

KERALA STATE DISASTER MANAGEMENT POLICY

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KERALA STATE DISASTER MANAGEMENT AUTHORITY



GOVERNMENT OF KERALA

1. INTRODUCTION

Kerala State is vulnerable to a multitude of disasters and is categorized as a multi-hazard prone state. The state experiences various kinds of disasters of recurrent nature which result in loss of life, livelihood and property (public and private), and disruption of economic activity, besides causing immense misery and hardship to the affected population.

The state experiences heavy rainfall and flood during the southwest monsoon, with subsequent damage to life and property. Drought conditions have also become more frequent during the pre monsoon period and at times with the failure of southwest monsoon and /or northeast monsoon. Coastal erosion along the coastal areas is very severe, necessitating frequent evacuation and rehabilitation of the coastal people. Incidences of biological disasters such as epidemics, pest attack are also on the rise. Fatalities in road and rail accidents, manmade accidents, lightning and boat capsizing are very high in the state. Landslide or landslip is another hazard of the hilly regions of the state. The tsunami that struck Kerala Coast in 2004 has added a new dimension to the disaster scenario of the state as most of the low lying and mid land areas in the State are having an altitude of only 4 – 6 meters.

The State is also vulnerable to cyclone and experiences high winds due to the westward movement of cyclonic storms crossing Tamil Nadu coast. The Fact that Kerala falls under earthquake Zone III makes the state vulnerable to earthquakes of magnitude of 6.5 or more. Possibilities of chemical and industrial disasters and disasters like dam burst also cannot be ruled out. The threat of Global Warming and its resultant climatic variations such as inter seasonal variations in rainfall, environmental issues and rise in sea level increase the vulnerability of the state. Issues related to rapid urbanization and waste disposal are assuming a gigantic proportion.

It is in this context, the Government of Kerala recognises the need to have a proactive, comprehensive, and sustained approach to disaster management to reduce the detrimental effects of disasters on overall socio-economic development of the state.

2. NEED FOR A POLICY

While disasters cannot be completely avoided, the vulnerability to various hazards can be sustainably and substantially reduced by planned prevention, mitigation and preparedness measures. Therefore, the current perceptions of disaster management that considers disasters as rare occurrences managed by emergency response services require a paradigm shift. The new approach emanates from the conviction that disaster mitigation

and preparedness should be built into the development process and it should be multi-disciplinary spanning across all sectors of development. The need is to have a state specific policy that articulates its vision and strategy for disaster management in the state, which underscores that investments in prevention, mitigation and preparedness are much more cost effective than expenditure on relief and rehabilitation.

The urgency of the policy is also driven inter alia by the unique features of the State like high density of population, urban character, high investments per square kilo meter both in private and public sector, long coast line, potential impact of climate change, exotic infectious diseases and terrorism related hazards.

With this in view, the Kerala State Disaster Management Authority has formulated the 'Kerala State Disaster Management Policy'. The Disaster Management Policy calls for mechanism for coherence and alignment with existing policies of the government and future legislations.

3. VISION

'A safer community and better quality of life in the State through holistic and comprehensive state of the art disaster management services'

4. OVERALL GOAL

The goal of Kerala Disaster Management Policy is to institute structures and systems and to establish directive principles for effective disaster risk and crisis management in order to minimise human, property, environment and livelihood losses and to contribute to the sustainability of development and better standards of living for poor and vulnerable sections.

5. OBJECTIVES

- To develop and ensure Policy, Institutional and Techno – Legal frameworks for disaster management in the state
- To develop and maintain proactive governance and systems **and promote research and development** for Disaster Risk Management for appropriate disaster prevention, mitigation and preparedness measures and strategies.

- To establish effective Disaster Crisis Management through the organisation and management of resources and responsibilities for dealing with all aspects of emergencies, particularly, response, rehabilitation and reconstruction.
- To strengthen the capacities and resilience of vulnerable community with special emphasis on empowerment of women and establish community level systems for pre, during and post disaster interventions through awareness generation and capacity building.
- To build capacities and promote positive changes in the administrative systems, procedures and personnel that would facilitate efficient and effective pre and post disaster activities.
- To institutionalise Disaster Management in government as envisaged in DM Act, 2005 and to mainstream Disaster Management in to developmental planning.

6. Policy, Institutional and Techno – Legal Frame Works for Disaster Management in the State.

The government of Kerala envisages Policy, Institutional and Techno – Legal Frame Works in the state to form the basis of Disaster Management to facilitate the activities in different phases of a disaster.

6.1 Implementation of Disaster Management Act, 2005 : The State Government, in line with National Disaster Management Act, 2005, has notified Kerala State Disaster Management Rules, 2007 (vide G.O (P) No. 71/2007/DMD dated 01/03/2007) and constituted State Disaster Management Authority (vide G.O (P) No. 154/2007/DMD dated 04/05/2007) The state has also notified District Disaster Management Authorities (vide G.O (P) No. 303/08/DMD dated 09/09/2008) laying down clarity of roles and responsibilities for state and district authorities. The State Executive Committee of State Disaster Management Authority has also constituted.

The state government shall also consider enactment of appropriate legislations and revision of existing relief codes to form comprehensive Disaster Management Code to provide state specific legal framework for disaster management.

6.2 Kerala State Disaster Management Policy : The Disaster Management policy is the guiding principle for the state and vision of the state for disaster management. It aims to establish an optimum system for dealing with disasters, avoiding disruption of economic activity and ensuring continuity in developmental activities without damaging the

environment. The policy framework is structured in such a way that Kerala State Disaster Management Authority provides the overall direction and guidance to various entities leveraging the resources and capability of existing entities and building new capabilities without treating disaster management as a separate sector or discipline.

6.3 Kerala State Disaster Management Authority : Kerala State Disaster Management Authority shall function as the apex decision-making body and facilitate, co-ordinate, review and monitor all disaster related activities in the state including capacity building. The Authority shall lay down the State Disaster Management policy and guidelines to be followed by the government departments and approve the State Disaster Management Plan and Departmental plans. The Authority shall be provided with statutory powers to facilitate, coordinate and monitor the activities related to disaster management utilizing the resources and expertise of relevant Government departments, district administration, local authorities, non-governmental organizations, the public sector, international development agencies, donors and the community. It shall also exercise the powers and functions as laid down in the national Disaster Management Act, 2005 and in the notification of Kerala State Disaster Management Authority vide G.O (p) No. 154/2007/DMD.

6.4 District Disaster Management Authorities : The State Government, by notification, has established and constituted District Disaster Management Authorities in all fourteen districts as per the provisions of National Disaster Management Act, 2005. 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.

The State Government will ensure an appropriate chain of command whereby the Kerala State Disaster Management Authority at the State level and District Disaster Management Authorities headed by District Collectors at the district level are empowered to coordinate disaster management activities and mobilize resources of all relevant Departments at their level. Similar institutional arrangements fixing responsibilities, administrative mechanism and procedures shall also be made down line at Taluk and Village levels.

6.5 State Nodal Departments and Crisis Management Groups :

The Department of Revenue and Disaster Management will be the nodal department for management of all types of natural disasters that include water and climate related disasters and geological disasters. The scope of Department of Revenue has been enhanced to include prevention, mitigation and preparedness aspects of Disaster

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Management apart from its traditional responsibility of relief and rehabilitation and renamed as Department of Revenue and Disaster Management. The Principal Secretary to government will act as the State Relief Commissioner. The organizational structure of the Department dealing with disaster management will be so tailored as to reflect the change in focus from post-disaster relief and rehabilitation to prevention, mitigation and preparedness in addition to relief and rehabilitation.

The Department of Home shall be the nodal department for management of manmade and human induced disasters including air and rail accidents. **The Department of Public Health** shall be the nodal department for chemical, biological (health related), radiological and nuclear disasters. **The Factories and Broilers Department** shall be the nodal department for industrial accidents and the department shall work in tandem with **Industries Department** in the event of a disaster. While **Agricultural Department** deals with pest attacks; cattle epidemics shall be handled by Animal Husbandry Department. **Irrigation and Public Works Departments** shall be the lead agencies for disasters related to dam bursts and major building collapse respectively. **Forest Department** shall be the nodal department for disasters like forest fire.

A well coordinated and unified response of various state departments and agencies appropriate to the proportion and demand of the crisis situation will be ensured by the state government to improve the process of recovery through rapid dissemination of information, quick response and effective decision making. An institutional mechanism distinguished as ‘Crisis Management Group’ **under the chairmanship of Chief Secretary with representatives of Department of Home including Police, Department of Revenue and Disaster Management and Department of Health will function** at the state level as a nerve centre to support, coordinate and monitor crisis management activities related to natural disasters, manmade / accident related disasters and chemical / biological / radiological / nuclear disasters. Accordingly, ‘Crisis Management Plans’ that clearly define response roles and responsibilities of government agencies, facilitate communication across agencies, specify protocols and procedures, and detail actions to be taken by government departments shall be prepared and made operational by the state government. **As and when a grave crisis situation develops, the District Collector as Chairman of ‘District Crisis Management Committee’ will send the ‘first information’ to the state level ‘Crisis Management Group’.**

6.6 Techno – Legal Frameworks : The state government will follow national building codes and other codes as laid down by Bureau of Indian Standards. Relevant departments / District Administrations / local authorities shall ensure that existing building bylaws, land use zoning regulations and development control regulations correspond to the

requirements for safe construction as laid down by various agencies such as Bureau of Indian Standards (BIS) for seismic zone III.

Transfer of disaster resistant construction technology by capacity building of construction fraternity (Town Planners, Engineers, Architects, Builders and Developers and Masons) shall be promoted by the state government. Disaster resistant design and construction practices and retrofitting techniques shall be made part of University Undergraduate Courses in Civil Engineering and Architecture.

The Disaster Management efforts shall take in to account the key elements such as Knowledge Management, Networking (regional, national and international), promotion of results based Research and Development and adoption of appropriate technologies that determine success in all phases of disaster management. Modern Technology such as Remote Sensing, GIS, GPS etc. shall be made use of in disaster risk reduction and crisis management to the extent possible.

A Techno – Financial Framework consists of Disaster Risk Insurance through appropriate insurance instruments governed by effective regulatory frameworks including Micro Finance and Micro Insurance shall be explored by the government. Risk Transfer and Risk Sharing measures such as Disaster Management Tax and Natural Resource Depletion Risk Tax shall be devised by the state government as feasible options for risk coverage.

6.7 Strengthening Institutional Mechanisms and Capacity Building :-

The basic challenge of Policy Framework lies in designing effective tools to enhance governance and accountability, and to promote integrated whole-of-government solutions. Tremendous capacity creation is required within the government system along with technical assistance for forging alliances, coordination, partnership and convergence. A mechanism for empowering the institutions under Disaster Management to effectively manage disasters and to work in cohesion with other state and central government sponsored structures, policies, programmes and schemes shall be established.

The state shall strengthen the existing Disaster Management institutional mechanisms and Centres by way of capacity building and modernization. Training shall be imparted to various department officials, implementation agencies, NGO's, private sector and the community in activities related to disaster management. Specialised trainings shall be imparted to the relevant agencies to deal with special emergency situations and appropriate infrastructure shall be developed for effective support.

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‘Regional Response Centers’ of National Disaster Response Force and ‘Civil Defense Institute’ shall be established in the state with the support of Government of India and National Disaster Management Authority.

Institute of Disaster Management : An autonomous institute exclusively for Disaster Management linked with existing Administrative Training Institute shall be set up in the State under the Department of Revenue and Disaster Management. This Institute (Kerala State Institute of Disaster Management / KSIDM), shall function as the nodal technical, planning and analysis, and training arm of the State Disaster Management Authority. The institute will be responsible for training and research, documentation and development of State level information base, development of prevention and mitigation measures, generation of technical data banks, carrying out hazard, vulnerability and risk assessment studies, formulating strategies for rapid response, generating short and long-term rehabilitation measures and for imparting appropriate training to State and District level personnel. This institute would promote sharing and dissemination of specialised knowledge related to disaster management among various implementation agencies, NGOs, private sector and the community in the state. Above all, this institute will develop disaster management as a distinct management discipline for a streamlined disaster management cadre. Institutional linkages for research based resources, particularly in aspects like mitigation and adaptation shall be established.

Emergency Operation Centres :- An Emergency Operation Centre (EOC) has been set up under the Department of Revenue and Disaster Management linked with the office of State Disaster Management Authority. Similar EOCs would be made operational under the nodal departments in the events of manmade, chemical, biological, radiological and nuclear disasters. The system and procedures of EOC are designed in such a way that information can be promptly assessed and relayed to concerned parties. Rapid dissemination contributes to quick response and effective decision making during emergencies. As the master coordinator and control point for all disaster efforts, the EOC is the place of decision making and effective implementation under a unified command. EOC will function round the clock and will maintain direct linkage with district control rooms through phone, fax, wireless and internet. The State Disaster Management Authority will ensure that a comprehensive information network is available for timely collection of hazard-related information and rapid dissemination of relevant information and warnings. Emergency Operation Centres shall also be set up in each district headquarters. Standard Operating Procedures for the operation of EOCs will be prepared.

6.8 Framework for Mainstreaming Disaster Management :-

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Government of Kerala would ensure that state government, district administration, local authorities and departments take into account disaster risks and provide for suitable preventive, mitigation and preparedness measures in their regular development planning activities. State Disaster Management Authority shall form a frame work for mainstreaming disaster management integrating performance indicators for key elements for ensuring translation of policy goals in to outcome and for enhanced accountability towards critical parameters like integration of disaster management framework in to development framework of the state and medium term expenditure framework (MTEF) that indicate budgetary commitment of the state government to the policy.

Disaster Management shall be included as an integral part of Development Plans of the state and Disaster Risk Analysis and Audit and Environment Impact Analysis shall be introduced as a binding requirement for development and infrastructure programmes.

As part of mainstreaming, **Course Curriculum in disaster management** shall be included in the school curriculum of state education department, preferably in the high school syllabus. School Disaster Management Programmes and formation of Safety Teams / Clubs shall be promoted by the State. Universities and Self financing Colleges shall be encouraged to conduct Graduate, Postgraduate and Diploma Courses in Disaster Management.

6.9 Stakeholders in Disaster Management : The policy also systematizes a frame work of operation for the following set of stakeholders that play key roles in disaster management.

- i. Kerala State Disaster Management Authority
- ii. State and Central Government Departments
- iii. District Disaster Management Authorities
- iv. Local authorities including Municipal Corporations/Municipalities, District/Block/Grama Panchayaths, Taluk/Village Officers etc.
- v. Voluntary and Civil Society Organisations
- vi. Red Cross, multilateral aid agencies and U.N agencies
- vii. Community – Village Disaster Management Committees / Task Forces
- viii. Public sector Undertakings
- ix. Private sector undertakings
- x. Army, Navy, Air Force, Coast guard, Airport Authority, National Disaster Response Force etc.

7. KERALA STATE DISASTER MANAGEMENT POLICY - APPROACH AND STRATEGY

The Kerala State Disaster Management Policy defines disaster as ‘**a serious disruption of the functioning of a society caused by a hazard or otherwise, having widespread human, material or environmental and other losses, which exceed the ability of the affected society to cope using its own resources**’. The term ‘disaster’ includes the following events.

Category 1- Water and Climate related disasters.

- a) Flood
- b) Drought
- c) Coastal erosion
- d) Thunder and Lightning
- e) Cyclone and Storms etc.

Category 2- Geologically related Disasters

- a) Landslides and Mudflows
- b) Earthquakes
- c) Dam failures
- d) Tsunami
- e) Dam bursts etc.

Category 3- Chemical Industrial and Nuclear related disasters

- a) Leakage of hazardous materials at the time of their manufacture, processing and transportation.
- b) Disasters due to manufacture, storage, use and transportation of products, pesticides etc and waste produced during the manufacturing process etc.

Category 4- Biological related disasters

- a) Epidemics
- b) Cattle epidemics
- c) Food poisoning
- d) Pest attacks etc

Category 5- Man-made disasters

- a) Forest fire
- b) Urban fire
- c) Village fire
- d) Festival related disasters
- e) Road, Rail and Air Accidents
- f) Boat capsizing

- g) Oil spill
- h) Major building collapse
- i) Serial Bomb blast
- j) Illicit Liquor Tragedy
- k) Drug abuse
- l) Drowning
- m) Tanker lorry mishaps
- n) Pollution (water , air and soil)
- o) Family suicides
- p) Environmental disasters
- q) Communal riots
- r) Stampede etc

Disaster Management is defined as ‘**the body of policy and administrative decisions and operational activities which pertain to various stages (pre-disaster, disaster occurrence & post-disaster) of disaster at all levels**’. It covers the entire range of activities designed to maintain control over disasters / emergency situations and to provide a frame work for helping people to avoid, reduce the effects of or recover from the impact of a disaster.

Understanding of hazards, risks posed by these hazards, vulnerability of the community and capacity building to reduce risk and vulnerability are the principal elements of successful disaster management. The management of a disaster can be viewed as a series of phases which includes pre – disaster, during disaster and post disaster phases.

The Kerala State Disaster Management Policy underscores an integrated approach to disaster management covering all phases of managing disasters such as,

- **Pre Disaster phase - prevention, mitigation and preparedness.**
- **Disaster response phase / during disaster.**
- **Post Disaster phase – recovery (rehabilitation and reconstruction).**

The state government's disaster management policy would lay emphasis on pre-disaster activities such as prevention, mitigation and preparedness rather than on post - disaster response.

The State Government shall issue specific guidelines and devise exact measures for implementation of the state policy during various phases of a disaster separately in its State Disaster Management Plan.

6.1 Pre Disaster Phase – Prevention, Mitigation and Preparedness

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The pre-disaster phase includes prevention, mitigation and preparedness activities and all these activities together form 'Disaster Risk Management'.

I. Prevention :- Measures aimed at eliminating the occurrence of a disaster event and/or reducing the severity of a disaster.

II. Mitigation :- Long term measures taken in advance which decrease or lessen the impact of a disaster on society and environment by improving a community's ability to absorb the impact with minimum damage or disruptive effect.

III. Preparedness :- Measures which enable the government, communities and individuals to respond rapidly and effectively to disaster situations and ensure that communities and services are capable of coping with the effect of disasters.

6.1.1 Roles of key stakeholders

I. The Kerala State Disaster Management Authority :

Kerala State Disaster Management Authority will act as the nodal agency for prevention, mitigation and preparedness and would facilitate and monitor the same as the capabilities developed in this phase will play a critical role in subsequent phases.

II. Departments of State :

Under the overall direction of Kerala State Disaster Management Authority, the departments at state and district level shall be responsible for preparing 'Departmental Disaster Management Plans' that involves programmes within the routine departmental works for disaster prevention, mitigation and preparedness and strategies for its successful implementation, description of departmental responsibilities during disaster situations and preparation of contingency plans for different types of hazards and formulation of department level capacity building policy.

Further, the state departments shall formulate 'Disaster Management Cells' within the departments at state and district level and shall deploy a senior officer as 'Nodal Officer for Disaster Management'. 'Control Rooms' shall be established for effective coordination and speedy decision making. Details of the main departmental officials (Name, Designation, and Contact details), inventory of departmental resources (Resource, Capacity, location etc.) and Departmental Standard Operating Procedures shall also be prepared and made available along with departmental plans.

Standard Operating Procedures that precisely define how operations are to be carried out, explain what is expected and required of the department personnel and procedures for evacuation, procurement of essentials, deployment of resources and such other activities shall be prepared and simplified by relevant departments to ensure effective functioning in the event of disasters.

III. District Collector / District Disaster Management Authority :

The District Collector who also acts as chairman of the District Disaster Management Authority plays a vital and coordinating role in ensuring that disaster risk management activities in this phase are effectively carried out by the district disaster management authority, district administration, government departments, local bodies and other stakeholders at the district level. The District Collector should ensure that there is a plan for disaster management for the district which promotes a culture of prevention, mitigation and preparedness and putting in place institutional and techno-legal framework for the creation of an enabling regulatory environment and a compliance regime. The District Disaster Management Authority should ensure that the 'District Disaster Management Plans' are operational and regularly updated.

The District Collector shall facilitate and coordinate with local bodies to ensure that pre-disaster activities in the district are carried out successfully and ensure appropriate linkage between Disaster Management activities and regular development activities. The District Collector shall facilitate training and awareness programmes for communities and ensure that relevant officials in the district are properly trained in handling possible disasters in the district.

IV. Local Authorities :

Local self governments shall work in close harmony with various government departments under the supervision of District Disaster Management Authority. They are responsible for ensuring compliance to various disaster management specifications and codes stipulated by relevant agencies based on hazard zonation and risk and vulnerability assessments. The local authorities shall coordinate community based disaster preparedness activities of the district.

V. Non-Governmental Organisations and Community Groups :

The entire process of Disaster Risk Management will centre stage the community and will be provided momentum and sustenance through the collective efforts of government agencies and 'Non-Governmental Organizations'. Civil Society Organisations, Voluntary

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Agencies and Local Community Groups should actively participate in prevention, mitigation and preparedness activities of the district under the overall direction and supervision of District Disaster Management Authority. They should assist the District Administration and Local Bodies in the identification of hazards, vulnerability and risks and should actively participate in the training activities in the pre-disaster stage familiarizing themselves with their role in Community Based Disaster Risk Management.

Non – Governmental Organisations and Community Groups under the supervision of District Disaster Management Authority and Local Bodies should develop mechanisms to mitigate disasters at the grass root level through participation of communities.

VI. Private Sector :

Recognizing the importance of integrating the private sector in pre - disaster activities, the State Disaster Management Policy envisages involvement of corporate sector in awareness generation and disaster preparedness and mitigation through sensitization, training and co-opting of the corporate sector and their nodal bodies in planning process and response mechanisms. The private sector shall ensure compliance to disaster management codes and specifications stipulated by relevant authorities and shall ensure that the staffs are adequately trained in Disaster Management. The private sector **may** ensure their active participation in the pre-disaster activities and support government and non-governmental endeavors leading to development of Disaster Risk Management and resilience of vulnerable communities.

Apart from addressing natural disasters, the Corporate Sector **may** involve in research and propagation of environmentally sound industrial systems and processes leading to development of systems and methodologies for safer and disaster-free handling of chemicals and other hazardous substances in production processes and procedures. The Industrial Sector would develop and implement on-site and off-site disaster management plans. Further, Industrial and commercial associations shall be encouraged to contribute towards the well-being of the community in which they operate by adopting socio-economic practices aimed at improving the living conditions of the people at large as part of Corporate Social Responsibility. The Corporate Sector is encouraged to create healthy and safe working conditions and manage disaster risk more efficiently and minimize the negative impact of its activities on the environment and natural resources.

6.1.2 Key Activities in Pre Disaster Phase

1. Hazard, Risk and Vulnerability Analysis :-

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Before commencing any preventive, mitigating and preparedness activities, it is important to analyse different types of hazards and risks of the state. Kerala State Disaster Management Authority would co-ordinate with all relevant agencies and state departments for a thorough assessment of hazards, risks and vulnerability. A Data Base of past disasters should also be prepared for analysis.

Attempt shall be made to identify hazards and to classify the region in to zones based on hazard potential. Hazard Specific Zonation Maps shall be prepared. Measure of the expected losses of people, structures and region and assessment of degree of vulnerability of any given structure/people/region to the impact of the hazard shall be made. These analyses shall be made in consultation with local community so that they should realise the hazards, risks and vulnerabilities in their villages to prepare for reducing the risk.

These assessments shall be used for developing detailed contingency plans and mitigation measures like Strengthening capacities of communities, Land use planning & zoning, Retrofitting of buildings and structures, developing scientific disaster resistant construction practices for various disaster prone areas etc. The construction activities and other activities that affect the environment will be monitored by relevant departments in vulnerable regions particularly in landslide, earthquake and cyclone prone areas and in areas where dams are situating. Environmentally fragile regions like wet lands, Western Ghats, coastal areas and biological hotspots and the rivers in the state will be protected from **detrimental** interventions by legal enforcement.

2. Preparation of Disaster Management Plans :-

Disaster Management Plans – State Disaster Management Plan, District Disaster Management Plans, State Level Departmental Plans and District Level Departmental Plans tailored to local needs shall be developed to enable the authorities, departments and the community to respond systematically and effectively to disasters. The guidelines for such plans will be prepared by State Disaster Management Authority and the relevant authorities, government departments and district administrations will prepare plans using these guidelines and ensure that these are operational, constantly reviewed and updated. The Kerala State Disaster Management Authority will prepare, and constantly update, a master disaster management plan for the state. These plans shall be reviewed in April and updated in June every year and the report shall be placed before the assembly in the next session.

As Kerala State experiences certain typical monsoon related seasonal disasters such as landslides, flood, coastal erosion and lightening, Disaster Specific Crisis Management Plans consisting of pre monsoon preparedness activities by various departments shall also

be prepared by the State. Measures to address issues arising out of Global Warming and Climate Change which has increased the vulnerability of the state would be given highest priority in Risk Reduction Activities.

Existing Standard Operation Procedures, Relief Manuals / Codes etc shall be reviewed and updated by relevant Government departments under the overall guidance of State Disaster Management Authority.

3. Inventory of resources / Capacity Assessment and Enhancement :-

Kerala State Disaster Management Authority and Government Departments will ensure that a comprehensive repository of man power, machinery and other resources are created, maintained and easily accessible to the relevant authorities at all times to facilitate quick contact with people and availability of resources on the onset of a disaster. Government shall consider entering into pre-contract with concerned agencies for speedy delivery of equipments needed for management of disasters, wherever necessary. Multipurpose Permanent Community Shelters shall be constructed in vulnerable villages with due provisions for accommodating displaced families. These shelters may be used as Community Centres during normalcy. Provisions in the Calamity Relief Fund shall be utilized to procure equipments necessary for different departments, subject to need assessment and availability of funds.

4. Early warning system :-

Early warning mechanisms shall be instituted by the Department of Disaster Management to give advance warning and alerts for cyclones, floods, tsunami etc. The Kerala State Disaster Management Authority shall ensure a mechanism aligned with overall disaster management plan of the state to receive early warning and forecasting from nodal agencies such as Indian Meteorological Department, Centre for Earth Science Studies, Indian National Centre for Oceanic Information Science, etc., and to disseminate the warning information to vulnerable communities in last mile. An alternative wireless based communication mechanism shall be introduced for communication from state to districts and from districts to taluks and villages.

5. Incident command system :-

The State Disaster Management Authority shall establish a proper chain of command for effective management of disasters and coordination of all agencies responsible for disaster management in the state. The Incident Command System will provide combination of facilities, equipments, personnel, procedures and communications

operating within a common organizational structure, with responsibility for the management of resources to effectively accomplish stated objectives pertinent to an incident.

6. Funding: -

The State shall give the highest importance to the prevention and mitigation of various types of disasters and would propose budgetary allocations for disaster risk management, other than making funds available through the Calamity Relief Fund and National Calamity Contingency Fund. Kerala State Disaster Management Authority, as nodal agency would identify alternative sources of funds for activities related to disaster management in the state.

The state departments would incorporate allocation of financial resources for prevention, mitigation and preparedness in their annual development plans. State Executive Committee of the Disaster Management Authority shall be authorized to apportion resources and priorities in the case of inter-departmental schemes for mitigation of disasters.

Disaster Mitigation Fund Disaster Response Fund : Disaster Mitigation Fund and Disaster Response Fund shall be constituted at state and district level as per the provisions in the Disaster Management Act, 2005. These funds at state and district level shall be established, earmarked and apportioned based on the guidelines that will be issued by Finance Commission and Ministry of Home Affairs for schemes which specifically address prevention, mitigation, preparedness, response and recovery.

7. Community Based Disaster Management :-

Analyses of response to past disasters have highlighted that reaching out to the victims with in the critical period of an emergency as a major requirement to protect human lives and assets. The Government of Kerala would develop mechanisms to mitigate disasters at the grass root level through participation of communities, as communities being the first responder having more contextual familiarity with hazards and available resources are in better position in planning and executing disaster management. The policy envisages leveraging and capitalizing existing social capital and traditional wisdom in sustainable management of disasters which shall be an integral component of the Panchayath Raj Institutions centric community based disaster management plans.

A culture of preparedness, quick response, strategic thinking, prevention and mitigation needs to be incorporated into the minds of vulnerable communities and communities will

be supported to work out Community Based Disaster Management Plans to safe guard lives, livelihood and property, to prevent losses and at the same time enable faster recovery in the event of an emergency situation. A process oriented Community Based Disaster Management Programme shall be put into practice in the state with the support of multi lateral aid agencies. Village Disaster Management Committees shall be set up to reduce the risks associated with disasters and dependency on external agencies. Village Disaster Management Committee aims at strengthening the coping mechanism of the village to combat various magnitudes of disaster. Training and mock drills at regular intervals help in the Capacity building of the community. It is proposed that a Village Disaster Management Plan consisting of local hazard and vulnerability assessment be prepared and executed by the Village Committee at the village level. As part of the plan, Task Forces shall be formed at village or ward level and trained in rescue and relief, first aid, water and sanitation, psychosocial care, early warning, water and sanitation etc. **The Task Forces shall be active in pre disaster activities such as awareness generation, risk and vulnerability assessments and disaster management plan preparation and updating during normalcy. The Task Forces shall immediately plunge in to action and undertake early warning, evacuation, search and rescue and first aid activities during the response phase of a disaster. They shall also join hands with government agencies to coordinate post disaster activities such as relief and reconstruction, damage assessments, shelter management, sanitation activities etc. Necessary trainings and equipment support shall be provided to the Task Forces along with institutional linkages with agencies like Police and Fire and Rescue Services for effective synchronization.**

Preference will be given to capacitate the most vulnerable groups like women, children, elders and differently able persons and special care will be given for their rescue and evacuation. The respective State Department shall conduct Social Audits during various phases of disaster management to ensure that aspects like gender and social inclusion are properly addressed.

6.2 Disaster Response phase

The Disaster Response Phase involves emergency relief measures taken in anticipation of, during and immediately in the aftermath of a disaster event to ensure that the effects of the disaster are minimized. The Incidence Command Systems, Emergency Response Capabilities and Institutional Arrangements developed in the pre – disaster phase will be brought in to play in this phase. The overall response strategy will vary from level to level of the disaster (L0, L1, L2, and L3)

6.2.1 Role of key stakeholders

I. The Kerala State Disaster Management Authority :

The Kerala State Disaster Management Authority will facilitate, co-ordinate and monitor the activities in this phase. In order to ensure effective response, the authority shall develop guidelines for agencies that govern the emergency relief measures. The Kerala State Disaster Management Authority would, if required, co-ordinate with agencies of other states and other national and international agencies to supplement the relief being provided.

II. Departments of State

The relevant government nodal departments shall carry out search, rescue and immediate relief operations as per the Departmental Disaster Management Plans and District Disaster Management Plans under the overall supervision of State Disaster Management Authority and District Disaster Management Authority. The Department of Revenue and Disaster Management would take a lead role in this phase with the support of Department of Home (Police and Fire and Rescue), through the respective District Collectors who would co-ordinate and monitor the relief efforts using all the resources available with the Government Departments.

The Department of Revenue and Disaster Management headed by Relief Commissioner or Principal Secretary would recommend to the State Government or State Disaster Management Authority if the crisis needs to be declared as a disaster. If required, the Crisis Management Group and Incident Command System at the state level will be activated in this phase as Principal Secretary of respective nodal department as the Incident Commander. Each department would perform their respective responsibilities as per the Emergency Support Function under the Incident Command System.

III. The District Collector / District Disaster Management Authority :

The District Disaster Management Authority headed by the District Collector will activate all the institutional arrangements for disaster response in this phase such as District Disaster Management Plan, Incident Command System, District Emergency Operation Centre, Departmental Plans and Standard Operating Procedures. The district administration will carry out evacuation, search, rescue and relief activities within the geographical boundaries of the district in conjunction with local authorities and government departments particularly departments of disaster management and home. The respective district heads from various Government departments shall report to the District Collector for the activities in this phase.

The District Collector would recommend declaration of a event as disaster, if required, to the State Government. The District Collector would also immediately coordinate with State Disaster Management Authority / Department of Revenue and Disaster Management, if necessary, for additional resources from the state.

IV. Local Authorities :

The Local Authorities including Corporations, Municipalities and District, Block and Grama Panchayaths would work in close coordination with relevant government departments and District Disaster Management Authorities in performing the key activities of this phase catering to the immediate requirements of affected population.

V. Non-Governmental Organisations and Community Groups :

Reaching out to the victims with in the critical period of an emergency is a major requirement to protect human lives and assets in this phase. Local community and voluntary agencies should undertake relief operations immediately. The Village Disaster Management Plans shall be activated by Village Disaster Management Committee and the Task Forces such as Early Warning Team, Evacuation, Search and Rescue Team, First Aid Team and Water and Sanitation Team shall be activated under the overall direction and supervision of District Disaster Management Authority and District Collector. The Village Disaster Management Committee should co-operate with district administration in the conduct of a preliminary damage assessment and should provide inputs to relevant authorities as to the magnitude of effect of disaster, need for additional resources etc.

VI. Private Sector

The human, material, technical and financial resources of the private sector shall be mobilized to provide immediate relief to the affected people. Based on the On – Site Disaster Management Plans developed, Mock Drills and capacity building in the pre – disaster phase, they **may** co-operate with relevant agencies in the conduct of emergency relief. They shall also support the relief efforts of the government through supply of emergency search and rescue items, drinking water, hardware items like generators, pumps, industrial equipments etc. along with deployment of volunteers.

6.2.2 Key Activities in Disaster Response Phase

1. Implementation and Operationalisation of Disaster Management Plan:-

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The State and District Disaster Management Plans, Departmental Disaster Management Plans and Standard Operating Procedures of government departments, Incidence Command System and Emergency Operation Centres should be fully activated in this phase.

The Incidence Command System (state level or district level as applicable) is an organized system of government departments and other agencies that are to be worked under a structured pattern for response and recovery. Departments and external agencies should be grouped into various 'Emergency Support Functions' such as Communication, Search and Rescue, Law and Order, Emergency medical Care, Public Works (debris / road clearance, equipment support), Logistics (Water, Electricity and Transportation) and Coordination (warning, evacuation, relief, shelter, damage assessment, NGO / volunteers Coordination, Public Information / Help lines) as per their nature and type of assistance they can provide in a crisis situation.

The relevant authorities, departments and agencies would ensure precise communication of the impact of disaster and relief measures being taken. The agencies concerned should set up toll free numbers for emergency information assistance and establish help lines for providing, directing and coordinating logistical operations. While providing relevant information and handling enquiries, necessary care will be adopted to prevent panic reactions from the community.

The State and District Emergency Operation Centres would facilitate the State Disaster Management Authority / Department of Revenue and Disaster Management and District Disaster Management Authority / District Collectors in Coordination, Operation Management, Information Collection and Documentation, Public Information and Resource Management in this phase.

2. **Evacuation, Search and Rescue :-**

The first priority in the response phase of a disaster is to minimise loss of lives by undertaking evacuation, search and rescue efforts for the affected people and providing emergency medical care. The District Collector guided by relevant Disaster Management Plans and supported by government departments particularly Police and Fire and Rescue Services, Department of Health, local authorities and Community Task Forces, would be responsible for evacuation, search and rescue. National Disaster Response Force (NDRF), Navy, Army, Air Force and Coast Guard shall be engaged in Evacuation, Search and Rescue depending upon the proportion of the events.

3. **Food, shelter, health, sanitation, etc. :-**

Disaster situations typically result in an immediate need for food, temporary shelter and protection against incidences of epidemics. The relevant government departments should give priority to ensure sufficient food and water supply, sanitation mechanisms and temporary shelters to the affected population. The Multipurpose Community Centres shall be converted to temporary shelters to accommodate the displaced population. Necessary arrangements to house the affected families separately with sufficient provisions for sanitary facilities and privacy for adolescent girls and ladies shall be made at these centers. Shelters for milch animals shall also be arranged, if necessary.

4. Restoration of basic infrastructure and essential services :-

An immediate priority after a disaster is to bring the basic infrastructure facilities like road, transportation, power supply, communication systems etc. and essential services of government departments into operating condition. The district administration and local authorities would work in close coordination with relevant Government departments to restore the same to normal operating condition.

5. Maintenance of Law and Order:-

It is necessary that law and order is maintained properly and security to the affected population and aid workers is provided to ensure uninterrupted relief operations.

6. Immediate Relief :-

Immediate Relief (Ex- Gratia, Packages and Payouts to the victims) shall be provided to all the affected families without any discrimination of caste, creed, religion or community. The Relief Packages should be need based and customized to the specifics of the disaster and affected community and adhered to the minimum standards set for relief distribution. Attention will be given to the cultural concerns of different communities and to eliminate culture/religion/gender based discrimination in relief distribution. Gender sensitiveness should be ensured through close interaction with the affected communities during the relief planning process and involvement of women in relief planning, distribution of assistance and in other emergency management activities. It should be ensured that relief that reaches sub-categories such as widows, old women, female-headed households, single women, disabled etc.

The state government shall explore additional sources of funding from central government agencies, if budgetary allocations of the state government for relief activities and funds available under Calamity Relief Fund and National Calamity Contingency Fund are inadequate to meet the requirements.

7. Damage and Need Assessment :-

In order to ensure optimum utilization of limited resources in the most efficient manner and to avoid duplication and over stretching, preliminary assessments should be carried out by the government departments and local authorities.

6.3 Post-Disaster Phase – Recovery

As the urgent and immediate basic needs of affected communities are being met in the Disaster Response Phase, the process of rehabilitation and reconstruction needs to begin. The Post Disaster phase involves activities which help the affected communities in the reconstruction of the physical infrastructure and restoration of economic and social well being. The focus of state policy in this phase will be to ensure speedy return to normalcy, recover from the economic and social consequences of the disaster and mitigation of long term effects of the disaster.

It is equally vital to ensure that rehabilitation and reconstruction do not leave the affected society as vulnerable as or even more vulnerable than before. Development opportunities should not be missed or compromised because of an excessive focus on relief. The Recovery Phase highlights the need for emphasis on the development framework of the disaster recovery.

Kerala State envisages that there is a great need to develop strategic recovery programs which fit together with national and state level development goals. Hence, the State Disaster Management Policy highlights the fact that disasters can be a vehicle for major development programs; as first, disasters can highlight particular areas of vulnerability and underdevelopment, Secondly, it may favour a much higher rate of economic and social change than before, in areas such as land reform, alternative livelihoods, introduction of new technologies, housing and infrastructure improvements, and restructuring of the economic base.

Rehabilitation and reconstruction should promote development that reduces risk of communities to disaster and empowers local communities. Rebuilding should happen in ways that address the root causes of vulnerability, including gender inequalities. Sensitivity to gender is vital in order to empower a community to successfully move on and move up from the abyss of disaster.

6.3.1 Role of relevant stakeholders

I. The Kerala State Disaster Management Authority :

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The State Disaster Management Authority of Kerala State will facilitate and monitor the rehabilitation and reconstruction activities carried out by various implementation agencies in terms of processes, project timelines, funds deployment and benefits to the affected community. The Authority shall be responsible for raising the required funds from central government agencies and national and international organisations. The State Disaster Management Authority shall ensure that synergies across and within departments are managed efficiently.

II. The State Departments :

The Department of Revenue and Disaster Management would be the Project Management Department to coordinate the activities of this phase with the support of relevant government departments and external agencies. The Department, through the respective programme implementation units would co-ordinate and monitor the rehabilitation and reconstruction activities.

Government departments will carry out the reconstruction and rehabilitation activities, in accordance with the policies and guidelines specified by the project implementation department and State Disaster Management Authority. The respective departments would strengthen their program management capabilities for successful implementation and would be responsible for reporting various parameters, as may be required from them, related to the progress and outcome of the various projects undertaken by them.

Typical implementation activities shall include Restoration of livelihoods, Restoration, Creation and Retrofitting of structures and infrastructure facilities such as houses, roads, bridges, dams, canals, ports, power stations etc, Creation of health centres and educational institutions and Restoration of the industrial viability of the affected area.

III. Local Authorities

Local authorities will conduct detailed damage assessment and support the government departments in implementing the Post Disaster Recover Activities. The involvement of local bodies and members of Panchayath Raj Institutions is extremely important in effective implementation. The local bodies should ensure inclusion of all affected persons; evolve mechanisms to avoid duplication and to couple rehabilitation and reconstruction with regular development projects.

IV. Non-Governmental Organisations

Community groups and voluntary agencies, including Non Governmental Organisations should participate in the post-disaster activities, mandated by and in co-ordination with State Disaster Management Authority or the District Collector. They should function under the umbrella of a common platform or coordination committee headed by the District Collector in alignment with the overall policies and guidelines developed by the Authority. They should co-ordinate with the activities of government departments and Local Authorities and should provide regular feedback to the concerned authorities regarding progress and outcome of their rehabilitation and reconstruction projects undertaken in the affected area.

V. Private Sector

The private sector as a responsible corporate citizen **may** invoke their corporate social responsibility in the post disaster phase and participate in the long term rehabilitation and reconstruction activities under the overall supervision and direction of the Relief commissioner or the district collector.

6.3.2. Key Activities in Recovery Phase

1. Damage Assessment and Estimation of funds :-

A detailed assessment must be conducted before commencing rehabilitation and reconstruction activities. The relevant Government departments and local authorities should undertake detailed assessments at their respective level for damages sustained in housing, livelihoods, industry, services, infrastructure, agriculture, health facilities and educational resources in the affected region.

Based on detailed damage assessment, Government of Kerala will finalise estimation of funds required and fund generation mechanisms. The state government shall explore sources of funding required for disaster recovery from central government through Calamity Relief Fund and National Calamity Contingency Fund and necessary steps shall be taken to represent the cause of the state government to central government. The state government will also make necessary efforts to include Coastal erosion and Lightning in the list of disasters under Calamity Relief Fund. Assistance from national and international organisations shall also sought, if required.

2. Restoration of Livelihood :-

Livelihood rebuilding shall recognise the local needs and seek ways to support individuals and families with special needs. The rebuilding process shall expand

opportunities for poor and marginalized groups. Rebuilding shall also include innovative opportunities for unemployed youth in the affected area. Rebuilding shall ensure that issues and concerns of communities prior to the disaster are also addressed. Restoration Plans shall focus not only the main affected sectors, but also the knock-on effects to other sectors.

3. Physical reconstruction (houses, buildings, infrastructure, services etc) :-

This needs to be based on the hazard risk, vulnerability and capacity assessments. Planning for housing and retrofitting will need to look at the hazards of the particular location, what kind of resources and capacities people have to be involved in the rebuilding, and what designs are appropriate like flood, cyclone, earthquake or drought resistant. Planning should also focus on needs of women, people with special needs and elderly.

The district administration and local authorities, in consultation with the people affected and under the guidance of State Disaster Management Authority, shall determine relocation of people from extremely vulnerable areas. Existing laws on land acquisition for rehabilitation of affected families shall be reviewed, if necessary, to avoid delay in rehabilitation activities.

4. Project management :-

The activities in the Post Disaster Phase characteristically involve the harmonized efforts of several government departments and entities. A well structured project implementation unit dispensed with proper authority under State Disaster Management Authority shall be institutionalised for successful implementation and monitoring. Steps would be taken to follow the best practices in the past project management experience of the state and to curb lack of coordination, multiplicity of committees, complexity of composition and lack of accountability of implementing units.

8. CONCLUSION

The Kerala State Disaster Management Authority envisages a Disaster Safe State through the formulation and endorsement of an integrated State Disaster Management Policy. The policy affirms appropriate balance and interrelationship with the ‘National Policy on Disaster Management’ and ‘Disaster Management Act, 2005’ and also ensures co-ordination amidst all agencies related to Disaster Management such as National Disaster

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Management Authority, National Disaster Management Framework, State Departments, Panchayath Raj Institutions, Non – Government Organisations and Private Sector.

We cannot prevent all types of disasters, that is endemic to our geology, geography, climate, social and cultural settings, but we can certainly strive to reduce risks and manage crises more efficiently so that hazards do not degenerate into disasters. With a coherent and meaningful disaster management policy, approach, strategies, plans and practices in place, it is quite possible to visualise our state, despite its manifold hazards, risks and vulnerabilities, as ‘God’s Own Country’ that will eventually be free of all disasters.

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