

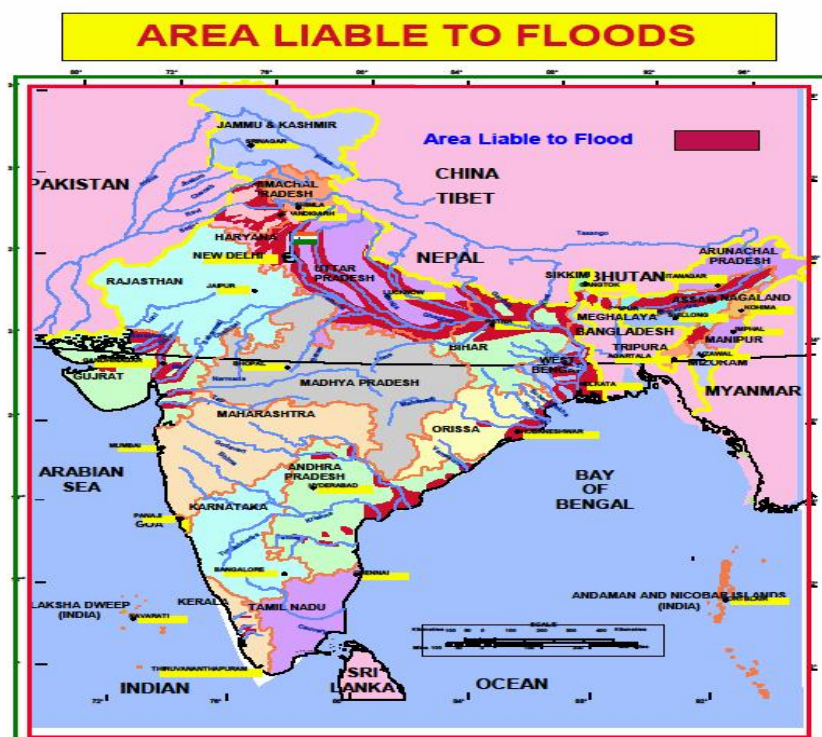
## NDMA guidelines on floods

India is highly vulnerable to floods. Out of the total geographical area of 329 million hectares (mha), more than 40 mha is flood prone. Floods are a recurrent phenomenon, which cause huge loss of lives and damage to livelihood systems, property, infrastructure and public utilities. It is a cause for concern that flood related damages show an increasing trend. The average annual flood damage in the last 10 years period from 1996 to 2005 was Rs. 4745 crore as compared to Rs. 1805 crore, the corresponding average for the previous 53 years. This can be attributed to many reasons including a steep increase in population, rapid urbanization growing developmental and economic activities in flood plains coupled with global warming.

An average every year, 75 lakh hectares of land is affected, 1600 lives are lost and the damage caused to crops, houses and public utilities is Rs.1805 crores due to floods. The maximum number of lives (11,316) was lost in the year 1977. The frequency of major floods is more than once in five years.

Floods have also occurred in areas, which were earlier not considered flood prone. An effort has been made in these Guidelines to cover the entire gamut of Flood Management. Eighty per cent of the precipitation takes place in the monsoon months from June to September. The rivers bring heavy sediment load from catchments. These, coupled with inadequate carrying capacity of rivers are responsible for causing floods, drainage congestion and erosion of river-banks. Cyclones, cyclonic circulations and cloud bursts cause flash floods and lead to huge losses. It is a fact that some of the rivers causing damage in India originate in neighboring countries; adding another complex dimension to the problem. Continuing and large-scale loss of lives and damage to public and private property due to floods indicate that we are still to develop an effective response to floods. NDMA's Executive Summary Guidelines have been prepared to enable the various implementing and stakeholder agencies to effectively address the critical areas for minimising flood damage.

## INDIA



## **National Disaster Management Guidelines**

- 1) Floods-Status and Context –  
The Flood Hazard, Regions in the Country Prone to Floods, Flash Floods, Areas Prone to Floods, Damages Caused by Floods, River Erosion, Monsoon/Cyclones/Cyclonic Circulations, Cloudbursts
- 2) Institutional Framework and Financial Arrangements-  
State-level Organisations, Techno-economic Appraisal of Flood Management Schemes, Funding of Flood Management Schemes, Flood Insurance
- 3) Flood Prevention, Preparedness and Mitigation-  
Structural Measures for Flood Management, Inspection, Rehabilitation and Maintenance, Action Plan for Structural Measures, Non-structural Measures, Integrated Water Resources Management, Action Plan for Non-structural Measures, Medical Preparedness
- 4) Flood Forecasting and Warning in India-  
The Central Water Commission's Flood Forecasting Network in India, Expansion and Modernisation of Flood Forecasting Services, Coordination amongst the Central Water Commission, India Meteorological Department and the States, International Cooperation, Action Plan for Flood Forecasting and Warning
- 5) Dams, Reservoirs and Other Water Storages-  
Natural Detention Basins, Dams and Reservoirs, Regulation of Reservoirs, Dam Safety Aspects
- 6) Regulation and Enforcement-  
Flood Plain Zoning, Bye-laws for Buildings in Flood Prone Areas, Survey of Flood Prone Areas, Wetlands: Conservation and Restoration, Coordination and Enforcement
- 7) Capacity Development-  
Flood Education, Target Groups for Capacity Development, Capacity Building of Professionals, Training, Research and Development
- 8) Flood Response-  
Emergency Search and Rescue, Emergency Relief, Incident Command System, Involvement of the Corporate Sector, Improving Flood Response, Emergency Medical Response
- 9) Preparation of Flood Management Plans-  
Flood Management Plans, Flood Management Plans of Central Ministries and Departments, Flood Management Plans of State Governments, Flood Management Plans of Nodal Agencies

The National Disaster Management Authority (NDMA) issued guidelines on management of floods in 2008. The summary of the recommendations are as follows:

1. Embankments/flood walls/flood levees have to be constructed for prevention of flooding after carrying out detailed hydrological and morphological studies regarding their favourable and adverse effects.
2. The CWC and the state governments have to study the problem of rise in river beds in a scientific manner and explore the techno-economic viability of desilting/dredging as a remedial measure to mitigate the effects of rise in the river beds.
3. Appropriate channel improvement works have to be taken up to increase the velocity and/or the area of flow and reduce the flood level in the river depending upon site-specific conditions.
4. State governments should prohibit the blocking of the natural drainage channels and sluices with an appropriate law and improve their capacity and construct new channels and sluices to ensure flow of excess rainwater in the area.
5. State governments should study the feasibility of implementing the schemes for diverting excess water to existing or new channels by bye-passing towns and cities to prevent flooding.
6. Watershed management measures such as afforestation, check dams, detention basins etc., have to be implemented in the catchment of rivers to prevent soil erosion, enhance water conservation and minimise water and sediment runoff.
7. State governments should consider appropriate anti-erosion measures such as revetments, slope pitching, permeable and impermeable spurs using conventional materials and/or geo-synthetics for protection of towns, cities, industrial areas, groups of thickly populated villages, railway lines, roads and embankments from erosion by rivers in a time-bound manner.
8. Sea walls/coastal protection works has to be planned and executed by the respective coastal states/port authorities, keeping in view the complexity of sea behaviour and other environmental aspects.
9. The state governments has to provide adequate number of raised platforms/flood shelters at suitable locations in the flood plains with basic amenities such as drinking water, sanitation, medical treatment, cooking, tents, lantern etc. for the people to take shelter during floods.
10. Basin-wise flood hazard mitigation models have to be developed.
11. A mechanism has to be developed wherein representatives of the CWC, IMD, NRSA and the states interact with each other, exchange data on a real-time basis and formulate the flood forecasts and warnings.
12. With co-operation from Nepal, Bhutan and the China, data has to be collected on real-time basis.
13. The state governments have to enact and enforce appropriate laws for implementing flood plain zoning regulations.
14. The reclamation of the existing wetlands/natural depressions has to be prohibited by state governments and they must formulate an action plan for using them for flood moderation.
15. Training and capacity building measures have to be taken up for designated authorities dealing with the disaster.
16. A number of organizations, like NGOs, self-help groups, CBOs, youth organizations such as NCC, NYKS, NSS etc., women's groups, volunteer agencies, Civil Defence, Home Guards, etc. must be encouraged to volunteer their services in the aftermath of any disaster.

17. The state governments have to utilise different types of media, especially print, radio, television and Internet, to disseminate timely and accurate information.
18. A team comprising a social worker, a psychologist and a psychiatrist should provide counselling to victims.
19. Measures should be taken to strengthen Ganga Flood Control Board and Brahmaputra Board.

### **Introduction to State Disaster Management Authorities-ANDHRA PRADESH**

**CHAIRMAN Sri. Nara Chandrababu Naidu**

Hon'ble Chief Minister Government of Andhra Pradesh

**Smt. Vangalapudi Anitha**

Minister, Home & Disaster Management

**Sri. Neerabh Kumar Prasad, IAS**

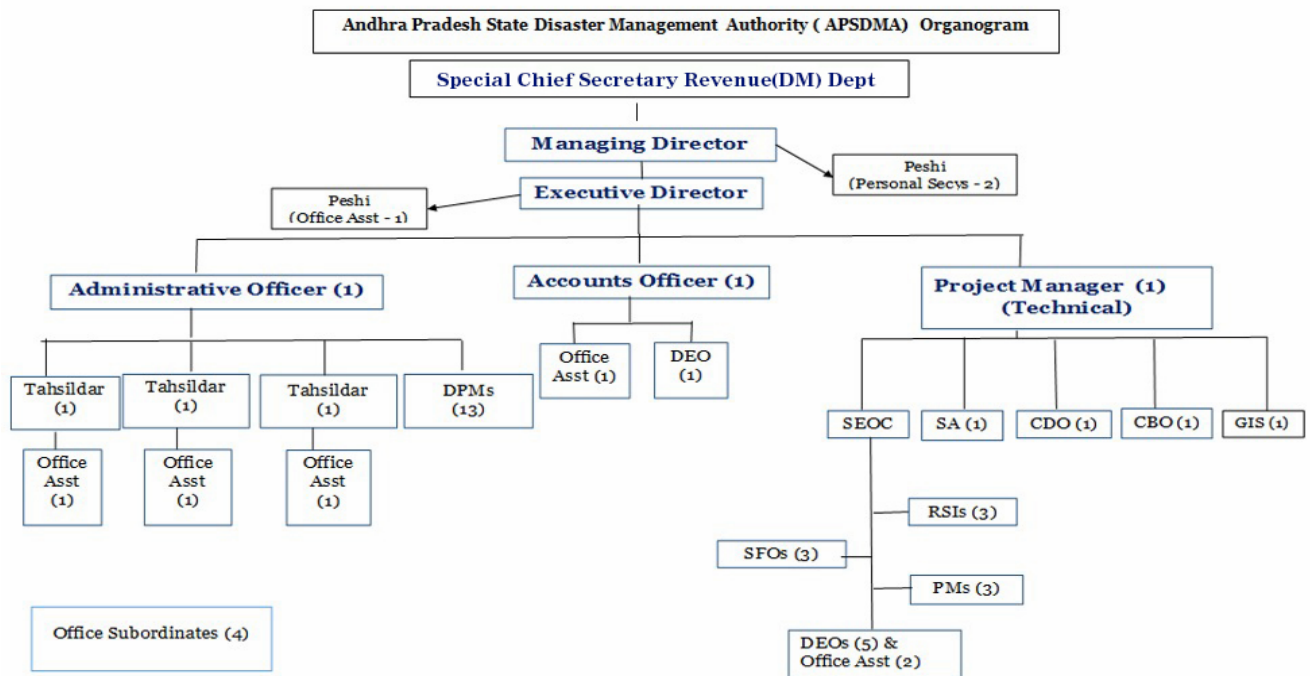
Chief Secretary Government of Andhra Pradesh

**Sri Ram Prakash Sisodia, IAS**

Special CS Revenue(DM) Department

#### **Members :**

- ☐ Minister of Revenue, Relief, Rehabilitation & Youth Affairs. : (**Anagani Satya Prasad**)
- ☐ Minister of Home.: (**Smt. Vangalapudi Anitha**)
- ☐ Minister of Finance. (**Payyavula Keshav**)
- ☐ Minister of Health.( **Satya Kumar Yadav**)
- ☐ Minister of Major Irrigation. (**Nimmala Rama Naidu**)
- ☐ Minister of Roads & Bridges. (**B. C. Janardhan Reddy**)
- ☐ Minister of Panchayati Raj.( **Konidala Pawan Kalyan**)
- ☐ Chief Secretary. (**Sri. Neerabh Kumar Prasad, IAS**)
- ☐ The Chief Secretary of the state is the Chief Executive Officer of the SDMA



APSDMA is led by the Hon'ble Chief Minister of Andhra Pradesh. In line with the formation of APSDMA, Government of Andhra Pradesh has also formed District Disaster Management Authorities (DDMA) in all districts with District Collector as Chairman of DDMA.

APSDMA has commissioned State-of-the-art facilities for hazard monitoring, scientific data analysis, emergency operations, response communications as facilities for innovative technological solutions which are up and running round-the-clock throughout the year.

**Composition of State Executive Committee:-** The State Executive Committee shall consist of the following members namely:

(1) The Chief Secretary to State Government, who shall be Chairperson.

(2) Other members shall be as follows:

(i) Principal Secretary/Secretary – Finance Department.

(ii) Principal Secretary/Secretary – Panchayat Raj& Rural Development Department.

(iii) Principal Secretary /Secretary – Irrigation & Command Area Development Department.

(iv) Principal Secretary LET&F-Permanent Co-opted member(G.O.Ms No 150 Rev(DM) Department, Dt:13-02-2008).

(v) Commissioner, Disaster Management – Member Convener.

(3) The Chairperson of the State Executive Committee may co-opt any other Special Chief Secretary / Principal Secretary /Secretary as a special invitee taking the nature of the Disaster into consideration for the meetings of the State Executive Committee (SEC).

The State Executive Committee shall follow the following procedure in exercise of its power and discharge of its functions:

(1) The Chairperson of the State Executive Committee may, as and when required, in the implementation of the directions of the State Government, seek guidance from the State Authority as to the modalities of such implementation.

(2) The Chairperson of the State Executive Committee shall, in case of emergency, have the power to exercise all or any of the powers of the State Executive Committee but exercise of such powers shall be subject to ratification by the State Executive Committee.

(3) The Chairperson of the State Executive Committee shall preside over the meetings of the State Executive Committee:

(a) Provided that in case the Chairperson of the State Executive

(b) Committee is unable to preside over any meeting of the State Executive

(c) Committee, he shall nominate one of members of the State Executive

(d) Committee to preside over the meeting.

(4) The Chairperson of the State Executive Committee may nominate one or more officers:

(a) To assist him in the performance of his functions

(b) To maintain proper records relating to the meetings of the State Executive Committee.

(c) To take follow up action to ensure that the decisions taken in the meetings of the State Executive Committee are implemented in time.

(d) To perform such other functions as the Chairperson may desire them to perform.

(5) The Chairperson of the State Executive Committee shall decide the day, time and place of a meeting of the State Executive Committee.

(6) The State Executive Committee shall meet as often as necessary but at least once in three months.

(7) The Member – Convener of the State Executive Committee shall give notice of its meeting and circulate its agenda at least week days in advance, unless there is an emergency situation on occurrence of a major disaster or a situation of such a threatening disaster, when the State Executive Committee shall meet at the earliest to ensure a smooth and efficient response.

(8) The State Authority may, invite any member of the State Executive Committee whenever required, to assist it in discharge of its functions.

(9) The State Executive Committee shall invite, any Principal Secretary/Secretary of the State Authority, as the case maybe, as a special invitee to attend its every meeting.

(10) The State Executive Committee shall forward the minutes of every meeting to the State Authority.

**The District Disaster Management Authority shall consist of the following members namely:**

- (i) Collector and Magistrate of the district, who shall be the Chairperson, ex officio.
- (ii) Chairperson of the Zilla Parishad of the district, who shall be the Co-Chairperson.
- (iii) Superintendent of Police of the district, ex officio.
- (iv) Chief Executive Officer of the District Authority shall be Joint Collector of the District, ex officio; who shall also be Member -Convener
- (v) Project Director, District Rural Development Agency (DRDA) of the district, ex officio
- (vi) Chief Executive Officer of the Zilla parishad of the district, ex officio and
- (vii) District Medical and Health Officer of the district, ex officio.