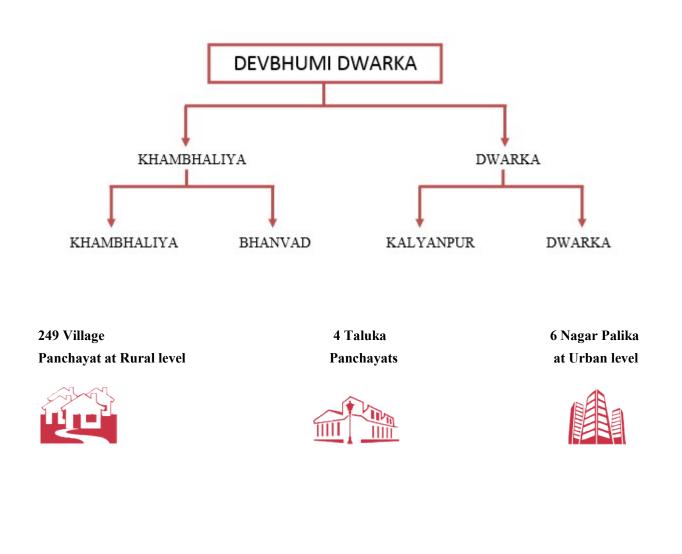
## ✤ <u>District Profile</u>:

## 1. Introduction:-

Devbhumi Dwarka District is located in southern coast of gulf of Kutchh in Gujarat state. The district was bifurcated on August 15, 2013 from Jamnagar District. The Headquarter of the Devbhumi Dwaka District is at Khambhaliya. Mainland of the district extends between 21-degree - 42 min and 22 degrees - 58-min north latitude and between 68 degree 58 Min and 70 degree - 40-min longitude. It is bounded by Gulf of Kutch in the north, Porbandar district in the south, Jamnagar district in the east and Arabian Sea in the west. The district is having an area of 4051 Sq. Kms. population of 738,520lakhs persons (as per 2011 census) Density of population is 130 persons per sq. km. About 70 % of the population lives in the rural area. The literacy percentage of the district is 69%.

## 2. Area & Administration: - Geographical Information

The entire district is divided in to two Sub Divisions namely Khambhaliya and Dwarka for smooth and effective administration of the district. Each sub Division has two Taluka under jurisdiction as per the new policy of the Government of Gujarat of ATVT (ApnoTaluko Vibrant Taluko).



Sr.no.	Name Of Taluka	Number of villages
1	Khambhalia	85
2	Bhanvad	53
3	Kalyanpur	66
4	Dwarka	45
	Total	249

Besides, there are 249 Village Panchayats at rural level, 4 Taluka Panchayats, A district Panchayat as Panchayati Raj system and 6 NagarPalika at the urban level for the administrative purpose. At the Sub Division level Prant Officer & SDM holds the office and a Mamlatdar in each Taluka Office for the smooth administration and quick disposal of services to the people of the district. District is headed by the Collector & District Magistrate.

The Police work under the supervision of the Superintendent of Police. The District Development Officer looks after the development activities of the district supported by the Taluka Development Officers in each Taluka and Heads of the various departments. At Village level, works of the Developments are done by Panchayat Mantri (formally known as Talati cum Mantri) under the Gram Panchayat and works of the Revenue are done by Revenue Talati under the Revenue Department.

## 3.<u>Climate</u>: - <u>Coastal Villages</u>

The Climate of Devbhumi Dwarka District can be regarded as one of extreme kind with hot summers & cold winters except in the coastal region, where it is generally pleasant all throughout the year. The air is humid due to coastal location. The Details of **coastal villages** are as under:

Sr. No.	Taluka	Number of CoastalVillages	Population
1	Dwarka	20	81,848
2	Khambhaliya	15	47,841
3	Kalyanpur	9	20,844
	TOTAL	44	1,50,533

## 4. <u>River & Dams</u>:-

The District has no major river. There are seasonal rivers streams. Amongst these are the river Sani, SinhanVartu, Ghee,Kabarka and Ghee. Flow of the river is towards the Gulf of Kutch in the north and in north-west.

There are no major dams in Devbhumi Dwarka District. There are 10 medium and minor dams are in the district. Details of Dam are attached in separateAnnexure-3sheet.

## 5. Ports & Fisheries:-

Out of 1600 Kms Length of Coastal line of Gujarat the coastal belt of Devbhumi Dwarka District is having235Kms of coastal line extending from Vadinar village in the northwest to Harshad village in south west. There are 7 ports in the Devbhumi Dwarka District. Viz. Okha, Vadinar, Beyt, Harshad, Rupen, Salaya andNavadraare fisheries ports. There are 2822 motor boats in Devbhumi Dwarka District, while Jamnagar and Devbhumi Dwarka district combines total 40904(20935 Male, 19969 Female) fishermen out of which 9330 are active in fisheries activities.

Fishingactivities has been carried out in 7 villages in Devbhumi Dwarka District. There are 40904 (20935 Male and 19969 Female) fishermen in Jamnagar and Devbhumi Dwarka district out of which 9330 are active fishermen. Total 2822 And 385 non mechanical boatsare available in the district. Total 29 fishing societies have been registered in this district, out of which 18 are active.

## 6.Salt works:-

Due to large seashore in the District, Salt Industries has developed very well. There are 5 Salt Works in the district and occupies 46678 acres of land (except Tata Chemicals Ltd.). Annual production of Industrial and table salt is around 27 Lacks M. Tones.

## 7.Live Stock:-

Cattle wealth occupies pivotal place in the rural economy of the district, Livestock position is as below:

Sr.no.	Name of Animal	No. of livestocks
1	Bullock/Cows	148849
2	Buffaloes	139843
3	Sheep & Goats	133423
4	Others Horse, donkey, camel	2131
	Total	424246

There are 13 Dispensaries and 07 First Aid Vaternity center available in the district as follows:

Sr.No.	Taluka	Dispensaries	First Aid Center
1	Khambhaliya	Khambhaliya, movan, Vadatra, Bhadthar	Salaya, Bhandariya
2	Dwarka	Dwarka, Soorajkaradi	Beyt
3	Bhanvad	Bhanvad, Gunda, Modpar	Pachhatar, bhangor
4	Kalyanpur	Kalyanpur, Lamba ,Bhatiya, Jamraval	Raan, Rajpara

#### Chapter: 1 Introduction

#### 8. Roads & Railway:-

The district has 1163 Kms length of pakka roads connecting to 432 villages/towns in the district. 249 villages are connected by kachha roads and 43 villages accessible only in fair weather.Out of the total 681 inhabited villages, 633 villages are connected by state road transport facilities.

Total length of railway track is 557 kms in the Rajkot region, out of that total covered under Broad Gauge. Total 13 Stationis located in Devbhumi Dwarka district that is Jaliya Devani, Aliyabada, Jamvanthali, HAPA, Devbhumi Dwarka, Kanalus.

## 9.<u>Health</u>:-

The district has 5 CHCs, 19PHCs and 166 SHC in the District to cater the people. Location of the CHCs and PHCs and SHCs in different talukas of the District is as follows.

Sr. No.	Taluka	Name of CHCs	PHCs	SHC
1	Bhanvad	Bhanvad	5	35
2	Khambaliya	Salaya,	3	54
3	Kalyanpur	Kalyanpur, Raval	9	56
4	Dwarka	Dwarka	6	24
Total	1	5	23	169

## 10. Temperature and Rainfall data:

The temperature at Devbhumi Dwarka district headquarters ranges from 42.0 degree centigrade higher in the summer and 4.2 degree centigrade lowest in the winter.

The average annual rainfall is 898 mm. The soil found in the District may broadly be classified as alluvial, black, light brown and alkaline. The last ten years rainfall data is attachedin Annexure-2



# Chapter 2 HAZARD, VULNERABILITY AND RISK ASSESSMENT



## Chapter: 2 HAZARDS, VULNERABILITY AND RISK ASSESSMENT

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 crude risk and vulnerability ranking process can be accomplished in five steps.

## Matrix of past Disaster-Flood:

Year	Magnitude	Talukas and	No.Of	Life and cattle loss	Damage to	Economical
		villages affected	1		Property	loss
2013	4	Devbhumi l	Dwarka	11 Human Death	As Per ABCD	
		Taluka		and Cattle loss 74	report	

## Matrix of past Disaster-Earthquake:

Year	Magnitude	Talukas and No.Of	Life and cattle loss	Damage to	Economical
		villages affected		Property	loss
2001	4	Zone VI Devbhumi			
		Dwarka,			
		Khambhalia,Dwark			
		a,Kalyanpur			
		Zone III Bhanvad,.			

## Matrix of past Disaster-Cyclone:

Year	Magnitude	Talukas and No.Of villages	Life and cattle loss	Damage to	Economical
		affected		Property	loss
1998	4	Very High Demage risk zone [50 m/s.] 1.717 million popultionan 17 ports in the district likely the be affected + 10 Taluka.			

## Matrix of past Disaster-Cyclone:Biporjoy

Year	Magnitude	Talukas and No.Of	Life and cattle loss	Damage to	Economical
		villages affected		Property	loss
2023	4	Devbhumi Dwarka	0 Human Death	-	
		Taluka Very High	and Cattle loss 11		
		Demage risk zone [50			
		m/s] 1.717 million			
		population 7 ports in			
		the district likely the			
		be affected + 3 Taluka.			

## Matrix of past Disaster-Industial Accident/Chemical disaster:

Year	Magnitude	Talukas and No.Of villages	Life and cattle loss	Damage to	Economical
		affected		Property	Loss
	5	Devbhumi Dwarka,			

## **Step 1: Identify the Hazards of Concern**

Complete the hazards column for the following table. Typical hazards have already been identified, but these should be confirmed at this step and additional hazards added as appropriate.

## <u>Risk and Vulnerability Analysis-State Level:</u>

Hazard	Probability	Impact	Vulnerability Rating (Probability times Impact)	Specific Locations and populationsofconcern.
Earthquake (resulting in damage)	4	4	16 [High]	Zone VI Devbhumi Dwarka, ,Khambhalia., Dwarka, Kalyanpur, Zone III Bhanvad,
Wind (cyclone)	4	3	12 (Medium)	Very High Demage risk zone [50 m/s.] Ports and 3 Talukas (Khambhaliya, Kalyanpur and Dwarka)
Sea surge (cyclone)	3	3	9 (Medium)	0.22 Million [2, 27,264] population and 41 coastal villages in 3 talukas are likely to be affected. Maximum

				surg record 3 meter.
Flood	5	4	20 (High)	May occur due to very heavy rainfall, sea serge or dar failure
Thunderstorme&Lig htining	3	3	9(Medium)	May occur due to rough weather condition
Industrial Accident	4	5	20 (High)	Mithapur,Kuranga, Bhogat,Vadinar,Khamb haliya

Drought	3	2	6 (Low)	Whole District
Heat/cold wave	4	2	8 (Medium)	
Hail storm	1	1	1 [Low]	
LandslidesMudflow	1	1	1 [Low]	
S				
Dam Failure	1	1	1 (Low)	
Mine fires/collapse	2	1	2 [Low]	Dist. has no major dams
				but having 15
				medium/minor dams.
Road/rail/air	5	4	20 (High)	Devbhumi Dwarka
accident				High way connected
				villages.
Oil spill & Road	3	2	6 (Low)	Sea shore, coastal belt
(marine)		-		
Boat sinking	4	2	8 (Medium)	
Building collapse	4	3	12 (Medium)	6 ULB &Dwarka City
Communal Disease	3	3	9 (Medium)	
(epidemics)				
Food poisoning	3	3	9 (Medium)	
Animal disease	2	3	6 (Low)	
(epidemics)				
Terrorism	1	3	3 [Low]	
(consequences)				
Critical	4	3	12 (Medium)	The Hydrocarbon
Infrastructure				Cross-country pipeline
Failure (e.g.				running for Devbhumi
extended power				Dwarka may be
outage)	2			affected.
Civil Unrest	3	2	6 (Low)	
WAR	2	4	8 (Medium)	Whole District (19.05 Lacs)
TSUNAMI	2	4	8 (Medium)	Coastal Talukas :
				Kalyanpur
				Khambhaliya
				Dwarka (Okhamandal)
				Total 41 Coastal
				Villages
L				

## Chapter: 2 HAZARDS, VULNERABILITY AND RISK ASSESSMENT

## **METHODOLOGY OF HRVA**

Data collection from all line departments

Data analysis

Discussion with experts

Referring national and international literatures

Preparation of action plans for departments

Preparing draft plan document

Mock drill to check the viability and feasibility of implementation methodology

Vide circulation for public and departmental comments

Preparation of the final plan document

## Step 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 the following table. Enter the score for each hazard in the probability column of the table in Step 1.

Probability	Score	Description
Almost certain	5	A regular event, on the average at least once in a
		12 month period
Likely	4	Will occur at least once every two years.
Moderate	3	Will occur at least once every 5 years.
Unlikely	2	Will occur sometime in a 25 years period.
Rate	1	Can be expected to occur sometime in a 100 year
		period

## **Step 3: Assign the Impact Ratings**

Assess the potential magnitude or impact of each hazard and assign each an "Impact Level" as in the following table. Enter the impact score for each hazard in the table in

Step 1	•
--------	---

Impact	Scope	Description
Catastrophic	5	Massive insecurity, substantial loss of life likely. Large and generalized assistance urgently needed for large segments of population. Additional management, administrative, and technical expertise urgently needed. Large volumes of materials inputs needed.
Major	4	Security threatened for large segments of population; substantial impacts on vulnerable groups likely. Some loss of life likely. Life-saving programs likely needed to handle impact of emergency situation. Large volumes of material inputs and additional administrative staff and technical expertise likely to be needed.
Moderate	3	Security is threatened for potential target groups, some interventions may be needed, particularly for groups who likely face increase in vulnerability. Organization can likely respond with existing country/regional management structures.
Minor	2	Momentary insecurity local groups able to respond adequately to those in need. Some technical assistance by organization may be helpful to local respondents, although not urgently needed.
Insignificant	1	Little or no significant change in conditions, no expected loss of life, injuries or significant loss of property for usual target groups as the result of the hazard Normal operations continue.

## Step 3: Assign the "Vulnerability" Ranking

Multiply the probability and the impact scores in the table in Step 1. The resulting score indicates crude vulnerability. Scores above 15 indicate high vulnerability; sores between 7 and 15 indicate medium vulnerability and scores below 7 indicate low vulnerability.

Probability	Impact Rating: Class and (score)					
Rating: Class	Insignificant	Minor	Moderate Major		Catastrophic	
and (score)	(1)	(2)	(3)	(4)	(5)	
Almost	Low-5	Moderate -	Moderate -	High-20	High-25	
certain (5)		10	15			
Likely (4)	Low-4	Moderate-8	Moderate -	High-16	High-20	
			12	_	_	
Moderate (3)	Low-3	Low-6	Moderate -	Moderate -	Moderate -15	
			9	12		
Unlikely (2)	Low-2	Low-4	Low-6	Moderate -	Moderate -18	
				8		
Rare (1)	Low-1	Low-2	Low-3	Low-4	Low-5	

These three classes related to the immediate vulnerability to disaster and provide guidance on disaster response planning. Assessing risk and vulnerability to low likelihood but high impact hazards (e.g., earthquakes) requires a different, more long-term focused, assessment process.

Note that the rating process presumes that:

- Populations are better able to respond to disaster which more likely and do not have severe (major) impacts and,
- Steps taken to prepare for moderate or high vulnerability events will also improve the ability to respond to low vulnerability events.

The divisions between low, moderate and high crude vulnerability can be changed but should be used consistently for all similar assessments in the state.

#### **Step 4: Identify Areas with Highest Vulnerability**

Once vulnerability ranks have been identified, the locations and populations considered most vulnerable should be 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. Note that vulnerability reduction can include education, structural measures, and non-structural measures like evacuation planning. Where possible, the areas of high vulnerability should be mapped and included in disaster planning documents.

#### Outcome

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

#### ➢ Hazard analysis:

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

## 1. Earthquake

The District is located in Zone-IV of seismic vulnerability as captured in the Vulnerability Atlas. While earthquakes cannot be predicted, a detailed mapping of seismic fault systems and seismic source regions, quantification of probability of experiencing various strengths of ground motion at a site in terms of return period for an intensity will be carried out and appropriate regulations put in place to decrease the vulnerability of built environment.

Different types of ground do shake with different severity in an earthquake. Softer soils and those with high water content generally shake more than rocky sites. Wherever possible site structures on firmer ground. This will reduce the severity of vibrations experienced in an earthquake. Capital intensive infrastructure, hazardous facilities and materials, and other important buildings should not be located in the vicinity of a known fault. Since early warning is not possible in case of earthquakes, the best choice is to ensure that seismicity is monitored and integrated with the GIS. Devbhumi Dwarka District's situation indicates that some parts of the District like Jodiya, Dhrol and Devbhumi Dwarka Taluka have been adequately provided with the seismic instrumentation. It is necessary that mitigation strategy considers instrumentation of all other areas in order to have a total assessment of the seismic activity. This would enable reconfirmation and up gradation of micro zonation activities.

#### 2. Flood

River flooding is a regular hazard faced by the District. All the major river systems in the District are vulnerable to flooding, as captured in the Vulnerability Atlas. The urban areas like Devbhumi Dwarka, Jodiya, Khambhalia and Kalyanpur are facing flooding primarily due to drainage and increased run-off loads in hard surfaces.

#### **Regulations would include.**

- Not permitting unrestricted new development in the hazard prone areas
- Anchoring and flood proofing structures to be built in known flood prone areas
- Built-in safe guards for new water and sewage systems and utility lines from flooding
- Enforcing risk zone, base flood elevation, and flood way requirements
- Prohibition on development in wetlands
- Prescribing standards for different flood zones on flood maps.

To meet these requirements, local governments will have to adopt specific flood planManagement into zoning and subdivision regulations, housing and building codes, and resource protection regulations.

In low-lying areas, close to the coast, and on flat land in river valleys, there may be apotential for coastal or river flooding. In geologically younger river valleys, in mountains, andfoothills there may be a potential for flash-flooding.

It is important to check the history of flooding in the area. Wherever possible

• Map the extent of land covered by past flood waters

• Get an indication of the depth of past flood waters

• Find out about the severity of past floods; how much damage they have caused, how fast they flowed and how much debris they left behind and

• Find out how often flooding has happened, over at least the past 20 years.

#### 3. Thunderstorme&Lightining

Lightning is also one of the Weather related Natural Disasters which normally is associated with Thunderstorms. During Lightning, due to the friction between the ice particles in the cloud, a sudden electrostatic discharge occurs between electrically charged regions of a cloud called intracloud lightning (IC), between Cloud to Cloud (CC lightning), or between a cloud and the ground (CG lightning). The charged regions in the atmosphere temporarily equalize themselves through this discharge referred to as a flash. A lightning flash can also be a strike if it involves an object on the ground. Lightning creates light in the form of black body radiation from the very hot plasma created by the electron flow, and sound in the form of thunder. The lightning causes several deaths and loss of property across India.

Thunderstorms occur round the year in different parts of the country. However, its frequency and intensity is maximum in summer months (March to June). As the most important factor for occurrence of thunderstorm is the intense heating of the atmosphere at surface level and maximum heating takes place in summer months, the frequency of occurrence is maximum in summer months. A thunderstorm is said to have occurred, if the thunder is heard. Usually the thunder can be heard up to a distance of 40 km from the source of origin. Thunderstorms fall in the category of Meso-gamma weather systems with spatial extent of around  $2\sim20$  km and temporal scale of a few hours. Considering the intensity, the thunderstorms in India are categorised as moderate and severe thunderstorms as follows.

•<u>Moderate thunderstorm</u>: It is called as moderate thunderstorm, if there is loud peals ofthunder with frequent lightning flashes, moderate to Strong rains and maximum wind speed 29 to 74 kmph

•<u>Severe thunderstorm</u>: It is called as severe thunderstorm, if there is continuous thunderand lightning, Strong rains and maximum wind speed  $\ge$  75 kmph

Lightning is a high-energy luminous electrical discharge from a thundercloud to the ground accompanied by thunder. In the atmosphere, three types of discharges take place:

1) Thundercloud (intra-cloud),

- 2) One cloud to another (inter-cloud)
- 3) Cloud to ground (CG).

The third type of lightning takes a toll on life and property and so is of more concern to us. Aircrafts can be hit by inter cloud and intra-cloud lightning. Lightning is a high-current electric discharge that occurs in the earth atmosphere and that has total path length on the order of few kilometers. The peak power and total energy in lightning are very high, the peak power that is dissipated by a lightning discharge is on the order of 100 million watts per meter of channel and the peak channel temperature approach 30,000 °C. Peak currents in a lightning discharge range from several to hundreds of kiloamperes (kA), with typical value being 40 kA. Prediction of lightning as to the precise time and location is very difficult or impossible. However, somewhat a season or period of lightning occurrence at many regions is known

#### 4. Cyclone

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

Coastal areas of District like Devbhumi Dwarka, Khambhalia, Kalyanpur and Dwarka -Okha are particularly prone. Cyclones originate out at sea and become hazardous when they come ashore. They also drive the sea level up to cause coastal flooding. At a community level, the GSDMA has proposed to provide temporary cyclone shelter. There are 31 identified sites to construct Cyclone Shelter on Costal Belt of Devbhumi Dwarka District. These shelters will be, with built-in safety against high

wind velocity and heavy rainfall and within easy reach of the people most affected. Educational buildings or places of worship may also be designed as cyclone shelters, for evacuation and temporary occupation.

#### > Nilofar:

The cyclone storm NILOFAR was originated in Arabian sea on 26/10/2014. The Cyclone storm, NILOFAR over west central and adjoining southwest Arabian sea move northwards, intensified into a severe cyclonic storm and lay centred at 05:30 hours of 27/10/2014 near latitude 14.8° N and longitude 62.0°E, about 1180km southwest of Naliya . Under the influence of this system, Rainfall at most places with isolated heavy to very heavy falls would commence along coastal districts of saurastra and kutch intensity would increase gradually with heavy to very heavy falls at a few places from night 30<sup>th</sup> October. Squally winds speed reaching 45-55 kmph gusting to 65 kmph would commence along and off Gujarat coast from 30<sup>th</sup> October morning and would become 100-110 kmph gusting to 125 kmph at the time of landfall. Sea condition along and off Gujarat coast will be rough to very rough from 30<sup>th</sup> October. However, on 30/10/2014 as it come closer to Gujarat coast, it was weakenand dispersed in Arabian sea.

- Action Taken:-
  - Collector, Resident additional collector, Liaison officer, Dy. Mamlatdar visited Gandhvi, Bhogat, Navadra, Harshad villages. They had held a meeting with villagers and aware them to be prepared for migration from
  - village to safe shelters when they got a message from Control room.
  - Petrol pumps, FPS were instructed to keep stocks for emergency.
  - Talatis were instructed to be alert and in communication with collector office.
  - NGOs were instructed to be prepared for food packets needed during cyclone.
  - At district Level, Meeting had been organized with District officials.
  - The boat service had been canceled between Dwarka to Bet.
  - Boats were called back which was gone in sea for fishery.
  - NDRF, Special rescue teams were standing by at Dwarka.
  - Do's and don'ts were published in local news paper.

Vayu Cyclone: 12/062019 to 15/06.2019 Maha Cyclone: 04/11/2019 to 05/11/2019 Nisarga Cyclone:03/06/2020 to 05/06/2020 Tauktae Cyclone: 14/05/2021 to 18/05/2021

#### 5. Chemical Disasters:

Growth of chemical process industry in Gujarat has received a dramatic acceleratedmomentum in last one decade. Sophisticated technology complex processes and a wide range of chemicals and chemical products have emerged to provide better standards and improved way of living to millions of people.

Devbhumi Dwarka district has specific chemical zone of factories. However the disasterpreparedness as precautionary measures have envisaged by involving all the major Departments who are directly or indirectly responsible for Chemical hazard.

Total 7 MAH unit is in this district. most probability of chemical disaster in this district.

Industries involved in the production or transportation of inflammable, hazardous and toxic materials hold the responsibility for preparing an off-site plan and communicating the same to district collector. Simulation exercises are also undertaken in the adjoining communities.

• Poison centers established in Civil Hospital-Devbhumi Dwarka which lays near the industrial estates with facilities for detoxication and also in industries hospital.

• All transport of hazardous and toxic materials are communicating to the RTO.

• Small scale industries releasing toxic waste in water have to be encouraged to set up common effluent treatment facility.

#### 6. Tsunami:

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

Tsunamis are most often generated by earthquake-induced movement of the ocean floor. Landslides, volcanic eruptions, and even meteorites can also generate a tsunami. Areas at greatest risk are less than 25 feet above sea level and within one mile of the shoreline. So far as Devbhumi Dwarka District is concern there are 5 costal talukas and as per Analysis of Mean Sea level of Devbhumi Dwarka District there are 52 villages of 6 costal taluka are less then 2 km far from sea and on less then 10 meter of height from ocean level. Most deaths caused by a tsunami are because of drowning. Associated risks include flooding, contamination of drinking water, fires from ruptured tanks or gas lines, and the loss of vital community infrastructure.

#### 7. Epidemics:

The Public Health Department is the nodal agency responsible for monitoring and control of epidemics. Local governments and municipal authorities also have a responsibility for taking appropriate steps in this context. Therefore, success of mitigation strategy for control of epidemics is depending on the type of coordination that exists between the Health Department and local authorities. Mitigation efforts for control of epidemics would include

1. Surveillance and warning

2 Preventive and Primitive measures

3. Strengthening institutional infrastructure... Like...

• Promoting and strengthening community hospitals with adequate network of Paraprofessionals will improve the capacity of the Health Department for surveillance and control of epidemics.

• Establishing testing laboratories at appropriate locations in different divisions within the State will reduce the time taken for diagnosis and subsequent warning.

•Establishing procedures and methods of coordination between Health Departments and local authorities.

Novel Corona Virus 2019-

#### 8. Nuclear Disaster: -

In the Past no nuclear disaster was occurred.

#### 9. Drought:

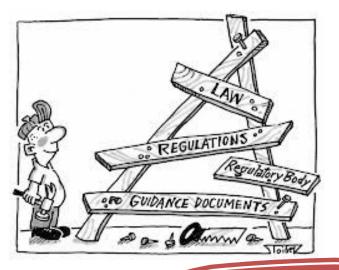
Low rainfall coupled with erratic behavior of the monsoon in the state make Jamnagar/Devbhumi the most vulnerable to drought. Of all the natural disasters, drought can have the greatest impact and affect the largest number of people. Drought invariably has a direct and significant impact on food production and the overall economy. Drought, however, differs from other natural hazards. Because of its slow onset, its effects may accumulate over time and may linger for many years. The impact is less obvious than for events such as earthquakes or flood but may be spread over a larger geographic area.

#### 10. Fire:

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

RSPL Major fore

EPGL Convyer belt fire:



# Chapter 3 Institutionalisation and Multihazard Response Measures

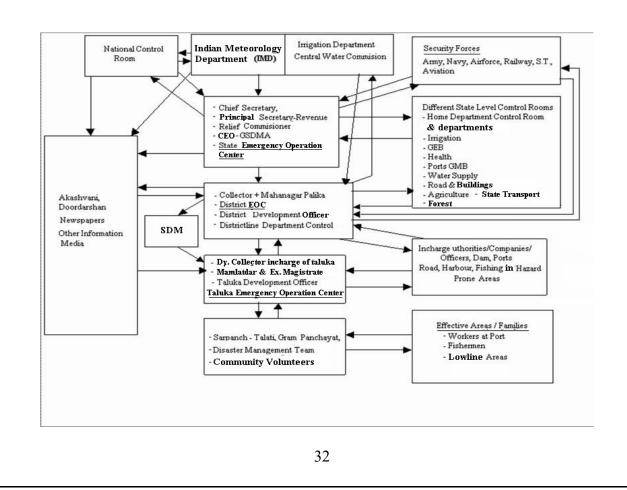


## Chapter 3 Institutionalisation and Multihazard Response Measures

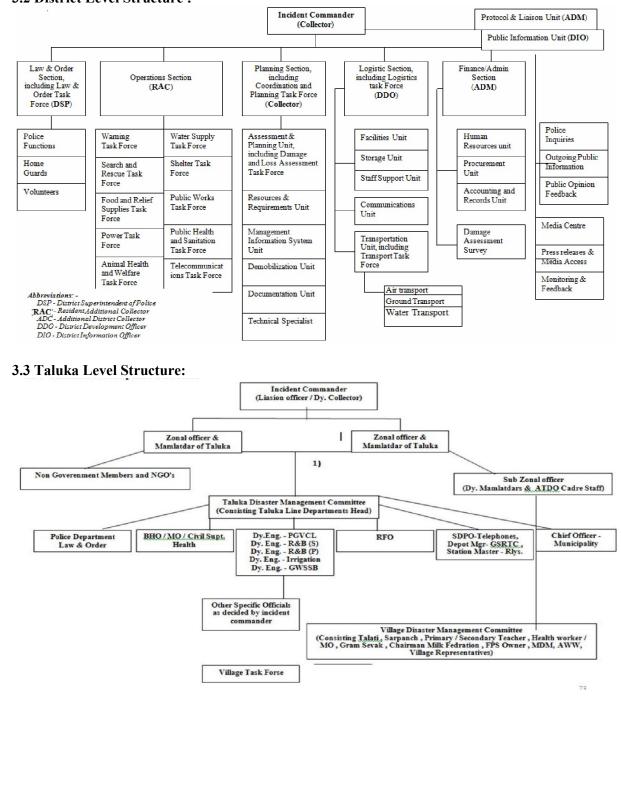
At the district level, the District Magistrate will be the focal point for coordinating all activities relating to prevention, mitigation and preparedness apart from his existing responsibilities pertaining to response and relief. The District Coordination and Relief Committee is being reconstituted/re-designated into Disaster Management Committees with officers from relevant departments being added as members. Because of its enhanced mandate of mitigation and prevention, the district heads and departments engaged in development will now be added to the Committee so that mitigation and prevention is mainstreamed into the district plan. The existing system of drawing up preparedness and response plans will continue. There will, however, also be a long term mitigation plan. District Disaster Management Committees have already been constituted in Devbhumi Dwarka districts.

The model bye-laws, DM Policy, Act and model health sector plan have also been included.Education and Training includes material for capacity building and upgradation of skills ofpolicy makers, administrators, trainers, engineers etc. in planning for and mitigating againstnatural disasters. Basic and detailed training modules in disaster preparedness have beenincorporated along with training methodologies for trainers, for community preparedness andmanuals for training at district, block, panchayat and village levels. For creating a disasterresistantbuilding environment, the Construction Toolkit addresses the issue of seismicresistant construction and retrofitting of existing buildings. BIS Codes, manuals andguidelines for RCC, Masonry and other construction methodologies as also for repair andretrofitting of masonry and low-rise buildings have been included.

## 3.1 State Disaster Response Structure – Gujarat:



For effective response the Incident Command System (ICS), need to be put into place with clear responsibility. The commander for each tasks force need to be trained on the specific tasks. Incident Commander (IC) at block level instructs head of task forces to carryout emergency functions according to SOPs. Head of each task force reports to IC on progress (and any obstacles faced) until he/she is further instructed by IC.



#### **3.2 District Level Structure :**

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## **3.4 SEOC-DEOC-TEOC and Other Control Rooms.: Emergency Operation Centers/Control Rooms**

#### □ District Emergency Operation Center(DEOC)

□ The District Emergency Operation Center (DEOC) is located at District Collector'sOffice. It is also the central point for information gathering, processing and decisionmaking more specifically to combat the disaster. Most of the strategic decisions are takenin this control room with regard to the management of disaster based on the informationgathered and processed. The Incident Commander takes charge at the District ControlRoom and commands the emergency operations as per the Incident Command Systemorganizational chart.

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

#### □ Facilities at District Control Room

The District Control Room shall be equipped with but not limited to the following items:

- $\hfill\square$  Hotline directly connected to State EOC/Control room
- □ Telephones
- □ Satellite Telephone
- □ Satellite Iridium
- $\Box$  One PC with Internet facilities
- $\Box$  Marker board 2 Nos. with adequate markers
- $\Box$  Conference table with Chairs
- □ A copy of Disaster Management Plan
- □ Other relevant documents, if any

#### □ Task Force Control Room (TFCR)

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

#### □ Taluka Level Control Room (TLCR)

The Taluka Level Control Room shall be located at the Office of Mamlatdar. The Liaison Officers of the respective Talukas shall take charge of the Control Room. The respectiveliaison Officers shall coordinate between the task group members working at disastersites and TFCR for mobilization of resources and dissemination of instructions received from TFCR/DEOC.

#### □ Facilities at Taluka Level Control Rooms (TLCR)

The following facilities are maintained inside TFCR:

□ Telephones

- $\Box$  Marker board (1)
- □ A copy each of Disaster Management Plan and Taluka Level Plan
- $\Box$  Other relevant documents, if any

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

DCR : District Collector or any person nominated

TFCR : Respective Task Force Leader

TLCR : Respective Taluka Liaison Officer

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

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

#### 3.5 Early Warning System (EWS) and Post Disaster Advisories:

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

#### **3.6 Information Dissemination:**

The dissemination of information 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 forcommunities to prepare for any eventuality. Due consideration has to be given to the pointsmentioned below before sending across the information.

>Information dissemination will be done to all the important stakeholders (as given below in the information dissemination format) at the Panchayat level in rural areas and Nagarpalika level in urban areas for early warning communication.

>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.

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 District Magistrate from official number shall be sent to the database of numbers identified for information dissemination with the help of Mobile service providers & Telephone department.

#### **3.7 Early Warning Action Plan :**

The availability of early warning system is a must before early warning messagecould be disseminate to the people till the last mile. Thus for every type of disaster there is an agency designated with the responsibility of keeping track of developments in respect of specific hazards and inform the designated authorities/agencies at the district level about the impending disaster. Nodal agencies for early warning of different natural hazards are:

Type of Action	Flood	Cyclone	Chemical and industrial accident	Tsunami
Existing EWS	Irrigation	IMD	Industrial	IMD
	department	↓ ↓	Association/industrie	$\mathbf{h}$
	/dam authority/	Collector	s	Collector
	IMD	↓ ↓	↓	$\bullet$
	$ $ $\bullet$	Mamlatdar/TDO	DCG	Mamlatdar/TD
	Collector	↓ ↓	↓ ↓	o↓
	$ $ $\bullet$	Villages	LCG	Villages
	Mamlatdar/TDO		↓ ↓	
	↓ ↓		Mamlatdar	
	Villages			
Responsible	Mamlatdar	Mamlatdar	Mamlatdar	Mamlatdar
Agency for	office/TDO	office/TDO	office/TDO	office/TDO
warning				
dissemination				
Trained personnel	Yes	Yes	No (Team to be	No (Team to be
and			formed and trained )	Formed and
operatorsavailable				trained)
(Y/N)				
Villages covered	All risk prone villa	ages		
Villages/habitat	Communities in re	mote locations ( fish	er folk, salt pan workers	s. maldharis etc)
not covered or		(	, <b>1</b>	, ,
difficult to access				
Measures required	Contact of commu	nities in remote loca	tions (fisherfolk, saltpar	n workers,
to improve	Maldharis etc)			, ,
timeliness and				
outreach (For				
example, voice				
enabled SMS)				
	aantan Adriaamu Aa			

#### During and Post Disaster Advisory Action Plan :

Type of Hazard	Flood	Cyclone	Earth quake	Drought	Chemical and industrial accidents	Tsunami
Responsible	Revenue	e &Panchyat of	ffices			
Agency						
Villages covered	All risk	All risk prone villages				
Villages/habitation not covered or difficult to access	communities in remote locations (fisher folk, salt pan workers, Maldharis etc)					
Measures required	Contact	of communit	ies in remote	locations ( fi	sher folk, salt	panworkers,
for outreach	Maldha	ris etc)				

#### 3.8 VIP involvement and protocol

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 rumours and chaos during the disaster. Visits by VIPs can lift the morale of those affected by the disaster as well as those who are involved in the response. Care should be taken that VIP visits do not interrupt rescue and life saving work. Security of VIPs will be additional responsibilityoflocal police and Special Forces. It would be desirable to restrict media coverage of such visits, in which case the police & taluka liaison officer will liaise with the government press officer to keep their number to minimum.

#### 3.1.9 Media Management

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

Devbhumi Dwarka Collectorate office 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 Taluka Control room (i.e. Mamlatdar office)

#### 3.10 Role of Emergency Organization :

The District Collector shall be the Overall Incident Command Officer of emergency operations as the District Devbhumi Dwarka Emergency Authority and S/he shall provide suitable instruction to the District Crisis Group.

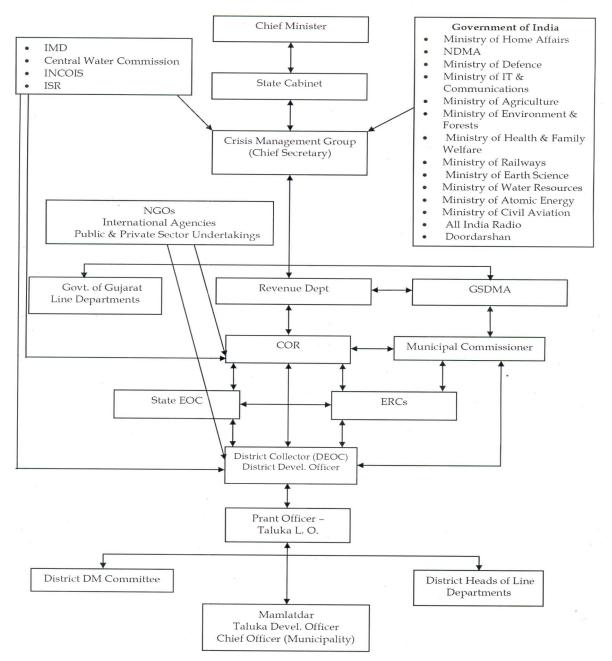
•The Collector shall seek help from Chief Secretary, Chairman, State Crisis Management Group, Gujarat State depending upon the state of emergency.

For this he shall be in touch with State Control Room, Gandhinagar or Chief Secretary, Gujarat State for progress of emergency.

#### **4** Institutional Arrangement:

The DM structure in the State is as per the Gujarat State Disaster Management Act -2003. The National Disaster Management Act -2005 resembles the State Act with only a few provisions which are not a part of the State Act but are there in the Central Act. Those provisions include designating a Vice Chairman to the SDMA, constitution of a State Executive Committee, establishment of a District Disaster Management Authority in each District and creation of a District Disaster Response & Mitigation Funds. The State has existing institutional arrangements in place for addressing the roles / responsibilities envisaged through the above provisions and hence does not find it compelling to implement the provisions afresh.





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

Sr.	Detail
No.	Detail
1	Collector
2	DDO
3	SP
4	
5	District supply officer
6	Exe. Engineer-R&B State
	Exe. Engineer-R&B Panchayat
7	Exe. Engineer-R&B State Irrigation
8	Superintending Engineer- PGVCL
9	District Home guard commandant
10	Superintendent G.G.Hospital
11	Port Officer-GMB
12	District forest Officer
13	Dy. Director-Information Department
14	Chief fire officer
15	Regional Officer-GPCB
16	District Agriculture Officer
17	SDM
18	Regional Transport officer
19	Divisional Controller-State transport
20	Dy. Controller –Civil Defense
21	District Education Officer
22	District Primary Education officer
23	NGO Member
24	Media Person

# B. DDMC: -District Disaster Management Committee:

### C. TDMC: - Taluka Disaster Management Committee:

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

Sr. No.	Detail
1	Dy.Collector/ Dy.D.D.O.
2	Mamlatdar
3	Taluka Development Officer
4	Dy. Executive Engineer- R& B (State)
5	Dy. Executive Engineer- R& B (Panchayat)
6	Dy. Executive Engineer – Irrigation
7	Dy. Executive Engineer –GEB
8	Dy.Executive Engineer – Water Supply
9	Junior Engineer-Telecom
10	Medical Officer (Mother PHC)
11	Police Inspector/ Police Sub Inspector
12	Taluka Home Guard Commandant
13	Taluka KelvaniNirikshak
14	Godown Manager- Civil Supply Corporation
15	Depot Manager – S.T.
16	Port Officer
17	Range Forest Officer (Head Quarter)
◆ <u>Non</u>	- Government Members
18	Present-Taluka Panchayat
19	M.P.
20	M.L.A.
21	Chairman- Social Justice Committee (Taluka Panchayat)
22	Woman Member - Taluka Panchayat
23	NGO Representative
	-

## **D. CDMC: -City Disaster Management Committee:**

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

Sr. No.	Department
1	Dy.Collector/SDM/Dy.DDO
2	Chief Officer
3	Chief fire officer
4	Mamlatdar
5	Town planning Head
6	Dy.Exe.Engineer-R&B state
7	Dy.Exe.Engineer-state-Irrigation
8	Dy.Exe.Engineer- PGVCL
9	Dy.Exe.Engineer-GWSSB
10	Junior Engineer Telecom
11	Medival Officer-C.H.C.
12	Medical Officer Municipality Health Centre
13	Head Transport committee
14	PI/PSI
15	Taluka HomeguardCommandent
16	Education Officer Municipality Education committee
17	Project Coordinator-UCD
18	Port officer
19	Range forest officer-Extension
	`Non Governmental Member
20	President Municipality
21	Member of Parliament
22	Member of Legislative assembly
23	Chairman- Standing Committee committee
24	Chairman-Water Supply committee
25	Chairman City planning committee
26	Chairman Construction Committee
27	Women Member of Municipality
28	Scheduled caste Member of municipality
29	Local N.G.O.
30	Other-Decide By CDMC

#### F. VDMC: - Village Disaster Management committee:

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

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

**Emergency Rescue Kit-EOC Set up and Facilities available** <u>As a part of preparedness following equipment were allocated in this district</u>

# EMMERGENCY RESCUE KIT AT TALUKA PLACES OF DEVBHUMI DWARKA DISTRICT:

	Name of Taluka Mamlatdar Office	Article each ECRs	includeed	
No.		Life Saving Jacket	200 ft. Ropes	100 ft.Ropes
1	Mamlatdar Office – Khambhalia	14	1	0
2	Mamlatdar Office – Dwarka	11	0	0
3	Mamlatdar Office – Kalyanpur	21	2	2
4	Mamlatdar Office – Bhanvad	14	4	1
	Total	60	7	3

#### **Fire and Emergency service available in the district**

Sr. No.	Municipality	Water Bouser	Fire	Inflatable	Fire	Remarks
			Tender	Light	Bullet	
1	Bhanvad	1	1	2	-	-
2	Khambhalia	1	2	2	1	1 Boat
3	Rawal	1		2	-	-
4	Dwarka	2	2	2	1	1 Boat
5	Okha	1	1	2	1	1 Boat
6	Salaya	1	1	2	1	-
	Total	7	7	12	4	3 Boat

#### 📕 And Health Sector as following

Sr. No.	Taluka	Name of CHCs	PHCs	SHC
1	Bhanvad	Bhanvad	5	35
2	Khambaliya	Salaya,	3	54
3	Kalyanpur	Kalyanpur, Raval	9	56
4	Dwarka	Dwarka	6	24
Tota	1	5	23	169

#### **Flood Survey Team**

Sr. No.	Taluka	Survey Team
1	Bhanvad	2
2	Khambaliya	4
3	Kalyanpur	7
4	Dwarka	2
	Total	15

#### > Forecasting and warning agencies:

#### 9.4 Warning or Occurrence of Disaster

On the receipt of warning of alert from any such agency which is competent to issue such a warning, or on the basis of reports from Divisional Commissioner/ District Collector of the occurrence of a disaster, all community preparedness measures including counter-disaster measures will be put into operation. The Chief Secretary/ Relief Commissioner will assume the role of the Chief of Operations for Disaster Management.

It is assumed that the district administration would be one of the key organizations for issuing warnings and alert. Additionally, the following agencies competent for issuing warning or alert are given below.

Sr. No	Hazard/Disaster	Agency
1	Earthquake	Indian Materiological
		Department
2	Flood	Indian Materiological
		Department,
		Irrigation Department
3	Cyclone	Indian Materiological
		Department
4	Epidemics	Public Health Department
5	Road Accidents	Police
6	Indistrial/Chemical Accidents	Industries, DISH, Police,
		Mutual aid Control Room
7	Fire	Fire Brigade, Police
8	Rail Accidents	Railways, Police
9	Air Accidents	Airlines, Police
10	Ammunition Depot-Fire	Army, Police

#### > The occurrence of the disaster will be communicated to :

The Governor, Chief Minister, Home Minister, Relief Minister and non-officials namely MPs and MLAs from the affected district. Chief Secretary, Principal Secretary, Disaster Management & Relief Department, Secretary, Disaster Management & Relief Department, Cabinet Secretary, Secretary, Home and Defense, Government of India. Secretary, Agriculture, and Joint Secretary, NDMA, Ministry of Agriculture, GOI Local Area Commander of the Army.

#### > The Occurrence of the Disaster would essentially bring into force the following :

- The Emergency Operations Centre will be put on full alert and expanded to include Branch arrangements, with responsibilities for specific tasks, depending on the nature of disaster and extent of its impact. The number of branches to be activated will be decided by the Chief of Operations.
- All Branch Officers and Nodal Officers will work under the overall supervision and administrative control of the Chief of Operations. All the decision taken in the EOC has to be approved by the Chief of Operations.
- ✤ Immediate access to the disaster site.
- ✤ Telephonic and VSAT, wireless communication and hotline contact with the Divisional Commissioner, and Collector/s of the affected district/s will be activated.

The EOC in its expanded from will continue to operate as long as the need for emergency relief and operations continue and the long-terms plans for rehabilitation are finalized for managing long-term rehabilitation programmers, such as construction of houses, restoration of infrastructure etc. the responsibilities will be that of respective line departments. This will enable EOC to attend to other disaster situation, if the need be.

Other line department EOC/Control Room should be activated for response against disaster.

- ✓ TEOC
- ✓ Nagar palika
- ✓ Irrrigation department
- ✓ PGVCL
- ✓ Water Supply
- ✓ Fishries
- ✓ Port
- ✓ GWSSB
- ✓ District Panchayat
- ✓ Police
- ✓ Home Guard
- ✓ Information Department
- ✓ Salinity Control
- ✓ Forest
- ✓ S.T



# Chapter 4 Preparedness, Prevention & Mitigation Measures



Personal preparedness focuses on preparing equipment and procedures to use when a disaster occurs, i.e., planning. Preparedness measures can take many forms including the construction of shelters, implementation of an emergency communication system, installation of warning devices, creation of back-up life-line services (e.g., power, water, sewage), and rehearsing evacuation plans. Proper Preparation can save time, money and lives. Planning for all different types of events to magnitudes in at utmost importance for disaster.Proper planning is instrumental during times of chaos to make situations less stressful. With proper planning duties will be pre-assigned to different agencies, so that when disaster does occur responders can jump right into action.

Two simple measures can help to prepare the individuals for either sitting out the event or evacuating, as necessary.

For evacuation, disaster supplies kit may be prepared and for sheltering purposes a stockpile of supplies may be created.



## > Prevention and Mitigation Plan:

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

Mitigation measures can be divided in two categories:

i) Structural measures: On site works, construction, and engineering works and

ii) Non-structural measures: Which include studies, research, regulations, policy changes and capacity building activities that support the structural measures.

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

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

#### > Mitigation Measures

Probable Mitigation Measures	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Desilting and deepening of water chanel (kaans)	Irrigation and Rural Development, GLDC	Departmental program & MGNREGS,	2014-15
Construction of embankments/ protection wall	Rural Development, Forest	Departmental program & MGNREGS, watershed,	2014-15
Repair of embankments/ protection wall	Rural Development, R & B	Departmental program & MGNREGS	Regularly
Repair and maintenance of Flood Channels, canals, natural drainage, storm water lines	Irrigation department	Departmental or special plan	2014-15
Construction of Safe Shelters (new construction through	Collectorate and R&B	NCRMP	Regularly

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

Probable Mitigation Measures	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Indira Awas, Sardar Awas and Ambedkar Awas)			
Protection wall and mangroves and vegetative cover against sea level intrusion and land erosion	Forest and Rural development department	Department schemes, MGNREGS, IWMP	2014-15
Desilting of water bodies like river and ponds	Irrigation DDO Rural Development	MGNREGA and Land Development	2014-15

# > Non-Structural Mitigation Measures for Flood

Non-Structural measures	Implementing Departments	Convergence with agency/program	Time Frame
Safety audit of existing and proposed housing stock in risk prone areas	DDO, Rural development	IAY, Sardar Awaas and other rural housing schemes	Regularly
Promotion of Traditional, local and innovative practices like bamboo/plastic bottle rafts etc	DDMC, SHGs and youth groups, NGOs	Training and capacity building plan for disaster management	2014-15
Capacity building of volunteers and technicians	DDMC	Training and capacity building plan for disaster management	2014-15
Awareness generation on health and safety of livestock	veterinary officer, rural development	Departmental Scheme	Regularly

# > Structural Mitigation Measures for Cyclone

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/Program	Time Frame
Plantations (mangroves) and Shelter Belt in the Coastal Area	Cyclone prone 41 villages	Forest department, Port Authority, DIC, TDO, Rural development department	Departmental schemes, MGNREGS	2014-15
Identification and repair/ retrofitting of houses and buildings unsafe for cyclone		R & B (Zila Panchayat)	Departmental Scheme	Regularly

# > Non-Structural Mitigation Measures for Cyclone :

Non-Structural measures	Location/ coverage area	Implementing Departments	Convergence with agency/ program	Time Frame
Strengthening of Early warning mechanisms	Cyclone prone 41 villages	DDMC		Regularly
Training and awareness generation for use of safety jackets/rings/buoys/rope etc for fisher folks		DDMC, TDMC, VDMC	TDMP	2014-15
Enforcing strict compliance to coastal regulation zone		Department of Environment & Forest		2014-15
Registration of fishing boats		Fisheries Department		2014-15
Regulate and issue orders for poor quality hoardings/buildings or any other objects		R & B Department		Regular Intervation

# > Structural Mitigation Measures for Earthquake:

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Retrofitting (if required) of public utility buildings like offices, schools/ banks/ markets etc	Taluka	R & B (State and Panchayat), DDO, Rural department		-
Retrofitting of unsafe rural houses		DDMC	Rural housing schemes and departmental programs	-
Identifying and safely dismantling unsafe structures		R & B department		-

## > Non Structural Mitigation Measures for Earthquake

Non-Structural measures	Location/ coverage area	Implementing Departments	Convergence with agency/progr am	Time Frame
Capacity building of architects, engineers and masons on earthquake resistant features	EQ prone 3 Taluka under zone 4	R & B (State and Panchayat), DDMC		Regular Interval
Registration of trained and certified mason		R & B (State and Panchayat), DDMC		Regular Interval
Strict enforcement of guideline pertaining to seismic safety for government rural housing		DDO	Rural housing schemes	Regular Interval
Mock-drills for Schools, Hospitals and , Public Buildings and trainings for mason, engineers and architects		DDMC, Schools	DDMC	Regular Interval

# > Structural Mitigation Measures for Drought

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program	Time Frame	
Development of Pasture land in common property, seed farms and trust land	Drought prone villages	Forest, Rural Development, Panchayat	Departmental Scheme	2014-15	

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program	Time Frame
Rain Water Harvesting storage tanks at household level and public buildings		GWSSB, (WASMO), Rural Development,	MGNREGS, Swajaldhara	2014-15
Structures for water harvesting and recharging like wells, ponds, checkdams, farm ponds, etc	1	DDO, Rural development, irrigation department	MGNREGS ,Watershed program, departmental schemes	2014-15

# > Non-Structural Mitigation Measures for Drought

Non-Structural measures	Locations/ coverage area	Implementi ng Departmen ts	Convergenc e with agency/ program	Time Frame
Listing/developing shelf of work for drought proofing/scarcity works including Identification of potential sites of water bodies	Drought prone villages	Rural Developme nt	MGNREG S	2013-14
Farmer education to practice drought resistant crops and efficient water use		Agriculture & horticulture department	Departme ntal schemes	2013-14
Set up control mechanism for regulated water use (ponds, small dams, check dams) on the early unset.		Panchayats		Regularly

> Industrial (Chemical) Structural Measures (in coordination with LCG, DCG district and state level authorities):

Structural measures	Activities	Implementin g Department s	Convergence with agency/ program	Time Frame
Monitoring impact of industries on NRM (land, water and air)	Data collection of impact on natural resources (ground water monitoring wells, air quality test, etc)	DDMC, DCG GPCB		Regular interval
Safety assessment	Carry out structural safety inspection/audit	DISH, DCG (		regular interval

	Asst.Director . Industrial safety and health)	
Any Other		 

# Industrial (Chemical) Non-Structural Measures (in coordination with LCG, DCG, district and state level authorities):

Non tructural Measures	Activities	Implementing Departments	Converge nce Agencies	Time Frame
Planning	Prepare an onsite and offsite emergency plan	Occupier, DISH		regular interval
	Conduct mock drills as per the regulations	DISH and LCG		regular interval
	Update the plan as per the requirement	Occupier, DISH		regular interval
	Monitor similar activities in all the factories/ industries	DISH and LCG		regular interval
Capacity Building	Develop IEC material for Publication & Distribution	TDMC		Periodiccal ly
	Awareness generation to general public and medical professional residing near MAH factories for immediate steps	TDMC, LCG		Periodiccal ly
	Organize training programmes, seminars and workshops (e.g. for drivers of HAZMAT transport, line departments officers, Mamlatdar etc)	TDMC, LCG		Periodiccal ly
	List of experts/ resource person/ subject specialist (District emergency Off site plan)	TDMC, LCG		Periodiccal ly
	Encourage disaster insurance	Labour& employment department		Periodiccal ly
Medical	Listing of hazardous chemicals and gases.	Occupier, LCG, DISH, THO		
	Keep check on availability and validity of relevant antidotes for chemical hazards prevalent in Taluka	Occupier, LCG, DISH, THO		
	Workshops and trainings for medical professionals to handle potential chemical and	THO, Occupier, LCG, DISH		Regularly

Non tructural Measures	Activities	Implementing Departments	Converge nce Agencies	Time Frame
	industrial hazard			
Compliance	Environmental Protection Act, Factory Act, Mutual Aid SOPs	DISH , GPCB		Regular interval
	Any other			

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

#### > Structural Mitigation Measures for Tsunami:

Structural measures	Identified Locations and Villages	Implementing Departments	Convergence with Scheme/ Program
Constructing shelter belts in coastal areas	31 villages	Rural Development, GSDMA	Departmental programs, MGNREGS, NCRMP

#### > Non-Structural Mitigation Measures for Tsunami:

Non-Structural measures	Locations/ coverage area	Implementing Departments	Convergence with agency/program
Provisions of Coastal Regulation Zone to be effectively implemented		Department of Environment &	as per norms
Capacity building of task forces in coastal villages		TDMC	Periodically

#### List Of OngoingProject

• DRM :

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

#### • NCRMP:

Gujarat being prone to cyclones, it is the topmost priority of the State Government to reduce the effect of cyclone and minimize the loss to property and lives in the coastal regions of the State through creation of suitable infrastructure. Gujarat has therefore been included in the Natinal Cyclone Risk Mitigation (NCRMP) initiated by the National Disaster Management Authority and funded by the World Bank.

Under NCRMP Project 31 Multi purpose Cyclone shelters will be constructed in the villages of three blocks namely Kalyanpur, Dwarka and Khambhaliya.

#### National School Safety Programme:

Gujarat School Safety Initiative (GSSI) – I & II. The pilot programs were designed for promoting a culture of disaster safety in schools and reduce risk through structural and non-structural measures in the schools.

#### Gujarat School Safety Initiative – I

One hundred and fifty schools were selected from the cities of Ahmadabad (100), Jamnagar (15) and Vadodara (35) cities on basis of the school's disaster vulnerability, number of students and willingness to implement the suggested measures. The following activities were conducted in each of the project schools:

School management was first approached and a presentation was made about why and how the concerned school can work on school safety

A School Safety Committee was formed with the help of school administration

A three dayprogramme on orientation of the school disaster management committee on school disaster management planning

Orientation about basic disaster awareness to coordinators and members of the school task forces

Detail training of the task force members on task force skills such as activities to be done for search and rescue, first aid, etc

Imparting lessons on emergency response in each classroom

Conducting mock drill and holding a debriefing meeting to evaluate the mock drill

Gujarat School Safety Initiative – I is completed in all the 152 schools, covering training of 1,00,000 students (primary and secondary standards) and 1,500 teachers in the basics of disaster management. School based DM plans were prepared for all the 152 schools. Earthquake drills were conducted in 80 schools attended by around 40,000 students and 640 teachers. As part of the long-term sustainability of the program, an assessment of non-structural mitigation measures was completed and school safety clubs have been opened in all the project schools. A short play on disaster awareness was also organized in 68 schools.

#### **Gujarat School Safety Initiative - II**

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

#### **Gujarat School Safety Week Programme-2017**

For the year 2017 the programme is expanded to all government primary, secondary and higher secondary schools are covered. The training to celebrate the school safety week in school was given to more than 1000 teachers from all schools of the district. School disaster management plan in all schools of the district has been prepared in April-2017.

#### Aapda Mitra

Community service has always been a part and parcel of culture of Gujarat and community is always the first responder during any disaster. Training the community to efficient efficiency respond during a disaster, pprofessionalize the response and reduce the impact of a disaster.

GSDMA undertakes various capacity building activities to mitigate the impact of disaster. As part of such capacity building measures, GSDMA is implementing the project Aapdamitra on training community volunteers in conducting basic search and rescue operations and to assist the district administration for effective disaster response.

Aapdamitra is a key initiative which involves training of community volunteers in search and rescue operation, first aid, flood rescue. These volunteers will also support the district administration in responding to the disaster In first phase of the prigram, GSDMA trained 1671 Aapdamitras from all the district of Gujarat. In District Devbhumi Dwarka we have 24 aapdamitravolunteers(6 Volunteer per block.)

#### Structural: Structural Mitigation Measures

**a.** Retrofitting of Buildings: In Jamnagar region maximum buildings are non-engineered or kuchcha, having lower seismic resistant capacity. There are mainly four major types of constructions:

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

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

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

- **b.** Construction control: The best protection against earthquake is a strong built environment. The quality of buildings, measured by their seismic resistance is of fundamental importance. Minimum design and construction standards for earthquake and flood resistant structures legislated nationally, are an important step in establishing future minimum levels of protection for important structures. India now has building codes and regulations for seismic and flood resistant design. These codes are in constant review by the experts. The below mentioned building codes are generally practiced in India:
- IS: 1893, 1984 Criteria for earthquake resistance design of structures
- IS: 13828, 1993 Guidelines for improving low strength earthquake resistant masonry buildings
- IS: 13920, 1993 Ductile detailing of reinforced concrete structures subjected to seismic forces- code of practice
- IS: 13827, 1993 Guidelines for improving earthquake resistance of earthen buildings
- IS: 13935, 1993 Guidelines for repairing & seismic strengthening of buildings

In Hoshangabad, building by-laws and the Seismic Code must be enforced by the municipal

and panchayat bodies.

#### NON STRUCTURAL:

Land use planning: Damage to a building depends primarily upon the soil conditions and topology of the area. Jamnagar district comes under moderate risk zone in terms of earthquake (Zone 3) and flood disaster. But a part of it is also recommended by DMI to be included under zone 4 of earthquake as it lies on a cross fault Junagadh region.

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

#### **Mitigation strategies**

The mitigation strategy for Jamnagar district involves the following elements:

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

NREGS: The MGNREGA achieves twin objectives of rural development and employment. The MGNREGA stipulates that works must be targeted towards a set of specific rural development activities such as: water conservation and harvesting, a forestation, rural connectivity, flood control and protection such as construction and repair of embankments, etc. Digging of new tanks/ponds, percolation tanks and construction of small check dams are also given importance. The employers are given work such as land leveling, tree plantation, etc. It has a very broad spectrum which can be used for the benefit of the population that are vulnerable and are likely to be affected.

- 1. Construction of Tube wells can be done.
- 2. Building of Roads for places which are not connected to other parts of the district.
- 3. Leveling of low lying areas during flood to a higher level to prevent those areas.
- 4. Construction of check dams and embankments and drainage systems to prevent flooding of those areas.

#### IAY:

This scheme can be used for the rehabilitation of the affected villages by making constructions for the affected population.

#### Sarva ShikshaAbhiyan:

This scheme can be used for creating awareness about mitigation and preparedness about accidents that are in control of man, in collaboration with educational institutions to the people so that they can make use of it when required.

#### NRHM:

This scheme can be used to facilitate for voluntary first aid during disaster and training the local population to deal with minor injuries so that they do not have to wait for professional help to help any individual. Training of nurses can be carried out as a preparatory plan.

#### Mukhyamantri Avas yojana:

The scheme can facilitate the rehabilitation programs among the affected villages or the ones that are likely to be affected and lie in the vulnerable zone. They can come up with collaboration with the construction norms.

#### Jal- Abhishekh Abhiyan:

The aim of the scheme is to provide safe drinking water so it can be used to provide for clean drinking water during response and relief period .It can work in collaboration with sanitation systems during relief period and help in avoiding any kind of future epidemics in the affected region.

#### SamagraSwachta Abhiyan:

This scheme can also be used for providing sanitation in the relief camps to the affected population. Since relief camps are the places where lot of diseases and epidemics may break out, proper defecation and sanitation should be ensured by this scheme.

#### MadhyanahBhojanKaryakram:

The scheme can provide for food supply during emergency situations in the affected areas or even in the relief camps.

#### JNNURM

Localization and Project Uday Institutionalization with replication

#### • Risk Management Funding

Short term provisions are expected to cover the immediate loss, incurred due to disasters. Whereas long term provisions include the set up of fire stations, watershed management, planting trees along the river etc.

Insurance schemes are important source of funds for restoration of private business enterprises. The Collector will coordinate with Insurance Companies to speed up settlement of insurance claims. It will help in restoration of private business enterprises. He will also coordinate with commercial banks for ensuring smooth flow of financial assistance from commercial banks for restoration of private business enterprises.

Agriculture department shall provide seeds and the required finance as loans through local banks for the resumption of agriculture activities. The district administration shall elicit the support funding of agencies like Care, CRS etc. for the resumption of agriculture and livelihood activities.

Revenue/Book Circulars contains standing instructions of the Government for distribution of ex-gratia payments to poor families, who suffer from disasters to initiate their recovery process. This assistance will be provided very promptly to the poor families by the functionaries of the Revenue Department.

In order to achieve the objectives, rollout workshop was held for sensitization of education department officials, district level administrators (District Education Officers & District Primary Education Officers), teachers and students. Eighty six master trainers were trained in 4 regional workshops, 593 teachers were trained throughout the State in 3 day workshops. Twenty five model schools were selected where 25,543 students and 861 teachers have been

trained. One model school developed for each district. Methodology for School Safety program has been developed and tested, including templates for developing a School Disaster Management Plan. Training and awareness material has been developed. Also, draft text books for class VII, VIII, IX were prepared incorporating the basics of Disaster Management. Over and above the softer issues highlighted above, GSDMA has provided all the existing Government schools in Gujarat with ISI marked portable Water-CO2 type of Fire Extinguisher (31746 Government schools covered of which 31336 are primary and 410 are secondary and higher secondary schools). For the necessary guidance/instruction for use of fire extinguishers, GSDMA has prepared an 18 minute short education film in Gujarati on fire safety for schools. This was shown to all government primary schools through the satellite network.

# Chapter: 5 Preparedness measure

#### Chapter:5 Preparedness Measures

#### \* Identification of Stake holder involve in disaster management

#### 1. Search & rescue

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

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

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

#### • Search & rescue Team

#### S.No. designation of trained S&R Team member

The Search & Rescue team is formed as and when required and the members & equipments are taken according to the nature of the disaster (and also on their availability).

- Police Officers (2 or more)
- Home guards (2 or more)
- Swimmers (In case of flood)
- A construction engineer (From P.W.D.)
- Driver (For Every vehicle)
- Any person with the prior experience of the disaster (From Home Guard/Police Dept.)
- A doctor or nurse or at least a person having first aid training
- A Class IV Officer (Health Dept.)

#### 2. Early Warning:

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

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

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

#### • Evacuation:

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

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

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

• Identification of appropriate shelter areas based on safety, availability of facilities, capacity and number of victims.

- Approaches to the shelter location in light of disruption due to hazard impact and traffic blockades.
- Temporary accommodation
- Provision of essential facilities like drinking water, food, clothing, communication, medical, electrical and feeding arrangements, etc.
- Security
- Financial and immediate assistance
- First-aid and counseling

#### Types of evacuation

For 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.

#### Principles of Evacuation Planning

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

#### Stages of Evacuation

There are five stages of evacuation as under:

- Decision of authorities to evacuate victims
- Issue of warning and awareness

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

#### Decision to Evacuate

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

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

#### Basic consideration for Evacuation

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

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

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

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

#### Evacuation Warning

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

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

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

• Advise to the pout further warnings to be issued, if any

#### Damage & Loss Assessment

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

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

#### **Training need analysis -Education and Capacity Building and arrangement** <u>for training:-</u>

Although education about disaster mitigation and prevention and capacity building would seem to be ideal district-level efforts, the lead for both probably best rests with the state level, with districts having a facilitating role. The issue is that if 25 districts independently embark on education and capacity building it will be hard to coordinate and standardize the results across districts. A significant consequence would an inequality in capacities across districts, and thus uneven mitigation and prevention results.<sup>5</sup> How to fund these activities remains open. Options range from GSDMA grants to set-asides in budget allocations. Project Impact in the US and similar programs in Australia and Canada are good models for the former approach.

Task	Activity		Responsibility
Training	1. Training to civil defence		Home Dept.
	personal in various aspect of		
	disaster management		District Home Guards
	2. Training to home Guards		Commandant
	personal in various aspect of		
	disaster manage		Dy.Controller Civil Defence
	search and resc	ue	
3. Training to NCC and NSS personal in various		□ Education Dep.	
aspect of disaster management			
		Collector Offic	be a second s
4. Training to educational and training institutions		DDMC	
personal in various aspect of disaster			
management			
management			

#### > Training, capacity building and other proactive measures Training:

5. Training to civil society, CBOs and corporate	DDMC
entities in various aspect of disaster management	DDMC
6. Training to fire and emergency service	Fire Dept
personal in various aspect of disaster management	DDMC
7. Training to police and traffic personal in various	DDMC
aspect of disaster management	Police Dept.
8. Training to media in various aspect of disaster	DDMC
management	Information Dept
9. Training to govt. officials in various aspect of disaster management	DDMC
10. Training to engineers, architects, structural	DDMC
engineers, builders and masons in various aspect	
of disaster management	

#### > Awareness

Task	Activity	Responsibility
Information education And	1. Advertisement, hording,	Information Dept.
communication	booklets, leaflets, banners,	Education Dept.
	shake-table, demonstration, folk	All line dept.
	dancing and music, jokes, street	Dist. Collectors
	play, exhibition, TV Spot, radio	Municipal Commissioners
	spot, audio-visual and	Other Dist. Authorities
	documentary, school campaign,	
	- Planning and Design -	
	Execution and Dissemination	

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

#### • Command:

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

- Public Information Officer The single media point of contact
- Safety Officer Responsible for identifying safety issues and fixing them, he has the authority to halt an operation if needed.
- Liaison Officer Point of contact for agency to agency issues.

- 1. Operations: this section carries out the response activities described in the IAP along with coordinating and managing the activities taken the responding agencies and officials that are directed at reducing the immediate hazard, protecting lives and properties. This section manages the tactical fieldwork and assigns most of the resources used to respond to the incident. Within operations, separate sections are established to perform different functions, such as emergency services, law enforcement, public works...etc.
- 2. Planning: this section supports the disaster management effort by collecting, evaluating, disseminating, and uses information about the development of the emergency and status of all available resources. This section creates the action plan, often called "Incident Action Plan" (IAP), which shall guide emergency operations/response by objectives. Followings are the six primary activities performed by the planning section, including,
  - Collecting, evaluating, and displaying incident intelligence and information
  - Preparing and documenting IAPs
  - Conducting long-range and contingency planning
  - Developing plans for demobilization
  - Maintaining incident documentation
  - Tracking resources documentation
- 3. Logistics: the process of response includes personnel, equipments, vehicles, facilities...etc, all of which will depend upon the acquisition, transport, and distribution of resources, the provision of food and water, and proper medical attention. The Logistic section is responsible for the mentioned process.
- 4. Finance And Administration: this section is responsible for tracking all costs associated with the response and beginning the process for reimbursement. The finance and administration section becomes very important when the national government provides emergency funds in place that guarantee local and regional response agencies that their activities, supply use, and expenditures will be covered.

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

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

- Field command
- Field information collection
- Inter agency coordination at field level
- Management of field operations, planning, logistics, finance and administration
- Awareness Generation: -

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

#### > NGO and Other stake Holder coordination -

For arrangement of water supply, temporary sanitation facilities, search and Rescue activity, Relief distribution can be sought with help of special agencies, NGOs and CBOs.

#### Seasonal preparedness: -

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

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

#### Identifying Risks

A prudent first step is to list geographic and climatic hazards and other risks that building and collections. couldieopardize the These might include geographicalsusceptibility to hurricanes, tornadoes, flash flooding, earthquakes, or forest fires, and even the possibility of unusual hazards such as volcanic eruptions. Consider man-made disasters such as power outages, sprinkler discharges, fuel or water supply failures, chemical spills, arson, bomb threats, or other such problems. Take note of the environmental risks that surround you. Chemical industries, shipping routes for hazardous materials, and adjacent construction projects all expose you to damage. Any event that is a real possibility should be covered under your Emergency Preparedness Plan. It is also important to determine the vulnerability of the objects within the collections. What types of materials are included? Are they easily damaged? Are they particularly susceptible to certain types of damage such as moisture, fire, breakage, and the like? How and where are collections stored? Are they protected by boxes or other enclosures? Is shelving anchored to structural elements of the building? Is it stable? Are any artifacts stored directly on the floor where they could be damaged by leaks or flooding? All items should be raised at least four inches from the floor on waterproof shelves or pallets. Are materials stored under or near water sources? Analyze your security and housekeeping procedures. Do they expose collections to the dangers of theft, vandalism, or insect infestationConvulnerabilities.

Are yed? Is there a complete and accurate inventory? Is a duplicate of the inventory located at another site? Although there may be a wide range of disaster scenarios, the most common are water, fire, physical or chemical damage, or some combination of these. The specific procedures of a disaster plan focus on the prevention and mitigation of these types of damage.

#### Decreasing Risks

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

#### Identifying Resources

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

Other valuable sources of assistance are local, state, or federal government agencies.

#### Community Warning System

#### SDRN/IDRN data updation: -

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

#### India Disaster Resource Network (IDRN) : -

IDRN, a web based information system, is a platform for managing the inventory of equipments, skilled human resources and critical supplies for emergency response. The primary focus is to enable the decision makers to find answers on availability of equipments and human resources required to combat any emergency situation. This database will also enable them to assess the level of preparedness for specific vulnerabilities. Total 226 technical items listed in the resource inventory. It is a nationwide district level resource database. Eachuser of all districts of the state has been given unique username and password through which they can perform data entry, data updation on IDRN for resources available in their district. The IDRN network has functionality of generating multiple query options based on the specific equipment, skilled human resources and critical supplies with their location and contact details.

#### **DRM Programme: -**

#### i) GSDMA DRM activities:

Disaster Risk Management Programme (DRM) has taken strong roots at variouslevels 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 taskof implementing the programme. Representation for these committees are drawn from elected representatives, officials of line departments, professional bodies, Civil Defence, NGO and CBO representatives and local opinion leaders. Major Activities are being carried out under DRM program are Plan Development at Various Levels, Emergency Resources Database maintain through SDRN / IDRN, CapacityBuilding through Trainings & Resource Mobilization, Disaster Awareness through Orientations, Campaigning, Media Management and IEC distribution. Coordinate District Administration for all Disaster Management Activities with expertise knowledge, logistics and fund allocation.

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

**For the Prepared level specific plan following process will followed.** 

#### **<u>District Level Process</u>**

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

#### Taluka level process

- Orientation cum sensitize Taluka level officers and PRI members.
- Formation of Taluka Disaster Management Committee.

- Capacity building of government officials
- Development of the TDMP
- Use of IEC material and media sources for create awareness at taluka level
- TDMP update on SDRN

#### <u>City-ULB level process</u>

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

#### 4 Village Level Process

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

Devbhumi Dwarka district had taken the preparedness measures from village level to District level. at the villages village Task forces was formed and trained about First aid and Health, Search and Rescue and Disaster Management.Some volunteers were also trained in Disaster Management and plans like VDMP were prepared and updated. officers reviewed the disaster preparedness of the villages and interacted with the Village level Disaster Management team members, In the pre-monsoon meeting all departments, and stake holders were asked to get prepared departmental plan.SOP's were also discussed with them so that quick response can be assured and any kind of risk due to water lodging, flood, heavy rainfall and dam overflow can be reduced.Prevention and Mitigation and preparedness actions are to be taken before a disaster to reduce the likelihood of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction. Base on the interim assessment of risk and vulnerabilities, certain majors for mitigation, preparedness and prevention has been taken with respect to Devbhumi Dwarka District. These areThe proposed state-level disaster-planning format sets out priorities for mitigation, prevention and preparedness activities. The underlying concept is to incorporate these three types of activities into normal (developmental) policies, procedures and undertakings and targeting specific areas for concerted effort.

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

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

A set of possible district-level approaches to mitigation, prevention and preparedness are summarized below based on these realities. These approaches need to be reviewed at the district and state level and. to the degree possible, harmonized vertically within the government structure and across public and private sector organizations and districts. At the same time, the focus of efforts can vary between and even within districts depending on their particular hazards, risks and vulnerabilities<sup>3</sup>.

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

#### **4** District-level Approaches to Mitigation, Prevention and Preparedness

#### **4** Preventive measure (for all disasters)

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 district can avail itself of fourmechanisms (singularly or together) to reduce risk and vulnerability;

1. Long term planning for mitigation, preparedness and prevention investments in the district,

2. Enforcement of regulations, particularly Structural-building and safety codes and land use plans,

3. Review and evaluation of development plans and activities to identify ways to reduce risks and vulnerability, and,

4. Capacity building, including warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability.

The Collector, assisted by the District Development Officer, is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above. Base on the interim assessment of risk and vulnerabilities, the Devbhumi Dwarka District will focus on the following areas for mitigation, preparedness and prevention;

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

#### **Witigation measure (for all disasters)**

1) Town and Country Planning Acts and their related provisions:

The Department of Disaster Management, being a member of all regulatory bodies willcoordinate with the Town & Country Planning Board and constitute a committee of experts toevaluate the provisions of the State Town & Country Planning Act in place. The Committee willconsist of experts from the fields of disaster management, town and country planning and legalexperts and will be chaired by the State Relief Commissioner.

#### **Zoning Regulations and their related provisions:**

The State Urban Development Department, in consultation with the Department of Disaster Management will constitute a committee of experts with members from the Institute of Town Planners, town development, State Pollution Control Board, Chairpersons of major DevelopmentAuthorities/Notified Area Authorities, eminent faculty from planning, architecture and civilengineering departments of engineering colleges, eminent resource persons and such other expertsnominated from time to time to study the existing zoning regulations and suggest necessaryamendments to incorporate components for vulnerability reduction. The State Chief TownPlanner will be the Convener of the Committee.

#### **Weight Service and Service 4 Development Control regulations:**

The same committee of experts constituted to evaluate the zoning regulations will also evaluate the development control regulations and suggest measures to incorporate the disastermanagement concerns into them.

#### **Government-sponsored programmes and schemes:**

The State Planning Department will prepare a report on the government sponsored programmes and schemes running in the State and how far each programme/scheme addresses the issue of disaster management and submit to the government. The Disaster Management Group which is constituted under the chairmanship of the Chief Secretary with concern Secretaries of the Departments of Disaster Management, Urban Development, Rural Development, Health, Home, Finance, Science & Technology, Transport, and Agriculture to evaluate and suggest disaster mitigation measures to be incorporated.

#### Community Warning system-Early Warning System (EWS)

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

#### > During and Post Disaster Advisory Action Plan:

Type of Hazard	Flood	Cyclone	Earthquake	Drought	Chemical and industrial accidents	Tsunami
Responsible			DDMC,Mamlat	dar office &	TDO	
Agency						
Villages covered			All risk pr	one villages	3	
Villages/habitation						
not covered or	communitie	es in remote	e locations ( fisł	her folk, salt	t pan workers, Malo	dharisetc)
difficult to access						
Measures required	Contact o	of communit	ties in remote lo	ocations ( fis	sher folk, salt pan v	vorkers,
for outreach			Maldh	narisetc)		

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

# Chapter: 6 Response Measures-Multi Hazard

#### Chapter: 6 Response Measures-Multi Hazard

Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until the disaster is declared to be over. Since response is conducted during periods of high stress in a highly time-constrained environment and with limited information and recourses (in majority of the cases), it is by far, the most complex of four functions of disaster management. Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear perception/vision about hazards, its consequences and actions that need to be taken in the event of it. The Revenue Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs. The District EOC, ERCs and other control rooms at the District level should be activated with full strength.

#### Alert Mechanism – Early Warning :

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

<u>Disaster</u>	Agencies
Earthquakes	IMD/ISR
Floods	Meteorological Department, Irrigation
TSuanmis	IMD/ISR/INCOIS
Cyclones	IMD
Epidemics	Public Health Department
Road Accidents	Police
Industrial and Chemical Accidents	DISH, Police, Collector
Drought	Agriculture
Fire	Fire Brigade, Police, Collector
Rail Accident	Railways, Police, Collector
Air Accident	Police, Collector, Airlines
Ammunition Depot-Fire	Army, Police, Collector.

#### > District CMG meeting

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

#### Activation of EOC

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

The EOC is a nodal point for the overall coordination and control of relief work. In case of an L1 Disaster the The Local Control room will be activated, in case of an L2 disaster DEOC will be activated along inform with the SEOC.

#### Role & Responsibilities of each department.

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

1. Designate a Nodal officer for emergency response and will act as the contact person for that department/agency.

2. Ensure establishment of fail-safe two-way communication with the state, district and otheremergency control rooms and within the organization.

3. Emphasis on communication systems used regularly during LO with more focus on the use of VHFs with automatic repeaters, mobile phones with publicized numbers, VHF radio sets etc. It should be remembered that SAT phones fail during prolonged emergencies and electric failure if the phones cannot be re-charged.

4. Work under the overall supervision of the IC / the District Collectors during emergencies.

### **4** Other Departmental plan incorporated in DMRP

#### 1. Agriculture

#### 0.1 **Prevention Activities:**

1. Aawareness generation regarding various plant diseases, alternate cropping practices in Disaster-prone areas, Crop Insurance, provision of credit facilities, proper storage of seeds, etc.

2. Hazard area mapping (identification of areas endemic to pest infections, drought, flood, and other hazards).

3. Develop database village-wise, crop-wise, irrigation source wise, insurance details, credit etc.

4. Regular monitoring at block level; the distribution and variation in rainfall. Prepare the farmers and department officers to adopt contingency measures and take up appropriatecourse of action corresponding to the different emerging conditions.

5. Detail response manuals to be drawn up for advising the farmers for different types of disasters, e.g., rain failure in July or September & development of a dynamic response plantaking into account weekly rainfall patterns.

6. Develop IEC materials to advise the farming communities on cropping practices and precautionary measures to be undertaken during various disasters.

7 Improving irrigation facilities, watershed management, soil conservation and other soil, water and fertility management

8. Measures keeping in mind the local agro climatic conditions and the proneness of the area to specific hazards.

9. Promotion of alternative crop species and cropping patterns keeping in mind the vulnerability of areas to specific hazards.

10. Surveillance for pests and crop diseases and encourage early reporting.

11. Encourage promotion of agro service outlets/enterprise for common facilities, seed and agro input store and crop insurance.

#### 0.2 Preparedness Activities before disaster seasons

1. Review and update precautionary measures and procedures, especially ascertain that adequate stock of seeds and other agro inputs are available in areas prone to natural calamities.

2. Review the proper functioning of rain gauge stations, have stock for immediate replacement of broken / non-functioning gadgets/equipments, record on a daily basis rainfall data, evaluate the variation from the average rainfall and match it with the rainfall needs of existing crops to ensure early prediction of droughts.

#### 0.3 **Response Activities:**

- Management of control activities following crop damage, pest infestation and crop disease to minimize losses.
- Collection, laboratory testing and analysis of viruses to ensure their control and eradication.
- Pre-positioning of seeds and other agro inputs in strategic points so that stocks are readily available to replace damage caused by natural calamities.
- Rapid assessment of damage to soil, crop, plantation, irrigation systems, drainage, embankment, other water bodies and storage facilities and the requirements to salvage, replant, or to compensate and report the same for ensuring early supply of seeds and other agro inputs necessary for re-initiating agricultural activities where crops have been damaged.
- Establishment of public information centers with appropriate and modern means of communication, to assist farmers in providing information regarding insurance, compensation, repair of agroequipments and restarting of agricultural activities at the earliest.

#### 0.4 Recovery Activities

1. Arrange for early payment of compensation and crop insurance dues.

2. Facilitate provision of seeds and other agro inputs.

3. Promotion of drought and flood tolerant seed varieties.

4. Review with the community, the identified vulnerabilities and risks for crops, specific species, areas, which are vulnerable to repetitive floods, droughts, other natural hazards, water logging, increase in salinity, pest attacks etc. and draw up alternative cropping plans to minimize impacts to various risks.

5. Facilitate sanctioning of soft loans for farm implements.

- 6. Establishment of a larger network of soil and water testing laboratories.
- 7. Establishment of pests and disease monitoring system.

8. Training in alternative cropping techniques, mixed cropping and other agricultural practiceswhich will minimize crop losses during future disasters.

#### 1. Health Department

#### 1.1. Disaster Events

- Prevention Activities:
- Assess preparedness levels at State, District and Block levels.
- Identification of areas endemic to epidemics and natural disasters.
- Identification of appropriate locations for testing laboratories.
- Listing and networking with private health facilities.
- Developing a network of volunteers for blood donation with blood grouping data.
- Strengthening of disease surveillance, ensuring regular reporting from the field level workers (ANMs/LHV etc) and its compilation and analysis at the PHC and District levels, on a weekly basis (daily basis in case of an epidemic or during natural disasters), forwarding the same to the State Disease Surveillance Cell and monthly feedback from the State to the district and from the District to the PHC.
- Formation of adequate number of mobile units with trained personnel, testing facilities, communication systems and emergency treatment facilities.
- Identification of locations in probable disaster sites for emergency operation camps.
- Awareness generation about various infectious diseases and their prevention.
- Training and IEC activities
- Training of field personnel, Traditional Birth Attendants, community leaders, volunteers, NGOs and CBOs in first aid, measures to be taken to control outbreak of epidemics duringand after a disaster, etc.
- Arrangement of standby generators for every hospitals.
- Listing of vehicles, repair of departmental vehicles that will be requisitioned duringemergencies for transport of injured.

#### \* Preparedness Activities before Disaster Seasons

#### > For heat wave :

- Preparation and distribution of IEC materials, distribution of ORS and other lifesaving drugs, training of field personnel on measures to be taken for management of patients suspected to besuffering from heatstroke;
- For flood and cyclone : Assessment and stock pilling of essential medicines, anti snakevenom, halogen tablets, bleaching powders. ORS tablets, Pre-positioning of mobile units atvulnerable and strategic points.

- Response activities:
- Stock piling of life-saving drugs, detoxicants, anesthesia, Halogen tablets in vulnerable areas.
- Strengthening of drug supply system with powers for local purchase during Level-0.
- Situational assessment and reviewing the response mechanisms in known vulnerable pockets.
- Ensure adequate availability of personnel in disaster sites.
- Review and update precautionary measures and procedures.
- Sanitation
- Dispensing with post-mortem activities during L1, L2 and L3 when the relatives and/or the competent authority are satisfied about cause of death.
- Disinfections of water bodies and drinking water sources.
- Immunization against infectious diseases.
- Ensure continuous flow of information.
- Recovery Activities
- Continuation of disease surveillance and monitoring.
- Continuation of treatment, monitoring and other epidemic control activities till the situation is brought under control and the epidemic eradicated.
- Trauma counseling.
- Treatment and socio-medical rehabilitation of injured or disabled persons.
- Immunization and nutritional surveillance.
- Long term plans to progressively reduce various factors that contribute to high level ofvulnerability to diseases of population affected by disasters.

#### 2.2 Epidemics

#### > Preventive Activities:

- Supply of safe drinking water, water quality monitoring and improved sanitation.
- Vector Control programme as a part of overall community sanitation activities.
- Promotion of personal and community latrines.
- Sanitation of sewage and drainage systems.
- Development of proper solid waste management systems.
- Surveillance and spraying of water bodies for control of malaria.
- Promoting and strengthening Primary Health Centres with network of paraprofessionals to improve the capacity of surveillance and control of epidemics.
- Establishing testing laboratories at appropriate locations to reduce the time taken for earlydiagnosis and subsequent warning.
- Establishing procedures and methods of coordination with the Health Department, other local authorities/departments and NGOs to ensure that adequate prevention and preparednessmeasures have been taken to prevent and / or minimise the probable outbreak of epidemics.
- Identification of areas prone to certain epidemics and assessment of requirements to controland ultimately eradicate the epidemic.

- Identification of appropriate locations and setting up of site operation camps for combatingepidemics.
- Listing and identification of vehicles to be requisitioned for transport of injured animals.
- Vaccination of the animals and identification of campsites in the probable areas.
- Promotion of animal insurance.
- Tagging of animals
- Arrangement of standby generators for veterinary hospitals.
- Provision in each hospital for receiving large number of livestock at a time.
- Training of community members in carcasses disposal.
- Preparedness activities before disaster seasons
- Stock piling of water, fodder and animal feed.
- Pre-arrangements for tie-up with fodder supply units.
- Stock-piling of surgical packets.
- Construction of mounds for safe shelter of animals.
- Identification of various water sources to be used by animals in case of prolonged hot and dry spells.
- Training of volunteers & creation of local units for carcass disposal.
- Municipalities / Gram Panchayats to be given responsibility for removing animals likely tobecome health hazards.
- Response Activities:
- Control of animal diseases, treatment of injured animals, Protection of lost cattle.
- Supply of medicines and fodder to affected areas.
- Ensure adequate availability of personnel and mobile team.
- Disposal of carcasses ensuring proper sanitation to avoid outbreak of epidemics.
- Establishment of public information centre with a means of communication, to assist inproviding an organized source of information.
- Mobilizing community participation for carcass disposal.
- Recovery Activities:
- Assess losses of animals assets and needs of persons and communities.
- Play a facilitating role for early approval of soft loans for buying animals and ensuringinsurance coverage and disaster proof housing or alternative shelters/ mounds for animals forfuture emergencies.
- Establishment of animal disease surveillance system.

#### 2. Water Supplies and Sanitation (GWSSB)

#### Prevention Activities:

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

- Stock-pile of sand bags and other necessary items for breach closure at the Panchayat level.
- Preparedness Activities for disaster seasons
- Prior arrangement of water tankers and other means of distribution and storage of water.
- Prior arrangement of stand-by generators.
- Adequate prior arrangements to provide water and halogen tablets at identified sites to used as relief camps or in areas with high probability to be affected by natural calamities.
- Raising of tube-well platforms, improvement in sanitation structures and other infrastructural measures to ensure least damages during future disasters.
- Riser pipes to be given to villagers.
- Response Activities:
- Disinfections and continuous monitoring of water bodies.
- Ensuring provision of water to hospitals and other vital installations.
- Provision to acquire tankers and establish other temporary means of distributing water on anemergency basis.
- Arrangement and distribution of emergency tool kits for equipments required for dismantling and assembling tube wells, etc.
- Carrying out emergency repairs of damaged water supply systems.
- Disinfection of hand pumps to be done by the communities through prior awareness activities & supply of inputs.
- Monitoring flood situation.
- Dissemination of flood warning.
- Ensure accurate dissemination of warning messages to GPs & Taluka with details of flow.
- Monitoring and protection of irrigation infrastructures.
- Inspection of bunds of dams, irrigation channels, bridges, culverts, control gates and overflow channels.
- Inspection and repair of pumps, generator, motor equipments, station buildings.
- Community mobilisation in breach closure
- Recovery Activities:
- Strengthening of infrastructure.
- Sharing of experiences and lessons learnt.
- Training to staff, Review and documentation.
- Development of checklists and contingency plans.
- Strengthening of infrastructure and human resources.
- Review and documentation.
- Sharing of experiences and lessons learnt.
- Training of staff.
- Development of checklists and contingency plans.

#### 3. Police:

#### • Prevention Activities:

- Keep the force in general and the RAF in particular fighting fit for search, rescue, evacuation and other emergency operations at all times through regular drills.
- Procurement and deployment of modern emergency equipments while modernizing existing infrastructure and equipments for disaster response along with regular training and drills for effective handling of these equipments.
- Focus on better training and equipments for RAF for all types of disasters.
- Rotation of members of GSDRAF so that the force remains fighting fit.
- Ensure that all communication equipments including wireless are regularly functioning and deployment of extra wireless units in vulnerable pockets.
- Ensure inter changeability of VHF communication sets of police and GSDMA supplied units, if required.
- Keeping close contact with the District Administration & Emergency Officer.
- Superintendent of Police be made Vice Chairperson of District Natural Calamity Committee.
- Involvement of the local army units in response planning activities and during the preparation of the contingency plans, ensure logistics & other support to armed forces during emergencies.
- Response Plan:
- Security arrangements for relief materials in transit and in camps etc.
- Senior police officers to be deployed in control rooms at State & district levels during L 1level deployment onwards.
- Deploy personnel to guard vulnerable embankments and at other risk points.
- Arrangement for the safety.
- Coordinate search, rescue and evacuation operations in coordination with the administration
- Emergency traffic management.
- Maintenance of law and order in the affected areas.
- Assist administration in taking necessary action against hoarders, black marketers etc.

#### 4. Civil Defence:

#### • Prevention Activities

- Organize training programmes on first-aid, search, rescue and evacuation.
- Preparation and implementation of first aid, search and rescue service plans for major publicevents in the State.
- Remain fit and prepared through regular drills and exercises at all times.
- Response Activities
- Act as Support agency for provision of first aid, search and rescue services to other emergency service agencies and the public.
- Act as support agency for movement of relief.
- Triage of casualties and provision of first aid and treatment.
- Work in co-ordination with medical assistance team.
- Help the Police for traffic management and law and order.

#### 5. Fire Services:

- Prevention Activities:
- Develop relevant legislations and regulations to enhance adoption of fire safety measures.
- Modernization of fire-fighting equipments and strengthening infrastructure.
- Identification of pockets, industry, etc. which highly susceptible to fire accidents or areas, events which might lead to fires, building collapse, etc. and educate people to adopt safetymeasures. Conduct training and drills to ensure higher level of prevention and preparedness.
- Building awareness in use of various fire protection and preventive systems.
- Training the communities to handle fire emergencies more effectively.
- VHF network for fire services linked with revenue & police networks.
- Training of masons & engineers in fireproof techniques.
- Making clearance of building plans by fire services mandatory.
- Response Activities:
- Rescue of persons trapped in burning, collapsed or damaged buildings, damaged vehicles, including motor vehicles, trains and aircrafts, industries, boilers, trenches & tunnels.
- Control of fires and minimizing damages due to explosions.
- Control of dangerous or hazardous situations such as oil, gas and hazardous materials spill.
- Protection of property and the environment from fire damage.
- Support to other agencies in the response to emergencies.
- Investigation into the causes of fire and assist in damage assessment.

#### 6. Civil Supplies:

- Preventive Activities
- Construction and maintenance of storage godowns at strategic locations.
- Stock piling of food and essential commodities in anticipation of disaster.
- Take appropriate preservative methods to ensure that food and other relief stock are notdamaged during storage, especially precautions against moisture, rodents and fungusinfestation.
- Response Activities
- Management of procurement
- Management of material movement
- Inventory management
- Recovery Activities
- Conversion of stored, unutilised relief stocks automatically into other schemes like Food forWork. Wherever, it is not done leading to damage of stock, it should be viewed seriously.

#### 7. Public Works/ Rural Development Departments

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

- Clearing of roads and establish connectivity. Restore roads, bridges and where
- necessarymake alternate arrangements to open the roads to traffic at the earliest.
- Mobilisation of community assistance for clearing blocked roads.
- Facilitate movement of heavy vehicles carrying equipments and materials.
- Identification and notification of alternative routes to strategic locations.
- Filling of ditches, disposal of debris, and cutting of uprooted trees along the road.
- Arrangement of emergency tool kit for every section at the divisional levels for activities like clearance (power saws), debris clearance (fork lifter) and other tools for repair andmaintenance of all disaster response equipments.
- Recovery Activities:
- Strengthening and restoration of infrastructure with an objective to eliminate the factor(s)which caused the damage.
- Sharing of experiences and lessons learnt.
- Training to staff, Review and documentation.
- Development of checklists and contingency plans.

#### 8. Energy:GEB

- Prevention Activities:
- Identification of materials/tool kits required for emergency response.
- Ensure and educate the minimum safety standards to be adopted for electrical installation and equipments and organise training of electricians accordingly.
- Develop and administer regulations to ensure safety of electrical accessories and electricalinstallations.
- Train and have a contingency plan to ensure early electricity supply to essential services during emergencies and restoration of electric supply at an early date.
- Develop and administer code of practice for power line clearance to avoid electrocution due to broken / fallen wires.
- Strengthen high-tension cable towers to withstand high wind speed, flooding and earthquake, modernise electric installation, strengthen electric distribution system to ensure minimum damages during natural calamities.
- Conduct public/industry awareness campaigns to prevent electric accidents during normaltimes and during and after a natural disaster.
- Response Activities:
- Disconnect electricity after receipt of warning.
- Attend sites of electrical accidents and assist in undertaking damage assessment.
- Stand-by arrangements to ensure temporary electricity supply.
- Prior planning & necessary arrangements for tapping private power plants like thosebelonging to ICCL, NALCO, RSP during emergencies to ensure uninterrupted power supplyto the Secretariat, SRC, GSDMA, Police Headquarters, All India Radio, Doordarshan,hospitals, medical colleges, Collectorate Control Rooms and other vital emergency responseagencies. v Inspection and repair of high tension lines /substations/transformers/poles etc.
- Ensure the public and other agencies are safeguarded from any hazards, which may haveoccurred because of damage to electricity distribution systems.
- Restore electricity to the affected area as quickly as possible.
- Replace / restore of damaged poles/ salvaging of conductors and insulators.

#### 9. Fisheries:

#### • Prevention Activities

- Registration of boats and fishermen.
- Building community awareness on weather phenomena and warning system especially onDo's and Don'ts on receipt of weather related warnings.
- Assist in providing life saving items like life jackets, hand radios, etc.
- Certifying the usability of all boats and notifying their carrying capacities.
- Capacity building of traditional fishermen and improvisation of traditional boats which can be used during emergencies.
- Train up young fishermen in search & rescue operation and hire their services duringemergency.
- Response Activities
- Ensure warning dissemination to fishing communities living in vulnerable pockets.
- Responsible for mobilizing boats during emergencies and for payment of wages to boatmenhired during emergencies.
- Support in mobilization and additional deployment of boats during emergencies.
- Assess the losses of fisheries and aquaculture assets and the needs of persons and communities affected by emergency.
- Recovery Activities
- Provide compensations and advice to affected individuals, community.

#### **10. Forest Department**

#### • Prevention activities

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

#### **11. Transport Department:**

#### • Prevention Activities

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

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

#### 13. Panchayati Raj:

- Preventive Activities
- Develop prevention/mitigation strategies for risk reduction at community level.
- Training of elected representatives on various aspects of disaster management.
- Public awareness on various aspects of disaster management.
- Organize mock drills.
- Promote and support community-based disaster management plans.
- Support strengthening response mechanisms at the G.P. level (e.g., better communication, local storage, search & rescue equipments, etc.).
- Clean drainage channels, trimming of branches before cyclone season.
- Ensure alternative routes/means of communication for movement of relief materials and personnel to marooned areas or areas likely to be marooned.
- Assist all the government departments to plan and prioritise prevention and preparednessactivities while ensuring active community participation.

#### • Response Activities

- Train ups the G.P. Members and Support for timely and appropriate delivery of warning to the community.
- Clearance of blocked drains and roads, including tree removal in the villages.
- Construct alternative temporary roads to restore communication to the villages.
- PRls to be a part of the damage survey and relief distribution teams to ensure popularparticipation.
- Operationalise emergency relief centers and emergency shelter.
- Sanitation, drinking water and medical aid arrangements.
- IEC activities for greater awareness regarding the role of trees and forests for protectionduring emergencies and also to minimize environmental impact which results owing todeforestation like climate change, soil erosion, etc.
- Increasing involvement of the community, NGOs and CBOs in plantation, protection andother forest protection, rejuvenation and restoration activities.
- Plan for reducing the incidence, and minimize the impact of forest fire.
- Response Activities :
- Assist in road clearance.
- Provision of tree cutting equipments.
- Units for tree cutting and disposal to be put under the control of GSDMA, SRC, Collectorduring L1

- Provision of building materials such as bamboos etc for construction of shelters.
- Recovery Activities :
- Take up plantation to make good the damage caused to tree cover.

#### 14. Information & Public Relations Department

- Prevention Activities
- Creation of public awareness regarding various types of disasters through media campaigns.
- Dissemination of information to public and others concerned regarding do's and don'ts of various disasters
- Regular liaisoning with the media.
- Response Activities
- Setting up of a control room to provide authentic information to public regarding impendingemergencies.
- Daily press briefings at fixed times at district level to provide official version.
- Media report & feedback to field officials on a daily basis from L1 onwards.
- Keep the public informed about the latest emergency situation (area affected, lives lost, etc).
- Keep the public informed about various post-disaster assistances and recovery programmes.

#### **15. Revenue Department**

- Co-ordination with Govt. of Gujarat Secretariat and Officers of Govt. of India
- Overall control & supervision
- Damage assessment, finalization of reports and declaration of L1/L2 disasters
- Mobilization of finance

#### 16. Home Department

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

#### **17. Gujarat Disaster Rapid Action Force**

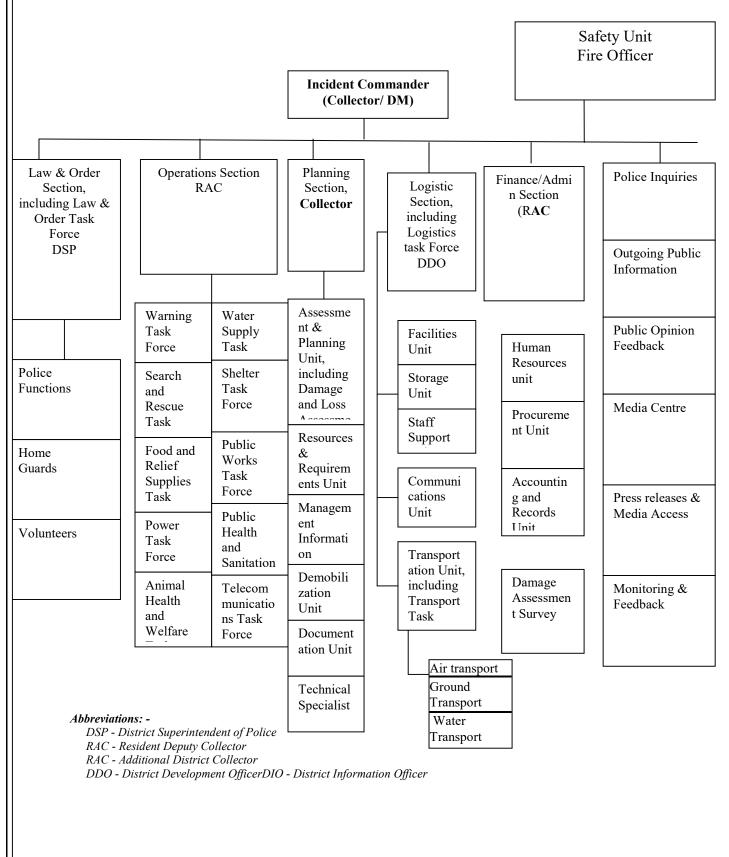
- Response
- To be trained and equipped as an elite force within the Police Department and have the capacity to immediately respond to any emergency.
- Unit to be equipped with life saving, search & rescue equipments, medical supplies, securityarrangements, communication facilities and emergency rations and be self-sufficient.
- Trained in latest techniques of search, rescue and communication in collaboration withInternational agencies.
- Co-opt doctors into the team.

#### Disaster Response and District Incident Command System

The response to disasters in the district will be organized according to the Incident Command System as adapted to conditions in Gujarat State (ICS/GS). The argument for the ICS is that

its fundamental elements –unity of command, clarity of objectives and efficient resource use are common to the effective response to any disaster.

In Devbhumi Dwarka district, the multi-hazard response plan focused on sector specific action plans unlike the department specific planning approach in the previous plan documents. The disaster response is led by the **DistrictEmergencyOperationCenter**(DEOC) under the command and control of the <u>District Collector</u>.



#### **ICS-Basic Functions**

The basic functional descriptions for key elements in the district Incident command System are described below. Not all these functions need to be filled (activated) in every disaster. But the ensemble of these functions represents all the key tasks which need to be accomplished in a well planned manner and executed in effective and cost efficient disaster response effort.

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

#### **II. Command Staff Units**

#### Safety unit:

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

#### Protocol and Liaison unit:

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

#### **Public Information Unit:**

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

- **public inquiries**: to handle non media requests for information
- **outgoing public information**: to handle public information dissemination
- **Public opinion feedback**: to collect information from the public (incident survivors and the non-affected)
- Media center: to provide a single point of contact for all media involved in the incident.
- **Press release and media access**: produce all releases and provide a single point of contact to arrange media access to the incident.
- **Monitoring and Feedback**: to monitor media reports and provide feedback to the incident management on coverage of the incident and to also take corrective measures and issue contradictions if required.

#### III. Law and Order Section

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

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

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

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

#### **IV. Operation Section**

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

The District administration of Devbhumi Dwarka 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.

<b>Emergency Operation</b> Taskforce	Functions					
1. Coordination and Planning	Coordinate early warning, Response & Recovery Operations					
2. Administration and Protocol	Support Disaster Operations by efficiently completing the paper work and other Administrative tasks needed to ensure effective and timely relief assistance					
3. Warning	Collection and dissemination of warnings of potential disasters					
4. Law and Order	Assure the execution of all laws and maintenance of order in the area affected by the incident.					
5. Search and Rescue (including Evacuation)	Provide human and material resources needed to support local evacuation, search and rescue efforts.					
6. Public Works	Provide the personnel and resources needed to support local efforts to reestablish normally operating infrastructure.					
7. Water	Assure the provision of sufficient potable water for human and animal consumption (priority), and water for industrial and agricultural uses as appropriate.					
8. Food and Relief Supplies	Assure the provision of basic food and other relief needs in the affected communities.					
9. Power	Provide the resources to reestablish normal power supplies and systems in affected communities.					
10. Public Health and sanitation(includingFirst aid and all medical care)	Provide personnel and resources to address pressing public health problems and re-establish normal health care systems.					

11. Animal Health and	Provision of health and other care to animals affected by a				
Welfare	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	Collect and analyse data on the impact of disaster, develop				
Assessment)	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	Provide liaison with and assistance to print and electronic				
Information)	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.

#### **V. Planning Section**

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

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

#### **VI. Logistic section**

Responsible for all task and functions related to provision of material and other resources needed for operations and the physical and material support and operation of the incent management team. This section 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):

#### VII. Finance and Administration

Responsible for managing all financial and administrative tasks related to incident field operations. These tasks may, but would not usually include disbursement of financial aid to those affected by an incident. The task of this section are accomplished through following units: 1. Human resources; 2. procurement; and 3. accounting and records



## **Chapter 7 Recovery Measures**



#### Chapter: 7 Recovery Measures

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

Strategies for restoring physical infrastructure and lifeline services may be:

#### **Build Back Better:**

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

#### **Participatory Planning**:

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

#### **Coordination**:

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

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

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

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

#### • Damage Loss Assesment

- Restoration of Essential Services and Infrastructure
- Following tables are to be filled after an event of disaster

#### \* Power

Item/Serv ices	No. of unit damaged	No of villages affected	Populati on affected	Recovery measures	Impleme nting agency	Tentative Duration (Months)	Bud get
Feeder							
Transform							
ers							
HT Lines							
LT Lines							
Electric							
Poles							

To be planned after initial damage assessment by departments

#### ✤ Health

	PHC (villag e name)	CH C	Sub Centre	Drug Store	Recover y Measure s	Implemen ting agency	Tentative Duration (Months)	Budget
No of buildings damaged								
No of health centres inaccessibl e								
Refrigerati on and other vital equipment for storage								
Drugs and medicines perished	(Locat ion and qty)							
No of Ambulance damaged								

To be planned after initial damage assessment by departments

#### Social

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

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

✤ Water Supply

Туре	Village	No. of unit affected	Faliya/ Population affected	Recovery Measures	Implementi ng agency	Tentative Duration (Months)	Budge t
Well							
Borewells							
Pond							
Water Supply Disrupted							
Contamina tion							
ESR damaged							
GLR Damaged							
Sump damaged							
Pipe lines damaged							
Standpost damaged							
Cattle trough damaged							
Handpum p							

## \* Road and Transport

Road damage	Location	Severity	Km	Recovery Measures	Implementin g agency	Tentative Duration (Months)	Budget
Panchayat							
State Roads							
National Highway							
Nagar Palika							

	Village/ Ward	Population	Alternate road/route	Recovery Measures	Implementin g Agency	Tentative Duration (Months)	Budget
Road Cut off							
Rail Conne ctivity							

#### \* Communication

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

## Food Supply List of village affected by disruption in food supply

Туре	No. of godowndamage	Type of grains perishe d (Ton)	Qty of grain perishe d (Ton)	Qty of grain at risk (Ton)	Reco very Meas ures	Imple mentin g Agency	Tentative Duration (Months)	Budget
Civil Supply								
APMC								
Other								

## Housing

Partial Damage		Dai	Fully naged / llapsed	Recovery Measures	Prog / Scheme	Implementing Agency	Tentative Duration (Months)	Budget
Kucha	Pucca	cca Kuch	a Pucca				(infontins)	
Dell								

#### **Public Utilities**

Public Buildings	Partial damage (No. of units)	Fully Damaged/ Collapsed (No. of Unit)	Recovery Measures	Prog/ Scheme	Implementing Agency	Tentative Duration (Months)	Budget
Panchayat							
Educational Buildings							
Anganwadi							
Hospitals							
Office Buildings							
Market							
Police station							
Community Halls/ Function							
plots							

### Restoration of Livelihood Provisioning of Employment

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

#### Land Improvement

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

### Agricultural

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

## Non farm livelihood

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

Diamond			
sorting etc			
Printing/ Dying Other			
Dying			
Other			

#### Shops and establishment

Extent of damage/disruption			Recover y Measure s	Implementin g Agency	Tentativ e Duration (Months )	Budge t
Buildin g (No. and location)	<b>Tools and</b> equipments(Specif y no. and type)	Goods and material s (Specify type and qty)				

#### Long term recovery programme

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

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

Oftentimes, committees, task forces or other means of collaboration are formed with the goals of developing specific plans for Community recovery, identifying and addressing unmet or specialized needs of individuals and families, locating funding sources, and providing coordination of the many sources of help that may be available to assist. Some collaborations focus on the community level and rely on the expertise of community planning and economic development professionals. Other collaborations focus on individual and family recovery and are coordinated by social service and

volunteer groups. All such efforts hope to lay the groundwork for wise decisions about the appropriate use of resources and rebuilding efforts.

Under the National Response Framework, Emergency Support Function (ESF) #14 Community Recovery coordinates the resources of federal departments and agencies to support the long-term recovery of States and communities, and to reduce or eliminate risk from future incidents. While consideration of long-term recovery is imbedded in the routine administration of the disaster assistance and mitigation programs. some incidents, due to the severity of the impacts and the complexity of the recovery, will require considerable interagency coordination and technical support. ESF #14 efforts are driven by State/local priorities, focusing on permanent restoration of infrastructure, housing, and the local economy. When activated, ESF #14 provides the coordination mechanisms for the Federal government to:

- Assess the social and economic consequences in the impacted area and coordinate Federal efforts to address Community recovery issues resulting from an Incident of National Significance;
- Advise on the Community recovery implications of response activities, the transition from response to recovery in field operations, and facilitate recovery decision-making across ESFs;
- Work with State, local, and tribal governments; NGOs; and private-sector organizations to conduct comprehensive market disruption and loss analysis and develop a forward looking market-based comprehensive long-term recovery plan for the affected community;
- Identify appropriate Federal programs and agencies to support implementation of the Community recovery plan, ensure coordination, and identify gaps in resources available;
- Avoid duplication of assistance, coordinate to the extent possible program application processes and planning requirements to streamline assistance, and identify and coordinate resolution of policy and program issues; and
- Determine/identify responsibilities for recovery activities, and provide a vehicle to maintain continuity in program delivery among Federal departments and agencies, and with State, local, and tribal governments and other involved parties, to ensure follow-through of recovery and hazard mitigation efforts.

#### Grievances Redressal System

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

No.	Key Person/ Establishment	Contact No	Address
1	DEOC/ RAC	02833-232125	
		02833-232084	Emergency Operation centre
2	DDO	0288-2553901	District Panchayat
3	Police	02833-232002	S.P.Office,DevbhumiDwarka

#### **Grievance Redressal System**



## Chapter 8 Financial Arrangement



#### Chapter: 8 Financial Arrangement

#### 6.1 Sources of Funds

#### Funds available at the National and State Level

1. **The Ministry of Finance** has allocated funds for strengthening Disaster Management Institutions, capacity building and response mechanisms, as per the recommendation of 13th Finance Commission.

#### 2. Prime Minister's Relief 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:

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.

#### 3. Chief Minister Relief Fund:

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.

#### 4. Calamity Relief Fund

To provide for relief for famine, drought, floods and other natural calamities, funds 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. Funds are also provided to meet unforeseen expenditure in connection with the natural calamities and other allied purposes.

#### 6. Finance and Budgeting

Budget planning is a comprehensive exercise for annual financial planning. For Disaster Management, there can be two categories of budget heads—

a) Line Department's own fund through various schemes and programmes;

b) Additional budget required particularly for DM activities.

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

#### **State Disaster Response Fund**

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% as per the recommendation of 13th Finance Commission.

#### **State Budget**

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

#### **District Planning Fund**

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

#### Partnerships

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

#### **Centrally Sponsored scheme**

		Finance	Activities that		
Name	Purpose		can be take	Nodal Agency	
		Arrangements	under scheme		
NDRF	Relief	100% Central	Cash and kind	Revenue	
(NCCF)	Assistance	Govt	relief	Department	
		50% Centre,			
SDRF (CRF)	Relief	50% State	Cash and kind	Revenue	
	Assistance		relief	Department	



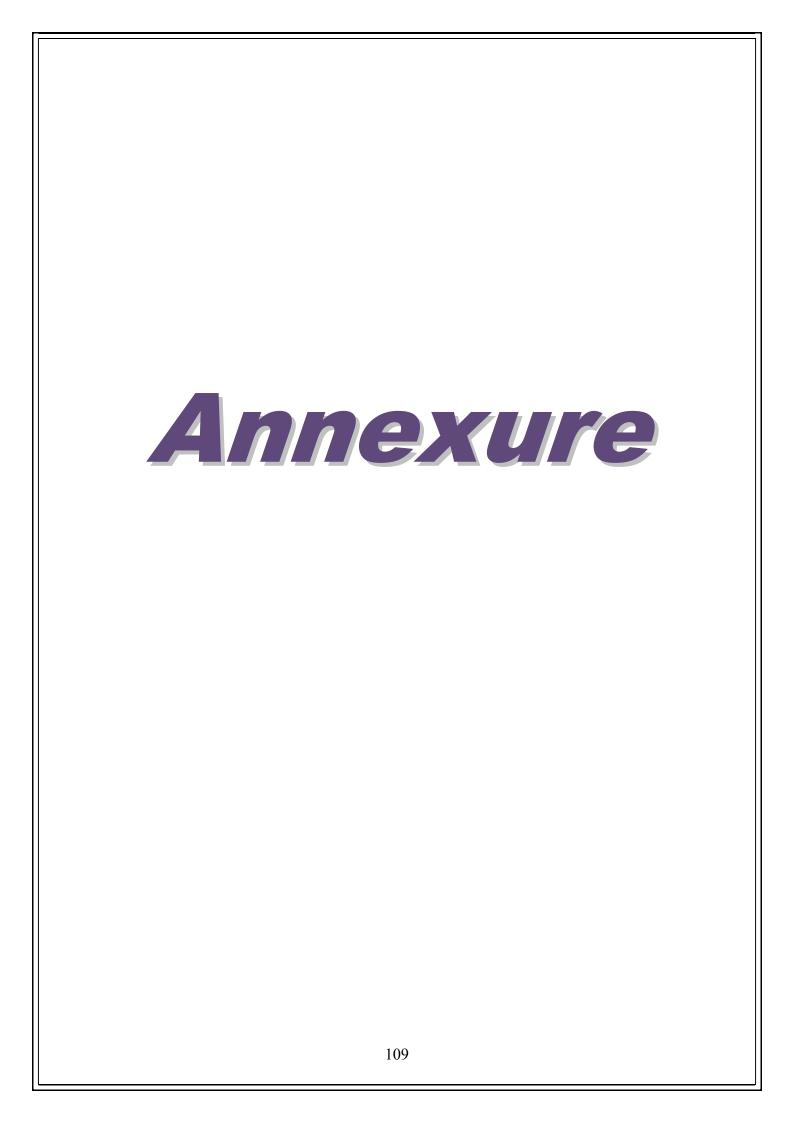
## **Chapter 9 Maintenance of the Plan**



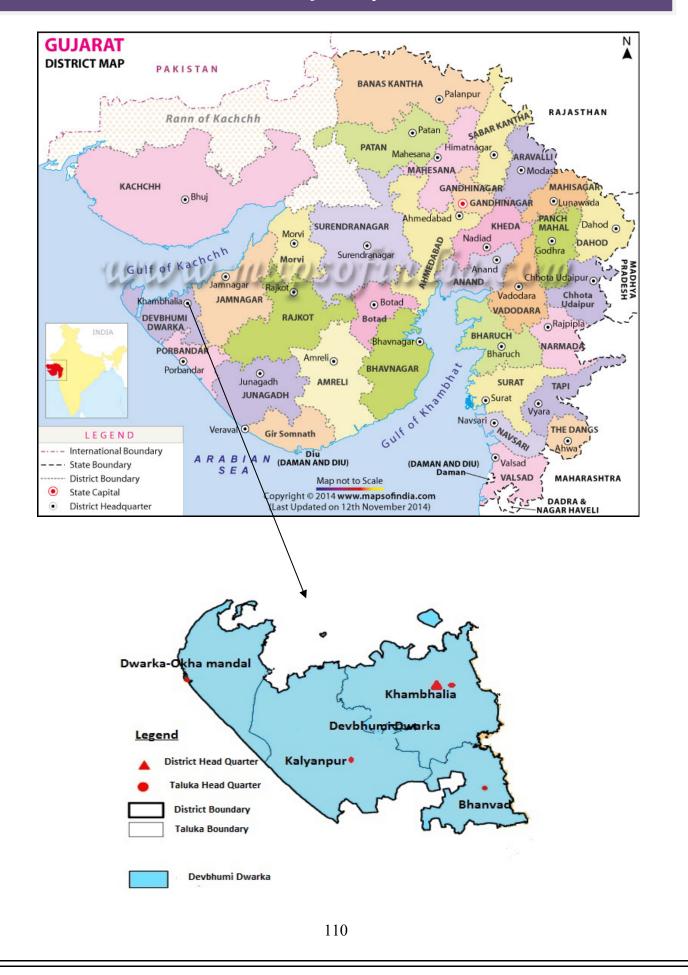
#### Chapter: 9 Maintenance plan

District Disaster Management Committee (DDMC) shall compile its learning and propose new mechanisms for improvement of the capacity to deal with disasters. As a part of Pre-Monsoon DDMC will update District Disaster Management Plan in the month of May-June and also revise in the month of October-November every year.

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

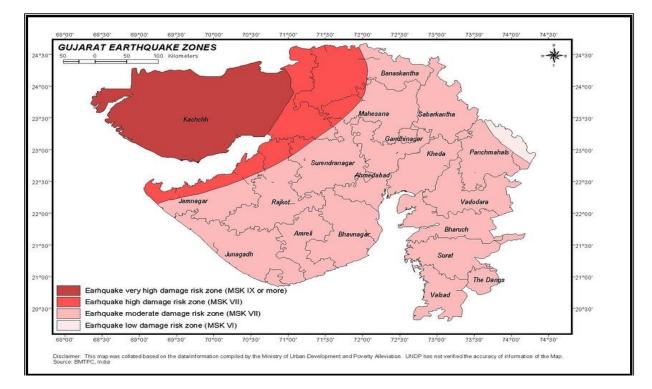


#### Annexure-1 Gujarat Map

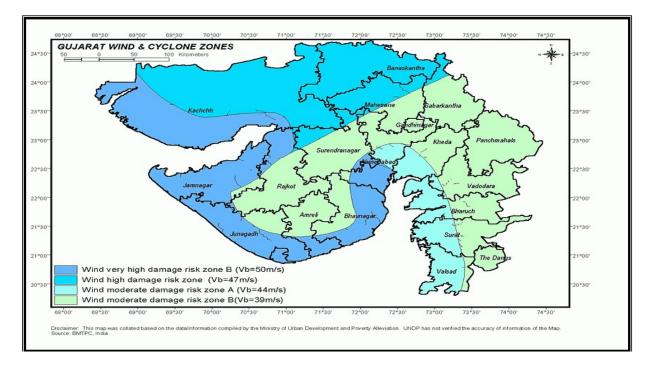


#### Annexure: 1 Hazard Prone Map

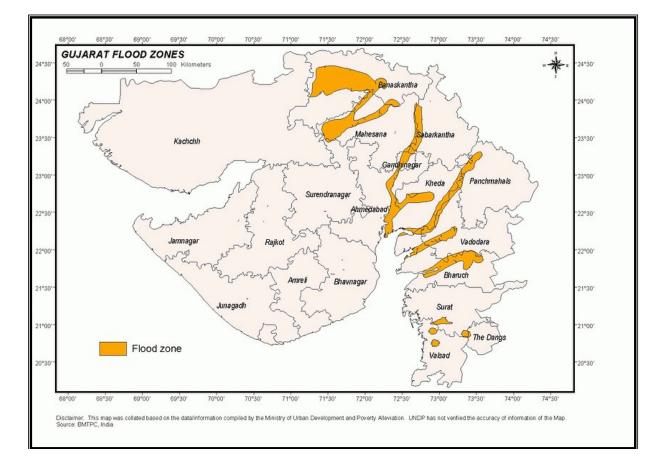
## \* Earthquake Prone Map:



## **\*** Cyclone Prone Map:



#### **\*** Flood Prone Map:



#### \* Rainfall Detail for Devbhumi DwarkaDistrict from 2014 to 2023 in mm.

Sr. No	Taluka	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1	Khambhalia	506	423	993	853	579	1354	2643	1125	1319	1465
2	Kalaynpur	570	308	436	788	166	1152	2553	1221	1017	767
3	Dwarka	891	462	335	400	144	634	1401	825	860	773
4	Bhanvad	675	459	706	714	282	1035	2389	915	695	569
Total	-	2642	1654	2470	2755	1171	4175	8986	4086	3891	3574
	erage Rain 14-2023)	660	596	608	689	293	1044	2246	1021	973	893

## ✤ Detail of Dam site and affected low laying villages:

Sr.	Name Of Dam	N	Flood Prone Villa	ages	Popula	Distan	Contact Number
No.		0.	Village	Taluka	tion	ce From Dam KM.	of Section officer
1	Sani	1	Dangarvad	Kalyanpur	1067	4	Shri V.R.
	02891-228257	2	Jepur		183	0.50	Nakum
		3	Ranparda	-	629	3.80	9687630427
		4	Rawal	-	15366	6.30	-
		5	Suryavadar		2124	1	Shri M.D.
		6	Chandravada		1989	8	Nakum
		7	Harshad		325	22	9687630426
		8	Gandhavi		1863	20	]
		9	Ashiyavadar		706	0.60	
2	Sindhani	1	Chachlana	Kalyanpur	2030	0.50	Shri D.D.
	02891-276504	2	Gangani		1780	12	Kambhariya
		3	Devaliya		6600	3	9904646851
		4	Harshad	1	454	14	
		5	Gandhvi		3200	13	
3	Shedha	1	KanparSherdi	Kalyanpur	653	0.50	Shri P.A.
	Bhadathari	2	Chapar	_	1603	5	Chaurya
	02833-273204	3	Chur		1375	6	70160 81905
		4	Mangariya		320	8	-
		5	Haripar		2422	12	
4	Vartu-1	1	Morzar	Bhanvad	2352	0.50	-
	02896-277821	2	Navagam	_	1888	3	-
		3	Shedhakhai	_	1404	0.50	-
		4	Rupamora	_	2252	8	-
		5	Ranparda	_	456	10	Shri L.R Khuti-
		6	Ambaliyara	_	710	12	9429321095
		7	Bhenakvad	_	2075	15	-
		8	SevakDevaliya		1128	2.50	
5	Sonmati		Jampar	Bhanvad	1730	1	
	02896-247868	2	SevakDevaliya		1128	3	
		3	Navagam		1888	4.50	
		4	Rupamora		2252	9	Shri L.R Khuti-
		5	Ranparda	_	456	11	9429321095
		6	Ambaliyara	_	710	13	_
		7	Bhenakvad		2075	15	
6	Ghee	1	Khambhalia		63354	2.00	
	02833-232697(O)	2	Ramnagar	1	4418	0.30	
	02833-232645	3	Harshadpur	1	9213	5.00	Shri R. K
		4	Kothavishotri	Khambhalia	1732	11.00	Nandaniya
		5	Kabarvishotri	4	822	10.00	7874404021
		6	Sodasala	4	1116	12.00	-
		7	Salaya		26875	13.00	
7	Sorathi (Porbandar	1	Gorana	4	2788	5.50	4
	District)	2	Gandhvi	Kalyanpur	1863	15	4
	0286-2276400	3	Harshad		325	16	

		4	Rawal		15366	10		
		5	Adwana		2500	26	Shri M.R.	
	6		Bhetkadi	Porbandar	2800	19.50	Odedara-	
			Sodhana		4000	3.50	9426772449	
		8	Miyani	_	5000	3.50		
8	Kabarka	1	Kabarka		2000	2	Shri Harshad	
0	02896-277578	2	Bhoriya	Bhanvad	1500	03	Kagthara	
		3	Fotdi	Dhanvad	2000	5	7486899201	
9	Gadhki	1	Sidhdhapur	Khambhaliya	1500	0.50	Shri	
-	02833-273269	2	Jampar	Kalyanpur	1200	3	M.D.Nakum	
		3	Dhumthal		300	2.50	9687630426	
10	Veradi-1	1	Verad	Bhanvad	4300	0.50	Shri A.L.Mori	
	02896-274424	2	Sai Devaliya	-	1840	10	9824620982	
11	Veradi-2	1	Sai Devaliya	Bhanvad	1840	0.30	Shri M.V.	
	02896-291583	2	Bhanvad	_	22142	10	Solanki	
							9714501668	
	Vartu-2	1	Zarara	Bhanvad	4000	3.50	Shri N.A.Vadu	
12	02896-232968	2	Gandhvi		1863	40.00	8347836283	
		3	Gorana		2788	21.00		
		4	Harshad	Kalyanpur	325	41.00	Shri S.N.Bhatu	
		5	Raval		15366	27.00	6352208215	
		6	Ranpara		629	26.00		
13	Minsar- Vanavad-	1	Vanavad		1747	0.50		
	02896-241286	2	Shiva		2313	2.00	Shri A.L.Mori	
		3	Katkola		3216	3.50	9824620982	
		4	Jasapar	Bhanvad	1799	5.00		
		5	Vansjaliya					
			(Jam Jodhpur		3450	7.50	Shri M.V. Solank 9714501668	
			Jamnagar)				9714501008	
14	Mahadeviya	1	Mahadeviya	Khambhalia	900	1	4	
		2	Charantungi	Lalpur	1200	2	Shri C.P. Patel	
15	Kandorna	1	Kandorana	Khambhalia	1000	0.5	7984881481	
		2	Kota		800	2.00		

Total flood affected Villages are- 73 Total Gated Dam: - 2 : (Sani ) and (Vartu-2) Total Non Gated Dam: - 13 Dam InPorbandar District – Sorathi Total No. Of Dam: - 14

Sr. No.	Officers details	Phone/Address
1	Shri K.H.Mehta	0281-2440485(O)
	Focal Officer flood Saurashtra and Superitendent	0281-2472604(Fax)
	Enigineer	0281-2476093(P)
	Rajkot Irrigation Department, Rajkot	9925016735(M)
2	Rajkot flood Control room	0281-2443205
		0281-2453501(F)
3	Shri S.D.Kansagara	0288-2670688(O)
	Sub-focal officer, Flood, Jamnagar	0288-2678106(Fax)
	Executive Engineer	0288-2559322(P)
	Jamnagar Irrigation Department, Jamnagar	9979743174(M)
4	Shri D. K. Singh	0288-2570423(O)
	Executive Engineer, Salinity department,	9408103062(M)
	Khambhaliya	
5	Shri Kishan Chauhan	02833-236232(F)
	Executive Engineer,	0288-2671404(O)
	Irrigation Panchayat, Devbhumi Dwarka	9722598794(M)

## **Important Contact Numbers in flood situation**

List of Coastal Villages: There are 44 coastal villages located in the district. Following is the block wise list of Coastal Villages.

Sr.No.	Sr. No	Name of Taluka	Name of village
1	1	Kalyanpur	Mota Asota
2	2		Pindhara
3	3		Gandhvi
4	4		Gojinesh
5	5		Sanosari
6	6		Gangadi
7	7		Lamba
8	8		Navadra
9	9		Bhogat
10	1	Khambhalia	Beh
11	2		KalavadSimani
12	3		Chudeshwar
13	4		Goinj
14	5		Parodiya
15	6		Mota ambala
16	7		Nana Ambala
17	8		Bharana
18	9		Nana Mandha
19	10		Vachhlabara
20	11		Sodasala
21	12		Vadinar

22 13		Ajad Tapu
23 14		Nana Asota
24 15		Mota Mandha
25 1	Dwarka	Bet
26 2		Bhimrana
27 3		Padli
28 4		Mojap
29 5		Shivrajpur
30 6		Hamusar
31 7		Shamlasar
32 8		Poshitra
33 9		Rajpara
34 10		Varvala
35 11		Baradiya
36 12		Okhamadhi
37 13		Kuranga
38 14		Meripur
39 15		Tupni
40 16		Makanpura
41 17		Okha Port
42 18		Mithapur
43 19		Arambhada
44 20		Surajkaradi

#### Contact Detail Controm room Control Rooms- Contact Numbers

On receipt of information about the incident, all Task force leaders shall report immediately to the collector in the District EOC. The coordinator of each taskforce shall send communication to their members to report immediately in their respective control rooms. Taluka liaison Officers shall report to Mamlatdars in their respective Taluka control rooms.

Sr. No	EOCs/ Control rooms	Contact Numbers
1	State EOC – Gandhinagar	079-23251900
2	Relief Commissioner	(079) 23251509 ® 23251591
3	Director of Relief	(079) 23251611 ® 23234364
4	Additional CEO, GSDMA	(079) 23259220 ®23259275 (M) 9408978788
5	TASKFORCE Operation Room	
	1. Warning and Communications (RAC)	02833-232620
	2. Law & Order (Police Contol room)	02833-232002
	3. Public Works R&B-S (M)9426464610	0288-2550362
	4. Shelter	0288-2550362
	5. Water Supply GWSSB M 9978406618	02833-234781, 235765
	6. Food & Relief supplies DSO 9687888998	02833-235990
	7. Public Health & Sanitation M 9099900607	02833-234001
	8. Power (PGVCL Eng) 9879200762(KMBL),	02833-234791/94 O.236963(KMBL)
	7567109172(DWK)	,02892-234610(DWK)
	9. Logistics DDO (M) 9978406492	02833-235947
	10. Animal Health & Welfare M 9426818294	02833-234251
	11. Damage assessment/Survey (R&B- P)9825873849	02833-234211
	12. Media/public Information, Dy. Dire. Information	02833-235932/9067393800
	13. Planning and coordination (Collector)	02833-233803
	14. Finance/ Administration/ protocol	02833-232620
	15. District Emergency operation center	02833-232125
7	Taluka EOCs	
	1. Bhanvad	02896-232113
	2. Khambalia	02833-234788
	3. Kalyanpur	02891-286227
	4. Dwaraka	02892-234541

# **Contact Details of Government officers of the district**

S.	Designation	Name	Office	Mobile	Fax	Email Id
No						
1	Collector Shri G.T. Pandya		232803	9978405933	232102	collector- devbdwarka@gujarat.gov.i n
2	DDO	Shri S.D.Dhanani	235947	9978406492	235947	ddo-dev@gujarat.gov.in
3	SP	Shri Nitesh Panday	233223	9978405976	232002	sp-jam- dbdwarka@gujarat.gov.in, spdevbhumi@gmail.com
4	Deputy Conservator of Forest, Vistaran	Shri Arun Kumar	232574	9620347322	-	dcfsfdbd82@gmail.com acf.khmb@gmail.com
5	DeputyShri RadhikaConservator ofParsanaForest, MarineNational Prak		2552077 , 2679357	9428274845	2770161	mnpforest@yahoo.com mnpforest@gmail.com
6	Resident Shri B.M.Jotaniya Additional Collector		232620	9727763794	232102	addl-collector- dev@gujarat.gov.in
7	DFO, (Normal)	Shri R Dhanpal	232574	8238861705	-	dcfjmr@gmail.com
8	DFO, (Normal) Porbandar (Barada)	Shri Arun Kumar	0286- 2242551	9620347322	2210373	dcfpbr@gmail.com
9	Director-DRDA	Shri R.J.Jadeja	235947	7567035875	-	drda.dwarka@gmail.com
10	Executive Engineer, R & B (State)	Shri U.B.Chaudhari	0288- 2550362	9978154901	2678106	eernbdwarka@gmail.com
11	Executive Engineer, R & B (Panchayat)	Shri Y.V.More	02833 – 234211	9879054976	-	eedwarka@yahoo.com
12	Executive Engineer, Salinity department	Shri Devesh kumar Singh	0288- 2570423 /4 FAX 2551917	9408103062	-	scdnjam@yahoo.co.in
13	Executive Engineer,GWSS B	Shri Juman A. Rangavala	234781, 235765	9978441948	-	eec-gwssb- kha@gujarat.gov.in
14	DSO	Shri Miss K.B.Solnki	235990	9687888998	232102	supp- devbdwarka@gujarat.gov.i n
15	Dy. DDO (Revenue)	Shri P.A. Gohil	235947	9925170479		dy.ddo.gen@gmail.com

16	Dy. Director Animal Husbandry	Dr. A.N.Patel	02833- 234251	6351112690	94268527 36	-
17	CDHO	Shri M.N.Bhandari	234001	9727700033	2671097	cdho.health.dwarka@ gmail.com , dpmcc.health.dwarka@gm il.com
18	Superitendent of Civil Hospital, Khambhaliya	Shri Manoj Kapur	02833- 235170	9909949385	-	cdmo-health- jad@gujarat.gov.in
19	DEO	Shri H.R. Jadeja	235976	9909069701	-	deodevbhumidwarka @gmail.com
20	DPEO	Shri M.K. Bhatt	236376	7567806316	-	dpeodevbhoomidwarka @gmail.com
21	RO-GPCB	Shri Kalpnaben Parmar	0288- 2752366	9879205066	-	ro-gpcb- jamn@gujarat.gov.in
22	District Agriculture Officer	Shri C.O.Laskari	235868	9824501032	-	dao-agri- devbhumi@gujarat.gov.in
23	ARTO,	Shri G.V.Talsaniya	233300	7600522512	-	arto-trans- dbd@gujarat.gov.in
24	PO-GMB, Okha	I/C Shri Rahul Mishra	02892- 262001, 262049, 262039	9879936125	262002	portofficerokp@gmail.con
25	Superintendent of Fishries	Shri K.K.Karena	02892- 262076	9429096015	-	fisheries-okha- dev@gujarat.gov.in
26	Deputy Director, Industrial Safety & Health	Shri Y.I.Pendal	0288- 2678206	9879102225	-	ad4-dish- brd@gujarat.gov.in astdish-jam@gujarat.gov.i
27	General Manager DIC	Shri V.B.Jariya	234145	8200224571	2660392	gm-dic-dbd@gujarat.gov.i
28	Dy. Director Information	Shri Naresh Maheta	235932	9825263775	232073	informationdev dwarka@gmail.com
29	Executive Engineer- PGVCL, Khambhaliya Division	Shri M.V. Borisha	234791/ 94	9879200762	235088	de1khdo.pgvcl@gebmail.c m hrjmnkhdo.pgvcl@gebmai com
30	Executive Engineer- PGVCL, Dwarka Division	Shri N.J.Goraniya	02892- 234610	7567109172	-	ee.dwarkado.pgvcl@gebm il.com
31	District Project Officer- GSDMA	I/C Shri Bhagirath Gondaliya	232183, 232125, 232084	8530153040	232102	disa- devbdwarka@gujarat.gov. n
32	Deputy Mamlatdar, Disaster Management	Shree Rambhai Chavda	232183, 232125, 232084	9904084101	232102	disa- devbdwarka@gujarat.gov. n

s. Jo.	Taluka Name	Designation	Officer Name	Office No.	Mobile	Email Id
	Khambhalia	Prant Officer	Shree K.K.	02833-	9978405354	sdm-kham-
			Karmata	234577		jam@gujarat.gov.in
		Mamlatdar	Shree V.R. Varu	02833-	8141184120	mam-
				234788		khambhalia@gujara
				251700		gov.in
		TDO	Shree K.V.	02833-	9427240250	tdo-
			Sherthiya	234792/99	3127210230	khambhalia@gujarat
			Shertinya			gov.in
		Chief Officer	Shree Bharat	02833-	9723565252	np khambhaliya@ya
		Khambhalia	Vyash	234712	7725505252	hoo.co.in
		Kilamonana	v yasn	234/12		100.00.111
		Chief Officer	Shree Amith A.	02833-	9106894100	np salaya@yahoo.co
		salaya	Pandya	285448		in .
2	Bhanvad	Prant Officer	Shree K.K.	02833-	9978405354	sdm-kham-
			Karmata	234577		jam@gujarat.gov.in
		Mamlatdar	Shree A.P.	02896-	7567002729	mam-
			Chavda	232113,		bhanvad@gujarat.go
				232116		v.in
		TDO	Shree A.L.	02896-	9979394409	tdo-
			Bediyavdra	232024		bhanvad@gujarat.go
			Dearyavara	232021		v.in
		Chief Officer	Shree Rahul	02896-	7046465432	np bhanvad@yahoo
		Bhanvad	Karmur	232159	/010100102	co.in
;	Kalyanpur	Prant Officer	Shree H.B.	02892-	7567001052	po-dwarka-
,	Karyanpur		Bhgora	235733/53	7507001052	jam@gujarat.gov.in
			Diigora	255755755		
						dwarkaprant@gmail
		Manalatilan	Shree B.M.	02891-	7567099970	com
		Mamlatdar			/30/0999/0	mam-
			Khanpara	286227		kalyanpur@gujarat.g
		TDO	Shree Gaurav A.	02891-	7567018989	tdo-
		IDO		286223	/30/018989	
			Parmar	280225		kalyanpur@gujarat.g
				02001	9974010397	ov.in
		Chief Officer	Shree B.K.Parmar	02891-	99/401039/	np_jamraval@yahoc
	011	Raval	Chara V V	228249	0079405254	co.in
ł	Okha Mandal/Dwa	Prant Officer	Shree K.K.	02833-	9978405354	po-dwarka-
			Karmata	234577		jam@gujarat.gov.in
	rka					dwarkaprant@gmail
		Monstate	Chaos M D VI.	02802		com
		Mamlatdar	Shree M.D.Kher	02892-	7567002769	mam-
				234541		okhamandal@gujara
				02802	75(7010790	.gov.in
		TDO	Shree M.J.	02892-	7567019789	tdo-
			Makwana	234052		okhamandal@gujara
				02002	701(040701	.gov.in
		Chief Officer	Shree Uday R.	02892-	7016848701	np_dwarka@yahoo.c
		Dwarka	Nashit	234919,		o.in
				234449		
		Chief Officer	Shree Kiran P.	02892-	9978920988	np_okha@yahoo.co.
		Okha	Shukla	262035		n

## **Details of Taluka**

# **MUTUAL AID Industries JMR & DBD District**

	Mu	tual Aid Team .	Iamnagar & De	evbhumi Dwarka
Company name	Name of Employee	Designation	Mobile number	E mail ID
DODI	Sunil Prasad	VP-BORL	9617410569	sunil.prasad@borl.co.in
BORL	Vivek Jaiswal	Manager (F&S)	7069073724	vivek.jaiswal@borl.co.in
	Umesh Khandalkar	VP-Fire & Safety	9998215963	umesh.khandalkar@ril.com
RIL	Subhash Chander	GM-Fire	9998217931	Subhash.k.chander@ril.com
	Likhit Devikar	GM-Fire	9998010513	Likhit.Devikar@ril.com
	Prabhanjan R Dixit	VP-HSCF	9909908685	Prabhanjan.Dixit@nayaraenergy.com
NAYARA Energy	Sudhir Ingle	JGM-Fire	7573004755	sudhir.ingle@nayaraenergy.com
8,	Himanshu S Mishra	DGM-HSCF	9099067847	himanshu.mishra2@nayaraenergy.com
	Shri Rajeev Kahnuja	GM (I/c)	9978903959	Khanuja_r@indianoil.in
IOCL - Vadinar	Shri Satendra Sinha	DGM(O)	9570906011	SKSINHA@indianoil.in
v admar	Shri Shubhashish Sharma	HS&E	9009708616	Sharmash@indianoil.in
IOCL -	SK Sinha	СОМ	9570906011	SKSINHA@indianoil.in
Theba	Surya kumar Yadav	HSE	9570906011	skyadav@indianoil.in
GSFC	Pragnesh R Patel	Chief (Safety & Fire)	8238021992	pragneshrpatel@gsfcltd.com
	R G Sanaria	Fire Dept	9974705655	rgsanaria@gsfcltd.com
SDCC	R. Krishnakumar	Plant Head	7574866230	r.krishnakumar@digvijaycement.com
	Yogesh Vithalani	Head (EHS)	9099038052	yogesh.vithalani@digvijaycement.com
TCL	Devendra K Thakur	DGM - Safety & Health	9227676113	dthakur@tatachemicals.com
	Paresh Patel	Manager - Safety	9227194092	ppatel@tatachemicals.com
Essar Power	Debasis Pal	HEAD HSE	9925240107	debasish.pal@essarpower.co.in

	Puneet Priyadarshi	Manager Safety	8238015621	puneet.priyadarshi@essar.co.in
GSECL TPS - SIKKA	R H Kahar	Additional Chief Engineer (Gen) & Factory Manager	9925210735	acestps.gsecl@gebmail.com
	A J Dharaiya	Safety officer	9909939936	dysosikka.gsecl@gebmail.com
RSPL	Ravindrasingh	AGM EHS	6359779873	ravindra.singh2@rsplgroup.com
KSPL	Dipak Chavda	AM Safety	7573000892	dipak.chavda@rsplgroup.com
GAIL	Raghubir Singh	GM	9327364845	raghubirs@gail.co.in
OME	Ankur Vishnoi	Manager	6351975179	Ankur.vishnoi@gail.co.in
Cairn India	Basavraj Girimath	Dy. GM / In charge Terminal Operations	9662539598	Basavraj.Girimath@cairnindia.com
	Mahesh Kumar Ubhadiya	Manager EHS	8980801919	Maheshkumar.ubhadiya@cairnindia.com
Gujarat Gas	M K Venkat subramaniam	Geographical area head	7574950586	Venkat.Subramaniam@gujaratgas.com
Ltd.	Vinay Chotai	Sr. Officer (HSE)	9099950958	vinay.chotai@gujaratgas.com

#### Annexure: 7 S

S.No.	DISTRICT NAME	IMEI No.	Phone Number
1.	AHMEDABAD CITY(MC)	353032044157861	8991115047
2.	AHMEDABAD	353032044156657	8991115048
3.	AMRELI	353032044158232	8991115046
4.	ANAND	353032044161202	8991115043
5.	BANASKATHA	353032044160212	8991115042
6.	BHARUCH	353032044160295	8991115041
7.	BHAVNAGAR	353032044160618	8991115044
8.	DAHOD	353032044160709	8991115045
9.	DANG	353032044160774	8991115036
10.	DEVBHOOMI DWARKA	353032044160451	8991115037
11.	GANDHINAGAR	353032044161319	8991115038
12.	JAMNAGAR	353032044158612	8991115040
13.	JUNAGADH	353032044161442	89911 15039
14.	KHEDA	353032044160196	8991115034
15.	КАСНСНН	353032044159958	8991115035
16.	MEHSANA	353032044158828	8991115033
17.	NARMADA	353032044161350	8991115032
18.	NAVSARI	353032044158802	8991115031
19.	PANCHMAHAL	353032044157234	8991115030
20.	PORBANDAR	353032044157465	8991115029
21.	RAJKOT	353032044157556	8991115026
22.	SABARKANTHA	353032044157457	8991115027
23.	SURENDRANAGAR	353032044157564	8991115026
24.	SURAT	353032044145353	8991115024
25.	SURAT CITY	353032044146609	8991115025
26.	ТАРІ	353032044146823	8991115023
27.	VADODARA CITY	353032044144729	8991115022
28.	VALSAD	353032044146617	8991115021
29.	SEOC	353032044044648	8991115020
30.	CEO-GSDMA	353032044043954	8991115019
31.	JAMNAGAR MC	353032044044655	8991115018
32.	JUNAGARH MC	353032044043889	89911 15017
33.	RAJKOT MC	353032044043608	8991115016
34.	BOTAD	353032041746302	8991115049
35.	ARVALLI	353032040819159	8991115050
36.	PATAN	353032041844156	8991115051
37.	VADODARA	353032041433604	8991115052
38.	GIR SOMNATH	353032041424710	8991115053
39.	CHOTTAUDEPUR	353032041844461	8991115054
	MORBI	353032040543395	8991115055

## SATELLITE TELEPHONE NUMBEAnnexure: 7 SATE

## Annexure: 8 Fire Facility at MAH unit

C	File Fighting					<b>D</b> • <b>D</b>		<b>XX</b> 7 4
Sr.	Name	Phone1	Phone2	Fire	Water (m3)	Fire E	Fire P	Water
No.	1 vanie	I nonei	1 Hone2	Tenders	(inc)	Suits	Suits	Hoses
1	TCL - Mithapur	02892-	02892-	2		04	04	200
		665555	223439		404 m3 u/g			
					storage			
					connected with			
					open sea water			
					pond (370000			
					m3)			
2	Essar Oils Ltd.	02833-	02833-	9	589000	2	14	1004
	Vadinar	661890	661444					
3	Bharat Oman	02833-	02833-	2	$21000m^{3}$		03	100
	Refinery Ltd-	296675	256452					
	Singhach							
4	Indian Oil	02833-	02833-	3	42000m <sup>3</sup>		10	300
	Corporation	296675	256452					
	LtdVadinar							

## ✤ Fire Fighting Facilities At Major Accident Hazard Units :

#### \* Resources Available at Fire Stations:

Sr.	Nama			Nor	Ambulance	Fire	SCBA
Sr. No.	Name	Phone	Manpower	Nos. of Fire Tende rs	Amoutance	Suits	SCBA
1	TCL - Mithapur	02892665 555	45	2	2	8	55
2	Essar Oils Ltd. Vadinar	02833- 661890	85 fireman (outsourced) 12 fire officer	9	7	14	86
3	Bharat Oman Refinery Ltd- Singhach	02833- 256456	40	2	1	3	16
4	Indian Oil Corporation Ltd Vadinar	02833- 296675	35	3	NIL	10	07

## NUM

## \* Medical facilities at MAH units

Sr No	Name	Phone1	Amb. Van	OHC 5bed	First aid boxes	Stret- chers	Availab Doctor	oility of Nurses	Details of other facilities/equipme nt							
1	Tata Chem. Ltd.Mithapur	02892- 665409/ 9271941 00	2	Y	136	2	Y(1)	Y(1)	Oxy. Cyl Set - 1, SBS Sets - 3, Stethoscope - 1, Baloon type respirator - 1, Peak flow meter - 1, Self care kit -							
				1	24		124									

									1, Blood pres. measuring equipment – 1 Comp.Blood Test Lab.
2	Essar Oils Ltd.	02833 241444 F.241414 9979891 389	2	Y	140	3	Y	Y	Oxy. Cyl Set - 1 Stethoscope - 1, Baloon type respirator - 1, Self care kit - 1, Blood pres. measuring equipment – 1
3	Bharat Oman Refinery Ltd- Singhach	02833- 256456	1	N	7	2	N	N	
4	Indian Oil Corporation LtdVadinar	02833- 296675	0	N	5	4	1		Retainer doctor available at OHC center – three day in a week.

# Personal Protective Equipment Available at Major Accident Hazard Units:

Sr	Name	Phone1	SC	Canist	Full	Air	Chem.	Emergency	Watar
No			B A	er Masks	Body PVC	line BA	Splash suit	Kit	Gel
				TTASKS	Suit	DIX	Suit		
1	TCL	02892665	55	41	18	5	9	3	-
	Mithapur	555 233439							
2	Essar Oils	02833-	86	20	12	22	12	12 cl2	20
	Ltd.	661890							
	Vadinar	F241414							
3	Bharat	02833-	16					1	2
	Oman	256456							
	Refinery								
	Ltd-								
	Singach								
4	Indian Oil	02833-	7	Ν	2	Ν	2	1	8
	Corporatio	296675							
	n Ltd								
	Vadinar								

## Annexure: 9 Other Facility at MAH unit

Name of Facilities         BPCL         VEDANTA         NAY-RA         IOCL(V)         TCL           Facilities         Avl         Spr         Avl         TCL					Na	me Of (	Organis	ations			
Facilities         Avl         Spr         Avl <th< th=""><th>Name of</th><th>BP</th><th>CL</th><th>VED</th><th></th><th></th><th></th><th></th><th>L(V)</th><th>Т</th><th>CL</th></th<>	Name of	BP	CL	VED					L(V)	Т	CL
Water         I <thi< th="">         I         <thi< th=""> <thi< th=""></thi<></thi<></thi<>		Avl	Spr	Avl	Spr	Avl	Spr	Avl	Spr	Avl	Spr
tankers         -         -         -         1         1         -<			•				•		•		•
Fire water bowser       -       -       -       -       -       -       -       1       -         Rescue tenders       -		_	_	_	_	1	1	_	_	_	-
bowser       -       -       -       -       -       -       1       -         Rescue       -						-	-				
tenders       -<		-	-	-	-	-	-	-	-	1	-
Foam tenders       3       1       2       -       6       1       2       -       1       -         Earth moving equipment s       -	Rescue										
tenders       3       1       2       -       6       1       2       -       1       -         Earth       moving       -		-	-	-	-	-	-	-	-	-	-
Earth moving equipment         -											
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		3	1	2	-	6	1	2	-	1	-
equipment       -											
s       -	0										
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
Mobile crane with capacity 1- 05 MT       -								_			-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		-	-	-	-	-		-	-	-	-
capacity 1- 05 MT       .											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
Bus       -       -       -       -       -       -       -       1       -         Car       -       -       -       -       -       -       -       -       1       -         Truck       -       <		-	-	-	-	-	-	-	-	-	-
Bus       -       -       -       -       -       -       1       -         Car       -       -       -       -       -       -       -       -       1       -         Truck       -       <	Jeep	-	-		-	4	1	-	-	-	-
Truck       - <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>1</td> <td>-</td>		-	-	-	-	-	-	-	-	1	-
Ambulanc       Image: constraint of the system       Image: constraintof the system       Image: constraint	Car	-	-		-	-	-	-	-	-	-
Ambulanc       Image: constraint of the system       Image: constraintof the system       Image: constraint	Truck	-	-	-	-	-	-	_	-	-	-
Portable generator with Capacity 1       Image: constraint of the second sec											
generator with Capacity 1IIIIII $KVA$ Trailer pump121Portable 		1	-	1	-	3	1	-	-	2	-
with Capacity 1       I <thi< th="">       I       <thi< th=""></thi<></thi<>											
Capacity 1											
KVA       -											
Trailer       1       -       -       2       1       -       -       1       -         pump       1       -       -       -       2       1       -       -       1       -         Portable       -       -       -       4       2       -       -       1       -         pump       1       -       -       -       4       2       -       -       1       -         SCBA sets       16       6       4       -       72       6       3       -       30       -         Life saving jackets       -       -       -       4       4       3       -       10       -         Public       -       -       -       4       4       3       -       10       -         Address       -       -       -       4       2       1       -       -       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       -       4       2       3       -       6       - <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
pump       1       -       -       2       1       -       -       1       -         Portable       -       -       -       4       2       -       -       1       -         pump       1       -       -       -       4       2       -       -       1       -         SCBA sets       16       6       4       -       72       6       3       -       30       -         Life saving jackets       -       -       -       4       4       3       -       10       -         Public       -       -       -       4       4       3       -       10       -         Address       -       -       -       4       2       1       -       -       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       4       2       1       -       -       -         Safety       -       -       -       4       2       3       -       6       -		-	-	-	-	-	-	-	-	-	-
Portable       1       -       -       4       2       -       -       1       -         SCBA sets       16       6       4       -       72       6       3       -       30       -         Life saving jackets       -       -       -       4       4       3       -       10       -         Public       -       -       -       4       4       3       -       10       -         Address       -       -       -       4       2       1       -       -       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       4       2       1       -       -       -         Safety       -       -       -       4       2       3       -       6       -		1	-	_	_	2	1	-	-		-
pump       1       -       -       4       2       -       -       1       -         SCBA sets       16       6       4       -       72       6       3       -       30       -         Life saving jackets       -       -       -       4       4       3       -       10       -         Public       -       -       -       4       4       3       -       10       -         Address       -       -       -       4       2       1       -       -       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       4       2       1       -       -       -         Safety       -       -       -       4       2       3       -       6       -							-			-	
SCBA sets       16       6       4       -       72       6       3       -       30       -         Life saving jackets       -       -       -       72       6       3       -       30       -         Life saving jackets       -       -       -       -       4       4       3       -       10       -         Public       -       -       -       4       4       3       -       10       -         Address       -       -       -       4       2       1       -       -       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       4       2       1       -       -       -         Safety       -       10       2       10       -       4       2       3       -       6       -		1	-	-	-	4	2		_	1	
Life saving jackets       -       -       -       4       4       3       -       10       -         Public       -       -       -       4       4       3       -       10       -         Address       -       -       -       4       4       3       -       10       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       4       2       1       -       -       -         Safety       -       -       -       4       2       3       -       6       -         Harness       10       2       10       -       4       2       3       -       6       -		16	6	4	-	72	6	3	-	30	_
Public Address System421Other Equipment s Safety Harness10210-423-6-											
Address       -       -       -       4       2       1       -       -       -         System       -       -       -       4       2       1       -       -       -         Other       -       -       -       4       2       1       -       -       -         Equipment       -       -       -       -       -       -       -       -         Safety       -       -       -       4       2       3       -       6       -         Harness       10       2       10       -       4       2       3       -       6       -	0	_	-	-	-	4	4	3	-	10	-
System       -       -       -       4       2       1       -       -       -         Other       Equipment       -       -       -       4       2       1       -											
Other Equipment s Safety Harness10210-423-6-											
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s Safety Harness 10 2 10 - 4 2 3 - 6 -											
Harness 10 2 10 - 4 2 3 - 6 -											
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# Special Resources available at MAH Unit

## Annexure: 10 Chemical and their Antidotes

Details Of Chemicals Properties, Fire Fighting Agents, Antidotes, First Aid & Medical Treatment :

Sr No	Name Of Chemical	Hazard Chara- cteristics	Fire Fighting Agent	Antidote / First Aid / Medical Treatment
1	Acetic Acid	Corrosive	Carbon Dioxide, Dry Chemical Powder, Water Spray and Alcohol Resistant Foam	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. If heartbeats are absent, give external Cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open and obtain medical treatment urgently.
2	Ammonia	Flammable, Toxic	Stop flow of gas, use water spray to cool fire exposed containers. Exposed fire fighter must wear positive pressure self-contained breathing-apparatus and full protective clothing.	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Inhalation of steam or vinegar vapour is recommended. If substance has gone in eyes, wash with plenty of water for 15 minutes To relieve restlessness, ingestion morphine 15mg to relieve Dypspnoea, Oxygen inhalation.
3	Ammo- niam Carbonate	Corrosive	Non-flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open.
4	Ammonia Nitrate (Melt)	_	Use plenty of water to cool fire exposed containers. Exposed fire fighter must wear positive pressure self- contained breathing apparatus and full protective clothing. Container may explode in fire.	In case of burns due to hot Ammonium Nitrate solution, part should be flushed with large quantity of water and treated according to usual burns.
5.	Carbon Dioxide	Asphy-xiant	Non-flammable	It is simple asphyxiant and can cause oxygen deficiency in confined space / non ventilated areas. Respiratory protection is required.
6.	Carbon Monoxide	Flamm- able, Toxic	Carbon monoxide, dry chemical powder, wear self contained breathing apparatus. Let fire burn, shut off gas while using the chemicals. 127	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardiac compression. Do not use mouth to mouth ventilation. Administer 100% oxygen till

				carboxyhemoglobin level is measured Cerebral edema and convulsions mus be controlled. Ethylene blue must no be injected.
7.	Chlorine	Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give external cardiac compression. In case of eye exposure, wash with copiou amount of water for 15 minutes keeping eyelids apart
8.	Coal	Flamm- able	Dry chemical powder, water supply	Incomplete combustion may produc CO1, suphur dioxide, henc respiratory protection may be required to fight the fire.
9.	Formic Acid	Flamm- able, Corrosive	Carbon dioxide, dry chemical powder, water spray and alcohol resistant, foam all purpose foam.	Remove the victim to fresh air. If there is a difficulty in breathing, giv oxygen. If hearts beats are absent, giv external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open and obtain medicat treatment urgently.
10.	Fuel Oil	Flamm- able	Carbon dioxide, dry chemical powder, foam	Remove the contaminated clothes Wash the affected parts of skin with plenty of soap and water and see medical advice immediately for inhalation of vapors / fumes.
11.	High Speed Diesel	Flamm- able	Dry chemical powder, foam	- do -
12.	Hydro- chloric Acid	Corrosive	Non flammable	Remove the victim to fresh air. If ther is a difficulty in breathing, giv artificial respiration. Do not giv alkaline substances or carbonat preparation. Skin should be treated with 5% Trietanol amine. If substanc has gone in eyes, wash with plenty of water for 15 minutes, holding eye open and obtain medical treatment urgently.
13.	Hydrogen	Flamm- able, Explosive	Dry chemical powder, halon. Let fire burn under control. Stop flow of gas.	It is simple asphyxiant and can caus oxygen deficiency in confined space non ventilated areas. Move victim to the fresh air and apply resuscitation methods.
14.	Hydrogen Iodide	Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardiac compression. Incase of eye exposure, wash with copious amount of water for 15

15	Undragon	Flamm-	Carbon dioxide, dry	minutes, keeping eyelids apart. Remove the victim to fresh air.
15	Hydrogen Sulphide	able, Toxic	chemical powder. Wear self-contained breathing apparatus. Alcohol resistant foam is also advisable to be used to stop fire.	there is a difficulty in breathing, give oxygen. Patient with significate exposure, should be hospitalized for 72 hours of medical observation for delayed pulmonary edema. The respiratory centre may be stimulated by injection of LOBGIN are nikethamide. Victamin C may be injected intravenously. Incase of eye exposure, it should be treated with boric acid solution.
16	Iodine	Toxic	Use water spray or carbon dioxide. Do not use foam or dry chemical. Wear full protective clothing and self contained breathing apparatus for fire fighting.	Remove the victim to fresh air. there is a difficulty in breathing, giv oxygen. If hearts beatsabosent, giv external cardiac compression. Patien with significant exposure should be hospitalized for 72 hours of medic observation. Consider administratic of multiple metered doses of topic steroid hormon or 30 mg/kg of methyl prednisolone IV.
17.	LPG	Flamm- able, Explosive	Carbon dioxide, dry chemical powder, water spray	Remove the victim to fresh air. there is a difficulty in breathing, giv oxygen. If substance has gone is eyes, wash with plenty of water for 15 minutes holding eyes open.
18.	Methane	Flamm- able, Explosive	Carbon dioxide, dry chemical powder. Shut off gas.	Remove the victim to fresh air. there is a difficulty in breathing, giv oxygen. If substance has gone is eyes wash with plenty of water.
19.	Methanol	Flamma- ble, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. there is a difficulty in breathing, giv oxygen. Never administer anythin by mouth if a victim is losin conciousness. Do not induce vomiting. Do not use mouth to mouth respiration. Massive alkalization in life saving and eyes saving measures. Give small quantite of Ethyl alcohol every 4 hourly. substance has gone in eyes, was with plenty of water for 15 minute holding eyes open.
20.	Methyl Acetate	Flamma- ble, Toxic	Carbon dioxide, dry chemical powder and alcohol resistant foam. Water may be ineffective.	Remove the victim to fresh air. there is a difficulty in breathing, giv oxygen. If substance heart beats an absent, give external cardia compression. If substance has gor in eyes, wash with plenty of wate for 15 minutes holding eyes ope

				and obtain medical treatmen urgently.
21	Methyl Formate	Flamma- ble, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. I there is a difficulty in breathing, give
22	Methyl Iodide	Toxic	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. If substance heartbeats ar absent, give external cardia compression. Do not use mouth t mouth ventilation. Keep unde medical sureillance for 48 hours Consider administration of multipl metered doses of topical stercoid b inhalation and or upto 30 mg / kg o methyl prednisolone. Incase of eye contact immediately, refer to opthalmologist.
23	Mono Ethylene Glycol	Flamm- able, Toxic	Carbon dioxide, dry chemical powder and alcohol resistant foam.	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. If heartbeats are absent, giv external cardiac compression. I substance has gone in eyes, was with plenty of water.
24	Naphtha	Flamm- able	Foam dry chemical powder, carbon dioxide. Apply water fog from as far distance as possible.	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. The decision of whether t induce vomiting or not should b made by an attending physician. I heartbeats are absent, give externa cardiac compression. If substanc has gone in eyes, wash with plenty of water.
25	Natural Gas	Flamm- able	Stop flow of gas. Dry chemical powder, carbon dioxide.	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. If substance has gone i eyes, wash with plenty of water for 15 minutes, holding eyes open.
26	Nitric Acid	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, giv Oxygen. Do not induce vomiting. I heartbeats are absent, give externa Cardiac compression. If substanc has gone in eyes, wash with plenty of water for 15 minutes, holding eye open and obtain medical treatment

				urgently.
27	Nitric Oxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Do not allow to walk. Fata symptoms may be delayed upto 48 hours even though victim may seem normal after exposure. If hearts beats are absent, give external cardia compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes oper and obtain medical treatment urgently. Methemoglobinemia due to no resolve in hours with oxygen therapy.
28	Nitrogen	Asphy- xiant	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, give oxygen. If hearts beats are absent give external cardia compression Treat for frostbite with lukewarm water.
29	Oxygen	-	Non flammable	Inhalation of 100 % oxygen car cause nausea, dizziness, irritation o lungs, pulmonary edema, pneumonia and collapse. Liquid oxygen wil cause frostbite.
30	Nitrogen Dioxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, give oxygen. Enforce complete rest for 24 to 48 hours. Incase of high exposure keep patient under medica observation for atleast 72 hours Some individuals who had symptoms of acute exposure with or withou edema, develop in immune reaction 10 days or 6 weeks after exposure Symptoms include severe cough cyanbosis (tuning blue) feve hypoxemia and X ray may show fire scattered nodes in the lungs are vulnerable to virus.
31	Pottasium Hydroxide	Corrosive Toxic	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, give oxygen. If substance heart beats are absent, give external cardiac compression. Incase of eye contac immediately refer for opthomological opinion. Treat skin burns conventionally.
32	Potta-ssium	Flamm-	Only dry chemical	Remove the victim to fresh air. I

			water and CO2.	by mouth if a victim is losing consciousness. Do not induc vomiting. Do not use mouth to mouth respiration. Backing soda in glass of water should be given.
33	Propionic Acide	Flamm- able, Toxic, Corrosive	Foam, dry chemical powder, carbon dioxide. Apply waster fog from as far distance as possible.	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. If heart beats are absent give external cardiac compression Incase of eye contact flush wit plenty of water for about 15 minutes Remove wet clothese and was affected area with water & soap.
34	Rhodium Triodide	-	Non flammable	Remove the victim to fresh air Material cause irritation of nose throat and respiratory tract. Repeate exposure to skin can cause allergi sensitilization. Incase of eye contact flush with plenty of water for 1 minutes.
35	Sodium Hydroxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. Incase of eye contact flus with plenty of water for about 1 minutes. Remove wet clothese an wash affected area with water of soap.
36	Sulphur Dioxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. I there is a difficulty in breathing, giv oxygen. If hearts beats are absen give external cardia compression Atropicrhnitis and phayngitis may b treated by inhalation of 5% solutio of sodium chloride, followed b inhalation of 5% solution of sodiur chloride, followed by inhalation of vitamin A. Incase of of eye contac flush with 2% sodium bicarbonat solution, drops of 2 to 3 % phedrin should be instilled in the nose.
37	Sulphuric Acid	Corrosive, Toxic	Non flammable, react with water to form large amount of heat and corrosive fumes. Do not use water to existing fire in the nearby area.	Remove the victim to fresh air. I there is a difficulty in breathing, giv Oxygen. Incase eye contact flus with plenty of water for 15 minutes Remove wet clothes and was affected area with plenty of water.
38	Trichloro Ethylene	Flamm- able, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. I there is a difficulty in breathing, giv Oxygen. Do not induce vomiting I heart beats are absent, give externa Cardiac compression. If substanc has gone in eyes, wash with plenty of

				open urgent	
39	Ortho Dichloro Benzene	Flame- able, Toxic	Foam dry chemical powder, carbon dioxide. Apply water fog from as far distance as possible.	there i oxyget with j minute	ve the victim to fresh air. I is a difficulty in breathing, give n. In case of eye contact flush plenty of water for about 13 es. Remove wet clothes and affected area with plenty o
40	Trichloro Acetyl Chloride	Corrosive, Toxic	Foam dry chemical powder, carbon dioxide.	will p severe person perfor- require affecte and w with o	ed, give oxygen. Wash th ed skin thoroughly with soap vater. Flush and irrigate eye copious quantity of water fo to 15 minutes. Do not induc
41	Acrylo- nitrile	Flamm- able, Toxic	Carbon dioxide, dry ch powder		
42	Copper Comp-ounds	-	Non flammable		Remove the victim to fres air. If there is a difficulty i breathing, give oxygen. I heart beats are absent, giv external cardia compression If substance has gone in eye wash with plenty of water for about 15 minutes, holdin eyes open and obtain medica treatment urgently.
43	Aniline	Flamm- able, Toxic	Foam, dry chemical p carbon dioxide	owder,	Remove the victim to fres air. If there is a difficulty i breathing, give Oxyger Aniline is very toxic, i splashed on skin. It passe through the skin, causin methamoglobinemia. Antidotes is methlyene blue Incase of eye contact flus with plenty of water for 1 minutes. Remove wet clothe

				and wash affected area with plenty of water.
44	Benzene	Flamm- able, Toxic	Foam, dry chemical powder, carbon dioxide	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen Benzene is very toxic or i splashed on skin. Cronic exposure may lead to leukemia. Incase of eye contact flush with plenty o water for 15 minutes Remove wet clothes and wash affected area with plenty of water.
45	Nitro- benzene	Flamm- able, Toxic	Foam, dry chemical powder, carbon dioxide	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. NH is very toxic if splashed on skin. It passes through the skin causing methamoglobinemia. Antidote is methylene blue Incase of eye contact flush with plenty of water for about 15 minutes. Removie wet clothes and wash affected area with plenty of water.
46	Phosgene	Corrosive Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen Phosgenen is very toxi incase of inhalation. It ha very low $TLV - 0.1$ ppm Keep the person unde observation for 72 hours for possibility of delayed effect Incase of eye contact, flush with plenty of water for about 15 minutes. Remov wet clothes and wash affected area with plenty of water.
47	Toluene	Flamm- able, Toxic	Foam, dry chemical powder, carbon dioxide	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen Toluene is very toxic is splashed on skin. Incase of eye contact flush with plent of water for about 11 minutes. Remove wet clothe and wash affected area with

				plenty of water.
48	Di Nitro Toluenen	Flammable , Explosive	Use plenty of water to cool fire exposed containers. Exposed fire fighter must wear positive self contained breathing apparatus. Foam and dry chemical powder and carbon dioxide can be used.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Di Nitro Toluene is very toxic if splashed on skin. Incase of 'eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
49.	Metaol-uene Di Amine	Flamm- able, Toxic	Foam dry chemical powder, carbon dioxide. Apply water fog from as far distance as possible.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen Metaoluene Di Amine is toxic, if splashed on skin Incase of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
50	Toluene Di Isocyanate	Corrosive, Toxic	Dry chemical powder, carbon dioxide. Do not apply water as it reacts violently with water at elevated temperature.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen Toluenen Di Isocynate is very toxic if inhaled In cause pulmonary edema TLV of TDI vapour is ver low i.e. 0.0005 ppm. If splashed on skin, incauses sensitization of skin tissue Incase of eye contact, flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
51	Methyl Iodine	Toxic	Non Flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If heart beats are absent, give external cardiac compression Do not use mouth to mouth ventilation. Keep under medical surveillance for 48 hours. Consider administration of multiple metered doses of topical stercoid aerosol by inhalation and or upto 30 mg / kg of methyl prednisolone. Incase

Chloro Sulphonic Acid Carbon Di Sulphide Etyhlene Oxide Acephate nilo-phose Ethion horateQuin al-phos lachorCarb enda-zim hiophanate – M	A poision to irritant, corrosive Flamm- able, Explosive Flamm- able, Carci- nogen Non flamm- able	Use DCP, foam if exposes to fire. Use DCP, CO2 Use DCP Use DCP Use DCP, foam if exposed to fire. Use DCP, foam is exposed to fire	refer to opthalmologist. Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induct vomiting. Obtain medica treatment urgently. Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induct vomiting. Obtain medica treatment urgently. Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induct vomiting. Obtain medica treatment urgently. Atropine sulphate in dose 2 - 4 mg for adult, 2 pam 1000 - 2000 mg / im.
Sulphonic Acid Carbon Di Sulphide Etyhlene Oxide Acephate nilo-phose Ethion horateQuin al-phos lachorCarb enda-zim 'hiophanate	to irritant, corrosive Flamm- able, Explosive Flamm- able, Carci- nogen Non flamm- able	fire. Use DCP, CO2 Use DCP Use DCP, foam if exposed to fire. Use DCP, foam is exposed to	there is a difficulty breathing give oxygen. Do not induct vomiting. Obtain medica treatment urgently. Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induct vomiting. Obtain medica treatment urgently. Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induct vomiting. Obtain medica treatment urgently. Atropine sulphate in dose 2 - 4 mg for adult, 2 pam 1000 - 2000 mg / im.
Sulphide Etyhlene Oxide Acephate nilo-phose Ethion horateQuin al-phos lachorCarb enda-zim 'hiophanate	able, Explosive Flamm- able, Carci- nogen Non flamm- able	Use DCP, foam if exposed to fire. Use DCP, foam is exposed to	Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induc vomiting. Obtain medica treatment urgently. Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induc vomiting. Obtain medica treatment urgently. Atropine sulphate in dose 2 4 mg for adult, 2 pam 1000 2000 mg / im.
Oxide Acephate nilo-phose Ethion horateQuin al-phos lachorCarb enda-zim 'hiophanate	able, Carci- nogen Non flamm- able Non flamm-	Use DCP, foam if exposed to fire. Use DCP, foam is exposed to	Remove victim to fresh air. I there is a difficulty breathing give oxygen. Do not induc vomiting. Obtain medica treatment urgently. Atropine sulphate in dose 2 4 mg for adult, 2 pam 1000 2000 mg / im. Inject 1 gm of Eralidioxim chloride IV. Do not induc vomiting if the injecter
nilo-phose Ethion horateQuin al-phos lachorCarb enda-zim hiophanate	flamm- able Non flamm-	fire. Use DCP, foam is exposed to	Atropine sulphate in dose 2 4 mg for adult, 2 pam 1000 2000 mg / im. Inject 1 gm of Eralidioxim chloride IV. Do not induc vomiting if the injecter
lachorCarb enda-zim hiophanate	flamm-	-	chloride IV. Do not induc vomiting if the injected
			poison is principally hydrocarbon solvent.
Mancozeb Thiram	Non flamm- able	Use DCP, foam is exposed to fire	Low toxicity, no specifi treatment.
Allethrin Cyperm- hrinFevalra te	Toxic	Use DCP, foam is exposed to fire	The treatment is symptomic.
lumi-nium Phosphate	Non flamm- able	Use DCP, foam is exposed to fire	Injection copper sulphat 0.25 gm.
sopro-turon	Non flamm- able	Use DCP, foam is exposed to fire	Supportive treatment.
Hexa- onazoleProp i-conazole	Non flamm- able	Use DCP, foam is exposed to fire	There is no specific antidote and treats the victin symptomatically.
Propane	Flamm- able, Explosive	DCP, Water	First aid.
Butadine	Flamm- able,	DCP, Water	First aid.
Propylene	Flamm- able, Explosive	DCP, Water	First aid.
	hrinFevalra te Iumi-nium Phosphate sopro-turon Hexa- onazoleProp -conazole Propane Butadine	hrinFevalra te lumi-nium Phosphate sopro-turon Mon flamm- able Non flamm- able Hexa- Non flamm- able Propane Flamm- able, Explosive Butadine Flamm- able, Explosive Propylene Flamm- able, Explosive	CypenneIntehrinFevalraInteteIntelumi-niumNonUse DCP, foam is exposed toPhosphateflamm- ablesopro-turonNonUse DCP, foam is exposed toflamm- ablefireHexa- mazolePropNonUse DCP, foam is exposed tofnazolePropflamm- firePropaneFlamm- able, ExplosiveButadineFlamm- able, ExplosivePropyleneFlamm- able, ExplosivePropyleneFlamm- able, Explosive

65	Styrene Monomer	Flamm- able	DCP, Foam compound	-
66	Phosphoric Acid	Corrosive	-	Skin Contact: - Wash with clean water. Apply dry sterile dressing.Eye Contact: Through wash with clean water, apply denominate (novelize) drop (0.4%).Inhalation: Administer O2, Give him fresh drink water.Ingestion: Milk of magnesia, fresh egg, administer him oxygen.

#### Annexure: 11 HAM Radio Exam Passed

## \* List Of government official who had passed HAM radio exam:

Sr No	Regi.No	Class	Name	Office	Resi. Address	DoB	Other qualifica tion	Remarks
1	61	3	Sunil K. Thakar Steno English and PA to colletor jamnagar	Collector office jamnagar	4/5 Patel Colony, Road No.2, Jamnagar Ph.02882753835	15/03/61	B.Com	

## \* List of Civilian who had passed HAM radio exam:

Sr. No.	Regi .No	Name	Resi. Address	DoB	Other qualifica tion
1	4	Chandresh M. Mamtora	Abil-Gulal, Solarium Road, Jamngar Ph.02882540085	08/08/71	D.Pharm B.Pharm
2	32	Dr. Urvish K. Joshi	Medical Campus, G.G. Hospital, Jamnagar	22/08/81	M.B.B.S. M.D.
3	57	Chandani P. Patel	"Ushadip" Panchavati Gaushala, Opp. Happy Home Pro. Store, Jamnagar	16/01/86	B.Sc.
4	Licen No. 3239 5	N.P.Mehta	"MATRUCHHAYA" ,Rajgor street- Jamnagar	6/11/75	S.Y.B.com

## Annexure: 12 NGO

Sr. No	NGO Name	Address	Contact person	Contact Number
1	Lions Club,Jamkhamb haliya	Barchhapado,gaytrinagar, khambhaliya	Sudhirpopatbhai vijaybhaiktariya	02833234070, 9426233660 9913699999 9825488890
2	Ladies chamber of Commerce	Ramnath society near vidhya Shankar temple, Khambhalia	Nishaben Nakum	9712047956
3	Shri Mahila Mandal, Khambhalia	Navapara, Khambhalia	Prafulaben Barcha	02833-234323,-2833- 234322, 9825150636
4	Medical Store Association	Aashish medical store nagar gate, Khambhalia	Hitesh D Gokani	9824327100
5	Loiness Club, Khambhalia	Shiv Dental near paleshawar temple, Khambhalia	Rekhaben Nakum	9904337420
6	Satavara Samaj navivadi	Harshadpur, Khambhalia	Nakum haribhaivaljibha i	9904294584
7	Yungester Group	Near bus station, Khambhalia	Rameshbhaimot ani	9727859600
8	Doctor's Association	Saket Hospital, Railway station road, Khambhalia	Dr. Sumat Cheteriya Dr. Shalini	9825407535
9	Jalaram Mandir satsangmandal trust	Jodhpur Naka bada gayatri nagar road, Khambhalia	NatubhaiKundal iya	9998111233
10	Raghuvanshi Mahilamandal	Mandvi Timbo, Khambhalia	JominibenMota ni	9427775903
11	Mahajan Panjrapol, Bhanvad	Bhanvad	Nishitbhai Sanghvi	02896-232072, 9428126600
12	Raghuvanshi Social Group,Bhanvad	Bhanvad	Jayeshbhairaich ura	9427240278
13	Jain Social Group	Bhanvad	Bharatbhai Shah	9427771953
14	Govardhan goshala Mandali	Bhanvad	Babubhai Ramjibhai Rathod	9924949691
15	Giriraj Seva trust	Raval, Kalyanpur	GokaniVinubha i	9427259108
16	Swaminarayan transport	Deliya, Kalyanpur	BhikhubhaiVad her	9825714516
17	FPS Association Kalyaanpur	Kalyanpur	DevsibhaiHarda sbhaiKarangiya	9879358805
18	Peacock	Kenedi, Kalyanpur	NarayanbhaiMe	9426289192

	Conservation Centre		ramanbhaiKara ngiya	
19	GodaldasJamana dasCheritable Trust	Bhatiya, Kalyanpur	Dwarkadas Raipura	02891-233155
20	Shri Mangalam Aashram and Cheritable Trust	Satapar, Kalyanpur	Gojiya Deva Sidabhai	9558187435
21	APMC Bhatiya	Bhatiya, Kalyanpur	Masribhai N Goriya	9426209561
22	Tata Chemicla for Rural development ,Mithapur	Mithapur, Dwarka	H.N Kamani	02892-665367 9227891655
23	Gram Vikas trust	Near S.P. college Dwarka	Prof. D.S Ker	02892- 236551/236552 9824069942
24	Swami Narayan Temple, Dwarka	Dwarka	Shri Prem Jivan Swami	9979132332 9624863472
25	Shri Sharda math	Near bhojan house dwarka temple	Shri Chandrakant	02892-234230
26	Sarvodaya Mahila Mandal, Okha	Navi Bazar, Okha	Pushpa ben somaiya	9624463196
27	DudheshwarYuv ak Mandal	Dwarka	Shri Kailash P Hindocha	9904421768
28	Prajapati Bhramkumari Ishwariya Vishwavidhyala ya	Near State Highway, Triolk darshan art galary	Smt Bhramkumari Shushmaben	9427445956

#### Annexure: 13 Resources

## <u>Resources available at Government offices</u> <u>1.Collector Office-Devbhumi Dwarka</u>

Sr.no.	Details of Equipment	Quantity	Contact Person Name	Contact Numbers
1.	Inflatable light	03	1.)D.P.O DISASTER	8530153040
			Management I/C	
			2.DY.MAM( Disaster	9904084101
			Management)	

## 2.Mamlatdar Office-Khambhaliya

Sr.no.	Details of Equipment	Quantity	Contact Person Name	Contact Numbers
1.	Life Buoy	10	Mamlatdar-	02833-232804
2	Life Jacket	14	Khambhaliya	7567014800
3	Ropes 200 Ft.	01		
4	Generator	01		

## **<u>3.Mamlatdar Office-Kalyanpur</u>**

Sr.no.	Details of Equipment	Quantity	Contact Person Name	Contact Numbers
1.	Life Buoy	41	Mamlatdar-Kalyapur	02891 286120,
2	Life Jacket	21		+91 7567002729
3	Ropes 200 Ft.	02		
4	Ropes 100 Ft.	02		
5	Ropes 50 Ft.	02		
6	Generator	01		

## 4.Mamlatdar Office-Dwarka

Sr.no.	Details of Equipment	Quantity	Contact Person Name	Contact Numbers
1.	Life Buoy	07	Mamlatdar-Dwarka	02892 234541,
2	Life Jacket	11		+917567012400
3	Generator	01		

## 5.Mamlatdar Office-Bhanvad

Sr.no.	Details of Equipment	Quantity	Contact Person Name	Contact Numbers		
1.	Life Buoy	13	Mamlatdar-Bhanvad	02896 232116,		
2	Life Jacket	14		+91 7567002729		
3	Ropes 100 mt.	01				
4	Ropes 200 mt.	04				
5	Generator	01				
141						

Sr.no.	Details of Equipment	Police Station	Quantity	Contact Person Name & Numbers
1.	Inflateble Light tower	Khambhaliya	2	02833-234735
		Dwarka	5	02892-234524
		Okha Marine	1	02892-262396
		Vadinar Marine	1	02833-256541
		Kalyanpur	2	02891-286222
2	Life Jacket	Dwarka	1	02892-234523
		Vadinar Marine	10	02833-256541
3	Life Bouy	Vadinar Marin	5	02833-256541
		Dwarka	5	02892-234523
4	Rope Ladder	Vadinar Marine	1	02833-256541
5	Rope	Vadinar Marine	1	02833-256541
6	Generator	Vadinar Marine	1	02833-256541

# 6.Police Departmrnt Devbhumi Dwarka

# List of fishing Centre

Sr.no.	Name of fishing centre	No of Registerd Fishing Boats
1	Okha	1493
2	Bet	246
3	Ruped	404
4	Harshad	89
5	Navdra	84
6	Bhogat	26
7	Salaya	604
8	Vadinar	23
9	Nana Ambla	33
10	Bharada	23
	Total	3025

## Annexure: 14 Resourcers of Health department

## \* Taluka wise CHC,PHC,SHC of Devbhumi Dwarka:

Sr. No.	Taluka	Name of CHCs	PHCs	SHC	DH	SDH
1	Bhanvad	Bhanvad	5	35	0	0
2	Khambaliya	Salaya,	6	54	1	0
3	Kalyanpur	Kalyanpur, Raval	9	56	0	0
4	Dwarka (Okhamandal)	-	3	24	0	1
	Total	4	23	169	1	1

# Equipment Detail , Year : 2024

No	Name of Equipment	DH	SDH	СНС	РНС	ESSAR
1	Ventilator	58	5	0	1	0
2	O2 Cylinder	233	30	46	62	10
3	Enchotrachal tube	92	10	2	0	4
4	Laryngoscope	7	5	4	0	1
5	Defibrication	10	2	2	0	1
6	Refrigerator	15	6	10	24	1
7	Lagrange Mask Airway	50	0	6	0	2
8	Ambu Bag	10	6	18	19	4
9	PPE (Personnel Prevention Examination) Kit.	700	495	504	3125	10
10	Pulse Oximeter	25	22	12	174	10
11	ECG Machine	15	3	4	14	2
12	Endotracheal tube	92	10	3	0	2
13	Straturas	10	5	0	18	2
14	Wheel Chair	20	4	8	19	1
15	Pulse Monitor	35	0	13	2	0
16	Cervical Collar	0	0	0	0	1
17	Long Spring Board	0	0	0	0	1
18	N – 95 Masks	17000	4500	2732	35150	100
19	Autoanalyser	3	0	2	1	1
20	X – ray Machine	3	2	4	1	0
21	Generator	3	1	4	1	0
22	Invetor 14	4 0	0	4	14	0

		EMRI – 108 deta	il
Sr.No	Taluka	Location	No. Of Ambulance
		Kalyanpur	1
1	Kalyanpur	Ran-Limdi	1
		Harshad	1
		Dwarka	1
	Dwarka	Mithapur	1
2		Nageshwar	1
_		Okha	1
		Okha (Boat Ambulance)	1
3	Bhanvad	Bhanvad	1
		Khambhaliya	1
4	Khambhaliya	Ramnagar	1
		Jakhar Patiya	1

### Locations of EMRI 108 in Devbhumi Dwarka District

Human Resource				
	DEVBHUMI DWARKA			
Human Resource	Sanction	Filled	Filled Per (%)	
MO - MBBS	23	19	97%	
MO - AYUSH	20	20	100%	
MPS	29	28	97%	
FHS	32	25	78%	
FHW	192	189	98%	
MPW	167	162	97%	
Lab. Tech	29	28	97%	
Pharmacist	28	22	79%	
ASHA	611	558	91%	

	Annexure: 15 Health Department Team Formation					
		District Repid	<b>Response team</b>			
Sr.	Designation	Name	Address		Phone	
No				Office	Mobile	
1	CDHO	Dr. Mitesh Bhandari	D.P.Devbhumi	02833-	9727700033	
	CDHO	D1. Writesh Bhandari	Dwarka	232914	7721100033	
2	Microbiology	Dr.L.N.Kanara (I/C)	G.H.		7984214369	
	Department		Khambhaliya	_	7904214309	
3	District		D.P.Devbhumi			
	Surveillance Officer	Dr.M.D.Jethava	Dwarka	-	7567879695	
	(EMO)		Dwarka			
4	Entomologist/DMO	Dr.M.D.Jethava	D.P.Devbhumi	02833-	7567879695	
		Diminibilitie	Dwarka	232914		
5	Medicine	Dr.Naresh Dethariya	G.H.	_	7567537949	
	Department		Khambhaliya		/30/33/343	
6	Public Health					
	Specialist (PSM)	Vacant				
	Department					
7	Pediatric	Dr.Bharat B. Nandaniya	G.H.		7698052530	
	Department	Di Bharat D. Nanualliya	Khambhaliya	_	7030032330	

## Taluka Rapid ResponeTeam

## **Block: Khambhalia**

No	Name of Officer / Employee	Designation	Head Quatar	Phone No		
No	Name of Officer / Employee	Designation	Head Quatar	Office	Mob / Resi	
1	Dr. Jayshree Vavnotiya	Medical Officer	Khambhalia	-	9428669333	
2	M.S.Ambaliya	TMPHS	Khambhalia	-	9727583291	
3	P.M. Pindariya	Phramisist	Khambhalia	-	9662720499	
4	Rahul Sonagara	MPHW	Khambhalia	-	7016302238	
5	Sonalben Makawana	FHW	Khambhalia	-	7016478597	
6	Pravin Chopda	Driver	Khambhalia	-	9601391652	
Vehi	cle No. GJ 37 G 0763					

## **Block: Bhanvad**

No	Name of Officer / Employee	Designation	Head Quatar	Phone No	
INO	Name of Officer / Employee	Designation	Head Quatar	Office	Mob / Resi
1	Dr. Rahul Gagliya	МО	Pachtar	02896- 275217	7573029691
2	G. C. Katesiya	THV	Bhanvad	02896- 232040	7567879711
3	D.M Parmar	TMPHS	Bhanvad	02896- 232040	9727782090
4	H.K. Rathod	MPHS	Gunda	02896- 234557	9727782089
		146	·		

5	N.P Chatrala	MPHW	Rojiwada	02896-	9913297363
6	Nathi Ben Gohil	FHW	Mokhana	234557 02896-	7567879750
7	Mital Balwa	FHW	Nava Gam	244340 02896-	6359899182
8	Jayesh Solanki	Driver	Bhanvad	232040 02896-	8200988987
Veh	icle No.:GJ 18 AZ 9983			232040	
Bloo	ek: Kalyanpur				
No	Name of Officer / Employee	Designation	Head Quatar		one No
		MO		Office	Mob / Resi
1	Dr. Nilam Solanki	MO	Devaliya	-	9426913118
2	Karshan Gojiya	Pharmacist	Lamba	02891- 285270	9998676464
3	N K Khandhar	TMPHS	Bhatiya	02891- 286005	7573996199
4	B H Kanzariya	MPHS	Gadhaka	02891- 275430	757399619
5			D1'	02891-	
5	L.R. Vaghela	FHW	Devaliya	286005	7567879305
6	L.R. Vaghela Lalabhai icleNo. GJ 37 G 0859	FHW     Driver	Devaliya	286005	
6 Veh	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka	Driver	Devaliya	-	
6 Veh	Lalabhai icleNo. GJ 37 G 0859		•	-	635318141
6 Veh	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka	Driver	Devaliya	- Pł	635318141
6 Veh	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka Name of Officer / Employee	Driver	Devaliya Head Quater	- Pł Office 02892-	635318141 635318141 None No Mob / Res 756787924
6 Veh <b>No</b> 1	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka Name of Officer / Employee Dr. Manish Kamothi	Driver Designation MO	Devaliya Head Quater Varvala	- Pł Office 02892-	635318141 635318141 00ne No Mob / Res 756787924 635709315
6 Veh <b>No</b> 1 2	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka Name of Officer / Employee Dr. Manish Kamothi K.B.Vadher	Driver Designation MO Pharmacist	Devaliya <b>Head Quater</b> Varvala Surajkaradi	- Ph Office 02892- 234048 - 02892-	635318141 635318141 00ne No Mob / Res 756787924 635709315 8128922433
6 Veh 1 2 3	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka Name of Officer / Employee Dr. Manish Kamothi K.B.Vadher K.K. Vansjadiya	Driver Designation MO Pharmacist MPHS	Devaliya Devaliya Head Quater Varvala Surajkaradi Varvada	- Ph Office 02892- 234048 - 02892- 226352 02892-	635318141 635318141 00ne No Mob / Res 756787924 635709315 812892243 990904552
6 Veh 1 2 3 4	Lalabhai   icleNo. GJ 37 G 0859   Block: Dwarka   Name of Officer / Employee   Dr. Manish Kamothi   K.B.Vadher   K.K. Vansjadiya   M.M. Chavada	Driver Driver Driver Designation MO Pharmacist MPHS TMPS	Devaliya Devaliya Head Quater Varvala Surajkaradi Varvada Dwarka	- Pr Office 02892- 234048 - 02892- 226352 02892- 234075	635318141 635318141 000e No Mob / Resi 756787924 6357093150 8128922432 990904552 9277559450
6 Veh 1 2 3 4 5	Lalabhai icleNo. GJ 37 G 0859 Block: Dwarka Name of Officer / Employee Dr. Manish Kamothi K.B.Vadher K.K. Vansjadiya M.M. Chavada K N Chandarana	Driver Driver Driver Designation MO Pharmacist MPHS TMPS MPHW	Devaliya Devaliya Head Quater Varvala Surajkaradi Varvada Dwarka Tupani	- Pf Office 02892- 234048 - 02892- 226352 02892- 234075 - 02892-	635318141
6 Veh 1 2 3 4 5 6 7	Lalabhai   icleNo. GJ 37 G 0859   Block: Dwarka   Name of Officer / Employee   Dr. Manish Kamothi   K.B.Vadher   K.K. Vansjadiya   M.M. Chavada   K N Chandarana   Kirti Ben Pandvadra	Driver Driver Designation MO Pharmacist MPHS TMPS MPHW FHW	Devaliya Devaliya Head Quater Varvala Surajkaradi Varvada Dwarka Tupani Varvala	- Pr Office 02892- 234048 - 02892- 226352 02892- 234075 - 02892- 234048 02892-	635318141 635318141 00ne No Mob / Resi 756787924 6357093150 8128922432 990904552 9277559450 635922049
6 Veh 1 2 3 4 5 6 7	Lalabhai         icleNo. GJ 37 G 0859         Block: Dwarka         Name of Officer / Employee         Dr. Manish Kamothi         K.B.Vadher         K.K. Vansjadiya         M.M. Chavada         K N Chandarana         Kirti Ben Pandvadra         Salim Bhai Turak	Driver Driver Designation MO Pharmacist MPHS TMPS MPHW FHW	Devaliya Devaliya Head Quater Varvala Surajkaradi Varvada Dwarka Tupani Varvala	- Pr Office 02892- 234048 - 02892- 226352 02892- 234075 - 02892- 234048 02892-	635318141 635318141 00ne No Mob / Res 756787924 635709315 812892243 990904552 927755945 635922049

## Annexure: 16 Taluka Wise Swimmer list

અનુ.	હોદો	અધિ.∕કર્મચારીનું નામ	મોબાઇલ નંબર	પો.સ્ટે.
٩	UASI	દુદાભાઇ જગમાલભાઇ લુવા	૯૮૭૯૪૧૩૩૯૫	ભાણવડ
ર	ULR	નારણભાઇ પબાભાઇ બેલા	୯୯୬୪୦૧૨૬୬୪	ભાણવડ
3	UHC	કેશુરભાઇ લાખાભાઇ માડમ	666730365	ભાણવડ
۲	UHC	દેશુરભાઈ ખીમાણંદભાઇ ભાચકન	د93،930،403	ભાણવડ
ų	ULR	ભીમાભાઇ દેસુરભાઇ મોરી	८२३८४०२७३९	ભાણવડ
S	ULR	ભોજાભાઇ લાખાભાઇ વસરા	<b>७८२४७</b> ५१२५७	ભાણવડ
ٯ	ALR	રમેશભાઇ નારણભાઇ નંદાણીયા	७५२४२२१०७२	ભાણવડ
e	UHC	ચીરાગસિંહ ભીખુભા જાડેજા	૯૨૬૫૮૫૧૧૯૪	ભાણવડ
٩0	UASI	સાંગાભાઇ મેરામણભાઇ ઠુણ	૭૮૭૪૭૨૩૨૫૭	ભાણવડ
٩٩	UASI	મહેન્દ્રસીઠ અજુભા રાણા	٢٤٤٨3٢٢٥٩٨	ભાણવડ
٩3	AASI	નારણભાઇ પરબતભાઇ ગાગીયા	૯૯૭૮૦૪૨૨૫૬	ભાણવડ
٩४	UHC	માલદેભાઇ ખોડાભાઇ બરાઇ	0537260023	ભાણવડ
૧૫	AASI	પબાભાઇ ઠીરાભાઇ કોડીયાતર	૭૦૬૯૫૬૩૧૭૬	ભાણવડ
٩۶	UASI	રામશીભાઇ <b>વિક્રમભાઇ યાવડા</b>	૯૭૨૫૯૬૯૪૮૯	કલ્યાણપુર
৭৩	UHC	નારણભાઇ વીરમભાઇ લુણા	૭૫૬૭૫૬૨૪૩૨	કલ્યાણપુર
٩८	UHC	રામાભાઇ <b>જેઠાભાઇ ચંદ્રાવાડીયા</b>	૭૯૮૪૪૩૨૨૧૦	કલ્યાણપુર
٩૯	UHC	લખમણભાઇ દુદાભાઇ કારાવદરા	૯૪૨૭૪૩૪૩૦૫	કલ્યાણપુર
૨૦	ULR	ભરતભાઇ વેજાણંદભાઇ ગોજીયા	૯૬૬૨૬૯૧૫૬૫	કલ્યાણપુર
૨૧	UHC	નેભાભાઇ <b>અરજણભાઇ બારડ</b>	୧୯୧୪୪୫୨୦୬୧	કલ્યાણપુર
રર	UPC	નારણભાઇ <b>ભીખાભાઇ આંબલીયા</b>	9200836383	કલ્યાણપુર
૨૩	UPC	સંજયભાઈ <b>મસરીભાઈ પરમાર</b>	૯૦૯૯૪૭૧૩૮૧	કલ્યાણપુર
૨૪	UHC	મુકેશભાઇ સુખાભાઇ વાઘેલા	૮૮૬૬૭૨૬૯૪૫	બેટ દ્વારકા
રપ	UHC	બાવલાભા નંઢાભા માણેક	૬૩૫૫૭ ૧૧૬૯૬	બેટ દ્વારકા
રક	UHC	મનીશભા રાયદેભા કેર	૮૧૪૧૮૯૭૯૯૯	બેટ દ્વારકા
ર૭	UHC	હસમુખભાઇ પોપટભાઇ	૯૫૮૬૬૬૦૩૨૮	બેટ દ્વારકા
૨૮	PI	શ્રી ટી.સી.પટેલ	૯૭૧૨૯૦૯૪૫૬	દ્વારકા
ર૯	UASI	કીશોરભાઇ રણમલભાઇ	دد٩٤٥٥٥٤٤٤٢	દ્વારકા
30	UHC	જીતેન્દ્રસિંહ કેશુભા	૯૯૭૯૪૬૭૮૫૪	દ્વારકા
39	UHC	દુષ્યંતસિંહ દશરથસિંહ	८१४०८७०४३२	દ્વારકા
3 2	UPC	લખમણભાઈ દેવાભાઇ	૯૦૬૭૧૨૭૮૨૫	દ્વારકા
33	PSI	શ્રી આર.વી.રાઠોડ	<u> </u>	દ્વારકા

3 X	UHC	સંદિપભાઇ ધીરજલાલ	<b>૯७</b> १४३००७४८	દ્વારકા
૩૫	UHC	વજશીભાઇ હમીરભાઇ	૮૧૨૮૧૫૫૩૯૬	દ્વારકા
3 5	UPC	દેવશીભાઇ ગોવાભાઇ	૯૯૦૪૩૭૦૫૫૨	દ્વારકા
39	UPC	કમલેશભાઇ અરજણભાઇ	८७३४०७५०००	દ્વારકા
3 ८	WALR	હેતલબેન હકાભાઇ	૭૮૬૧૯૫૨૫૪૪	દ્વારકા
36	UHC	દેવેન્દ્રસિંહ જગદીશસિંહ	૯૭૧૪૩૩૫૬૭૮	દ્વારકા
80	AHC	ભાવેશભાઈ ભગવાનજીભાઈ	୧୧୦୧୦୫୦୫୦	દ્વારકા
४१	UPC	જીવાભાઇ પીઠાભાઇ	૮૬૯૦૬૨૭૭૫૨	દ્વારકા
४२	AHC	કીરણબેન જીવરાજભાઇ	૯૪૨૭૨૧૯૯૦૮	દ્વારકા
83	APC	મહેશભાઇ ધનજીભાઇ	૯૫૫૮૪૬૨૨૮૨	દ્વારકા
88	ALR	મનિષકુમાર ગોપાલભાઇ	<b>૯૧૦</b> ૬૮૧૬૦૯૬	દ્વારકા
૪૫	UHC	રાજદીપસિંહ હરીચંન્દ્રસિંહ	٥٤٥٥، ٥٥٥٤٥	દ્વારકા
ጸዓ	UPC	મુરૂભાઇ ભાચાભાઇ	୧୯ <b>୬</b> ୪3 <i>୬</i> 5८८୯	દ્વારકા
১৩	ALR	જેશાભાઇ મશરીભાઇ	૭૨૦૧૮૫૪૫૫૫	દ્વારકા
४८	WALR	ઉર્વિશાબેન મનજીભાઇ	6878765557	દ્વારકા
४७	PSI	શ્રી આર.પી. રાજપુત	૯૮૨૫૭૯૯૨૬૪	દ્વારકા
૫૦	ALR	અજયસિંહ નાથુભા	८४८८०८१८१०	દ્વારકા
૫૧	UASI	જનકસિંહ રણજીતસિંહ	૯૯૨૫૪૧૧૦૧૧	દ્વારકા
પર	UHC	નરેન્દ્રસિંહ કિશોરસિંહ	૯૯૦૯૯૮૮૫૫૯	દ્રારકા
પ૩	AHC	કુલદિપભાઈ કનુભાઈ	૯૬૬૨૫૫૫૨૨૨	દ્વારકા
૫૪	WALR	વિરાજબેન મોટભાઇ	७०८१२८५२५७	દ્વારકા
પપ	WALR	જયોતિબેન દ્રદાભાઇ	9082806230	દ્વારકા
ՎՏ	WUPC	રામીબેન રણમલભાઇ	૭૨૬૫૮૬૫૨૭૦	દ્વારકા
પ૭	ULR	ઠમીરભાઇ ભીમાભાઇ	૯૩૧૬૯૫૪૧૩૦	દ્વારકા
૫૮	ALR	જયદિપભાઇ રમેશભાઇ	૯૦૮૧૨૧૭૪૦૧	દ્વારકા
૫૯	PSI	શ્રી આર.એચ.સુવા	૯૯૨૫૧૪૧૮૮૯	દ્વારકા
90	AHC	રવિરાજસિંહ ચંદ્રસિંહ	૯૫૮૬૬૪૪૦૫૮	દ્વારકા
૬૧	UHC	નરેશભાઈ જેઠાભાઈ	૯૪૨૭૭૫૩૦૪૪	દ્વારકા
કર	UHC	ઈન્દ્રસિંહ જીલુભા	୧୬ଽ୬୧୧୧୧୪	દ્વારકા
53	AHC	શારીયાભાઇ કેશુભાઇ	૯૭૧૨૬૩૮૮૧૮	દ્વારકા
५४	UHC	હરપાલસિંહ ચતુરસિંહ	૯૫૩૭૩૩૫૬૫૬	દ્વારકા
કપ	UPC	પીઠાભાઇ નગાભાઇ	૯૭૨૬૬૫૬૬૬૬	દ્વારકા
ទទ	UPC	ભાવેશભાઇ ધુરજીભાઇ	८७८०४०४४४०	દ્વારકા
९७	ALR	ઠનીફભાઇ અબ્દુલભાઇ	૯૫૩૭૧૫૯૫૬૮	દ્વારકા
56	AHC	પરબતભાઇ સાજણભાઇ	6806685683	દ્વારકા
56	ALR	રણમલભાઇ હમીરભાઇ	કરાયલર૪૪૫૨૫	દ્વારકા
૭૦	WULR	પુનમબેન લીમજીલાઇ	૯૦૨૩૭૫૭૪૬૦	દ્વારકા
૭૧	ALR	પરેશભાઇ કાળુભાઇ	૯૬૩૮૯૩૧૫૭૭	દ્વારકા

૭૨	WALR	પુરીબેન સુરેશભાઇ	୯3 ୧୬୧୨୪୪୪୯	દ્વારકા
93	AHC	શૈલેષભાઈ ભનુભાઈ	୯୬૧૨૧૬୯૬୬୬	દ્વારકા
৩४	ALR	સંજયભાઇ ચનાભાઇ	૮૯૮૦૫૮૨૯૨૩	દ્વારકા
૭૫	UHC	અરજણભાઇ દેવાભાઇ	6613018588	દ્વારકા
ავ	WAPC	આશાબેન રણમલભાઇ	૯૯૨૫૯૩૫૯૮૪	દ્વારકા
وى	WALR	ધર્મિષ્ઠાબેન કાન્તિભાઇ	૭૩૮૩૩૪૫૧૭૧	દ્વારકા
৩८	ALR	મઢેશભાઇ ઝુઝાભાઇ	૮૭૮૦૨૭૧૫૯૭	દ્રારકા
୬୯	WALR	કાજલબેન ખિમાભાઇ	୯3	દ્વારકા
٥٥	WUPC	હિરલબેન ભાદાભાઈ	૭૪૯૦૦૭૧૧૩૭	દ્વારકા
८१	WALR	હિરલબેન મનાભાઇ	૯૩૧૩૬૧૪૪૫૯	દ્વારકા
65	WUPC	ગીતાબેન મસરીભાઇ	૮૩૨૦૭૫૨૪૨૦	દ્વારકા
٢3	WUPC	નયનાબેન ધીરજલાલ	<b>८१९</b> 0033 <i>5</i> 35	દ્વારકા
८४	WALR	રેખાબેન વિઠલભાઇ	૯૯૧૩૭૭૮૦૯૧	દ્વારકા
૮૫	WALR	કાજલબેન લીલાધરભાઇ	ક૩૫૫૮૧૯૯૧૯	દ્વારકા
ረዓ	ULR	સાગરભાઇ રમેશભાઇ	685888355	દ્વારકા
৫৩	ULR	કરશનભાઇ રાજસીભાઇ	୬୦୪ <b>૧</b> ૩ ୬୬୬૩ ૧	દ્વારકા
٢٢	ULR	વિપુલભાઇ મુળજીભાઇ	૮૩૪૭૩૨૩૬૧૫	દ્વારકા
८७	ULR	લખમણભાઇ પીઠાભાઇ	૯૯૭૮૪૫૭૪૯૮	દ્વારકા
60	ULR	દેવેન્દ્રસિંહ મનહરસિંહ	૯૫૩૭૫૫૮૮૨૪	દ્વારકા
૯૧	ULR	નિમિષકુમાર લખમણભાઇ	૭૦૧૬૧૮૨૨૩૪	દ્વારકા
૯૨	WULR	રૂડીબેન જયમલભાઇ	૯૮૭૫૦૩૭૨૧૮	દ્વારકા
63	WULR	શિલ્પાબા ભીખુભા	७८७४७८९८८५	દ્વારકા
୧୪	ALR	દિતેન્દ્રસિંહ રણજીતસિંહ	८७८०३८१४१५	દ્વારકા
૯૫	ULR	જયેશભાઇ વજશીભાઇ	૯૭૨૭૪૫૮૦૮૫	દ્વારકા
୯୨	WULR	પ્રેમીબેન દેવાભાઇ	۲۹۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶۶	દ્વારકા
୧୬	WALR	કમળાબેન ધરમશીભાઇ	૮૩૨૦૫૯૮૦૫૫	દ્વારકા
७८	ULR	ચિરાગભાઇ પરબતભાઇ	७२२८१८८८४४	દ્વારકા
୧୯	WALR	ભારતીબેન કરશનભાઇ	୯୬3୬3 ୨୩୪୬୯	દ્વારકા
٩٥٥	PI	શ્રી પી.એન.પટેલ	८४५८८८७४०	દ્વારકા
૧૦૧	PI	શ્રી કે.એસ.પટેલ	८४५८८८७४०	દ્વારકા
૧૦૨	WPI	શ્રી આર બી સોલંકી	685060036	દ્વારકા
٩٥ <u>3</u>	PSI	શ્રી આર.વી.જોષી	૯૮૨૫૫૬૩૨૫૦	દ્વારકા
૧૦૪	PSI	શ્રી એસ આર ગોસ્વામી	૯૫૧૨૨૦૦૦૧૨	દ્વારકા
૧૦૫	PSI	શ્રી ડી.એન.વાંઝા	૯૫૧૦૯ ૯૧૬૭૨	દ્વારકા
૧૦૬	PSI	શ્રી એન.ડી.કલોતરા	૯૭૧૪૦૨૭૫૪૫	દ્વારકા
৭০৩	PSI	શ્રી જી.કે.પ્રજાપતિ	८७८०० ४५७१२	દ્વારકા
१०८	PSI	શ્રી ડી. એસ. નકુમ	૯૯૨૫૦૪૦૧૨૨	દ્વારકા
१०७	PSI	શ્રી એમ.આર. રાજપુત	૯૪૦૮૨૩૪૯૩૧	દ્વારકા

૧૧૦	PSI	શ્રી કે. કે. મારૂ	6225886865	દ્વારકા
१११	UASI	માધવજીભાઈ નારણભાઈ	૭૫૬૭૮૬૭૧૬૫	દ્વારકા
૧૧૨	WUSI	લીરીબેન ભીખાભાઈ	૭૫૬૭૮૬૭૧૫૪	દ્વારકા
૧૧૩	AHC	ધર્મેન્દ્રસિઠ મોઠબતસિઠ	୯୩୦୨୯୬୦୨୦୦	દ્વારકા
११४	UHC	રાણાભાઈ રણમલભાઈ	८३२०२७१२२५	દ્વારકા
૧૧૫	UHC	નટવરલાલ થાવરાજીભાઈ સડાત	<b>८</b> ५५२८५२१४१	દ્વારકા
११५	UHC	રવીભાઈ હરીયાભાઈ નાંગેશ	٤٥٥٥٥٤٥٥٥٤3	દ્વારકા
ঀঀ৶	UHC	રવીરાજસિંહ પ્રભાતસિંહ જાડેજા	୯୯୦୯୯୦૧୧୦୦	દ્વારકા
११८	WAHC	માનુબેન અમરશીભાઈ	୧୦ଽ୦ଽଽ୦୪୪३	દ્વારકા
११૯	UPC	કમલેશવન વિનુવન	૭૬૯૮૦૫૨૫૭૮	દ્વારકા
૧૨૦	WUPC	ધર્મિષ્ઠાબેન ભોજાભાઈ	૯૨૬૫૫૮૫૪૦૮	દ્વારકા
१२१	ALR	માલસુરભાઈ જહાભાઈ	૯૫૩૭૨૯૯૨૨૯	દ્વારકા
૧૨૨	ULR	મેરામણભાઇ મસરીભાઇ	૯૫૧૨૫૧૫૯૧૦	દ્વારકા
૧૨૩	ULR	હરેશભાઇ પાલાભાઇ	<b>५३५२२०४४२४</b>	દ્વારકા
૧૨૪	ULR	પુથવીરાજસિંહ અજીતસિંહ	૭૫૬૭૩૨૧૨૭૮	દ્વારકા
૧૨૫	ULR	જચેન્દ્રસિંહ નિરવસિંહ	८४५००११०७७	દ્વારકા
૧૨૬	ULR	ચિંતનભાઇ મનસુખભાઇ	७८९००४८९८४	દ્વારકા
૧૨૭	ULR	જયદીપભાઇ રાણાભાઇ	૯૨૬૫૯૬૬૬૫૨	દ્વારકા
१२८	WULR	જ્યોતિબેન જયંતિલાલ	८१४०४३१४५८	દ્વારકા
૧૨૯	WULR	ભારતિબેન ગોગનભાઇ	<b>૯</b> ୦१ <b>५</b> १८५१५७	દ્વારકા
٩30	WULR	સેજલબેન જેસિંગભાઇ	૯૭૨૪૫૨૯૯૬૪	દ્વારકા
٩3٩	AASI	વજશીભાઇ ધાનાભાઇ	૮૩૪૭૮૨૧૧૮૫	દ્વારકા
૧૩૨	AHC	હરપાલસિંહ ધનશ્યામસિંહ	૯૬૦૧૬૭૦૯૭૧	દ્વારકા
٩33	UPC	અ૨શીભાઇ ગોગનભાઇ	୵୪ଽ୯୯୬ଽଽ୬ଽ	દ્વારકા
१३४	UHC	જયદિપભાઈ રણુભાઈ	૯૮૨૫૫૨૩૦૯૭	દ્વારકા
૧૩૫	AHC	નરેન્દ્રસિંહ બચુભા	૯૨૬૫૭૩૩૩૫૭	દ્વારકા
٩35	WUPC	કાજલબેન પ્રવિણભાઈ	<b>૯૯</b> ୦४५१५२१०	દ્વારકા
৭३৩	AASI	દિનેશભાઇ વાલજીભાઇ	୧୯୬୧୦୧୧୬୪୦	દ્વારકા
१३८	AASI	જયવંતસિંહ અખુભા	<b>८७८०३२२८३३</b>	દ્રારકા
૧૩૯	APC	ભાવેશભાઇ સાજણભાઇ	୯८୬୯୯૧୯୨୨୧	દ્રારકા
৭४০	AHC	દેવેન્દ્રસિંહ વનરાજસિંહ	૯૭૨૫૯૨૭૬૮૯	દ્રારકા
१४१	ALR	ધરણાતભાઇ પાલાભાઇ	୧୦୧३୦୧३୯୧୪	દ્રારકા
૧૪૨	ALR	ભાવેશભાઇ ઘનશ્યામભાઇ	<b>५३५४२२८१</b> ३७	દ્રારકા
१४३	ALR	ધીરેન્દ્રસિંહ લાખુભા જાડેજા	૬૩૫૨૧૦૯૧૦૭	દ્રારકા
ঀ४४	ALR	પરવીનભાઇ ધરણાતભાઇ	૯૭૭૩૦૫૮૩૨૯	દ્વારકા
૧૪૫	ALR	અરજણભાઇ દેવશીભાઇ	८८४७९७९७७०	દ્વારકા
१४५	AASI	ભરતભાઇ નાથાભાઇ	७९८८५००१७३	દ્વારકા
৭४৩	AASI	દીપકભાઇ વશરામભાઇ	૯૭૨૪૧૭૫૬૬૭	દ્વારકા

१४८	AHC	સાજણભાઇ ડાડુભાઇ	८१४००७२८२८	દ્વારકા
१४૯	UHC	અશ્વીનભાઇ પ્રેમજીભાઇ	૭૮૭૪૫૫૦૭૦૭	દ્વારકા
૧૫૦	AHC	છત્રપાલસિંહ અનિરૂદ્ધસિંહ	૭૯૯૦૭૮૧૪૦૫	દ્વારકા
૧૫૧	AHC	મઠીરાજદાન મનહરદાન	૬૩૫૩૧૫૩૭૧૩	દ્વારકા
૧૫૨	ALR	પબુભાઇ સામરાભાઇ	૯૭૧૨૮૨૩૮૪૩	દ્રારકા
૧૫૩	ALR	ધારશીભાઇ મનસુખભાઇ	૯૭૧૪૫૯૦૩૬૩	દ્વારકા
૧૫૪	ALR	વિક્રમસિંહ ભરતભાઇ	૯૫૮૬૮૭૨૫૬૭	દ્વારકા
૧૫૫	ALR	મઠીપાલસિંહ ઘોધુભા	કરા૪૪૧૦૫૧૪	દ્વારકા
૧૫૬	AHC	પુથ્વીરાજભાઈ રાજુભાઈ	6237776668	દ્વારકા
૧૫૭	UHC	કરણસિંઠ અગરસિંઠ જાડેજા	૯૯૨૫૭૨૩૫૩૫	વાડીનાર મરીન
૧૫૮	UHC	સંજયભાઇ વિનોદભાઇ બરારીયા	୯୨୦୩3୯୯୯୩୨	વાડીનાર મરીન
૧૫૯	ALR	મુકેશભાઇ મેરૂભાઇ ડાંગર	૯૭૨૪૯૭૭૩૫૭	વાડીનાર મરીન
٩\$0	PSI	શ્રી આર.આર. ઝરૂ સાહેબ	دلاء٥٥٥٥٥٥٥	ઓખા મરીન
१५१	UASI	કનુભાઈ અરશીભાઈ ચાવડા	૯૯૨૪૮૮૫૮૧૬	ઓખા મરીન
१९२	UASI	જીજ્ઞેશભાઇ રામભાઇ ગંગેરા	૯૯૦૪૬૫૧૭૩૮	ઓખા મરીન
۹۶3	UHC	પ્રધ્યુમનસિંહ રણજીતસિંહ જાડેજા	૯૫૩૭૩૩૫૬૫૬	ઓખા મરીન
१५४	UHC	કરશનભાઇ રણમલભાઇ વાઘેલા	૯૭૨૫૬૨૮૮૪૨	ઓખા મરીન
૧૬૫	UHC	પ્રવિણભાઈ પરબતભાઈ માડમ	୯୯୩३୪୦୦୧୫୯	ઓખા મરીન
ঀৢৢৢ	UHC	પ્રવિણભાઈ દલપતભાઈ વાણીયા	૮૧૨૮૧૫૨૯૫૦	ઓખા મરીન
৭૬৩	AHC	છત્રપાલસિંહ રણજીતસિંહ જાડેજા	૯૭૨૫૪૮૦૬૫૬	ઓખા મરીન
१५८	AHC	પ્રકાશભાઇ કાન્તીભાઇ સોલંકી	95056665555	ઓખા મરીન
१९७	AHC	આસપાલભાઈ કારાભાઈ મોવર	૯૯૨૪૫૧૧૫૯૫	ઓખા મરીન
૧૭૦	UPC	વીજયભાઈ રમણીકભાઈ મર્દનીયા	૮૧૪૦૪૫૪૭૪૫	ઓખા મરીન
৭৩৭	UPC	હીમતભાઇ રૂપાભાઇ ઝેઝરીયા	૯૯૭૪૬૯૯૬૫૫	ઓખા મરીન
૧૭૨	UPC	જયેશભાઈ ખીમાભાઈ ભાટુ	68563838555	ઓખા મરીન
૧૭૩	UPC	ભાયાભાઈ મેરામણભાઈ કરમુર	୧୪ଽ୧୬୧ଽ୬୪୯	ઓખા મરીન
৭৩४	ULR	સુરાભાઈ પબુભાઈ ગઢવી	૭૦૧૬૭૭૨૨૩૧	ઓખા મરીન
૧૭૫	WULR	અનીતાબેન પુંજાભાઈ પરમાર	૯૩૧૬૨૬૮૭૮૮	ઓખા મરીન
৭৩૬	WULR	ખમ્માબેન હરજીભાઈ બાવળીયા	८५११३८३४३८	ઓખા મરીન
৭৩৩	ULR	રાણશીભાઈ કારાભાઈ ધારાણી	<u> </u>	ઓખા મરીન
৭৩८	WULR	ગુલાબબેન લાલજીભાઈ ઝાપડીયા	૮૧૫૪૯૩૬૩૯૮	ઓખા મરીન
৭৩৫	ALR	નરેશભાઈ રાજુભાઇ ચાસીયા	૯૬૬૨૨૭૮૦૯૧	ઓખા મરીન
٩८٥	ALR	અભિષેકસિંહ રેવતસિંહ રાયજાદા	૯૦૮૧૮૭૫૮૪૭	ઓખા મરીન
१८१	ALR	પૃથ્વીરાજસિંહ વનરાજસિંહ જેઠવા	૯૬૦૧૭૦૮૫૮૪	ઓખા મરીન
१८२	ALR	અજીતભાઈ ઠકાભાઈ મેર	૭૩૫૯૪૨૫૭૦૮	ઓખા મરીન
१८३	ULR	સુનીલભા દેવાભા વાધા	૯૭૨૨૭૨૫૫૨૦	ઓખા મરીન
१८४	ULR	ભરતભાઈ દેવાભાઈ સોઢા	୧୦ଽ୬ଽ୯୧୦୧୬	ઓખા મરીન

૧૮૫	WALR	હિરલબેન હરેશભાઈ પરમાર	૭૦૪૧૩૧૭૯૯૮	ઓખા મરીન
१८५	WULR	રીટાબા ધર્મેન્દ્રસિંહ જાડેજા	9503695355	ઓખા મરીન
ঀ८७	APC	રણવિરસિંહ વખતસિંહ જાડેજા	८५३०३१४१४२	ઓખા મરીન
१८८	HC	ભીખાભાઇ આલાભાઇ	૯૯૧૩૧૧૬૫૧૬	સલાયા મરીન
१८७	PC	પીઠાભાઇ પબાભાઇ	७८९८००७४८७	સલાયા મરીન
૧૯૦	PC	ભરતસિંહ રણજીતસિંહ	૯૦૨૩૨૧૫૦૭૨	સલાયા મરીન
૧૯૧	PC	સિધ્ધાર્થ ભીખાભાઇ	૭૫૬૭૦૬૭૫૭૪	સલાયા મરીન
૧૯૨	PC	રાયમલભાઇ જગમાલભાઇ	८७८०३३७२७	સલાયા મરીન
१७३	PC	દિલીપભાઇ ભીખુભાઇ	७५००३०४४११	સલાયા મરીન
१८४	PC	વિપુલભાઇ સાજણભાઇ	૮૧૬૦૫૨૯૬૪૦	સલાયા મરીન
૧૯૫	ASI	મનસુખભાઇ ચનાભાઇ ચાવડા	૯૮૭૯૮ ૯૫૧૮૪	મીઠાપુર
१८५	ASI	કિશોરસિંહ રણજીતસિંહ જાડેજા	୧୧୬୯୪ ୦୪୯୪୯	મીઠાપુર
৭৫৩	UASI	પરાગભાઇ અમુતલાલ ચોહાણ	૯૯૦૪૭૧૫૯૮૫	મીઠાપુર
१७८	UASI	દેવાણંદભાઇ જીવાભાઇ ચાવડા	۶ د ۲ د م د م د م د م د م د م د م د م د م	મીઠાપુર
૧૯૯	AASI	રમેશભા ધાંધાભા બઠીયા	૯૦૬૭૬ ૧૮૭૧૨	મીઠાપુર
500	UHC	કાનાભાઇ ભીખાભાઇ વારોતરીયા	૯૬૮૭૮૪૧૪૨૫	મીઠાપુર
૨૦૧	UHC	વાલાભા ઠાડાભા સુમણીયા	૯૦૯૯૧ ૨૯૭૬૨	મીઠાપુર
૨૦૨	UHC	રવિભાઇ કિશોરભાઇ ચાવડા	૭୦୪૮୪૯૮૩૯૧	મીઠાપુર
503	HC	અરશીભાઇ સગાભાઇ માડમ	૭૦૧૬૧૫૬૯૬૪	મીઠાપુર
२०४	UHC	રાજુભાઇ ભરતભાઇ ટાંક	૯૯૨૫૫૩૯૮૦૧	મીઠાપુર
૨૦૫	AHC	રવિરાજસિંહ ઇન્દ્રસિંહ ઝાલા	୧୧୦୧୧୧୦୦୬୧	મીઠાપુર
૨૦૬	PC	નરશીભાઇ ગણપતભાઇ મેર	૮૧૪૧૩ ૯૭૭૨૦	મીઠાપુર
૨૦૭	PC	જયપાલસિંહ રાજેન્દ્રસિંહ જાડેજા	୧୦3 ୦୦୦୧ ୧୪୧	મીઠાપુર
२०८	ULR	સુનીલભા સોમૈચભા માણેક	୧୬ଽଽଽ୵୬୵୧୯	મીઠાપુર
૨૦૯	ALR	શંભુભાઇ અજુભાઇ વસવેલીયા	८०००८४०१२३	મીઠાપુર
૨૧૦	ALR	જયદેવભાઇ ધનશ્યામભાઇ અણીયાળીયા	૯૭૨૫૫૭૦૦૨૪	મીઠાપુર
૨૧૧	ALR	અજીતભાઇ હનુભાઇ ડાભી	૯૧૦૬૫ ૯૨૮૫૬	મીઠાપુર
૨૧૨	ULR	યોગરાજસિંહ દીલીપસિંહ ઝાલા	૯૯૧૩૨૫૭૦૦૫	ખંભાળીયા
૨૧૩	ULR	કાનાભાઇ રાણાભાઇ લુણા	७९८८८८७३४२	ખંભાળીયા
૨૧૪	ULR	વિરપાલ દેશુરભાઇ લુણા	૯૭૨૬૬૧૬૦૦૩	ખંભાળીયા
ર૧૫	ULR	નિલેષભાઇ સુકાભાઇ ગોજીયા	૯૫૭૪૯૫૦૫૩૧	ખંભાળીયા
૨૧૬	ULR	દીવ્યેશ રાજશીભાઇ ભીંભા	<i>७७७८८</i> ०४५५४	ખંભાળીયા
૨૧૭	ULR	દિનેશ ભીમાભાઇ ધોયલ	૯૯૯૮૯૩૦૫૪૮	ખંભાળીયા
૨૧૮	ALR	સંજયભાઇ રાજપારભાઇ ધમા	૯૯૭૯૯૦૫૭૪૭	ખંભાળીયા
૨૧૯	ULR	મહાવીરસિંહ મંગલસિંહ જાડેજા	૯૮૨૪૭૩૯૨૫૧	ખંભાળીયા
२२०	ULR	ભરતભાઇ કરણાભાઇ નંદાણીયા	૯૭૨૩૪૯૧૦૯૫	ખંભાળીયા
૨૨૧	ULR	જદૃવિરસિંહ ધનશ્યામસિંહ જાડેજા	૬૩૫૫૦૭૪૩૯૦	ખંભાળીયા

ULR	ભાવેશકુમાર ભીખુભાઇ માળીયા	૯૭૨૪૮૫૭૩૫૩	ખંભાળીયા
ULR	મહેન્દ્રસિંહ મંગલસિંહ જાડેજા	૯૪૨૬૪૭૦૬૫૭	ખંભાળીયા
ULR	દલાભાઇ રાણાભાઇ કારીયા	૮૧૫૩૮૧૮૫૮૯	ખંભાળીયા
UPC	વિપુલભાઇ કાનાભાઇ મોરી	૯૯૧૩૦૧૨૧૩૫	ખંભાળીયા
	ULR	ULR મહેન્દ્રસિંહ મંગલસિંહ જાડેજા ULR દલાભાઇ રાણાભાઇ કારીયા	ULR         મહેન્દ્રસિંહ મંગલસિંહ જાડેજા         ૯૪૨૬૪૭૦૬૫૭           ULR         દલાભાઇ રાણાભાઇ કારીયા         ૮૧૫૩૮૧૮૫૮૯

r listSwimmer list

Taluka Wise Swimmer list Taluka Wise Swimmer li

#### Annexure: 17 Shelter management

As per instruction of a District collector or message for SEOC, DDO will do operation of relief and shelter with their staff, group members & their staff and maintain the records of areawise population, shelter centers in your area for effective emergency evacuation. Based on the warning issued by IMD, pin point the districts and villages likely to beaffected by Disasters and start the procedure for identifying safe places/shelters for evacuation in those villages. Generally, Schools and public buildings are given first priority for shelter because they are always available with facilities 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.

Village wise data of safe sheltering for evacuation available on SDRN should be referred and the dist. Lision officers/Taluka level officers/Village level officers should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site. 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 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 Collector 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 cocoordinating 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.

S	Taluka	Number of Shelter		
No				
1	Khambhalia	127		
2	Bhanvad	113		
3	Kalyanpur	168		
4	Dwarka	56		
	Total	464		

## Identified Temporary Shelter in Devbhumi Dwarka district

#### Annexure: 18 Do's and Don'ts

## Dos and don'ts of various disasters Cyclone Safety:

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

#### Where does a cyclone come from?

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

#### What are the visible signs of a cyclone?

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

#### How does a cyclone affect us?

- A cyclone causes heavy floods.
- It uproots electricity supply and telecommunication lines. Power supply shuts down and telephones stop functioning.
- Road and rail movements come to halt because floods damage rail tracks and breach roads. Rail movements are also disrupted because of communication failure.
- The inclement weather conditions also disrupt Air services. Seaports stop work due to high winds, heavy rains and poor visibility. Sometimes ships overturn or are washed ashore. The high-speed winds bend and pluck out trees and plants.
- A cyclone tears away wall sidings and blows off roofs of houses.
- Houses collapse and people are rendered homeless. In villages kacha houses get blown away. The speeding winds cause loose metal and wooden sheets to fly turning them to potential killers. Broken glass pieces can cause serious injuries.
- The floodwaters can take time to recede.
- The floodwaters can turn the fields salty.
- Bridges, dams and embankments suffer serious damages.
- Floods wash away human beings and animals and make water unfit for drinking. There can be outbreak of diseases like Cholera, Jaundice or Viral fever due to intake of impure water. Water gets contaminated because of floating corpses of animals and human beings and mixing of sewage stored food supplies, gets damaged.

#### Which areas are exposed to a cyclone in Gujarat?

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

#### Does a cyclone follow a particular path?

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

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

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

#### How does the system operate?

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

## • The Alert stage

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

## • The Warning stage

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

## Cyclone arrival

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

## From where can people access cyclone storm warnings?

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

## What to do before and during a cyclone.

- Have your dwellings checked before a cyclone season starts and carry out whatever repairs that are needed.
- Talk to children and explain about cyclones without scaring them.
- Create storm awareness by discussing effects of a cyclonic storm with family members so that everyone knows what one can and should do in an emergency. This helps to remove fear and anxiety and prepares everyone to respond to emergencies quickly.
- Keep your valuables and documents in containers, which cannot be damaged by water.
- Keep information about your blood group.
- Keep lanterns filled with kerosene, torches and spare batteries. These must be kept in secure places and handy.
- Make plans for people who are either sick, suffer from disabilities, aged and children.
- Store up at least seven-day stock of essential food articles, medicines and water supply.
- Keep blankets & clothes ready for making beds. Also keep cotton bandages and several copies of photographs of family members in case they are needed for identification purposes after the storm.

- Store some wooden boards so that they can be used to cover windows.
- Keep trees and shrubs trimmed. Remove damaged and decayed parts of trees to make them resist wind and reduce the potential for damage. Cut weak branches and make winds blow through.
- All doors, windows and openings should be secured.
- Continue to listen to warning bulletins and keep in touch with local officials. Keep radio sets in working condition. Battery powered radio sets are desirable.
- Evacuate people to places of safety when advised.
- Take steps to protect your assets.
- Store extra drinking water in covered vessels.
- Remain calm.

## What one should not do during a Cyclone attack?

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

## Earthquake safety:

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

## **During Earthquake**

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

## After the Earthquake

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

## Fire safety:

Do's

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

## Don'ts

- Don't burn crackers in crowded, congested places, narrow lanes or inside the house.
- Don't let children burst crackers unaccompanied by an adult

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

## Flood Safety:

## Do's and Don'ts after flood

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

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

## Tsunami:

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

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

## Before

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

## During

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

## After

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

## Annexure: 19 General terminology used in weather or disaster bulletins

## Specification for description of rainfall:

Manager Annual and a star sector of the Products of the Products		
INTENSITY OF RAINFALL		हिन्दी / ગુજરાતી
VERY LIGHT	0.1 TO 2.4 MM	बहुत हल्की वर्षा / अहुष्ठ ओधु वरसाह
LIGHT	2.5 - 15.5 MM	हल्की वर्षा / ओछो वरसाह
MODERATE	15.6 - 64.4 MM	मध्यम वर्षा / मध्यम वरसाह
HEAVY	64.5 - 115.5 MM	भारी वर्षा / आरे वरसाह
VERY HEAVY	115.6 - 204.4 MM	बहुत भारी वर्षा / ખૂબ ભારે વરસાદ
EXTREMELY HEAVY	≥ 204.5 MM	अत्यधिक भारी वर्षा / अत्यंत ભારે વરસાદ
EXCEPTIONALLY HEAVY	WHEN THE AMOUNT IS A VALUE NEAR ABOUT THE HIGHEST RECORDED RAINFALL AT OR NEAR THE STATION FOR THE MONTH OR SEASON. HOWEVER, THIS TERM WILL BE USED ONLY WHEN THE ACTUAL RAINFALL AMOUNT EXCEEDS 12 CM	असाधारण भारी वर्षा / असामान्थ ભારે વરસાદ

PROBABILITY OF OCCURENCE (%)	हिन्दी	ગુજરાતી
UNLIKELY	संभावना नहीं	શક્યતા નથી.
LIKELY	संभावित	શક્યતા છે.
VERY LIKELY	अधिक संभावना	વધારે શક્યતા છે.
MOST LIKELY	अत्याधिक संभावना	અત્યાધિક શક્યતા છે.

WARNING COLOUR CODES	हिन्दी	ગુજરાતી
WARNING (TAKE ACTION)	चेतावनी	ચેતાવણી
ALERT (BE PREPARED)	सतर्क रहें	સતર્ક રહો
WATCH (BE UPDATED)	निगरानी रखें	ધ્યાન આપો
NO WARNING (NO ACTION)	कोई चेतावनी नहीं	કોઇ ચેતાવણી નથી

## **Terminology for rainfall distribution:**

OLD TERMINOLOGY	NEW TERMINOLOGY WITH	SPATIAL
OLD TERMINOLOGY	EFFETE FROM APRIL-1998	DISTRIBUTION
ALMOST ALL PLACES	ALMOST ALL PLACES	ABOVE 75%
AT MANY PLACES	AT MANY PLACES	51% TO 75%
AT A FEW PLACES	AT A FEW PLACES	26% to 50%
AT ONE OR TWO PLACES	ISOLATED	01% TO 25%

## Important weather forcast website:

- 1. www.imd.gov.in
- 2. www.imdahm.gov.in
- 3. www.accuweather.com
- 4. www.skymetweather.com
- 5. www.weather.gov
- 6. www.noaa.gov
- 7. worldweather.wmo.int
- 8. www.usno.navy.mil
- 9. <u>www.windy.com</u>
- 10. www.earth.nullschool.net
- 11. www.rsmcnewdelhi.imd.gov.in

## Criteria for classification of Cyclonic disturbances over the North Indian Ocean

Sr.	Type of disturbance	Associated maximum sustained wind (MSW)
1	Low Pressure Area	Not exceeding 17 knots (<31 kmph)
2	Depression	17 to 27 knots ( <b>31-49 kmph</b> )
3	Deep Deepression	28 to 33 knots (50-61 kmph)
4	Cyclonic Storm	34 to 47 knots (62-88 kmph)
5	Severe Cyclonic Storm	48 to 63 knots (89-117 kmph)
6	Very Severe Cyclonic	64 to 110 lmote (119 221 lmmh)
0	Storm	64 to 119 knots (118-221 kmph)
7	Super Cyclonic Storm	120 knots and above (≥222 kmph)

Note: 1 Knot is equal to 1.852 km.

		Annexu Aapda M			
S No.	Name of Volunteer	Sex	Taluka	Village	Contact Number
	Volunteers trained in Aaj	odamit	ra Phase 2 t	raining Bat	ch-2019
1	Nilesh Kumar Pindariya	Male	Khambhaliya	Navi Fort	7016904607
2	HinabenValjibhai Nakum	Female	Khambhaliya	Khambhaliya	6352252244
3	Dhrangu Ajay Merubhai	Male	Bhanvad	Sanakhala	9662516538
4	Mahesh Baidiyavadara	Male	Bhanvad	Mota Kalavad	7284876421
5	KarangiyaAshwinbhaiRanmalbh ai	Male	Bhanvad	Bhanvad	9724865165
6	ChetriyaBhaveshbhaiBhikabhai	Male	Bhanvad	Bhanvad	8200235766
7	Karmur Bhavesh Khimabhai	Male	Bhanvad	Bhanvad	9773474525
8	Karmur Bhavin Dosabhai	Male	Bhanvad	Bhanvad	9328245511
9	Himat M Ghoyal	Male	Bhanvad	Kalyanpur	9081689566
10	SavabhaBudhabha Manek	Male	Dwarka	Varchu	9998212205
11	TharcabhaBudhabhaSumaniya	Male	Dwarka	Khatumba	9925237620
12	RajubhaDhanabhaSumaniya	Male	Dwarka	Khatumba	9512558300
13	Shekh Sadam Hasambhai	Male	Dwarka	Dhinki	6353797695
14	Hasan Jusab Shekh	Male	Dwarka	Dhinki	9978137784
15	Kishan Manek Samyabha	Male	Dwarka	Dhanki	7990884971
16	Ravi SomabhaiSingarkhiya	Male	Kalyanpur	Raval	9909306975
17	Jitesh Mohan Makwana	Male	Kalyanpur	Raval	6352965703
18	JagdhishAalabhaiChawada	Male	Kalyanpur	Bhatiya	7874684142
19	RamabhaiNagabhai Vaghela	Male	Kalyanpur	Raval	8530855919
20	Bhavesh Ramsibhaisolanki	Male	Kalyanpur	Raval	9712270816
21	Amit ChhaganbhaiSingarkhiya	Male	Kalyanpur	Raval	6351022162
22	Pratap Dhirubhai Gami	Male	Kalyanpur	Raval	9913984327
23	DharmeshbhaiSukabhai Gami	Male	Kalyanpur	Raval	6355424818
24	Paresh Panchabhai Vaghela	Male	Kalyanpur	Raval	9687944004
25	Vinod VachibhaiSingarkhiya	Male	Kalyanpur	Raval	8999013118

26	Rajesh Jenti bhai Makawana	Male	Kalyanpur	Raval	9974771006		
27	Aartiben Bhagat bhai Gadhvi	Female	Kalyanpur	Bhogat	9099061604		
28	Lilavatiben Soma bhai Katara	Female	Kalyanpur	Lamba	9586456460		
29	BhanubenRukhdpari Goswami	Female	Kalyanpur	Gandhvi	9725859915		
	Volunteers trained in A	apdamit	ra Phase 1 traini	ng Batch-2018	1		
30	30Parmar Chandu SomabhaiMaleBhanvadBhanvad9879781745						
31	Piparotar Suryakiran Khimabhai	Male	Bhanvad	Bhanvad	9998496174		
32	Jogal Dilip Kanabhai	Male	Bhanvad	Bhanvad	8980642842		
33	Mori Raju Punabhai	Male	Bhanvad	Bhanvad	9726929636		
34	Sumaniya Subhash Nandabha	Male	Dwarka	Dwarka	9998825989		
35	Rathod Mithun Rajpal	Male	Dwarka	Dwarka	9974136494		
36	Nirmal Singh D Rayjada	Male	Dwarka/Okha	Okha	9739983034		
37	GagubhaGajubha Manek	Male	Dwarka/Okha	Okha	9737656101		
38	Sagar K Manek	Male	Dwarka/Okha	Okha	9537779254		
39	Hitesh MaladeKagadiya	Male	Kalyanpur	Raval	8264338030		
40	Sanjay HardasbhaiKagadiya	Male	Kalyanpur	Raval	9898834396		
41	Satish K Kagadiya	Male	Kalyanpur	Raval	8264254399		
42	Chavda Geetaben Arajanbhai	Female	Kalyanpur	Kalyanpur	9601437934		
43	PuribenRanmalbhaiChavada	Female	Kalyanpur	Kalyanpur	9725036172		
44	Khira Basir Salim Bhai	Male	Kalyanpur	Raval	9664870354		
45	Kagadiya Ravi Arajan bhai	Male	Kalyanpur	Raval	9687314625		
46	Kagadiya Dinesh Jetha bhai	Male	Kalyanpur	Raval	9904650335		
47	Kagadiya Keshu Ramsibhai	Male	Kalyanpur	Raval	9106043693		
48	Chaki Imran	Male	Kalyanpur	Raval	9909445420		
49	Piyushbhai P Nakum (H)	Male	Khambhaliya	Khambhaliya	9904966127		
50	HarjugVikrambhai	Male	Khambhaliya	Khambhaliya	9879870406		
51	Bharatbhai S Kanjariya (H)	Male	Khambhaliya	Khambhaliya	9712215225		
52	Nakum Arvind Muljibhai	Male	Khambhaliya	Khambhaliya	9601460803		
53	Jod Rana Ashwinbhai	Male	Khambhaliya/ Salaya	Salaya	9067431810		

## Annexure: 21 Siren Tower list installed by Civil Defense

## Dwarka Block (Okha)

Sr. No.	Location	Address
1	Dwarka Railway Station-Not Install	Dwarka City
2	Okha Railway Station-Not Install	Okha City
3	Fire station Dwarka	Dwarka City
4	Pri.SchoolDwarka, Nr.TV station	Dwarka City
5	Gram Panchayat Vasai	Vasai
6	Bet Nagar Panchayat Office	Beyt
7	Okha S.T. Depot	Okha City
8	Arambhada Gram Panchayat	Vill-Arambhada, Ta-Dwarka
9	Suraj Karadi Municipality Building	Surajkaradi-Dwarka
10	Mithapur Township High school	Mithapur-Dwarka
11	Shivrajpur Panchayat Office	Shivrajpur-Dwarka
12	Varvada Gram Panchayat Building	Vill-Varvada, Ta-Dwarka
13	Mojap Gram Panchayat Building	Vill-Mojap, Ta-Dwarka
14	Bhimrana Gram Panchayat Office	Bhimrana-Ta-Dwarka
15	Suraj Karadi Health Centre-Eye Hospital	Suraj Karadi
16	Rupen Port Primary school	Rupen, Dwarka
17	Bet Jetty	Okha
18	Guest House,PWD,Okha	Okha
19	Taluka School-3, Dwarka, Temple Road	Dwarka City
20	Civil Defence Unit Okha	Okha

## Khambhaliya Block

Sr. No.	Location	Address
21	Civil Defence unit Vadinar	Vadinar
22	Dhar Primary School Building	Vadinar
23	Singach Gram Panchayat Office	Singach
24	Zankhar Gram Panchayat Office	Zankhar
25	Bharana Primary School Building	Bharana
26	Kajurda Primary School	Kajudra
27	Nana Mandha Primary School	Nana Mandha
28	Mamlatdar office-Khambhaliya	Khambhaliya City
29	Taluka Panchayat Office	Khambhaliya City
30	Police Station-Milan Char Rasta	Khambhaliya City

## Annexure: 22 GPS Coordinates of Village

ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
1	કોઠા વિસોત્રી	કોઠા વિસોત્રી	ખંભાળીયા	22.271354	69.582168
2	સોડસલા	સોડસલા	ખંભાળીયા	22.289709	69.607414
3	વડત્રા	વડત્રા	ખંભાળીયા	22.205579	69.505558
4	આહીર સિંહણ	આહીર સિંહણ	ખંભાળીયા	22.22345	69.73898
5	સિધ્ધપુર	સિધ્ધપુર	ખંભાળીયા	22.105565	69.464419
6	વિરમદડ	વિરમદડ	ખંભાળીયા	22.175136	69.556452
7	સામોર	સામોર	ખંભાળીયા	22.251249	69.572502
8	કુવાડીયા	કુવાડીયા	ખંભાળીયા	22.214840	69.593007
9	માધુ પુર	માધુપુર	ખંભાળીયા	22.141254	69.535989
10	પીપળીયા	પીપળીયા	ખંભાળીયા	22.130154	69.526477
11	બેરાજા	બેરાજા	ખંભાળીયા	22.2310736	69.4128519
12	નાના આસોટા	નાના આસોટા	ખંભાળીયા	22.2676638	69.4001966
13	ઠાકર શેરડી	ઠાકર શેરડી	ખંભાળીયા	22.093535	69.568445
14	પરોડીયા	પરોડીયા	ખંભાળીયા	22.336717	69.632719
15	કબર વિસોત્રી	કબર વિસોત્રી	ખંભાળીયા	22.278291	69.61078
16	હરીપર	હરીપર	ખંભાળીયા	22.238466	69.635834
17	ઝાકસીયા	ઝાકસીયા	ખંભાળીયા	22.239294	69.444582
18	દાત્રાણા	દાત્રાણા	ખંભાળીયા	22.19702	69.410345
19	ગોલણ શેરડી	ગોલણ શેરડી	ખંભાળીયા	22.07846	69.541012
20	શેઢા ભાડથર	શેઢા ભાડથર	ખંભાળીયા	22.057946	69.559446
21	વિઝંલપર	વિઝંલપર	ખંભાળીયા	22.150242	69.602584
22	વડાલીયા સિંહણ	વડાલીયા સિંહણ	ખંભાળીયા	22.277674	69.713837
		168			

ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
23	સુમરા તરઘડી	સુમરા તરઘડી	ખંભાળીયા	22.205299	69.733530
24	- મોટા આંબલા	મોટા આંબલા	ખંભાળીયા	22.357740	69.664392
25	નાના આંબલા	નાના આંબલા	ખંભાળીયા	22.351440	69.666325
26	કંચનપુર	કંચનપુર	ખંભાળીયા	22.234345	69.692634
27	દાંતા	દાંતા	ખંભાળીયા	22.278241	69.677257
28	સોનારડી	સોનારડી	ખંભાળીયા	22.1898451	69.4543089
29	ગોકલપર	ગોકલપર	ખંભાળીયા	22.1530837	69.4792818
30	ભાતેલ	ભાતેલ	ખંભાળીયા	22.165708	69.492019
31	<u>3  g·ii vic</u>	જુની ફોટ	ખંભાળીયા	22.032043 22.035809	69.654195 69.669164
32		નવી ફોટ	ખંભાળીયા		
33	લાલપરડા	લાલપરડા	ખંભાળીયા	22.008829	69.613654
34	ભીંડા	ભીંડા	ખંભાળીયા	22.091624	69.621806
35	લાલુકા	લાલુકા	ખંભાળીયા	22.043498	69.616924
36	નાના માંઢા	નાના માંઢા	ખંભાળીયા	22.194866	69.401910
37	વાડીનાર	વાડીનાર	ખંભાળીયા	22.3998304	69.7269319
38	સુતારીયા	સુતારીયા	ખંભાળીયા	22.0664271	69.7106133
39	કોટડીયા	કોટડીયા	ખંભાળીયા	22.0754637	69.6903398
40	ચુડેશ્વર	યુડેશ્વર	ખંભાળીયા	22.336954	69.539404
41	કાલાવડ સિમાણી	કાલાવડ સિમાણી	ખંભાળીયા	22.323801	69.502953
42	ભાષ્રખોખરી	ભાશખોખરી	ખંભાળીયા	22.092927	69.658185
43	મોટી ખોખરી	મોટી ખોખરી	ખંભાળીયા	22.034491	69.614567
44	હંજડાપર	હંજડાપર	ખંભાળીયા	22.179300	69.429930
45	ધંધુસર	ધંધુસર	ખંભાળીયા	22.191670	69.455299

ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
46	હંસ્થલ	હંસ્થલ	ખંભાળીયા	22.218465	69.542925
47	ગોઈજ	ગોઈજ	ખંભાળીયા	22.308055	69.558748
48	આંબરડી	આંબરડી	ખંભાળીયા	22.108581	69.771027
49	દેવળીયા	દેવળીયા	ખંભાળીયા	22.113057	69.797210
50	નાગડા	નાગડા	ખંભાળીયા	22.23863	69.73260
51	સખપર	સખપર	ખંભાળીયા	22.268446	69.731100
52	મહાદેવીયા	મહાદેવીયા	ખંભાળીયા	22.203003	69.779740
53	ધરમપુર	ધરમપુર	ખંભાળીયા	22.1231	69.3952
54	બજાણા	બજાશા	ખંભાળીયા	22.0832	69.4514
55	કંડોરણા	કંડોરણા	ખંભાળીયા	22.0927	69.4400
56	રામનગર	રામનગર	ખંભાળીયા	22.111293	69.382175
57	હર્ષદપુર	હર્ષદપુર	ખંભાળીયા	22.1321	69.3755
58	હાપા લાખાસર	હાપા લાખાસર	ખંભાળીયા	22.174163	69.759717
59	પીર લાખાસર	પીર લાખાસર	ખંભાળીયા	22.161118	69.796411
60	કાઠી દેવળીયા	કાઠી દેવળીયા	ખંભાળીયા	22.324525	69.722577
61	સોઢા તરઘડી	સોઢા તરઘડી	ખંભાળીયા	22.323940	69.720456
62	શકિતનગર	શકિતનગર	ખંભાળીયા	22.196692	69.662502
63	કાકાભાઈ સિંહણ	કાકાભાઈ સિંહણ	ખંભાળીયા	22.249703	69.728378
64	ભરાશા	ભરાષા	ખંભાળીયા	22.36924018	69.7017311
65	બેહ	બેહ	ખંભાળીયા	22.2751725	69.461018
66	મોવાણ	મોવાણ	ખંભાળીયા	22.0652	69.2931
67	મોટા માંઢા	મોટા માંઢા	ખંભાળીયા	22.31554	69.670338
68	જુવાનગઢ	જુવાનગઢ	ખંભાળીયા	22.155684	69.552826
69	કોલવા	કોલવા	ખંભાળીયા	22.129880	69.698111
70	કેશોદ	કેશોદ	ખંભાળીયા	22.1217126	69.584210

71	માંઝા	માંઝા	ખંભાળીયા	22.155926	69.64514
ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
72	લલીયા	લલીયા	ખંભાળીયા	22.132565	69.64710
73	નવા તથીયા	નવા તથીયા	ખંભાળીયા	22.132970	69.66030
74	જુના તથીયા	જુના તથીયા	ખંભાળીયા	22.110186	69.682507
75	ખજુરીયા	ખજુરીયા	ખંભાળીયા	22.167526	69.530120
76	ભટગામ	ભટગામ	ખંભાળીયા	22.1525203	69.680490
77	કોટા	કોટા	ખંભાળીયા	22.172054	69.702012
78	કજુરડા	કજુરડા	ખંભાળીયા	22.324596	69.722616
79	ટીંબડી	ટીંબડી	ખંભાળીયા	22.651555	70.590379
80	ભાડથર	ભાડથર	ખંભાળીયા	22.079982	69.581425
81	ભારા બેરાજા	ભારા બેરાજા	ખંભાળીયા	22.090424	69.60712
82	ભંડારીયા–સગારીયા	ભંડારીયા–સગારીયા	ખંભાળીયા	22.089675	69.711256
83	ચારબારા	ચારબારા	ખંભાળીયા	22.286670	69.505160
84	ગઢેચી	ગઢેચી	દ્વારકા	22.3547092	69.043339
85	બાટીસા	બાટીસા	દ્વારકા	22.3469144	69.026647
86	હમુસર	હમુસર	દ્વારકા	22.382449	69.054797
87	ગોરીયારી	ગોરીયારી	દ્વારકા	22.3469208	69.085064
88	પાડલી	પાડલી	દ્વારકા	22.3873571	69.034763
89	ભીમરાણા	ભીમરાણા	દ્વારકા	22.391366	69.001130
90	મોજપ	મોજપ	દ્વારકા	22.3615004	68.979727
91	મકનપુર	મકનપુર	દ્વારકા	22.3380113	68.97098
92	શીવરાજપુર	શીવરાજપુર	દ્વારકા	22.3279975	68.955607
93	વરવાળા	વરવાળા	દ્વારકા	22.289686	68.965312
94	કલ્યાણપુર	કલ્યાણપુર	દ્વારકા	22.3181848	69.039564
95	ધ્રાસણવેલ	ધ્રાસણવેલ	દ્રારકા	22.2882546	69.040540

96	નાગેશ્વર	નાગેશ્વર	દ્વારકા	22.3352324	69.0860265
ક્રમ	ગ્રામ પંચાયતનું નામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
97	રાંગાશર	રાંગાશર	દ્વારકા	22.3241914	69.0818599
98	મુળવેલ	મુળવેલ	દ્રારકા	22.3380389	69.1341391
99	જુનીધ્રેવાડ	જુનીધ્રેવાડ	દ્વારકા	22.1524232	69.081591
100	નવી ઘ્રેવાડ	નવી ધ્રેવાડ	દ્વારકા	22.1446921	69.0707382
101	મેરીપુર	મેરીપુર	દ્વારકા	22.1422588	69.1056399
102	નાનાભાવડા	નાનાભાવડા	દ્વારકા	22.255812	69.0733075
103	મોટાભાવડા	મોટાભાવડા	દ્વારકા	22.2388688	69.066936
104	ટોબર	ટોબર	દ્વારકા	22.2898547	69.0024988
105	મેવાસા	મેવાસા	દ્વારકા	22.2978362	69.0172695
106	વસઈ	વસઈ	દ્વારકા	22.3198506	68.9982497
107	બરડીયા	બરડીયા	દ્વારકા	22.1968459	69.018514
108	વાચ્છુ	વાચ્છુ	દ્વારકા	22.1958934	69.0367934
109	ધીષ્ટકી	ધીષ્ઠકી	દ્વારકા	22.198624	69.07006
110	ટુપશી	ટુપણી	દ્વારકા	22.2368572	69.1342313
111	ચરકલા	ચરકલા	દ્વારકા	22.202068	69.111705
112	ઓખામઢી	ઓખામઢી	દ્વારકા	22.0917508	69.1010084
113	કુરંગા	કુરંગા	દ્વારકા	22.0447508	69.1656739
114	ગોરીજા	ગોરીજા	દ્વારકા	22.162	69.060806
115	ખતુંબા	ખતુંબા	દ્વારકા	22.2872845	69.1361541
116	અણીયારી	અણીયારી	દ્વારકા	22.271547	69.1292758
117	લોવરાલી	લોવરાલી	દ્વારકા	22.177892	69.087134
118	મુળવાસર	મુળવાસર	દ્વારકા	22.2760748	69.1111923
119	કોરાડા	કોરાડા	દ્વારકા	22.2314349	69.0493396
120	શામળાસર	શામળાસર	દ્વારકા	22.370389	69.106333
121	પોસીત્રા	પોસીત્રા	દ્વારકા	22.395026	69.17302
122	રાજપરા	રાજપરા	દ્વારકા	22.3624783	69.1095764
123	મીઠાપુર	મીઠાપુર	દ્વારકા	22.4178099	69.0144241

125         \$>+       >),[1]         126       )         127       )         128       )         129       )         130       )         131       )         132       )         133       )         134       )         135       )         136       )         137       )         138       )         139       )         140       )         141       )         142       )         143       )	કલ્ચાણપુર મ પંચાયતનું નામ કેનેડી મેવાસા વિરપુર રાણ જુવાનપુર રાણ જુવાનપુર લોપલકા લાંબા ગાંધવી આખરડા નંદાણા દેવળીયા ગઢકા પટેલકા	કલ્ચાણપુર ગામ કેનેડી મેવાસા વિરપુર રાણ જુવાનપુર શુપલકા લાંબા ગાંધવી બાખરડા નંદાણા દેવળીચા ગઢકા પટેલકા	કલ્ચાણપુર         તાલુકો         કલ્ચાણપુર	22.0164 ଧ୍ୟକ୍ଷାଁ	69.40352 રેખાંશ 69.18423 69.30760257 69.31466525 69.333602 69.22002 69.381976 69.18599 69.22019 69.347898 69.28851 69.379869 67.2507
126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142	डेनेडी       भेवासा       विरपुर       राष्       श्रवानपुर       श्रवानपुर       लोपलडा       वांध्यी       णाफरडा       नंदाण्ण       देवणीया       ગढडा	કેનેડી મેવાસા વિરપુર રાણ જુવાનપુર ભોપલકા લાંબા ગાંધવી આખરડા નંદાણા દેવળીયા ગઢકા	अत्थाए।पु२         अत्थाए।पु२	22.04231 22.24483847 22.25343002 22.177625 22.09522 22.121367 21.54034 21.50464 22.087672 22.129792 21.948097	69.18423 69.30760257 69.31466525 69.333602 69.22002 69.381976 69.18599 69.22019 69.347898 69.28851 69.379869
127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142	મેવાસા વિરપુર રાણ જુવાનપુર ભોપલકા લાંબા ગાંધવી ગાંધવી આખરડા નંદાણા દેવળીયા ગઢકા	મેવાસા વિરપુર રાણ જુવાનપુર ભોપલકા લાંબા ગાંધવી આખરડા નંદાણા દેવળીયા ગઢકા	કલ્ચાણપુર	22.24483847 22.25343002 22.177625 22.09522 22.121367 21.54034 21.50464 22.087672 22.129792 21.948097	69.30760257 69.31466525 69.333602 69.22002 69.381976 69.18599 69.22019 69.347898 69.28851 69.379869
128         129         130         131         132         133         134         135         136         137         138         139         140         141         142	વિરપુર રાણ જુવાનપુર ભોપલકા લાંબા ગાંધવી ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	વિરપુર રાણ જુવાનપુર ભોપલકા લાંબા ગાંધવી ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્ચાણપુર	22.25343002 22.177625 22.09522 22.121367 21.54034 21.50464 22.087672 22.129792 21.948097	69.31466525 69.333602 69.22002 69.381976 69.18599 69.22019 69.347898 69.28851 69.379869
129         130         131         132         133         134         135         136         137         138         139         140         141         142	રાણ જુવાનપુર ભોપલકા લાંબા ગાંધવી ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	राણ જુવાનપુર ભોપલકા લાંબા ગાંધવી ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્ચાણપુર	22.177625 22.09522 22.121367 21.54034 21.50464 22.087672 22.129792 21.948097	69.333602 69.22002 69.381976 69.18599 69.22019 69.347898 69.28851 69.379869
130         131         132         133         134         135         136         137         138         139         140         141         142	જુવાનપુર ભોપલકા લાંબા ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	જુવાનપુર ભોપલકા લાંબા ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્ચાણપુર	22.09522 22.121367 21.54034 21.50464 22.087672 22.129792 21.948097	69.22002 69.381976 69.18599 69.22019 69.347898 69.28851 69.379869
131         132         133         134         135         136         137         138         139         140         141         142	ભોપલકા લાંબા ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	ભોપલકા લાંબા ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર         કલ્ચાણપુર	22.121367 21.54034 21.50464 22.087672 22.129792 21.948097	69.381976 69.18599 69.22019 69.347898 69.28851 69.379869
132         133         134         135         136         137         138         139         140         141         142	લાંબા ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	લાંબા ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર	21.54034 21.50464 22.087672 22.129792 21.948097	69.18599 69.22019 69.347898 69.28851 69.379869
133         134         135         136         137         138         139         140         141         142	ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	ગાંધવી ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર	21.50464 22.087672 22.129792 21.948097	69.22019 69.347898 69.28851 69.379869
134         135         136         137         138         139         140         141         142	ખાખરડા નંદાણા દેવળીયા ગઢકા	ખાખરડા નંદાણા દેવળીયા ગઢકા	કલ્યાણપુર કલ્યાણપુર કલ્યાણપુર	22.087672 22.129792 21.948097	69.347898 69.28851 69.379869
134         135         136         137         138         139         140         141         142	નંદાણા દેવળીયા ગઢકા	નંદાણા દેવળીયા ગઢકા	કલ્યાણપુર કલ્યાણપુર	22.129792 21.948097	69.28851 69.379869
136         137         138         139         140         141         142	દેવળીયા ગઢકા	દેવળીયા ગઢકા	કલ્યાણપુર	21.948097	69.379869
137       138       139       140       141       142	ગઢકા	ગઢકા			
138       139       140       141       142			કલ્યાણપુર	22.0601	67.2507
139 140 141 142	પટેલકા	บวิเลย			1
140 141 142		400151	કલ્ચાણપુર	22.074075	69.382543
141 142	બાંકોડી	બાંકોડી	કલ્યાણપુર	22.03626	69.34164
142	હરીપર	હરીપર	કલ્યાણપુર	22.238667	69.635949
	ખીરસરા	ખીરસરા	કલ્યાણપુર	21.975924	69.601811
143	ધતુરીયા	ધતુરીયા	કલ્યાણપુર	22.0064145	69.5809047
	ચુર	યુર	કલ્યાણપુર	22.012	69.479
144	રાજપરા	રાજપરા	કલ્યાણપુર	22.024435	69.536098
145	ગોરાણા	ગોરાણા	કલ્યાણપુર	21.5926	69.15002
146	ચંદ્રાવાડા	ચંદ્રાવાડા	કલ્ચાણપુર	21.870213	69.467567
147	સતાપર	સતાપર	કલ્યાણપુર	21.955049	69.320552
148	માલેતા	માલેતા	કલ્યાણપુર	21.995664	69.332568
149	બામણાસા	બામણાસા	કલ્યાણપુર	22.09212	69.204918
150	હડમતીયા	હડમતીયા	કલ્યાણપુર	22.2546704	70.2954384
151	જોધપુર	જોધપુર	કલ્યાણપુર	21.982128	69.299339
152		નાવદ્રા	કલ્ચાણપુર	21.947666	69.257581

153	ભોગાત	ભોગાત	કલ્ચાણપુર	21.993025	69.240881
154	ગોજીનેશ	ગોજીનેશ	કલ્ચાણપુર	22.011033	69.195987
ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
155	ວແວແ	ວແວແ	કલ્યાણપુર	22.083	69.1151
156	ວງເວເຂ	ગુરગઢ	કલ્યાણપુર	22.196247	69.191579
157	મોટા આસોટા	મોટા આસોટા	કલ્યાણપુર	22.273819	69.369445
158	મેધપર ટીટોડી	મેધપર ટીટોડી	કલ્યાણપુર	22.1415248	69.4545294
159	મ.હાબ૨ડી	મ.હાબ૨ડી	કલ્યાણપુર	22.198074	69.370636
160	સીદસરા-માનપરા	સીદસરા	કલ્યાણપુર	22.151662	69.419772
161	ઉદેપુર	ઉદેપુર	કલ્યાણપુર	22.146719	69.394226
162	ટંકારીયા	ટંકારીયા	કલ્યાણપુર	21.949837	69.447109
163	સણૉસરી-પ્રેમસર	સણૉસરી	કલ્યાણપુર	21.939379	69.414133
164	દુધીયા	દુધીયા	કલ્યાણપુર	21.98095	69.524469
165	આશીયાવદર	આશીચાવદર	કલ્યાણપુર	21.973259	69.506927
166	સુર્યાવદર	સુર્યાવદર	કલ્યાણપુર	21.958521	69.479683
167	ખીજદડ	ખીજદડ	કલ્યાણપુર	22.047	69.422
168	માંગરીયા	માંગરીયા	કલ્યાણપુર	22.036	69.465
169	જામપર	જામપર	કલ્યાણપુર	22.0675048	69.4716432
170	ધુમથર	ધુમથર	કલ્યાણપુર	22.0736217	69.467134 <sup>-</sup>
171	ચપર	ચપર	કલ્યાણપુર	22.060184	69.494098
172	કાનપર શેરડી	કાનપર શેરડી	કલ્યાણપુર	22.6674	69.534398
173	ડાંગરવડ	ડાંગરવડ	કલ્યાણપુર	21.949959	69.512416
174	રાણપરડા	રાણપરડા	કલ્યાણપુર	21.941923	69.496138
175	નગડીયા	નગડીયા	કલ્યાણપુર	21.971543	69.556525
176	ભાટવડીયા	ભાટવડીયા	કલ્યાણપુર	22.052076	69.22235
177	ગોકલપર	ગોકલપર	કલ્યાણપુર	22.055827	69.254914
178	પાનેલી	પાનેલી	કલ્યાણપુર	21.97801	69.448996
179	ચાચલાણા	ચાચલાણા	કલ્ચાણપુર	21.923222	69.3752
180	ગાંગડી	ગાંગડી	કલ્ચાણપુર	21.88929	69.359161
181	પિંડારા	પિંડારા	કલ્ચાણપુર	22.241103	69.259735

182	રણજીતપુર	રણજીતપુર	કલ્ચાણપુર	22.1057	69.1309
183	મહાદેવીયા	મહ્રાદેવીયા	કલ્ચાણપુર	22.1139	69.1647
ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
184	કનકપર	કનકપર	કલ્ચાણપુર	22.0955988	69.515868
185	માડી	માડી	કલ્ચાણપુર	22.9425	69.52691
186	આંબલીયારા	આંબલીયારા	ભાણવડ	21.49	69.67
187	આંબરડી	આંબરડી	ભાણવડ	21.91	69.86
188	ભરતપુર	ભરતપુર	ભાણવડ	21.46	69.58
189	ભવનેશ્વર	ભવનેશ્વર	ભાણવડ	21.88	69.68
190	ભેનકવડ	ભેનકવડ	ભાણવડ	21.87	69.26
191	ભોરીયા– ફોટડી	ભોરીયા– ફોટડી	ભાણવડ	22.04	69.85
192	બોડકી	બોડકી	ભાશવડ	22.13	69.94
193	ચાંદવડ	ચાંદવડ	ભાણવડ	22.04	70.11
194	ચોખંડા	ચોખંડા	ભાણવડ	22.04	69.46
195	ધારાગર	ધારાગર	ભાશવડ	22	69.85
196	ઢેબર	ઢેબર	ભાશવડ	21.53	69.41
197	દુધાળા	દુધાળા	ભાણવડ	21.98	69.8
198	<b>ફતેપુ</b> ર	ક્રતેપુર	ભાણવડ	21.94	69.82
199	ગડુ	ગડુ	ભાણવડ	21.85	69.65
200	ઘુમલી	ઘુમલી	ભાણવડ	21.52	69.45
201	ગુંદા	ગુંદા	ભાણવડ	22	69.71
202	ગુંદલા	ગુંદલા	ભાણવડ	22.19	70.01
203	હાથલા	હાથલા	ભાણવડ	21.85	69.71
204	જંબુસર	જંબુસર	ભાણવડ	21.83	69.85
205	જામપર	જામપર	ભાણવડ	22.05	69.76
206	જશાપર	જશાપર	ભાણવડ	21.85	69.80
207	ઝારેરા	ઝારેરા	ભાશવડ	21.9	69.64
208	જોગરા	જોગરા	ભાશવડ	22.07	69.81
209	કબરકા	કબરકા	ભાશવડ	22.06	69.83
210	કલ્યાણપુર	કલ્યાણપુર	ભાશવડ	21.85	69.85

211	કાટકોલા	કાટકોલા	ભાણવડ	21.86	69.87
212	કૃષ્ણગઢ	કૃષ્ણગઢ	ભાણવડ	21.95	69.91
ક્રમ	ગ્રામ પંચાયતનુંનામ	ગામ	તાલુકો	અક્ષાંશ	રેખાંશ
213	માનપર	માનપર	ભાણવડ	22.01	69.87
214	મેવાસા	મેવાસા	ભાષાવડ	21.9	69.78
215	મોડપર	મોડપર	ભાષાવડ	21.85	69.8
216	મોખાશા	મોખાશા	ભાષાવડ	21.9	69.73
217	મોરઝર	મોરઝર	ભાણવડ	22.01	69.7
218	મોટા કાલાવડ	મોટા કાલાવડ	ભાષાવડ	21.9	69.83
219	નવાગામ	નવાગામ	ભાણવડ	21.97	69.77
220	પાછતર	પાછતર	ભાષાવડ	21.86	69.68
221	પાછતરડી	પાછતરડી	ભાષાવડ	21.87	69.68
222	રાણપર	રાણપર	ભાષાવડ	21.51	69.4
223	રાષ્ટ્રપરડા	રાણપરડા	ભાષાવડ	21.92	69.74
224	રેટા કાલાવડ – કંટોલીયા	રેટા કાલાવડ – કંટોલીયા	ભાષાવડ	21.98	69.65
225	રોઝડા	રોઝડા	ભાષાવડ	21.81	69.62
226	રોજીવાડા	રોજીવાડા	ભાષાવડ	21.97	69.73
227	રૂપામોરા	રૂપામોરા	ભાષાવડ	21.94	69.74
228	સઈ દેવળીયા	સઈ દેવળીયા	ભાષાવડ	21.98	69.81
229	સાજડીયારી	સાજડીયારી	ભાષાવડ	21.98	69.68
230	સણખલા	સણખલા	ભાષાવડ	21.93	69.63
231	સેવક દેવળીયા	સેવક દેવળીયા	ભાષાવડ	22	69.77
232	શેઢાખાઈ	શેઢાખાઈ	ભાષાવડ	22.04	69.8
233	શિવા	શિવા	ભાષાવડ	21.88	69.88
234	ટીબડી	ટીબડી	ભાષાવડ	21.88	69.97
235	વાનાવડ	વાનાવડ	ભાણવડ	21.9	69.95
236	વેરાડ	વેરાડ	ભાણવડ	21.94	69.86
237	વિજયપુર	વિજયપુર	ભાણવડ	21.91	69.67

## Annexure: 23 Port Signal

Signal/		NAME	Symbol	S	Description
Flag No.			Day	Night	-
1.	Distant bad weather	DC1		P	Depression far at sea. Port NOT affected.
2.	Distant bad weather	DW2			Cyclone for at sea. Warning for vessels leaving port.
3.	Local bad weather	LC3	+		Port Threatened by local bad weather like squally winds.
4.		LW4	+	8	Cyclone at sea. Likely to affect the port later.
5.		D5	\$	<i>Q</i> ●	Cyclone likely to cross coast keeping port to its left
6.	Danger	D6	\$	ę	Cyclone likely to cross coast keeping port to its right.
7.		D7	¥	<b>P</b>	Cyclone likely to cross coast over/near to the port.
8.		GD8	1		Severe cyclone to cross coast keeping port to its left
9.	Great danger	GD9			Severe cyclone to cross coast keeping port to its right
10.		GD10			Severe cyclone to cross over /near to the port.
11.		хі	*	•	Communication failed with cyclone warning office.

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

Gujarat Water Supply and Sewerage Board

**GWSSB** 

HFA	Hyogo Framework for Action	
HHs	Households	
HPC	High Powered Committee	
HQ	Head Quarter	
HRVC	Hazard, Risk, Vulnerability and Capacity	
IAY	Indira Aawas Yojana	
IMA	Indian Medical Association	
ICS	Incident Commander	
ICS	Incident Command System	
IDNDR	International Decade for Natural Disaster Reduction	
IEC	Information Education Communication	
IMD	Indian Meteorological Department	
ISDR	International Strategy for Disaster Reduction	
ISR	Institute for Seismic Research	
ITI	Industrial Training Institute	
IWMP	Integrated Watershed Management Program	
LCMG	Local Crisis Management Group	
LO	Liaison Officer	
MAH	Major Accident Hazard	
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act	
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme	
MHA	Ministry of Home Affairs	
MLA	Member of Legislative Assembly	
Mm	Mili Meter	
MP	Member of Parliament	
NAPCC	National Action Plan on Climate Change	
NCC	National Cadets Corps	
NCCF	National Calamity Contingency Fund	
NDM	National Disaster Management	
NDMA	National Disaster Management Authority	
NDRF	National Disaster Response Force	
NDRF	National Disaster Response Force	
NEC	National Executive Committee	
NFSM	National Food Security Mission	
NGO	Non Government Organization	
NIDM	National Institute of Disaster Management	
NRDWP		
NRHM	National Rural Drinking Water Program National Rural Health Mission	
NSS	National Service Scheme	
	National Yuva Kendra	
NYK		
PCPIR	Petroleum Chemical and Petrochemical Special Investment Region	
PDS	Public Distribution System	
PHC	Primary Health Center	
PI	Police Inspector	
PMGY	Pradhan Mantri Gramodyan Yojna	
PRIs	Panchayati Raj Institutions	
R & R	Recovery & Reconstruction	
R&B	Roads & Buildings	
RTO	Regional Transport Office	
SC	Scheduled Caste	

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