CHAPTER 1

Introduction
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1. Introduction

Disasters – An Introduction

With its vast territory, large population and unique geo-climatic conditions, the Indian sub-continent is exposed to natural catastrophes traditionally. India as such poses one of the world’s major threats of disasters. Floods, droughts, cyclones and earthquakes pound it endlessly every year. Due to its geographical position, vast territory, large population, typical geological climate and geological setting, India is one of the most disaster prone countries of the world and has been facing natural disasters every year. Communal riots, conflicts, fire, epidemics and other man-made disasters compound the country’s proneness to disasters. The country is highly vulnerable to droughts, floods, cyclones, avalanches, forest fires and landslides. All these vulnerable factors are responsible for heavy toll of human life, property loss and disrupting the supporting system in the country and caused erosion of developmental gain, achieved through developmental initiatives of national and state governments. Though whole of the country is more or less affected by common disasters, the impact of these disasters on rural population is comparatively more because of its poor physical, socio economic and socio cultural condition. In spite of various efforts at the government and non-government level, the severity of the adverse impact of natural disasters has been increasing. The reason is that in the existing disaster management scenario, the emphasis is more on disaster response, rather than on preparedness.

The multi-hazard scenario depicted in the Vulnerability Atlas of India (produced by Building Materials and Technology Promotion Council (BMTPC), New Delhi, India), shows that out of the total geographical area of 32, 87,263 sq. km, about 60% of the landmass is prone to earthquakes of various intensities; over 40 million hectares is prone to floods; about 8% of the total area is prone to cyclones and 68% of the area is susceptible to drought. During 1990-2000, on an average of about 4344 people lost their lives, about 30 million people were affected by various disasters every year and average
annual damage has been estimated to be approximately 2700 million rupees. As per the World Bank estimates, during 1996-2001 the total losses due to disasters, including the super cyclone of Orissa in October 1999 and the Bhuj earthquake in Gujarat in January, 2001, amounts to US$ 13.8 billion.¹

Over the past two decades, there has been an increase in disaster occurrences costing human and economic losses. This is due to the ever-increasing vulnerabilities of people to natural disasters. The need is felt to reduce disaster risks by improving capabilities of people and ensuring preparedness, mitigation and response planning processes at various levels. The objective is to look at the entire cycle of disaster management in reducing risk and linking it to developmental planning process. In the past, disasters were viewed as isolated events, responded to by the Governments and various agencies without taking into account the social and economic causes and long term implications of these events. In short, disasters were considered as emergencies.

The recent disasters and its socio-economic impact on the country at large, and in particular the communities has underscored the need to adopt a multi dimensional approach involving diverse scientific, engineering, financial and social processes to reduce vulnerability in multi-hazard prone areas. In view of this, the Government of India has brought about a paradigm shift in its approach to disaster management. The change is from “relief and emergency response” to a balanced approach covering all phases of the Disaster Management Cycle. This approach acknowledges disaster management as a part of the development process, and investments in mitigation are perceived to be much more cost effective than relief and rehabilitation expenditure. In this regard, Government of India has taken various initiatives in area of disaster preparedness, mitigation and response through networking of various institutions, institutional capacity building, and policy interventions at all levels.

Disasters:

In general terms disaster is an event which gives rise to casualties, loss of property, damage to infrastructure, essential services and means of livelihood, on a scale which the affected community cannot cope up with unaided. Disasters ruins years of investment in development process. A disaster places new demands on society for reconstruction and rehabilitation.

A disaster may be defined as an “an event concentrated in time and space which threatens a society or a relatively self-sufficient sub-division of a society with major unwarranted consequences as a result of the collapse of precautions, which had hitherto been culturally accepted as adequate” (Turner, 1976).

The World Health Organization (WHO) describes disaster as an occurrence that causes damage, economic destruction, loss of human life and deterioration in health services on a scale sufficient to warrant an extraordinary response from outside the affected community or the area.

Another definition of the disaster (Sinha, P. C., 1998) is that it is “an occurrence arising with little or no warning, which causes or threatens serious disruption of life, and perhaps death or injury to large numbers of people, and requires therefore a mobilisation of efforts in excess of that normally provided by the statutory emergency services”.

Disasters are assessed as an event “that produces the conditions whereby the continuity of the structure of and process of social units become problematic”. (Dynes, R.R., 1998).

Different authors have defined the term disaster differently, however for instance disaster may be termed as an event, which causes great loss to life and property. They pose a serious threat to the normal life as well as the process of development. In other words a disaster is an event triggered by natural or man-made causes that lead to sudden
disruption of normalcy within society, causing widespread damage to life and property. Disasters, which are both sudden and powerful, damage national economy and cause hardships to a large section of the population. They are the single largest concern for most of the nations as they take a heavy toll of human life, destroy belongings and infrastructures and have far reaching economic and social consequences for communities. Thus, the impact of disasters on human life is multi-dimensional, affecting it in all aspects-domestic, social, economic, etc.

Thus, disaster is a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses, which exceed the ability of the affected community or society to cope using its own resources.

Classification of Disasters given by the High Powered Committee2:

- Water and climate related disasters:
  - Floods
  - Cyclones
  - Tornadoes and hurricanes
  - Hailstorm
  - Cloud burst
  - Heat wave and cold wave
  - Snow avalanches
  - Droughts
  - Sea erosion
  - Thunder and lightening

- Geologically related disasters:
  - Landslide and mudflows
  - Earthquakes
  - Dam failures/ Dam bursts
  - Mine fires

2 The Government of India, in recognition of importance of Disaster Management as a national policy had set up High Powered Committee in August 1999.
- Chemical, Industrial and Nuclear related disasters:
  - Chemical and Industrial disasters
  - Nuclear disasters
- Accident related disasters:
  - Forest fires
  - Urban fires
  - Mine flooding
  - Oil spills
  - Major building collapse
  - Serial bomb blasts
  - Festival related disasters
- Electrical disasters and fires
  - Air, road and rail accidents
  - Boat capsizing
  - Village fire
- Biologically related disasters:
  - Biological disasters and epidemics
  - Peat attacks

**Definition of Importance Terms:**

The terms used in the study are as follows:

*Community Based Disaster Preparedness (CBDP):* It’s a plan, which on one hand prevents losses and on other enables faster recovery in the event of disasters.. CBDP involves measures taken in advance to ensure an effective response to the impact of disasters. It is a state if being ready to react promptly and effectively in the event of an emergency.
Community: A community is a group that has a large number of things in common, generally defined by location, but which may include such things as experiences or functions.

Central Government: Means the Ministry or Department of the Government of India having administrative control of disaster management (NDM Act 2005)

Affected Area: Affected area means an area or part of the country affected by disasters (NDM Act 2005)

Local Authority: Includes panchayati raj institutions, municipalities, a district board, cantonment board, town planning authority or Zila Parishad or any other body or authority, by whatever name called, for the time being invested by law, for rendering essential services or, with the control and management of civic services, within a specified local area (NDM Act 2005)

Emergency Preparedness: Means the state of readiness, which enables stakeholders to mobilize, organize and provide relief to deal with an impending or actual disaster or the effects of a disaster (GSDM Act, 2003)

Preparedness: Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations. As per NDM Act, 2005 - Means the state of readiness to deal with a threatening disaster situation or disaster and the effects thereof.

Prevention: Activities to provide outright avoidance of the adverse impact of hazards and means to minimize related environmental, technological and biological disasters.

Mitigation: Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards. As per NDM
Act, 2005 - Means measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation.

Natural Hazards: Natural processes or phenomena occurring in the biosphere that may constitute a damaging event. Natural hazards can be classified by origin namely: geological, hydro-meteorological or biological. Hazardous events can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion and temporal spacing.

Hazard: A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydro-meteorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterised by its location, intensity, frequency and probability.

Relief/Response: The provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration.

Resilience/Resilient: The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Risk: The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.
**Risk Assessment/Analysis:** A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend.

**Vulnerability:** The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

**Sustainable Development:** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and the future needs. (Brundtland Commission, 1987). Sustainable development is based on socio-cultural development, political stability and decorum, economic growth and ecosystem protection, which all relate to disaster risk reduction.

**Awareness:** The processes of informing the community, increasing levels of consciousness about risks and how community can act to reduce their exposure to hazards. This is particularly important for public officials in fulfilling their responsibilities to save lives and property in the event of a disaster.

**Emergency Management:** The organization and management of resources and responsibilities for dealing with all aspects of emergencies, in particularly preparedness, response and rehabilitation. Emergency management involves plans, structures and arrangements established to engage the normal endeavours of government, voluntary and private agencies in a comprehensive and coordinated way to respond to the whole spectrum of emergency needs.
**Early Warning:** The provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response.

**Disaster Risk Reduction (Disaster Reduction):** The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

**Disaster Management:** The systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards. *As per NDM Act - Means a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for -*

- Prevention of danger or threat of any disaster
- Mitigation or reduction of risk of any disaster or its severity or
- Consequences
- Capacity-building
- Preparedness to deal with any disaster
- Prompt response to any threatening disaster situation or disaster
- Assessing the severity or magnitude of effects of any disaster
- Evacuation, rescue and relief
- Rehabilitation and reconstruction (NDM Act 2005)

**Disaster:** A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the
potential negative consequences of risk. *As per NDM Act* - Means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

*Capacity:* A combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management. Capacity may also be described as capability.

*Capacity Building:* Efforts aimed to develop human skills or societal infrastructures within a community or organization needed to reduce the level of risk. In extended understanding, capacity building also includes development of institutional, financial, political and other resources, such as technology at different levels and sectors of the society. *As per NDM Act 2005*, Means - Identification of existing resources or resources to be acquired or created and Organization and training of personnel and coordination of such training for effective management of disasters.

*Coping Capacity:* The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards.
Repercussions of Disasters:

The social and economic progress achieved over decades by the people, and advances in health and other social sector can be significantly ruined by disasters. The escalating frequency of disasters, resulting in appalling loss of life, massive economic losses, multifold growth of injuries, disabilities, disease, deaths and disrupting life-supporting systems, etc. adds social and economic burden to the people.

Economic Impact: Worldwide, economic losses due to natural phenomenon are also multiplying very rapidly and increasing at an alarming rate of 400% for each decade\(^3\). Economic losses will be in following areas:

- Social Sectors:
  - Housing
  - Health
  - Education

- Infrastructure Sector:
  - Irrigation & Dam safety
  - Rural Water Supply
  - Municipal and Environmental Infrastructure
  - Public Buildings and Monuments
  - Power
  - Transport
  - Ports
  - Telecommunications

- Productive Sector:
  - Agriculture and livestock
  - Industry
  - Services

\[^3\] The International Decade for Natural Disaster Risk Reduction, (IDNDR) 2001: Review of lessons learnt, retrieved from www.ndmindia.nic.in
**Psychosocial Impact:** The psychosocial impact is difficult to quantify, but it is the most lasting effect of any disaster and it lasts with a human being throughout the life. The sudden changes owing to psychosocial consequences of disaster are shock felt on the occurrence of calamity (i.e. people scared by feeling of earthquake tremors) on death of kin, large-scale human deaths & injuries, collapse and devastation. The social fabric of the disaster-hit areas is damaged to dangerous extent. In addition to the immediate suffering caused, large numbers of families have been torn by the death or serious disability of a member. This will have long-term consequences on the well being of other members, particularly widows (especially young women), single parent children, orphans, and the elderly. Other social impacts include deep insecurity among those who have lost shelter and other assets, and increased risks among them to impoverishment. The livelihoods of many families have been disrupted, and those who do not possess other work skills or are not casual labor, suffer the most. This category includes: artisans, handicraft workers, salt workers and fisherman. They particularly appear to be one of the most severely affected groups. Economic recovery has been hampered by cattle head losses among the pastoral community. Such situation does lead to stress migration and children of migrant community are deprived of education and health facilities and they often are forced to work by circumstances.

Another serious consequence of the disaster is an almost complete lack of services in the worst-hit villages and urban areas, including education, health, water supply, electricity, solid waste disposal, and agricultural extension. Above-mentioned consequences have lasting effect, often observed that disaster-affected community develops a different psych and changes in basic nature. This symptom is well observed in refugees and displaced people.

**Environmental Impact:** In addition to damage to dwellings, infrastructure facilities, disasters have resulted in a number of environmental impacts. Due to recurrent earthquake, cyclones, ongoing drought, and recurrent flooding in the major areas of Gujarat- Ahmedabad and Surat, North Gujarat and other disaster-hit region, the
environmental vulnerability has changed and gone extreme. The quantity of debris and debris disposal methods, temporary shelter set-up and the reconstruction effort do impact environment and ecology. Moreover, there are areas where the environmental impact requires ongoing environmental monitoring. The major environmental impacts include:

- Industrial/chemical hazard as a consequence of catastrophe in industrial area, ports etc.
- Multiplier effect owing to industrial hazard
- Debris and rubble removal and disposal
- Impacts and residual risks from damage to industrial facilities
- Impact to water and water management resources, impact due to heavy drawing from bore wells to meet emergency supplies in water deficient areas
- Impact to municipal and industrial environmental infrastructures such as sewage and wastewater treatment
- Re-operating of industrial units where environmental measures are not met/compromised
- Productions to meet demands of rehabilitation
- Potential impact on aquifers due to flooding or earthquake
- Potential impact on ecosystems

**Cultural Impact:** Disasters affect culture of any community to greater extent. On occurrence of each disaster a new dimension is added to the culture of affected community and some of the inherited cultural values are lost. Disasters affect:

- The traditional livelihood pattern (which may be part of specific community and inherited since many generations)
- Vernacular architecture and shelter of community, often looked by outsiders with artistic view but for affected people woven in their day-to-day life
- Damage to historical monuments, religious monuments and heritage structures
- Changes in celebrations, social occasions and ethnicity
**Disaster Management Cycle:**

In general disaster management is a systematic process that uses administrative decisions and implements policies and strategies in order to strengthen coping capacities of community and society as a whole. It aims to lessen the impact of disasters. Disaster management in general comprises of three stages: pre-disaster, emergency and post disaster.

- **Pre-disaster:** The stage refers to preparedness and mitigation aspects mainly with the objectives to reduce the potential risks for human, material, or environmental losses caused by hazards and to ensure that these losses are minimised when the disaster actually strikes.
- **Emergency:** The stage covering the relief and response, rescue, check on epidemic spread, and loss assessments basically aims to ensure that the needs and provisions of victims are met to alleviate and minimise the suffering.
• Post-disaster: This important aspect of disaster management starts immediately after the actual phase of disaster is over. With the sole objective of rehabilitation of disaster affected people. This stage is geared to achieve rapid and durable recovery, which does not reproduce the original vulnerable conditions.

Traditionally disaster management is looked as rescue, relief and rehabilitation of the affected population and other physical amenities. However this traditional approach of disaster management does not cover the true spirit of disaster management, which requires that in reality the process, must start before a disaster actually strikes. In true sense the disaster management is a continuous process that covers many important aspects leading to reduction of vulnerability.

A successful disaster management planning encompasses the complete realm of activities and situations that occur before, during and after disaster. All these stages of disaster management, i.e. preparedness and mitigation, disaster, emergency, rehabilitation and reconstruction are in fact cyclical and overlap, referring to disaster management cycle as shown in the above diagram.

**Indian Rural Mass – Vulnerability**

“India is a land of villages” is as true as it was 60 years ago when the country won its freedom from colonial rule. Despite rapid urbanization in the recent past, the majority of country’s population still lives in the villages and is primarily dependent on agriculture. The majority of the rural population is stricken by poverty, unemployment, illiteracy, poor health and low life expectancy. After more than 60 years of independence, more than 27% of rural population is forced to survive below poverty line. Natural disasters cause further deterioration in their condition and negate any efforts to get out of vicious circle of poverty. Due to their increased vulnerability, the rural population is much more adversely affected by the impact of natural disasters. Poverty and hazard vulnerability are integrally linked and mutually reinforcing. Though the hazards are common in both rural
and urban areas, the adverse impacts of these hazards are much more visible in rural areas. Poverty, illiteracy, increasing demographic pressure, unemployment, changing socio-economic conditions lead to increased vulnerability of Indian rural society to natural disasters. Besides causing tremendous loss of life and property, these disastrous events triggered by natural hazards threaten development and poverty alleviation initiatives in rural areas. Due to their increased vulnerability, the rural population in much more adversely affected by the impact of natural disasters. Poverty and hazard vulnerability are integrally linked and mutually reinforcing.

The main factors responsible for increased vulnerability of rural masses to disasters are increasing demographic pressure, socio-economic conditions, environmental degradation and changing cultural condition of rural society. These factors ultimately influence the overall condition of rural society, making it more prone to adverse impacts of natural disasters. Despite sincere effort by the central and state government, the rural community is still suffering from various ill effects of disasters. The major effects are human life lose and injury, livestock loss, house and property damage, land damage, water and food scarcity, livelihood loss, disease, loss of education and social systems, psychological shock and damage of communication system. The main problems faced in dealing with the disaster event in rural areas are delay in relief and rescue, discrimination in surveys, lack of preparedness and mitigation measures, lack of technology, improper rehabilitation, lack of coordination among the authority and non-government initiatives and lack of link between need and relief.

**Community Based Disaster Preparedness (CBDP) - Concept:**

Community participation and community ownership in disaster risk reduction is one of the key factors in reducing vulnerabilities of people and minimizing the loss. The Government of India’s focus CBDP approach promotes community involvement and strengthening of their capacities for vulnerability reduction through decentralized planning process.
In very simple terms, CBDP involves measures taken in advance to ensure effective response to impact of disasters. The purpose of CBDP plan is to provide systematic way of responding to emergency situation. Being prepared means a plan of action exists for an emergency. Preparedness measures to be undertaken depend on the analysis of hazard severity and vulnerability. It is a base for deciding mitigation strategy. The primary goal of CBDP is to reduce vulnerability of the concerned community and strengthen its existing capacity to cope with disasters. The approach of preparing the CBDP plans considers people’s participation a necessary pre-requisite for disaster management. By involving the community in the preparedness phase, it not only increases the likelihood of coordinated-action by the communities to help in mitigating disasters but also brings the community together to address the issue collectively. There are evidences of collective and coordinated action yielding good results and to a great extent it has been effective in lessening the impact of disaster.

CBDP refers to activities that aim to reduce vulnerability of the community by strengthening capacities. CBDP is a pro-active approach, focusing on pre disaster planning. CBDP’s goal is to build a disaster resilient community. Ultimately it recognizes existing coping mechanism and capacity within the community and uses the same for empowering the community. It addresses vulnerable condition as well as causes of vulnerability and links disaster reduction with development.

CBDP is a participatory process and requires involvement of community members, particularly the most vulnerable sectors and groups in the whole process of risk assessment, identification of mitigation & preparedness measures, decision making, implementation; the community directly benefits from the risk reduction and development process. It is based on the community’s felt and urgent needs; considers the community’s perception and prioritization of disaster risks and risk reduction measures so the community can claim ownership. CBDP is multi-sectoral and multi-disciplinary approach as it considers roles and participation of all stakeholders in the community;
combines indigenous/local knowledge and resources with science and technology and support from outsiders; addresses concerns of various stakeholders while upholding the basic interest of the most vulnerable sectors and groups.

**CBDP Activity Chart:**

(Ref: Local Level Risk Management, Indian Experience: Ministry of Home Affairs, National Disaster Management Authority- Document prepared under GoI-UNDP disaster risk reduction programme)

Thus the goals of CBDP are:

- The goal is to reduce people’s vulnerability by increasing their capacities to prepare for, to cope with and to mitigate the adverse effects of disasters.
- Aware and organized communities can pressure government to implement policies and programs recognizing people's needs and interests and promoting a safer environment
- It recognizes people's existing capacities and further strengthens the same
- It addresses roots of people's vulnerabilities and contributes to transforming or removing structures generating inequity and underdevelopment
Focus on building organizational capacity of most-vulnerable communities through formation of grass root disaster response organizations

The less vulnerable sectors are mobilized into a partnership with the vulnerable sectors in disaster management and development work

**Component of CBDP:**

The following are the basic components of community based disaster preparedness, which gives an overview of the activities that helps in reducing community’s vulnerability and increases coping mechanism among the community:

- Disaster management committee
- Seasonality calendar of disaster
- Mapping exercise
- Mock drills
- Resource map
- Risk and vulnerability map
- Safe and alternate route map
- Disaster management team/task force - early warning team, search and rescue team, shelter management team, water and sanitation team, medical and first aid team, relief and coordination team, garbage disposal team, trauma counselling team, damage assessment team
- Awareness campaign
- Trainings of community representatives, volunteer and PRI (panchayati raj institution) members
- Sensitization meeting at community level
- Community contingency fund
Present Scenario of Disaster Management in India

India has a history of organized response to the natural disasters in the form of relief compared to other developing nations. Earlier there were Princely States and later the British Government took this responsibility of directing the relief efforts. Although, after independence, the efforts became more specific and effective compare to earlier situation in presence of administrative machinery, predetermined allocation of duties and recognized public-private partnerships, all the efforts have been insufficient and ad hoc with the magnitude of calamities. Much requires to be done at policy, administrative and community level to have an integrated, effective, multi-prone and multi-sectoral approach to disaster response and state government requires taking a pro-active role in this matter to sustain an effective development process.

Policies and Framework for Disaster Response: National Level

The national policy as covered below describes Central Government’s role for calamity relief, which is reactive, but not proactive. This is purely a relief policy and does not take into account any mitigation or preparedness aspect into it.

National Policy: Traditionally, relief in the wake of natural calamities has been treated as the primary responsibility of the States. Successive Finance Commissions have also reiterated this position. Even though the States are primarily responsible for relief activities, the Central Government associates itself with measures aimed at ameliorating the sufferings of the people on account of natural calamities.

Towards this end, the Central Government, with its resources, physical and financial does provide the needed help and assistance to buttress relief efforts in the wake of major natural calamities. The dimensions of the response at the level of National Government are determined in accordance with the existing policy of financing the relief expenditure and keeping in view the factors like gravity of a natural calamity, scale of the relief
operation necessary, and requirements of Central assistance for augmenting the financial resources at the disposal of the State Government.

Administrative Response: The response of administration to a situation arising out of a natural calamity can be on account of:
- A follow-up of a policy objective of the Government
- The need for an assessment of the situation and for a Central response
- States’ requests for Central assistance
- The need for information as a governance objective

Administrative Response Frame Work at National level: Till 2002, Department of Agricultural and Cooperation’s Relief Commissioner in the Ministry of Agricultural, used to function as the nodal officer to coordinate relief operations for all natural disasters. But after the year 2002, considering the recommendations given by the High Powered Committee, all natural disasters except drought will be covered under the Ministry of Home Affairs. Drought is still dealt by the Ministry of Agriculture.

India is embarking on a process of increased activity in the disaster management sector from all the levels of the government. Certain developments like the shift of the NDM Division from Ministry of Agriculture to the Ministry of Home Affairs (which is headed by the Deputy Prime Minister) has helped the efforts being taken on this front and further expedited the process. The Ministry of Home Affairs is designated as nodal Agency to coordinate all types of disasters except drought, which continues under the Ministry of Agriculture. Under the Home Ministry it is now known as the National Disaster Management Authority, (NDMA) which is central authority in the field of disaster management. The composition of NDMA is as follows:
- The prime minister of India shall be the chair person, ex-officio
- Members not exceeding nine to be nominated by the prime minister
- One of the member may be designated as vice-chairperson of authority by the prime minister
The major function of the authority is to lay down plan and policies on disaster management and also to approve the national plan. The authority also approves plans prepared by the Ministries or Departments of the GoI in accordance with the national plan.

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<td>Cyclones</td>
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Besides the Ministry of Agriculture, Ministry of Home Affairs and other Ministries are assigned responsibility of disasters that fall in their preview of activity like railway or aviation accidents etc. and there are committees formed for various functions.

The Central Relief Commissioner receives information relating to forecast/warning of the natural calamity from the Director General, India Meteorological Department (IMD) and from the Central Water Commission (CWC) on a continuous basis. Besides, s/he also monitors the developments taking place and provides the necessary feedback, through the Agriculture Secretary to the Agriculture Minister, Prime Minister and the Cabinet. Government of India had formulated a Contingency Action Plan (CAP) for dealing with contingencies arising in the wake of natural disasters, which are updated periodically. The major emphasis in the plan is on providing, relief in response to the occurrence of a major calamity due to any of the natural hazards, which could not be coped by the States through their own resources. The National Contingency Action Plan facilitates launching of relief and rescue operations without delay. The CAP defines initiatives required to be
taken by various Central Ministries and Public Departments in the wake of natural calamities and sets down the procedures and determines the focal points in the administrative machinery.

However, all the plans at their levels requires to have Standard Operating Procedures (SOPs) developed for effective implementation. All Ministries and Departments from National level to the State level has their definite role to perform during the onset of disasters, where some provide all financial and technical support while rest enter into direct intervention. Here the major responsibility of carrying on relief and rehabilitation is that of district administration, who is guided by the State Government and supported by the Central Government in terms of supplementation of physical and financial resources and complementary measures in sectors like warning, transport and interstate movement of food grains etc. To cope up and manage the situation arising out of frequently occurring natural disasters an integrated disaster management mechanism exists within the Government framework; however, it is not made as efficient as possible. As such the role of Union is supportive but when the disaster is spread over several States or with uncontrollable proportions, the Central Government may be required to supplement the efforts of the State Government by taking appropriate rescue and relief measures. Various other committees add in the inputs in this direction at the national level.

*Cabinet Committee:* The Cabinet may set up a committee for effective implementation of relief measures in the wake of natural disaster. The Secretary in the Ministry of Agriculture acts as the Secretary of this committee. In the absence of such a committee, all the matters related to the relief are reported to the cabinet Secretary.

*National Crisis Management Committee (NCMC):* Under the chairmanship of the cabinet Secretary the NCMC has been constituted in the cabinet secretariat. The other members of the committee include the Secretary to the Prime Minister, Secretaries of Ministry of Home Affairs, Defence, Research and Analysis Wing and Agriculture and Cooperation
along with Director, Intelligence Bureau and officer of Cabinet Secretariat. The NCMC gives direction to the Crisis Management Group as deemed necessary.

**Crisis Management Group (CMG):** A group under the chairmanship of the Central Relief Commissioner comprising of the senior officers from various Ministries and other concerned departments reviews contingency plans every year that are formulated by the Central Ministries/Departments; to review the measures required for dealing with a natural disaster, coordinate the activities of the Central Ministries and the State Governments in relation to the disaster preparedness and relief and to obtain information from the nodal officer on measures relating to the above. The Joint Secretary (NDMA) and Additional Central Relief Commissioner is the convener of the CMG. The CMG meets every six months.

**High Powered Committee (HPC):** The Government of India in recognition of the importance of Disaster Management as a national priority had set up High Powered Committee (HPC), in August 1999 under the Chairmanship of Shri J. C. Pant, and members were drawn from the Ministries, States, NGOs and subject experts from relevant field. The original mandate of HPC was confined to preparation of management plans for natural disasters, but later manmade disasters were also added. The objective of HPC was to look into the issues of Disaster Management Planning at National, State and District levels with an objective of reviewing the existing set up for preparedness and mitigation, recommendation for strengthening the existing organization structure and preparation of model disaster management plans at national, State and district level. Still, The committee after undertaking an in-depth study has come up with many legislative, administrative and technical suggestions/recommendations to develop a holistic approach to deal with the disasters. Recommendations given by the HPC are as follows:

- State level system of disaster management including law and order should be framed
- Instead of Ministry of Agriculture, all disaster should come under the Ministry of Home Affairs (only drought is under the MoA)
HPC recommended that disaster management laws should be framed at state as well as national level and provided a model act

Recommended a national level authority/ separate institute- National Disaster Management Authority (NDMA) at national level

Made it mandatory for states to prepare disaster management plan at state as well as district level

Recommended of creating culture of disaster preparedness and emphasize on preparedness

**Constitutional and Legal Frameworks**

*Constitution and Disaster Management:* The subject of disaster management does not find mention in any of the three lists and the Seventh schedule of Indian constitution. However, the State Governments are provided financial assistance for meeting expenditure on identified natural calamities on the basis of the recommendations of Finance Commissions to ensure that the assistance is used only for calamity relief with Center and State's share in the ratio of 75:25. A Calamity Relief Fund has been constituted by each State, where annual assistance is credited and utilized on the basis of guidelines issued by the Union Ministry of Finance.

A subject that is not specifically mentioned in any of the lists would ordinarily have to be dealt by the Union Government. However, the primary responsibility for the management of any disaster, on its occurrence, is borne by the State Government and, at its first stage, by the district administration, whatever may be its nature. In recent years, States prone to cyclones and to some extent earthquakes have started preparing comprehensive plans area-wise and district wise, while earlier all focus was on designing such plans for calamities like droughts and floods only. However, still in most States disasters of various nature are handled on ad hoc basis, and the funds are made available for specific incidences. On the legal front there is no enactment either of the Union or of the State
Government to deal with the management of disasters of all types in a comprehensive manner.

*Acts Related to Disasters:* HPC has prepared “National Calamity Management Act”, a draft of which has been circulated to all the states as well as the concerned ministries of Government of India for their comments. The Act aims at ensuring efficiency and effective management of natural and other calamities, for achieving greater coordination and responsiveness with respect to prevention and mitigation of disasters as also to provide better relief and rehabilitation of victims of disasters. This proposed National Calamity Management Act envisages the formation of a National Disaster Management Authority for the purpose of effective management of all disasters arising out of calamities. A committee to prepare a Model “State Disaster Management Act” was constituted by the HPC. This committee had the mandate to prepare the draft Act, it pursued disaster related legislation in several countries such as the Robert T. Stafford Disaster Assistance and Emergency Relief Act of USA and decided to adopt relevant aspects to Indian conditions. The Model State Disaster management Act has been circulated to the State Chief Secretaries and relief Commissioners of all states and all state Administrative Training Institutes for their comments, suggestions and further follow-up actions.

After the recommendations given by the High Powered Committee, Gujarat and Orissa were the first states to come up with the **Gujarat State Disaster Management Act, 2003** and the **Orissa State Disaster Management Act**, respectively. And in 2005 the **National Disaster Management Act, 2005** was passed, by parliament and received assent of the president of India on 23rd December 2005. Under this act the National Disaster Management Authority (NDMA) was created. Similarly the state disaster management authority – Gujarat State Disaster Management Authority (GSDMA), headed by the chief minister was formed. Both the NDM Act, 2005 and GSDM Act 2003, envisages paradigm shift from erstwhile response-centric syndrome to a pro-active, holistic and integrated management of disasters with emphasis on prevention, mitigation and
preparedness. These efforts are aimed at conserving developmental gains and also minimizing losses to lives, livelihood and property. The NDM Act, 2005 mandates the creation of the National Disaster Response Force for specialized response and the National Institute of Disaster Management for institutional capacity building. Similarly the GSDM Act, 2003 mandates creation of Gujarat Institute of Disaster Management (GIDM) for institutional capacity building.

- Salient features of the National Disaster Management Act (NDM), 2005:

The National Disaster Management Act, 2005 was passed on 23rd December 2005 and it extends to whole of the country. Section 3 of the act provides establishment National Disaster Management Authority, to be chaired by the prime minister of India and by other members not exceeding nine. The authority can have meetings as and when necessary and is responsible for laying down the plans, policies and guideline for Disaster Management for ensuring timely and effective response to disasters. As per the clause II of section 6 the powers of the national authority are as follows:

- Lay down policies on disaster management
- Approve the National Plan
- Approve plans prepared by the Ministries or Departments of the Government of India in accordance with the National Plan
- Lay down guidelines to be followed by the State Authorities in drawing up the State plan
- Lay down guidelines to be followed by the different Ministries or Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects
- Coordinate the enforcement and implementation of the policy and plan for disaster management
- Recommend provision of funds for the purpose of mitigation
- Provide such support to other countries affected by major disasters as may be determined by the Central Government
➢ Take such other measures for the prevention of disaster, or the mitigation, or preparedness and capacity building for dealing with the threatening disaster situation or disaster as it may consider necessary
➢ Lay down broad policies and guidelines for the functioning of the National Institute of Disaster Management.

Further there is also provision for constitution of the advisory committee by the National Authority as well as the constitution of the National Executive Committee. Both the committees assist the Authority in assisting its functions under the act. As per the provisions the National Executive Committees can also constitute one or more committees for efficient discharge of its functions. The National Executive Committee has the responsibility for implementing the policies and plans of the National Authority and ensures the compliance of directions issued by the Central Government for the purpose of disaster management in the country. The major functions of the National Executive Committee are:

- It acts as the coordinating and monitoring body for disaster management
- Prepares the national plans to be approved by the National Authority
- Coordinate and monitor implementation of the national policy
- Lays down guideline for preparing disaster management plans by different ministries or departments
- Provides necessary technical assistance to the state government for preparing Disaster Management plans
- Monitor, coordinate and give directions regarding the mitigation and preparedness measures to be taken by different Ministries or Departments and agencies of the Government
- Plan and coordinate specialized training programme for disaster management for different levels of officers, employees and voluntary rescue workers Coordinate response in the event of any threatening disaster situation or disaster
- Perform such other functions as the National Authority may require it to perform
Under Section 11, there shall be drawn up a plan for disaster management for the whole of the country to be called the National Plan. The National Plan shall be prepared by the National Executive Committee having regard to the National Policy and in consultation with the State Governments and expert bodies or organizations in the field of disaster management to be approved by the National Authority. The National Plan includes measures to be taken for the prevention of disasters or mitigating their effect, measures for integration of mitigation measures in developmental plans and measures for preparedness and capacity building. The National Plan is reviewed and updated annually. Further there are also guidelines for minimum standards of relief, provided by the national authority.

There is provision for the constitution of the State Disaster Management Authority under the Section 14 of the act. As per the provision A State Authority shall consist of the Chairperson and such number of other members, not exceeding nine, as may be prescribed by the State Government and, unless the rules otherwise provide, the State Authority shall consist of the following members, namely:

a. The Chief Minister of the State, who shall be Chairperson, ex officio
b. Other members, not exceeding eight, to be nominated by the Chairperson of the State Authority
c. The Chairperson of the State Executive Committee, ex officio

The state Government can constitute State Executive Committee to assist the State Authority in the performance of its functions and to coordinate action in accordance with the guidelines laid down by the State Authority and ensure the compliance of directions issued by the State Government under the Act. The chairperson of the State Executive Committee shall be the Chief Executive Officer of the State Authority. In the case of a Union territory having Legislative Assembly, except the Union territory of Delhi, the Chief Minister shall be the Chairperson of the Authority established under this section and in case of other Union territories; the Lieutenant Governor or the Administrator shall
be the Chairperson of that Authority. The State Executive Committee can have meetings as and when required at such time and place as the Chairperson of the State Executive Committee may think fit. The State Executive Committee may, as and when it considers necessary, constitute one or more sub-committees, for efficient discharge of its functions. State Authority may, as and when it considers necessary, constitute an advisory committee, consisting of experts in the field of disaster management and having practical experience of disaster management to make recommendations on different aspects of disaster management. The major functions of the State Authority are as follows:

- Lay down the State disaster management policy
- Approve the State Plan in accordance with the guidelines laid down by the National Authority
- Approve the disaster management plans prepared by the departments of the Government of the State
- Lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance
- Coordinate the implementation of the State Plan
- Recommend provision of funds for mitigation and preparedness measures
- Review the development plans of the different departments of the State and ensure that prevention and mitigation measures are integrated therein
- Review the measures being taken for mitigation, capacity building and preparedness by the departments of the Government of the State and issue such guidelines as may be necessary

Further the Act has specified the certain powers and the functions of the State Executive Committee in the event of threatening disaster situation and laid down provision for State Disaster Management Plan and for constitution of District Disaster Management Authority. The District Authority shall consist of the Chairperson and such number of
other members, not exceeding seven, as may be prescribed by the State Government, and unless the rules otherwise provide, it shall consist of the following, namely:

a. The Collector or District Magistrate or Deputy Commissioner, as the case may be, of the district who shall be Chairperson, ex officio;

b. The elected representative of the local authority who shall be the co-Chairperson, ex officio

The Chairperson of the District Authority shall, in addition to presiding over the meetings of the District Authority, exercise and discharge such powers and functions of the District Authority as the District Authority may delegate to him. The District Authority may constitute advisory committee and other committees in order to assist and ensure effective implementation of its functions as laid down in the Act. The District Authority shall act as the district planning; coordinating and implementing body for disaster management and take all measures for the purposes of disaster management in the district in accordance with the guidelines laid down by the National Authority and the State Authority.

Further the Act states that every office of the Government of India, State Government at district level and local authorities shall prepare a disaster management plan including provision of prevention and mitigation measures and provision for measures relating to capacity building and preparedness as laid down in the district plan.

Another major feature of the act is that it has specified measures to be taken by the Central Government as well as the State Government and the responsibilities Ministries or the Departments of the Government of India. Every Ministry or the Department of the Government of India should prepare a disaster management plan specifying measures for prevention of disasters, mitigation and preparedness and capacity-building in accordance with the guidelines laid down by the National Authority. The departments of the State Government shall also have their disaster management plan including the types of
disasters to which different parts of the State are vulnerable and integration of strategies for the prevention of disaster or the mitigation of its effects or both with the development plans and programmes by the department. The Act has also laid down functions of the local authority.

One distinct feature of the authority is that the constitution of the National Institute of Disaster Management shall consist of such number of members as may be prescribed by the Central Government. The major functions of the Institute are:

- Develop training modules, undertake research and documentation in disaster management and organize training programmes
- Formulate and implement a comprehensive human resource development plan covering all aspects of disaster management
- Provide assistance in national level policy formulation
- Provide required assistance to the training and research institutes for development of training and research programmes for stakeholders including Government functionaries and undertake training of faculty members of the State level training institutes
- Provide assistance to the State Governments and State training institutes in the formulation of State level policies, strategies, disaster management framework and any other assistance as may be required by the State Governments or State training institutes for capacity-building of stakeholders, Government including its functionaries, civil society members, corporate sector and people’s elected representatives
- Develop educational materials for disaster management including academic and professional courses
- Promote awareness among stakeholders including college or school teachers and students, technical personnel and others associated with multi-hazard mitigation, preparedness and response measures
- Undertake, organize and facilitate study courses, conferences, lectures, seminars within and outside the country to promote the aforesaid objects
- Undertake and provide for publication of journals, research papers and books and establish and maintain libraries in furtherance of the aforesaid objects
- Do all such other lawful things as are conducive or incidental to the attainment of the above objects
- Undertake any other function as may be assigned to it by the Central Government

At last the provision for Finance, accounts and audit, offences and penalties under the Act are laid down.

*Early Warning Systems:* Natural calamities like floods and cyclones, and disasters with slow onset like drought can be predicted with the help of recent technological advancement in the fields of satellites, radars and hazard mapping. It facilitates the administration and all other role players an opportunity to take all precautionary actions, so that the loss can be controlled.

India has a very good network to record the smallest meteorological change and issue of early warnings. Institutions like India Meteorological Department, and Central Water Commission are working in this direction, both the organizations are having their regional centres in Gujarat State.

*Relief, Civil Society and the Government:* With recognizing immediate relief to disaster-affected as a basic principle, the Government and the civil society has responded with rescue and relief operations. The social sector, International humanitarian and faith based organisations and especially the ‘Mahajans’ or the ‘Sanghs’ in Gujarat have always played crucial role in relief. Such voluntary actions have always played a vital role in healing the wounds. However on Government’s part, the subject of disaster management is not mentioned in any of the three lists in the 7th schedule of Indian Constitution.
The basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of natural disasters is that of the concerned State Government with our federal system.

In the absence of any constitutional back up, legislative set-up and lack of well-defined process of relief with standards at the Central level has kept the efforts limited in a way that all disasters are treated in different manners and that never established any permanent solution towards bringing about sustainability and vulnerability reduction.

In other words, due to lack of a clear vision and legal framework, the whole process has been dealt in piecemeal business by Government and the civil society at the realisation of initial shock and suffering of people, does respond spontaneously and also donates in kind and cash, but views relief as responsibility of Government only, which is not the right attitude.

The State does distinguish that the people affected by disaster are entitle to relief; but entitlement is not a right. The Government’s response is administrative one, where relief is responsibility of Revenue Department and it is undertaken where there is sanction.

*Immediate Rescue and Relief:* Provision for immediate relief and rescue operation is the first duty of the district administration after the occurrence of any disaster.
However, the relief operations of the Government are always supported by NGOs and civil society and this has resulted in better support to State’s efforts and all the victims as well. So far, maximum attention has been given to providing urgent relief and so all efforts used to remain concentrated towards relief operations during any emergency. The diagram given below gives an idea of how the emergency rescue and relief operation takes place and gives an idea of roles of state control room and district control room during the time of emergency.
Long-Term Rehabilitation: Typically the steps mentioned below follow the Long-term rehabilitation:

- Damage assessment
- Policy formation
- Strengthening/retrofitting of assets, dams and other infrastructures
- Relocation and permanent rehabilitation
- Employment regeneration through loans, grants and assistance in kind to artisans and others
- Compensation for damage

But the rehabilitations so far did not address many issues revolving around affected population and therefore, it never brought back affected population to their prior condition in physical terms even.

The inputs by the people to be rehabilitated were not recognized, not the role of civil society at large. The process so far did not involve various sectors. By enlarge the recent rehabilitations have covered all necessary aspects for a good rehabilitation and it can be said that the Government has chosen the right path. The main features of current rehabilitations are:

- Well-visualized Policy Framework
- Guiding principles for rehabilitation
- Strategic planning and vision

It also addresses issues of rehabilitation and an implementation strategy for various sectors and stages like:

- Community Driven Housing Recovery
- Livelihood Support
- Infrastructure
- Social and Community Development
- Long-term Disaster Management
- Implementation by Private-Public Partnership
- Mechanism for Community Participation at all levels
- Women’s Empowerment

*Financing Disaster Relief:* The dimensions of the response at the level of Central Government are determined in accordance with the existing policy of financing the relief expenditure and keeping in view the factors like
- The gravity of a natural calamity,
- The scale of the necessary relief operation, and
- The requirements of Central assistance

Calamity Relief Fund (CRF) and National Calamity Relief Fund (NCRF): The Union Government plays a major role as far as mobilizations of financial resources for disaster management activities are concerned. The policy and arrangement for financing the State Governments to provide relief and rehabilitation measures in areas affected by natural calamities are governed by the recommendations of the Central Finance Commissions appointed from time to time. Under the present scheme a Calamity Relief Fund (CRF) has been constituted for each State with contribution from the Central and State Governments to undertake relief and rehabilitation measures. The annual allocations of the CRF to the various States are based on their trend of expenditure on natural calamities during the past ten years. As per the XI Finance Commission recommendations the Central share of Calamity Relief Fund is released to the State Governments in two installments.

The Prime Minister's Calamity Relief Funds: There is Prime Minister’s Calamity Relief Fund at Central level and Governor’s and Chief Minister’s Calamity Relief Funds at the State level. Financial assistance is extended to the States from these funds during the emergencies. Donations to these funds are 100 per cent exempted from tax under section 35 (C) of the Income Tax Act-1961.
However, these funds are not included in the Public Accounts, and that is why there is no transparency in management of these funds. Though the money is received from public and business corporations, no accounts of these funds are ever been published by the Government. They are not included in the budgets also. Neither the budget of Central Government nor that of State Government mentions the balance and expenses of these funds. They cannot be discussed during the zero hours in the parliament nor the donors can get any details of how much money has been spent for which casualty.

The Chief Minister’s Calamity Relief Fund: Donations are also asked for the Chief Minister’s Fund during emergency. The fund was initiated in 1967 and was kept out of the range of Public Accounts.

Donations to this fund can be made either in cash or kind. A committee chaired by the chief minister, manages the fund and following are the other members:

- Finance Minister
- Chief Secretary
- Secretary- Finance
- Deputy Secretary- Finance
- The fund is to be used for the following causes:
  - Provision of food for work to the beneficiaries of relief sites as a part of their wages.
  - Assistance in form of medical assistance, clothes or food items to patients, disables and aged.
  - Assistance to orphans and inmates of Work Houses set in emergency.
  - Assistance to children, women and any person who cannot go out to earn.
  - Assistance for rehabilitation of those poor farmers, pastoralists and other such groups who have completely lost their livelihoods in disaster.
  - Assistance for distribution of fodder and cattle feed at concession or free of charge.
  - Assistance for any other purpose to extend help to people or animals seeking help in emergency.
However, it seems as if these are not standard rules to be followed. Mainly they are for disaster relief but a case has been noticed in July 1998 in Ahmedabad wherein compensation was given from the Chief Minister’s Fund to the family of a PSI for his death during a public protest.

During the 1998 cyclone assistance was extended from the Chief Minister’s fund only and not from the Governor’s Fund.

The Governor’s Calamity Relief Fund: The fund was established in the year of 1974 having its Managing Committee. However, hardly few know about the existence of this fund. Collector, District Development Officer (DDO), Mamlatdar, Taluka development Officer (TDO), District Industries Officer and Sales Tax Officer can accept donation in cash and kind under this fund.

*Institutions in the Field of Disaster Management*

*Indian Meteorological Department (IMD):* The India Meteorological department (IMD) was established over a century ago with the primary objective of cyclone warning but has expanded operations to record all data pertaining to natural phenomena and developing an efficient warning system so that appropriate and timely actions can be taken to minimize the impact of disasters and to reduce the vulnerability.

*Central Water Commission (CWC):* The Central Water Commission (CWC) has come a long way since its creation in 1945, in its march towards achievement of the goal of furthering and promoting measures for Control, Conservation and Utilization of Water Resources throughout the country in the areas of beneficial uses, irrigation and hydro-power generation, flood management and river conservation. As a National Apex Engineering Organization in the field of water Resource development the CWC with its vast experience gained in its strides towards progress during the last 50 years has developed considerable technological know-how in planning, investigation, management and design of Water Resources Development schemes. CWC is sharing this knowledge with the developed nations of the world, besides its valuable contribution in this field.
The CWC has contributed substantially to the country’s commendable progress achieved in creation of irrigation potential, flood management measures, flood forecasting and hydro-power generation. They also maintain data on the damages caused by floods.

*National Center for Disaster Management (NCDM)/ National Institute of Disaster Management (NIDM):* The Govt. of India, in 1993-94, implemented a central sector plan Scheme on Natural disaster management whose main focus was on capacity building and human resource development. As a part of this programme, National Centre for disaster Management (NCDM) was set up at national level while at state level disaster management cells were also established. NCDM was being considered as a nodal center for human resource development in the country. With so much holistic development taking place, there was an urgent need for establishment of a separate Institute at national level for Human Resource Development in the field of disaster management. The High Powered Committee on Disaster Management had also recommended for establishing a separate institute at national level, which will be regarded as Center for excellence in Human Resource Development. Keeping this in view, the National Centre for disaster Management (NCDM) has been redesigned as the National Institute of Disaster Management (NIDM) to meet the multi-pronged need for research, training, education and institutional co-operation. Still being in the capacity building stage, the Institute will focus on disaster preparedness and mitigation through a coordinated efficient response system. As no such institute exists in South Asian region, the importance of NIDM assumes significance, which would also serve as a nodal Regional Centre for research, consultancy and training in the field of disaster management and mitigation. NIDM is envisioned as a self-sustaining and self-contained institute with a multidisciplinary and multi hazard approach to training and research in disaster management. It will assist the National and State Governments in building their capacities and also in planning for disaster preparedness and mitigation. It will have linkages with governments at central, state, district and local levels, international aid and development Agencies, Bilateral and multilateral agencies, Research/academic institutions, Corporate sector, NGOs, Community based organizations, community etc.
The NIDM has been envisaged to house an Alternate Emergency Operations Centre (EOC) as well, which can take over the functions of the National EOC in cases of emergency. The alternate Emergency Operation Centre (EOC) will also be used for simulation and hands on training purposes. An advisory committee will guide the overall functioning of NIDM, which will be represented by Govt. of India, NGOs, and Technical/Academic Institutions etc.

**Research and Training Institutions:** Different Ministries depending on the type and level of research are coordinating research activities. The Universities too in this sector that, besides running programmes on the disaster management, also serve as think tanks for Government play an important role. Institutes spread geographically across the country have developed specialization in terms particular regions where most of their research is concentrated also in terms of particular disasters. Notable Universities are the University of Roorkee, the Indian Institute of Technology and the Anna University.

The Department of Science (Ministry of Science and Technology), Government of India co-ordinates activities through the network of scientific institutes e.g. the Central Building Research Institute (CBRI), Roorkee. The Ministry of Urban Development carries out research through Building Materials and Technology Promotion Council (BMTPC) on subjects such as appropriate building material for disaster prone areas. The BMTPC also came up with the Vulnerability Atlas of India and vulnerability atlas of various States also. Housing and Urban Development Corporation (HUDCO) is also doing work in the areas of disaster resistance housing. These institutions, besides providing technical support, do provide training also to the field officers and other key players.

**UN System and Voluntary Organizations:** UN System, many International Humanitarian Organizations and Indian NGOs are highly active in the country and having mandate to respond to disaster situation. Many International Humanitarian Organizations are having their base in India and many others come for a short time in the wake of calamity.
United Nation’s Development Programme (UNDP) is the convener of the UN Disaster Mitigation Team and thus it has to provide the platform for coordination and information sharing among all UN agencies and also developing joint UN disaster preparedness and response plans. UNDP as a knowledge-based organization would have to equip itself to be able to provide the leadership and vision. It is in this perspective that UNDP India has attempted this preparedness and response plan for an efficient and effective response, as and when the governments to participate in the national and sub national efforts for disaster prevention, preparedness and response call it upon. The UNDP functions in close collaboration with the union as well as the state government. It has developed India Disaster Preparedness and Response plan, which is being regularly updated. Similarly for Gujarat UNDP works in coordination with the GSDMA under Disaster Risk Management Programme.

**International Decade for Natural Disaster Reduction (IDNDR 1990-2000) and Initiatives in India for Disaster Response:** The declaration of the International Decade for Natural Disaster Reduction (IDNDR 1990-2000) by the United Nations provided an unprecedented opportunity to the Government to come up with a number of steps in the field of natural disaster response and reduction. The Indian Government along with some State Governments has taken initiatives by developing a new vision, which puts more stress on finding out permanent solutions and vulnerability reduction than merely concentrating on temporary relief. More and more changes are expected in this regard, which should, of course, start with changes in legislative framework. The purpose of IDNDR was to marshal the political resolve, experience and expertise of each country to reduce the loss of life, human sufferings and economic losses from natural disasters. According to IDNDR targets, by the year 2000, all nations would have been achieved:

**Complete National Risk Assessment**
- Identify the natural hazards, which pose the threat of disaster.
- Evaluate the geographic distribution of hazard threat and their frequency and impact.
- Assess the vulnerability of the most important concentration of populations, developments and resources.

Implementation of National and/or Local Prevention and Preparedness plans
- Adopt land use and construction practices that will reduce risks
- Adopt emergency response plans that identify hazard scenario, essential actions and responsible organizations.
- Implement awareness programmes to educate people about risks and training programmes to improve capabilities of the responsible persons.
- Implement concrete measures to mitigate damages and increase resilience to hazards.

Implement Global, Regional, National and Local Warning Systems
- Implement systems for monitoring and predicting threatening phenomena in time to reduce impacts.
- Implement communication systems for disseminating warnings.
- Educate decision-makers about hazards and option for reducing disaster risks.

Mid-term Review of IDNDR held at Yokohama in May 1994 where Governments, NGOs, scientific community, business, industry and the media shared experiences, assessed the State of the problem and emphasized an urgent shift in strategy from Disaster response to preparedness and mitigation. Moreover, to continue the momentum developed during IDNDR the Indian Government declared the current decade as “National Decade for Disaster Reduction” (NDDR). Much requires to be done to achieve IDNDR targets and a complete State of preparedness and to come up with a strategy for disaster mitigation. But the fact remains, that with the magnitude of disasters these measures are grossly insufficient. There are yet many concrete steps to be taken to move forward. Achieving disaster preparedness and mitigate it is still a far ahead dream.

forth the following priority for action to measure the commitment to and success of national emergency risk reduction programmes:

Integrate disaster risk reduction planning into the health sector; promote the goal of “hospitals safe from disasters” by ensuring that all new hospitals are built with a level of resilience that strengthens their capacity to remain functional in disaster situations and implement mitigation measures to reinforce existing health facilities.

India has also adopted the framework and five priority actions to guide the implementation of HFA:

- Make disaster risk reduction a priority: ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation
- Know the risk and take the action: identify, assess and monitor disaster risk and enhance early warning
- Build understanding and awareness: use knowledge, innovation and education to build culture of safety and resilience at all levels
- Reduce risk: reduce underlying risk factors
- Be prepared and ready to act: strengthen disaster preparedness for effective response at all levels
**Gujarat at a Glance**

Gujarat is situated in the western part of the country having an area of 1.96 lakh sq. km. The State has the longest coastline (among all Indian States) of about 1600 Kms. in length starting from Lakhpat in north to Valsad in south and it amounts to be one fifth of the total Indian coastline. The population of Gujarat State is 5.06 crores (census 2001) which is nearly 5% of total population of India. The State despite being less than 5% of India’s population, contributes 11% to total industrial output and 10% of total private consumption.

Gujarat ranks third in India for per capita income after Maharashtra and Punjab, tenth in respect of population and seventh in respect of area amongst the Indian States. The State has 25 districts and 226 talukas with 18,356 villages with nearly 65% population living in rural areas.

Although the State has made remarkable progress on the economic front and one of the leading States in terms of industrialization, a large population depends upon agriculture and related activities. The State is a major producer of chemical and pharmaceutical products, cement, steel, lignite, diamond jewellery, salt, soda ash and handicrafts. Further the State has 40...
large and small ports and it is also coming up with many private ports that handle over 20 percent of country’s trade and the Kandla port alone handles 17% of India’s maritime traffic.  

**Gujarat: Multi-Hazard Disaster History**

The State of Gujarat has been facing the most overwhelming natural disasters in the last decade. These natural disasters have not just caused colossal destruction but have also paused a threat to sustain the various development programmes of the State. The unique geo-physical setting of the State makes this region highly vulnerable to natural disasters like droughts, floods, cyclones and earthquakes etc. In last decade either the whole State or large part of it has witnessed natural phenomena manifested in the most furious forms of extreme climatic conditions or drastic natural events.

The State has suffered from the severe droughts and acute scarcity situations, desertification of swathes of the State where economic ravages continuously the fragile ecologies and environmental degradation. Moreover, drought, epidemics, floods, cyclones, earthquakes and other human-made disasters dominated the last decade. In the year 1994 Surat city suffered heavily due to pneumonic plague. Drought years followed by heavy rains caused floods in the State. In 1997, 12 districts of Gujarat were flooded, especially in the North Gujarat, in 1998 South Gujarat and particularly Surat city was flooded and cyclone struck Kandla port and other coastal areas causing colossal destruction. 1999 was again a cyclone and scarcity year, in the year 2000 the economic capital Ahmedabad city was flooded badly, causing economic losses in thousand crores.

The year 2001 witnessed the most devastating earthquake and year 2002-Communal riots. Central Gujarat, South Gujarat and Saurashtra region faced heavy floods during 2005 and 2006. During 2007 also Gujarat has witnessed heavy floods during monsoon. These disasters have not just resulted temporary economic losses and causalities, but

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4 Gujarat at a glance, retrieved from www.gujaratindia.com
have succumbed the development process in the State since the resources earmarked for development are diverted to meet the needs of disaster and its aftermath.

During the last 40 years from Gujarat’s perception, 23 years have been drought years. Starting from Year 1850, 24 cyclones struck the State and the State has experienced 9 earthquakes out of which 3 has been highly devastating. The South Gujarat and the central part continue experiencing the demon of floods. Gujarat is having concentration of chemical industries, particularly, in a stretch of 400 kilometres from Ahmedabad to Vapi, known as the ‘Golden Corridor’. Ankleshwar in Bharuch district is Asia’s largest chemical zone. The State being highly industrialised and while looking at its mutli-hazard history, it is quite evident that these hazards have potential of causing multiplier ruinous effects.

The State has considerably high amount of chemical and pharmaceutical industries, petroleum industry and major ports, which has, to a great extent added to the State’s vulnerability to catastrophes. All through the recorded history, the State has endured the natural disasters increasingly claiming more lives and causing disabling injuries and tremendous economic losses. In spite of improvements in prediction techniques, advances in telecommunications and better efficiency in emergency relief and rehabilitation, the communities are periodically exposed to disasters as the disaster have now become a recurrent phenomena.

**Vulnerability Profile of Gujarat**

Gujarat on account of its geographical position, climatic and geological setting, has had a fair share of disasters of varying magnitudes from time immemorial. Non-availability of moisture during the greater duration of the year and majority of the region being arid and semi-arid area makes majority of State’s landmass vulnerable to drought and on the other hand heavy concentration of rainfall within a span of a few rainy days in large part of the State causes heavy run-off, leading to high floods and water-logging problems.
The tectonic movements of the plates of Indian subcontinent make it vulnerable to severe seismic disturbances and the cyclones rising from the Arabian Sea frequently attack the 1600Km coastline of Saurashtra peninsula and Kachchh.

The state is situated on the West Coast of the country, it has natural resources in plethora and it is one of the rich states of India. However, because of several back pulling factors like devastation caused by different disasters in one form or another in high frequency, the economy is being dragged back regularly. In addition to that, over exploitation and unwise utilisation of natural resources by capitalist doles out a hand to the degradation of environment ambient.

As mentioned earlier Gujarat state is highly prone to multi hazards due to its geographical positioning, close proximity to sea, arid and semi arid nature, presence of big rivers, presence of large number of chemical industries and sensitivity towards communal violence. According to seismologists, 23% area of Gujarat lies on seismic zone V with probable intensity on a Richter scale 6-9 and almost 75% area lies on seismic zone III and IV. Kachchh district being the most vulnerable as it entirely lies in zone V.

The state has the longest coastline (1600 km) in India and falls in the region of tropical cyclones generated in the Arabian Sea and hit nine districts of Gujarat along the coast, particularly the southern region of Kachchh, western and southern parts of Saurashtra and the western part of South Gujarat. The state covers 20% (64000 Sq Km.) of country’s total geographical area under arid zone, eight districts of Gujarat state including entire region of Kachchh district comes under this category.5

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5 World Disaster Report, 2001
Gujarat is also one of the fastest growing states of India especially in chemical industries, with such rapid spurt in chemical industrial growth; Gujarat has a very high level of exposure to chemical hazard risks. The area from Mehsana to Vapi is so heavily industrialized and popularly known as Golden Corridor (from economic point of view). Besides, there is also a possibility that the natural hazards and chemical hazards will collide, aggravating the human and economic impact. In addition, Gujarat has high potential of communal violence often lead to riots.

In addition to existing geographical vulnerabilities, poor housing construction without applying earthquake and cyclone resistant techniques, lack of adequate awareness, lack of safety mechanisms and poor work conditions of fishing community and salt pen workers increases the vulnerability of people.
Some of the most devastating disasters, which have stuck the state in previous decades, include Morbi flood of 1978, the epidemic in Surat of 1994, the Kandla cyclone of 1998, the killer quake of January 26th 2001 in Kachchh region, communal riots in Ahmedabad in 2002 and the floods, that swept across various parts of Gujarat in 2000, 2005, 2006 and 2007.

*State Level Disaster Response*

In the context of the federal structure of the country, the responsibility to cope up with natural disasters is essentially that of the State Government. The role of the Central Government is supportive in terms of supplementation of physical and financial resources. Previously all the natural disasters were dealt by Agriculture Department, it was only after the 1998 Kandla cyclone, the Disaster Management Cell was formed under the Revenue Department.

After the devastating Kutch earthquake of 2001, Gujarat State Disaster Management Authority was formed, as a mechanism for disaster management. The Gujarat State Disaster Management Policy was drafted in 2002 and following the policy, Gujarat State Disaster Management Act, 2003 was passed. The National disaster management act was passed in 2005; Gujarat is the first state to come up with its own state level disaster management act.

*Salient features of Gujarat State Disaster Management Act, (GSDM) 2003:* The Gujarat State Disaster Management Act was passed in 2003 with a main objective of adopting Proactive approach rather than relief oriented approach, following the Gujarat State Disaster Management Policy, passed in 2002.

The Act extends to whole State of Gujarat. The act aims to provide for effective management of disasters, mitigating its impact, administering, facilitating, coordinating and monitoring relief operations, reconstruction and rehabilitation. For this purpose the
act has specified to establish Gujarat State Disaster Management Authority (GSDMA) and other state agencies for the matter connected.

The Act clarifies roles of principle entities in Disaster Management namely- Chairperson of the Authority, Members of the Authority, Chief Executive Officer (CEO) and officers of the authority, Relief Commissioner, District Collector, Government Departments, Local bodies, Fire Services, Home guards, Citizens, Private as well as public entities and NGOs etc.

The Act emphasizes on moving from relief to all phases of Disaster Management- mitigation and preparedness, relief, reconstruction and rehabilitation. It enables appropriate entities to use existing powers, authority and resources to implement Disaster Management framework and provides additional powers wherever necessary. The Act provides framework for sourcing and utilizing funds as well as supplements existing legislations.

Section 4 of the Act identifies the following role of the State Government, it also ensures that all principal authorities and role players shall take necessary steps to mitigate and manage disasters:

- Ensuring that appropriate policies and guidelines are developed
- Establishing a group called the Crisis Management Group and such other entities as may be necessary and such group or entity shall exercise such powers and perform such functions as may be specified by the regulations
- Ensuring that the State administration and local authorities shall take into consideration the guidelines laid down by the Authority while planning its activities
- Ensuring that a comprehensive communication and technology network is established and maintained
- Facilitating procurement of material related to disaster management, equipment and services in connection with the disaster management and ensuring their quality
- Ensuring that disaster management plans are prepared and training for managing disaster is given;
- Promoting adequate risk-transfer, risk-sharing and cost-sharing mechanisms;
- Ensuring that adequate funds are available for disaster management
- Ensuring appropriate recovery measures; and
- Taking such steps and issuing such directions as may be necessary to prevent escalation of the disaster or to alleviate, contain or minimise the effects of disaster

Section 5 of the Act identifies the following role of the State Government Departments stating that they should provide assistance to GSDMA, State Relief Commissioner, Collector and local authority in Disaster Management activities:

- Provide assistance to the Authority, Commissioner, the Collector and the local authority in setting up communication centers, drawing up contingency plans, capacity building, data collection and identifying and training personnel
- Carry out relief operations under the supervision of the Commissioner and the Collector
- Assess the damage and carry out reconstruction and rehabilitation activities in accordance with the guidelines framed by the Authority
- Take such steps and provide such assistance to the Authority, Commissioner and the Collector as may be necessary for disaster management
- Prepare a disaster management plan setting out:
  - The manner in which the concept and principles of disaster management shall be applied
  - Roles and responsibilities of department in respect of the state disaster management
  - Roles and responsibilities of the department in respect of emergency relief and post disaster recovery and rehabilitation

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- Capacity to fulfil roles and responsibilities of the department
- Particulars of strategies pertaining to disaster management
- Strategies and procedures in the event of a disaster, including measures to finance the strategies
  - Co-ordinate preparation and the implementation of plan with other departments, local authorities, communities and stakeholders
  - Regularly review and update the plan
  - Submit to the Authority disaster management plan and amendments

Section 12 to 19 of the Act lays down provision for constitution of apex body for Disaster Management- Gujarat State Disaster Management Authority, GSDMA and has also provided composition of the Authority as- Chief Minister to be the Chairperson, Two Ministers, Chief Secretary, CEO- Disaster Management Authority, Revenue Secretary, Director General of Police, State relief commissioner and other members appointed by the State Government. The Authority shall:

- Act as the central planning, coordinating and monitoring body for disaster management and post-disaster reconstruction, rehabilitation, evaluation, and assessment
- Assist the State Government in formulation of policy relating to emergency relief notwithstanding that the implementation of emergency relief shall be the responsibility of the Revenue Department and other departments of the Government
- Inform the State Government and departments of Government on progress and problems in disaster management
- Promote general education and awareness on disaster management, emergency planning and response
- Carry out any matters incidental thereto
Role of the Authority (GSDMA) as mentioned in Act: The Authority shall develop or cause to be developed guidelines for the preparation of disaster management plans and strategies and keep them update and shall assist such departments of Government, local authorities and person, as may be specified by the Authority in preparation of plans and strategies and coordinate them.

- The plan preparing authority while preparing the plan shall make suitable provision in the plan after considering the following, namely:
  - The types of disaster that may occur and their possible effects
  - The communities and property at risk
  - Provision for appropriate prevention and mitigation strategies
  - Inability to deal with disasters and promote capacity building

- The integration of strategies for prevention of disaster and mitigation of its effects with development plans, programmes and such other activities in the State;

- Provision for assessment of the nature and magnitude of the effects of a disaster

- Contingency plans including plans for relief, rehabilitation and reconstruction in the event of a disaster

- The Authority shall prepare and maintain a master plan for the State

- The Authority shall promote or cause to be promoted awareness and preparedness and advise and train the community, and stakeholders with a view to increasing capacity of the community and stakeholders to deal with potential disasters by –
  - Publishing guidelines and recommendations in this behalf
  - Facilitating access to its electronic database
  - Promoting disaster management capacity-building programs and training programs amongst communities and other stakeholders
  - Assisting in the development of methodologies for reduction of vulnerability of disasters;
  - Coordinating the integration of methodologies for awareness and preparedness with development plans, programmes and such other activities
  - Acting in any other manner as it deems fit in this behalf
The Authority shall formulate such policy relating to mechanisms for risk transfer including insurance for disaster preparedness as it deems necessary and implement the same or cause to be implemented.

Further the Act has specified duties of CEO under Section 20, duties of State relief commissioner under Section 21 and 22, duties of district collector under Section 23 and 24, duties of local authority under Section 25, duties of police and fire service under Section 27 and role of civil society, community group, voluntary agencies etc. has been mentioned under Section 28. There are also provision for offences and penalties under the Act.

**Set up at State Level**

The nodal department for formulating, controlling, monitoring and directing measures for disaster preparedness and for organizing rescue and relief operations with necessary co-operation among all is the Department of the State Government. The Chief Secretary is in overall charge of the relief operations in the State and the Relief Commissioner and the Additional Relief Commissioner function under this direction and control.

The State Relief Commissioner, who is in charge of the relief and rehabilitation measures in the wake of natural disasters in the State. In many States, Secretary Department of Revenue is also in-charge of Relief. State Government has framed State Contingency Plan, Relief Manuals and the Districts have their Contingency Plan that is updated from time to time. In case of a disaster, the State Government also invites NGOs and other national and international relief organizations to join in the efforts to reach out to the victims. As mentioned earlier, GSDMA is a nodal agency formulated after Earthquake 2001 under and Chief Minister chairs this authority. There have been many changes after the recent earthquake. Particularly for earthquake rehabilitation, there have been many committees formed at various levels.
The existing administrative structure to deal with the ravages of the earthquake were not found satisfactorily and hence the Gujarat Government constituted ‘The Gujarat State Disaster Management Authority’ on 8th February 2001 with the Chief Minister as Chairperson and ten other members. The Resolution spoke of the need for a permanent arrangement to handle a calamity. The objectives of the Gujarat State Disaster Management Authority are the following:

- To undertake rehabilitation and reconstruction as also social and economic activities for restoration of the situation.
- To make efforts to minimize the impact of natural disasters.
- To make the best use of funds, grants, donations, assistance etc received from the Government of India and other foreign countries or any other institution/persons for prevention of such natural calamities or handling the after effects.

The jurisdiction of this authority will be the entire State and it will work as an autonomous body. It has been registered as a society under the Societies Registration Act, 1860. The Government of Gujarat has also created a separate Rehabilitation and Reconstruction Division under the General Administration and Department of the State Government and the work of the Gujarat State Disaster Management Authority has been transferred to the General Administration Department.

Further, the State Government constituted a taskforce to suggest effective measures for preparation of a long-term Disaster Management Plan, headed by the Chief Executive Officer of the Gujarat State Disaster Management Authority. The Gujarat State Disaster Management Authority constituted on the pattern of a similar authority formed in Orissa earlier, has a CEO and two Additional CEOs. It has six Directors and a chief Engineer who look after different aspects of work relating to disaster management.
The Chief Minister is the Chairperson of GSDMA and it meets at least once a month. It has the powers of the State Cabinet. Besides this, two committees have been constituted for redressal of grievances- one at the district level, which is headed by the Minister in charge of the concerned districts and the other at the village level headed by an officer not below the rank of the deputy collector or Mamlatdar. GSDMA is also looking forward for long-term mitigation in the state. Presently the GSDMA in coordination with the UNDP, heads Disaster Risk Management programme (DRM) which covers 4174 hazard prone villages of 14 districts. GSDMA has also created a network called State Disaster Response Center (SDRC), which is accessible for the government officials only. For institutional capacity building, research, training, education and institutional cooperation Gujarat Institute of Disaster Management (GIDM) has been formed. The Gujarat Institute of Disaster Management (GIDM) was established on 26th January 2004.
by the GoG with the aim of developing Human Resources for disaster management in the state. GIDM was conceived as a state level autonomous institution, which was to work in close collaboration with the GSDMA. GIDM is expected to become a premier state level institute for training, education and research in disaster management, with state of the art facilities. The main thrust of the institute is to provide proper insight, knowledge and skills to stakeholders at various levels in the state, so that they can accomplish appropriate disaster management tasks. The major objectives of the GIDM is to:

- Impart training on all stages of disaster management, for disasters, which are likely to occur in the state. In order to achieve this, the institute will:
  - Identify training needs of different target groups and conduct their training programs.
  - Design and develop appropriate training courses and training materials.
  - Conduct “Training of Trainers” programs.

Apart from these other objectives are:

- Increase awareness and educate stakeholders on disaster management through mass media, audio-visual aids and extension machinery.
- Offer open and distance education courses on various aspects of disaster management for different target groups.
- Act as an information/resource centre for disaster management by building up of a resource base through seminars, conferences, research studies and networking with knowledge based Institutions/Agencies and make such resources available to the stakeholders whenever needed.
- Conduct and support research in disaster management for improving the quality of training, education and for systems development.
- Provide consultancy services in the field of disaster management research, education and training and in allied sciences.
**High Power Standing Committee**

A State level High Power Standing Committee chaired by the Chief Secretary functions with other members from various departments to deal with all matters and situations arising out of Natural Calamities including disaster preparedness. During the occurrence and continuance of a natural calamity, the above committee of Secretaries headed by the Chief Secretary functions to monitor the day to day situation and issue necessary directions to deal with the situation.

**Sub-Committee**

Another sub-committee is chaired by secretary Revenue and/or Commissioner of Relief also functions to co-ordinate activities of all agencies, officials and non-official engaged in relief operations. Liaison officers of all the departments are member of this sub-committee and Director of Relief is Member Secretary of this committee and is responsible for coordinating with district authorities.

**Commissioner of Relief**

A full time officer designated as Commissioner of Relief is the overall in charge of preparedness exercise, rescue, relief and rehabilitation operations in the State. A permanent cell is created for this purpose under the Director of Relief in the Revenue Department.

**State and District Level Contingency Plans**

The State level contingency plan is the consolidated plan (from District Contingency Plans) to be put in action on occurrence of calamity. These contingency plans lay down specific action points, key personnel and contact points in relation to all aspects. However, these plans are not comprehensive in nature and are only response plans and do
not take into account any mitigation or reduction measures. Action is initiated on the receipt of warning only. These plans require regular updating and further development in to manuals and SOPs for guidance. Contingency plan at district level is prepared by the Collector and approved by the State Government. It is prepared in co-ordination with local defence personnel and other departments of Government.

**State & District Control Rooms**

There is also provision of a well-equipped state-of-art control room. Presently, the State Control Room coordinates relief activities and receives information from various districts. District Control Rooms don’t function annually; Collectors start operating it generally before onset of monsoon, i.e. from June and so and operates till September and November. The staffs from control room are seconded from other departments. The Control Room is responsible for:

- Transmitting to the Relief Commissioner information as to the development of crisis situation
- Receiving information and communicating to appropriate agencies for immediate action
- Collection and submission of information relating to implementation of relief measures to the Relief Commissioner
- Keeping the state level authorities apprised of the developments on a continuing basis

**District Level Disaster Response:**

District Collector is the focal point at the district level for directing, supervising and monitoring relief measures for disaster and for preparation of the district level plans. The Collector jointly with the DDO exercises coordinating and supervisory powers over functionaries of all the Departments at the District level. The actual day-to-day work of administering relief or implementing contingency plans and coordinating and supervisory
powers over functionaries of all the Departments at district level is the responsibility of
District Collector. During actual operations for disaster mitigation or relief, the powers of
the Collector are considerably enhanced, generally, by standing instructions or orders on
the subject, or by specific Government orders, if needed. At times in emergency, the state
administration informally permits Collector to exercise higher powers and the competent
authority later ratifies decisions. When a disaster is apprehended, the entire machinery of
the District, including officers of technical and other Departments, swings into act on and
maintains almost continuous contact with each village in the disaster threatened area. The
role of sub-district administration is also crucial here.

**Panchayati Raj Institutions and local Self Governance:**

It is a surprising fact that though the Panchayati Raj institutions in Gujarat have very
good hold at local level; they do not have any active role to play during the emergencies.
Each layer of the system has some specific functions to perform during emergency,
which is well defined in the Panchayati Raj Act of 1993. But there are not given any
financial assistance to perform any of such duties. This keeps their role limited and most
of the time passive, though their close attachment to the public and good knowledge of
crisis and resources can prove them as very good managers at such critical period of time.

Section 99 of the Gujarat Panchayat Act-1993 covers 106 different activities of the
panchayats. The community development activities include the following two
responsibilities during emergencies:

- Assistance to disables, poor and sick people
- Assistance to all victims during occurrence of any natural calamity

Section 130 of the act mentions 86 responsibilities of the taluka Panchayats. About
emergency relief it says, “…..shall provide assistance during flood, fire, epidemic and
any other such natural calamities.” Districts panchayats are assigned a major role in
emergencies. Section 154 mentions 73 tasks to the district panchayats and one of them
are “Establishing and managing relief camps during natural calamities like drought and famine, fire and earthquake.”

1993 to 1996, no amount was kept reserved for panchayats to carry on any relief activity during drought or flood and cyclone. 2938 villages from 82 talukas were affected by the June-1998 cyclone, but neither the Taluka Panchayats nor the Gram Panchayats were given assistance for carrying on relief operations and the same is continuing⁶. In nutshell, emergency relief is a part of the responsibilities of the Panchayati Raj institutions but they are not given any assistance to carry on such activities so far.

Thus, during such casualties, they have no other role to play except providing all necessary data of damage and loss. Same is the case with the Urban Local Bodies that is, the Municipalities and Corporations. They were not offered any assistance during emergencies.

It is so disappointing to know that the very first Finance Commission after the 73rd Constitutional amendment did not mention anything in its quarterly reports about providing assistance to Panchayati Raj Institutions for emergency operations.

⁶ Revenue Department, Gandhinagar, A Note on Cyclones & Earthquake, 1999