



Received: 22.07.2020

Accepted: 16.10.2020

Published: 28.10.2020

Citation: Sowmya R, Nagaraj H. (2020). A REVIEW ON DIFFERENT LEVEL OF GOVERNMENT IN DISASTER MANAGEMENT: A CASE STUDY OF SOUTH INDIAN STATES. Geo-Eye. 9(2): 20-25. <https://doi.org/10.53989/bu.ge.v9i2.4>

Funding: None**Competing Interests:** None

Copyright: © 2020 Sowmya & Nagaraj. This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Published By Bangalore University,
Bengaluru, Karnataka

ISSN

Print: 2347-4246

Electronic: XXXX-XXXX

A REVIEW ON DIFFERENT LEVEL OF GOVERNMENT IN DISASTER MANAGEMENT: A CASE STUDY OF SOUTH INDIAN STATES

R Sowmya¹, H Nagaraj²

¹ UGC Senior Research Fellow, DOS in Geography, University of Mysore, Manasagangotri, Mysuru, 570006, Karnataka, India

² Professor, DOS in Geography, University of Mysore, Manasagangotri, Mysuru, 570006, Karnataka, India

Abstract

Disaster management is a systematic response to a disaster. The main approach of the management is assessing disaster risk and taking preventive measures has also become a part of disaster management. In present day's disaster management has been an important to frequent natural disaster ranging from earthquake, floods, droughts and other disaster management worth while to be considered. The major types of disaster such as geological, water and climate, biological, nuclear, and industrial disasters etc...

Keywords: Vulnerable; Droughts; Disaster Management; Chemical; Biological; Radiological

INTRODUCTION

In India have several unique features like physical as well human features and India is vulnerable, in varying degrees, to a large number of disasters. According to National disaster Management Authority "India is More than 58.6 per cent of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12%) of its land is prone to floods and river erosion; close to 5,700 kms, out of the 7,516 kms long coastline is prone to cyclones and tsunamis; 68% of its cultivable area is vulnerable to

droughts; and, its hilly areas are at risk from landslides and avalanches. India is also vulnerable to Chemical, Biological, Radiological and Nuclear (CBRN) emergencies and other man-made disasters. The southern states of India has been frequently affecting by natural disasters i.e., Andhra Pradesh, Telanagana, Karnataka, Tamil Nadu and Kerala. Natural disaster causes the most damage and consequently the socio-economic conditions of the regions and thus most affected areas will become the most vulnerable regions in the southern Indian states.

Objective

- To highlight the role of the different level of government organizations in contributing to disaster management and risk reduction.

Data Source and Methodology

The present study is based on secondary data sources. The data has been collected from different government organizations and some statistical data has been collected from government official websites.

Study Area

The Indian landmass is located between the East and the West Asia and it is the southward extension of the Asian Continent. India is lying entirely in the Northern hemisphere and the main land extends between latitudes $8^{\circ}4'N$ and $37^{\circ}6'N$ and longitudes $68^{\circ}7'E$ and $97^{\circ}25'E$. India is a multifaceted country with large diversity of topography, natural features, cultures, traditions, people, languages, economic features and others. India is further classified into six zones namely North Zone, South Zone, East Zone, West Zone, Central Zone and North East Zone based on their climatic condition, geographical and cultural features. South Zone is home to scenic beaches. All these regions are different from rest of Indian states with their culture and languages. South India is located in the Peninsular Deccan Plateau and it is flanked by oceans on three sides namely by the Arabian Sea in the West, the Indian Ocean to the south and the Bay of Bengal to the east. South India also includes two mountain ranges namely The Western Ghats and the Eastern Ghats. Many rivers flow through South India they are Godavari, Krishna, Kaveri and the Tungabhadra, being an important source of water for this region.

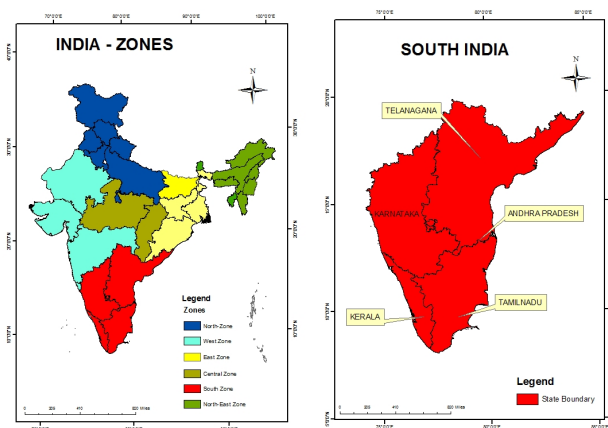


Fig. 1. Geographical Location of Study Area

Disaster Management in India

Disaster management is actually a dynamic process, which involves planning, organizing, leading and controlling. It includes immediate response, prevention, mitigation, recovery, preparedness and it is a combined effort of all authorities of States and the Centre. India has federal system of government. The Indian Constitution has been decentralized the powers for good administrative management in each level.

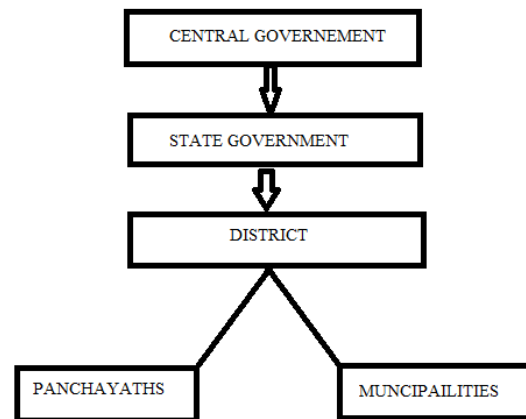


Fig. 2. Frame work of federal Government system

The Government of India has framed the Disaster Management Act in 2005, to provide for the effective management of disasters. Main work of this Act for drawing up and monitoring the implementation of the disaster management plans, ensuring measures by various wings of the Government for prevention and mitigation of the effects of disasters and prompt response to any disaster situation. NDMA is mandated to deal with all types of disasters whether it is natural or man-made and it is formulate the guidelines, facilitate training and preparedness activities in respect of emergencies. Natural and man-made disasters will also engage the attention of NDMA in partnership with the stakeholders concerned. Resources available with the disaster management authorities at all levels, which are capable of discharging emergency support functions, will be made available to the nodal Ministries/Agencies dealing with the emergencies at the times of impending disasters.

The main objectives of the NDMA are promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education. Encouraging mitigation measures technology, Establishing institutional and techno legal frame works to create an enabling regulatory environment, Ensuring efficient mechanism for identification, assessment and monitoring of disaster risks, Ensuring efficient response and relief with a caring approach

towards the needs of the vulnerable sections of the society, undertaking reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring safer living. Promoting a productive and proactive partnership with the media for disaster management.

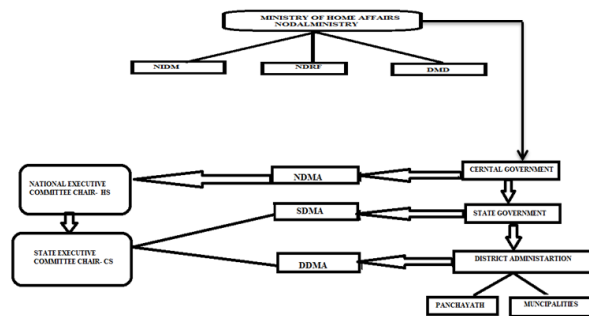


Fig. 3. Legal frame work of natural disaster management act- 2005

Role and Responsibilities of Government in different level of administration with reference to Disaster Management and Risk Reduction

The country has age-old integrated administrative machinery for management of disasters at the national, state, district and sub-district level. The basic responsibility of all these level are undertaking rescue, relief and rehabilitation measures in the event of natural disaster is that of concerned state governments.

Central Government at National Level

The Central Government introduced the Disaster Management Bill in the winter session of parliament in 2005. The central government supplements the efforts of the states by providing financial and other logistic support.

Many Committees were assigned for disaster management. The main committees are:

- NCMC- National Crisis Management Committee
- CMG- Crisis Management Group.
- NDMA- National Disaster Management Authority.
- NCAP- National Contingency Action Plan: It outlines the action to be taken by various central ministries and departments, determines focal points in the administrative machinery.

In the central level there are two main committee are working on disaster management. They are

1. **National Emergency Management Authority:** It is the authority is to coordinate disaster management

activities and ensure adequate preparedness at all levels in order to meet disasters.

2. **National Institute of disaster Management:** It was set up in the year 2003. It will help to develop training modules at different levels and also help to development of national level information based on disaster management policies, formulation of disaster management code and consultancy to various states in strengthening their disaster management system.

Other than these many technical Organizations are also working on disaster management at Central level. They are as follows:

- **IMD- Indian Meteorological Department:** Monitors meteorological information and continuously communicates with disaster managers for disaster preparedness. It gives early warning to the regions mainly is to maximize the number of people who take appropriate and timely action for the safety of life and property.
- **CWC- Central Water Commission:** It provides flood forecasting and warnings The flood forecasting network of the CWC covers all the major flood-prone inter-state river basins in the country.
- **ISRO- Indian Space Research Organization:** Provides the satellite based near real time information support to Central Ministries / Departments and State Ministries / Departments, prior during and after major natural disasters and also provides capacity building in use of Space technology inputs in Disaster Management Support.
- **BMPC- Building and Material Promotion Council:** It work towards a comprehensive and integrated approach for promotion and transfer of potential, cost-effective, environment-friendly, disaster resistant building materials and technologies including locally available materials from lab to land for sustainable development of housing.
- **BIS- Bureau of Indian Standards:** Has laid down the standards for construction in seismic zones, popularly known as Building Codes.
- **DRDO- Defense Research and Development Organization:** DRDO's technologies can be easily adapted towards disaster management solution by various stakeholders.

In central level there are ten search and rescue teams have been trained. Eighty six specialist search and rescue teams consisting of 45 personnel including doctors, para-medicals, structural engineers etc., are being trained and equipped. Fourteen Regional Response Centers are being set up in different parts of the country to respond to any hazard or calamity in the neighboring states.

A National Disaster Response force will be set up to tackle situations arising from different types of disaster comprising

force, Indo-Tibetan border police and the border security force and this force would be positioned at eight locations in different parts of the country.

State Government at State Level

The Government of India is working with state government to cover the department of relief and rehabilitation into department of disaster management with an increased area of responsibility including disaster preparedness. The Disaster Management Act 2005 provides for state disaster management authority to be constituted by the state government. States have a State Crisis Management Committee (SCMC) for reviews the action taken for response and relief and gives necessary guidelines for any disaster management. At the state level disaster response, relief and rehabilitation activities are handled by department of relief and rehabilitation.

A Calamity Relief Fund (CRF) has been set up in each state as per the recommendation of the eleventh finance commission. 20 percent contributed by the respective state and balance by the central government. The size of the state fund is determined on the basis of vulnerability of the state to different natural calamities and the magnitude of expenditure incurred by the state on relief operations.

District Administration at District and Sub-District Level

Disaster Management Act 2005 provides for setting up of a district disaster management authority in each district by the state. The district level is the main focal point for disaster management activities at the filed level. The district collector has to maintain district and sub-district level of disaster management with the district and state government as well as the nearest units and armed forces, central police organizations and other relevant central government organizations.

The main organizations are:

- Ministry of Communication,
- Water Resource and Drinking water,
- Surface Transport, who could support the efforts of the district administration in the rescue and relief operations.

A contingency plan for the district for various disasters is formulated by the collector. The disaster management plan would facilitate the preparedness, rescue, relief and rehabilitation activities. It outlines the institutional framework with clear cut roles and responsibilities for various agencies at the district level and below for different types of disasters.

Sub-District Level

A district is generally subdivided into sub-divisions and Tehsils or Talukas. The head of a sub-division is the sub-

division officer (SDO), next level of administration is the village level. Under the UNDP assisted Disaster Risk Management Programme in these two levels. each Taluka and villages are have a Disaster Management Plan and Disaster Management Committee which draws up the plan consists of elected representatives at these levels. The Disaster Management Teams at the village level will consist of members of voluntary organizations such as Nehru Yuva Kendra and other non-governmental organizations as well as able bodied volunteers from the village. The teams are provided basic training in evacuation, search and rescue etc. The Disaster Management Committee will review the disaster management plan at least once in a year.

Role of Government in Disaster Risk Reduction

The role of the government in disaster risk reduction is being increasingly recognized and stressed in international discussions. The role of government in dealing with disaster risk reduction has been recognized as a key factor to build resilient communities and therefore the UNISDR has specifically addressed the 2010-2011 world disaster risk reduction campaign to local governments under the theme of “Building resilient cities”. Therefore it is well understood that any level of governments have a significant role to play in contributing to the building of disaster resilient cities to avoid or limit the adverse impacts of disasters.

UNISDR notices there are three major roles of governments in implementing disaster risk reduction which includes,

1. To play a central role in coordinating and sustaining a multi-level, multi stake holder platform to promote DRR in the region or for a specific hazard.
2. To effectively engage local communities and citizens to disaster risk reduction activities and link their concerns with government priorities.
3. To strengthen their own institutional capacities and implement practical DRR actions by themselves.

State - Wise Analysis of Disaster Management and Risk Reduction

Karnataka

Karnataka is one of the 26th states include in the ongoing Government of India and UNDP Disaster Risk Reduction Programme to strengthen the SDMA and DDMA's in the state to undertake disaster risk reduction activities. Karnataka state has the distinction of being the first in the country to establish institutional mechanism to provide science and technology and to monitor, advise the disaster risk mitigation plans inputs by setting up “Drought Monitoring Cell” (DMC) way back in 1988. It has adopted a proactive approach



towards monitoring the Natural Disasters by employing Science & Technology based State of the art tools and providing Alert & Early Warning, Forecast & Advisories to various Response Players from a single platform. The activities of DMC has been strengthened, broadened and renamed as “Karnataka State Natural Disaster Monitoring Centre (KNS-DMC). Karnataka State Natural Disaster Monitoring Centre located in Bangalore. According to KSNDMA reports Karnataka State is vulnerable to both Hydro-meteorological & Geological Disasters. Out of this disaster 80% of the Geographical area is prone to Drought, 24% of the Geographical area is vulnerable to Cyclone and Storm Surges, Hailstorm is frequently occurring in most of the Interior parts of the State, 22% of the Geographical area is prone to moderate Earthquake Risks and 30% of the area is vulnerable to Land Slides.

Kerala

Kerala state is vulnerable to a multitude of hazards and is categorized as a multi-hazard prone state. Kerala state experiences various kinds of disasters of a recurrent nature that results in loss of life, livelihood and property and disruption of economic activity besides causing immense hardship to the affected population. The main objective of the Kerala Disaster Management Policy are to develop ensure policy, institutional, techno-legal frame works for disaster management in the state, to build capacities and promote changes in the administrative system, procedures and personal that would facilitate efficient and effective pre and post disaster management activities. The Post Disaster Assessment has identified several innovative ideas across sectors for the greening of Kerala as it starts building back better and faster viz. Integrated Water Resource Management, Housing, Land, and Settlements, Cultural Heritage, Agriculture, Livestock, and Fisheries, Water, Sanitation and Hygiene. And also plan to manage the environment under cross cutting themes such as Environment and Climate Change, Employment and Livelihoods. As the state government undertakes its recovery programme it is important that an integrated policy framework for implementation of recovery is formulated with allocation of financial resources and adequate capacity for implementation of recovery. These pillars should guide all decisions taken with respect to the recovery programmes. It is also important that the Government of Kerala brings together all the stakeholders and enables the private sector, NGOs, and Kerala's Diaspora to join the recovery efforts. The State Disaster Management has been prepared, as per the Disaster Management Act 2005 and also relied on the NDMA Guidelines on State Disaster Management Plan. The Plan was developed based on an elaborate consultative process with the DDMA's, Departments of Government, civil society and other multi-stakeholders.

Andhra Pradesh

Andhra Pradesh Government established the APSDMS as an autonomous society that came into effect from 2003 under administrative control of planning department to promote or causes to promote awareness and preparedness, advice and trains the community and stakeholders.

Planning for Hazard, Vulnerability and Risk prone areas of the state:

1. Plan land use of the state keeping in view of hazard, Vulnerability and risk.
2. Ensure development schemes of the state are undertaken with regard to hazard, risk, vulnerability and micro zonation facets.
3. Ensure the program scheme or project is facilitating with the provision for adequate funds of disaster risk reduction.
4. Apply science and technology and engineering inputs to improve infrastructure including dams and reservoir, building design, construction etc.

Tamil Nadu

The Tamil Nadu State Disaster Management Authority has been renamed has Tamil Nadu Disaster Risk Reduction Agency (TNDRA) after will be referred as TNDRA. The Government of Tamil Nadu is adopting Incident Response System (IRS) in the State to ensure the unification of efforts of all the stakeholders to ensure immediate response during disasters to protect people & their properties. The geographical setting of Tamil Nadu makes the State vulnerable to natural disasters such as cyclones, floods and earthquake-induced tsunami. About 8% of the State is affected by five to six cyclones every year, of which two to three are severe.

Telangana

Telangana is the 29th State of India, formed on the 2nd of June 2014. Telangana is exposed to natural hazards such as Droughts, Heatwaves, Urban Flooding and Hailstorms and human induced hazards such as Industrial and Fire Accidents. Based on DM Act-2005 and national guidelines, the State decided to prepare the Telangana State Disaster Management Plan 2018. State has been initiated various programs to hazards and reduce risk, Hazard specific action plan and mitigation measures to Urban / Flash Floods, Thunderstorms, Heatwaves, Drought, and Human induced disasters such as Industrial, Chemical, and Biological.

Conclusion

Different levels of governments are facing number of challenges in implementing disaster risk reduction at local level.



The successfulness of the local government strategies in disaster risk reduction is directly linked to the capacity of the local governments in implementing the disaster risk reduction strategies. Therefore in order to implement successful disaster risk reduction it is important to address the challenges faced by local governments and to empower the local government with necessary financial and other required resources with proper level of authority in making decisions which require reformation of the existing governance structure.

References

- 1) Blaikie P, Cannon T, Davis I, Wisner B. At Risk - natural hazards, people's vulnerability and disasters. New York. Routledge. 1994.
- 2) Bendimerad S. Disaster risk reduction and sustainable development . 2003. Available from: [http://info.worldbank.org/etools/docs/library/114715/istanbul03/docs/istanbul03/05bendimerad3-n\[1\].pdf](http://info.worldbank.org/etools/docs/library/114715/istanbul03/docs/istanbul03/05bendimerad3-n[1].pdf).
- 3) Dfid. Natural disasters and disaster risk reduction measures", A Desk Review of Costs and Benefits - Draft Final Report. DFID, London. 2005.
- 4) Hayles CS. An examination of decision making in post disaster housing reconstruction. *International Journal of Disaster Resilience in the Built Environment*. 2010;1(1):103–122. Available from: <https://dx.doi.org/10.1108/17595901011026508>.
- 5) Ginige K, Amaratunga D, Haigh R. Mainstreaming gender in disaster reduction: why and how? *Disaster Prevention and Management: An International Journal*. 2009;18(1):23–34. Available from: <https://dx.doi.org/10.1108/09653560910938510>.
- 6) Pearce L. Disaster management and community planning and public participation: how to achieve sustainable hazard mitigation. *Natural Hazards*. 2003;28(2-3):211–228.
- 7) Palliyaguru R, Amaratunga D. Managing disaster risks through quality infrastructure and vice versa. *Structural Survey*. 2008;26(5):426–434. Available from: <https://dx.doi.org/10.1108/02630800810922766>.
- 8) Collins ML, Kapucu N. Early warning systems and disaster preparedness and response in local government. *Disaster Prevention and Management: An International Journal*. 2008;17(5):587–600. Available from: <https://dx.doi.org/10.1108/09653560810918621>.
- 9) Metri BA. Disaster mitigation framework for India using quality circle approach. *Disaster Prevention and Management: An International Journal*. 2006;15(4):621–635. Available from: <https://dx.doi.org/10.1108/09653560610686577>.
- 10) Col J. Managing disasters: the role of local government. *Public administration review*. 2007;p. 114–124.
- 11) Johnson C, London, Overseas Development Institute. Decentralization in India. 2003. Available from: <http://www.odi.org.uk/resources/download/1767.pdf>.