DEPARTMENTAL DISASTER MANAGEMENT PLAN FOR MUNICIPAL ADMINISTRATION AND URBAN DEVELOPMENT

Prepared by Municipal Administration And Urban Development

Supported by United Nations Development Programme, India
Departmental Disaster Management Plan for Municipal Administration & Urban Development Department, Government of Andhra Pradesh

Prepared by
Municipal Administration & Urban Development Department, Government of Andhra Pradesh

Supported by
Govt. of Andhra Pradesh and UNDP, India
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## Overview of Departmental Disaster Management Municipal Admin & Urban Dev.
### Department, Andhra Pradesh

### CHAPTERS OF DMP (PLAN)
- Introduction
- Hazard Vulnerability Risk & Capacity Assessment
- Prevention and Mitigation Measures
- Preparedness Measures
- Capacity Building and Training
- Response Measures
- Recovery, Rehab & Reconstruction
- Knowledge Management
- Financial Arrangements
- Dissemination and Review
- Standard Operating Procedures (SOPs)

### PURPOSE OF DMP CHAPTERS
- Setting the tone of DMP linking Profile & Scope
- Identify applicable Hazard, Vul, Capacity to assess Risk
- Identify proactive measures to be taken by Department
- To protect lives, assets & efficiently utilize resources
- To develop capacities & skills to handle disasters
- To take actions to ensure scalable & quick response
- Provide seamless transition from response to settlement
- Institutionalize mechanism of knowledge sharing
- Funds provisioning for DM Plan Activities
- Communicate plan to stakeholders & review
- Bring clarity on roles in varied disaster scenarios

### OUTCOMES OF CHAPTERS
- Better understanding of DM functions & linkages
- Comp. Risk Assessment based on HVC mapping
- Selection of Preventive & Mit. steps to reduce risks
- Improvement of capabilities to strengthen preparedness
- Strengthening capacities of stakeholders thro' trg, drills
- Readiness of system, role clarity during response
- Restoration of infrastructure and sustainable livelihood
- Creation of knowledge networks, Document cases
- Ensure funds allocation, utilization for DM & DRR
- Ensure plan dissemination & periodic review system
- Make sure responsibilities disaster phase wise
1. Introduction

More than a quarter of urban population in India lives in metropolises and mega cities. In 2025 the urban component would be more than 50%. This trend in increase in urban population also indicates the ramification of disasters on them. The vulnerability is further magnified by weak socio economic structures in most of the cities were 30 to 60% of the population lives in Slums and squatter settlements. Disaster Management Plans need to be prepared at zone or ward wise by the urban local bodies. Urban areas are the engines of economic growth. The losses due to disasters in urban areas greatly affect the economy. Hence, disaster management plans are integral parts of urban management and governance. In Andhra Pradesh, the urban civic governance comes under Municipal Administration and Urban Development Department (MA&UDD).

1.1 Profile of Municipal Administration and Urban Development Department (MA & UDD)

The Department of Municipal Administration and Urban Development handles planning and development in urban and rural areas of Andhra Pradesh. The development is achieved through Master Plans prepared for urban centers and rural areas. The main functions of the Department are:

- Assist the government in town and country planning matters
- Coordinate with various departments involved in development schemes like A.P. Housing Board, A.P. State Housing and Urban Development Corporations, A.P. Industrial and infrastructure Corporation, Industries Department, and more
- Offer technical recommendations to the Government in the matters like change of land use proposals, alienation of lands and relaxation of rules
- Suggest and implement layouts and regulate the development of industries and other buildings as per suggested norms
- Suggest and implement various Environmental Improvement Schemes, Remunerative Schemes and Road widening Schemes

The Department of Municipal Administration and Urban Development (MA & UD) is the governing body comprising of following directorates/entities.

a. Commissioner and Director of Municipal Administration (C&DMA)

The Directorate of Municipal Administration (DMA) is the apex organization of Municipal Administration and Urban Development Department of Government of Andhra Pradesh (GoAP), which provides guidance to Municipal Corporations and Municipalities in performing their day-to-day activities in adherence to the policies, procedures and guidelines provided by MA & UDD to achieve effective civic administration. The Commissioner and Director of Municipal Administration (C&DMA) head the Directorate. The mission of C&DMA is:
• To anticipate and provide for urban infrastructure requirements through comprehensive integrated planning
• To ensure planned urban development in all respects and inclusive of developing alternative urban centers as counter magnets
• Operate municipal services on a competitive basis to provide adequate high quality services at affordable cost
• Develop urban services and infrastructure by involving the private sector, wherever required
• Mitigate urban problems by providing shelter and basic services for all

C&DMA administers through the Office of Directorate of Municipal Administration (DMA), 6 Regional Offices (RDMA) and 182 Urban Local Bodies (ULBs) spread across the State. DMA, in its supervisory role, monitors the functioning of the ULBs against key parameters such as the tax collections, project and civic works executed, the implementation of the schemes of the Government etc. It also includes the supervision of the regulatory and developmental functions of the ULBs. DMA interacts with several other departments such as Public Health Engineering Department, Town and Country planning department, State Audit Department, Urban Developmental Authorities, Municipal Corporations, and Water boards etc. to enable seamless delivery of urban civic services to the citizen.

b. Andhra Pradesh Municipal Development Project (APMDP)
The Andhra Pradesh Municipal Development Project (APMDP) intended to support urban sector reforms and improve city management and municipal services with a view to address urban poverty. Andhra Pradesh Government through its Municipal Administration and Urban Development Department (MAUD), with a view to comprehensively address the challenges of urban development by implementing the Andhra Pradesh Municipal Development Project (APMDP). The objective of APMDP is to create economically productive, efficient and equitable urban centers in Andhra Pradesh with increased capacity to reduce urban poverty. This is to be done by significantly improving the financial viability, effectiveness, and efficiency of urban services under the control of participating urban local bodies with a focus on reforms to institutions and practices in addition to investments in municipal services. The APMDP project objectives are to:

• Improve urban governance and finance through the implementation of an agreed reform agenda at State and Local levels.
• Enhance the capacity of State, Local, and Community groups to manage urban affairs through a demand driven capacity enhancement program; and
• Support the rehabilitation and creation of sustainable urban services with economic and social benefits at community and city-wide levels

c. Public Health Engineering Department (PHED)
The Public Health & Municipal Engineering Department is under administrative control of Municipal Administration and Urban Development Department at the Secretariat level. The
Department is in charge of Formulation, Designs, and Execution of Water Supply and Sewerage Schemes in all the 110 Municipalities (including 97 Municipalities, 12 Municipal Corporations and 1 Grater Municipal Corporation) besides the Technical Control over all the Engineering works in these Municipal Towns and Corporations. After completion, the Water Supply and Sewerage Schemes are being handed over to the concerned Municipal Corporations and Municipalities for operation and maintenance.

d. Director of Town and Country Planning (DT&CP)

The Director of Town and Country Planning department looks after the subject of planning and development in urban and rural areas. The development is achieved through Master Plans prepared for the urban centers and rural areas by way of Master Plans and indicative Land Use Plans. Development Plans for Mandal Headquarters are prepared by the department. The Directorate of Town and Country Planning has two distinct functions, one under urban front and the other on the rural front. Inspect of urban area particularly the Municipal towns are planned and regulated under the provisions of APTP Act, 1920 under the provisions of local body acts, viz., Municipal Corporation Act, Andhra Pradesh Municipalities act and A.P Urban Areas (Development) Act and A.P. Cinematography Act. In respect of Rural Areas, the developments are regulated under the provisions of Andhra Pradesh Panchayat Raj Act, 1992 in respect of approval layouts and granting permissions for industries and installations.

The DT&CP department assists the Government in all Town and Country Planning matters as well as in coordinating with various departments involved in area development like A.P. Housing Board, A.P. State Housing and Urban Development Corporations, A.P. Industrial and infrastructure corporation, Industries Department etc. Various schemes involving area planning and development Environmentional Improvement schemes are formulated and monitored by the department. The department provides technical assistance to various departments involved in planning and development. The department offers technical remarks to the Government in the matters like change of land use proposals, alienation of lands and any relaxation of rules.

e. Andhra Pradesh Urban Finance & Infrastructure Development Corporation (APUFIDC)

Andhra Pradesh Urban Finance and Infrastructure Development Corporation Limited (APUFIDC) was incorporated on 12th January 1993 under the Companies Act 1956. APUFIDC is under the administrative control of the Municipal Administration & Urban Development Department of Government of Andhra Pradesh. APUFIDC is a fully owned State Government Company acts as a Channelizing agency and nodal agency for implementation of all State and Central Government funded schemes in the Urban Local Bodies (ULBs) of the State of Andhra Pradesh. The activity of the APUFIDC is:
• To provide financial assistance by way of loans and advances to Urban Local Bodies including Municipalities, Notified Area Committees, Urban Development Authorities or such other local bodies as may be notified by Government from time to time in the State for their development schemes.

• To provide technical or any other assistance and guidance to Urban Local Bodies in the matter of their developmental schemes, including implementation of the Master / Detailed Development Plans prepared for the Urban Local Bodies i.e., Low Cost Sanitation Schemes, NRY, E.I. Schemes, etc.,

• To provide assistance and guidance to Urban Local Bodies for improving their administrative machinery and procedure.

• To accept appointment as trustees and to act as trustees for trusts or other funds, including but not limited to municipal funds and for that purpose to set up, promote, settle and execute trusts and device various schemes for raising funds in any manner from person, bodies corporate, trusts, societies, association of persons in India and to collect moneys by way of contributions, loans and otherwise for and on behalf of trusts or other funds and to deploy the monies/funds raised and earn reasonable returns, on their investments and to acquire, hold manage, dispose of all or any property or assets.

• To act as consultants, financial advisors and investment advisors and to render such consultancy, financial, and investment advisory services to individuals, companies, corporations, trusts, government, state, local authority, association, institution (whether incorporated or not) or any other agency or organisation and other entities.

f. **Mission for Elimination of Poverty in Municipal Areas (MEPMA)**

The Mission for Elimination of Poverty in Municipal Areas (MEPMA) is a Government of AP Society forming part of Department of Municipal Administration & Urban Development. The objective of MEPMA is to enable the urban poor particularly the poorest of the poor to eliminate poverty and vulnerability in a sustainable manner and improve their quality of life in urban areas.

g. **Municipal Corporations at Visakhapatnam and Vijayawada**

The Vizag (Visakhapatnam) Municipality was set up as early as in 1858. The Vizag (Visakhapatnam) Municipality was formed in order to full fill the basic infrastructural needs of the people of the city and was converted into Municipal Corporation in 1979. Visakhapatnam is one of the earliest municipalities along with Nellore, Kurnool, Vizianagaram and Bhimiliapatnam. Voluntary Municipal Association was set up in Visakhapatnam in the year 1858 under All India Act XXVI of 1850 with the advent of Town Improvement Act of Madras (Act. 10 of 1865). Subsequently vide Madras District Municipalities Act 1884 the Commission was designated as Council. Since then the Vizag Municipality has grown in its Municipal limits due to incorporation of new areas and thus
the need for conversion to Municipal Corporation occurred in the year 1979. Visakhapatnam is growing steadily, with a current population of 17.30 lakhs in 2011 and projected to rise to around 20.99 lakhs by 2021. The population growth rate in the city is inflated due to the high in-migration, owing to the multitude of economic opportunities that it offers.

The Vizag city spreads over 544 Sq.Km. It is the largest city of Andhra Pradesh. Located favorably mid-way between Kolkata and Chennai, along the planned PCPIR. GVMC came into existence after the Government of Andhra Pradesh released the Government Order (GO) on November 21, 2005. With the inclusion of the Gajuwaka Municipality, Greater Visakha will have a large industrial base. Major industries such as the Visakhapatnam Steel Plant, the Bharat Heavy Plate and Vessels and the Hindustan Zinc, now a part of the Sterlite group will come under the limits of Greater Visakhapatnam.

The Municipality of Vijayawada (Bezawada) was constituted on 1st April, 1888 and was upgraded as a selection grade municipality in the year 1960. The municipality was upgraded to a corporation in 1981. With the merger of Gunadala, Patamata and Bhavanipuram village panchayats and two villages Payakapuram and Kundavari Kandrika in the corporation in 1985. The total area of the corporation is 61.88 sq.kms. The city is divided into 59 political wards. An elected body headed by the Mayor performs the Administration of the Corporation. The Commissioner acts as the executive head, and oversees the day to day functioning of the local body.

h. **Urban Development Authorities (UDA)**

**Tirupati Urban Development Authority (TUDA):**

**Visakhapatnam Urban Development Authority**
Prior to VUDA, the Town Planning Trust (TPT) has existed since 1962, to implement developmental activities in and around Visakhapatnam. The TPT was upgraded and Visakhapatnam Urban Development Authority was constituted on 17th June 1978, under AP Urban Areas (Development) Act, 1975 with its jurisdiction extending over Visakhapatnam Municipal Corporation and four municipal towns namely Vizianagaram, Bheemunipatnam, Gajuwaka and Anakapalli including 287 villages in 178 Gram Panchayats, comprising an area of 1721 sq.km. Its function was

- To regulate and enforce the development as per the plans
- To formulate and implement projects for housing infrastructure and
- To coordinate various developmental projects for implementation of the Master Plan proposals
It replaced erstwhile Town Planning Trust, a similar body constituted in 1962, which was operating in a limited area of Visakhapatnam municipal area. VUDA, as part of its specified objectives, prepared a Master Plan for the entire Visakhapatnam Metropolitan Region (VMR) and done the Government of Andhra Pradesh approve it. The zonal development plans of Vizianagaram, Bheemunipatnam, Gajuwaka and Anakapalli towns have been sanctioned. In the peripheral area zonal development plans of Madhurawada, Rushikonda and Gopalapatnam have been sanctioned. VUDA also has the responsibility of coordinating and implementing important Urban Development Plans.

\[i.\] **AP Capital Region Development Authority (APCRDA)**

The Andhra Pradesh Reorganisation Act of 2014 split the state of Andhra Pradesh into two parts, Andhra Pradesh and Telangana. Since Hyderabad, the capital of the state before the reorganization is geographically located in Telangana hence it was decided that a new capital would be selected for the post-bifurcation Andhra Pradesh though Hyderabad would continue to serve as the joint capital of the two new states for up to 10 years. Phase I of the new capital city to be built in 122 square kilometers (47 sq. mi) in Guntur district, on the banks of the Krishna River, would comprise 31 villages and hamlets in three mandals namely, Mangalagiri, Thullur and Tadepalle mandals. The new capital region is location 12 km north-west of Vijayawada city and 20 km north-east of Guntur City. The entire region under the administration of Capital Region Development Authority (CRDA) has an extent of 7,068 square kilometers (2,729 sq. mi) and covers 58 mandals, of which 29 are in Krishna district and 29 in Guntur district. The capital region covers 18 mandals fully and 11 mandals partially in Guntur district. While, in Krishna district it covers 15 mandals fully and 14 mandals partially that are administered under CRDA.

\[j.\] **AP Swacha Corporation**

The State government of Andhra Pradesh has decided to set up an exclusive corporation to manage the activities under the Swachh Andhra Pradesh programme. The corporation, Swachh Andhra Pradesh Corporation has been launched in line with the Swachh Bharat mission launched at the national level to make cities totally sanitised, healthy and livable by deriving public health and environmental outcomes for all citizens with focus on hygiene and affordable sanitation for urban poor and women. The primary objective of the mission is elimination of open defecation, achieving 100 per cent collection and scientific processing, disposal, re-use and recycling of municipal solid waste.

Creating an enabling environment for private sector participation in capital and operation & maintenance expenditure and public awareness are among other objectives of the mission, the government felt it necessary to establish Swachh Andhra Pradesh Corporation for effective implementation of the components of Swachh Bharat mission in urban local bodies including activities like individual sanitary latrine scheme and solid waste management. The AP government had sanctioned INR.150 crore as seed capital to the corporation from the consolidated fund of the State for carrying out the activities.
**k. AP Cleaning & Greening Corporation**

Government of Andhra Pradesh has observed that the urban vacant land is underexploited which can be put to economically viable and environmentally sustainable uses. These lands can be potentially utilized for different purposes such as transportation, recreation, commercial, environmental and welfare activities. Government felt that to realize the objective of greening and beautification of urban areas, a separate organization is required for protecting and planning of all urban vacant lands, municipal lands, parks, green zones etc. and to manage them effectively by establishing parks, urban forestry and herbal plantations, play grounds etc. within urban areas. Accordingly an organisation by name A.P Urban Greening and Beautification Corporation (APUGBC) has been established.

**1.1.1 Statistical profile of the MA & UD**

In Andhra Pradesh, Urban population has witnessed significant growth over the last fifty years. Andhra Pradesh has 110 ULBs with a population of 146 lakhs, which has registered a growth rate of 400%, constituting 29.6% of the total population and it continues to grow at an accelerated pace. Amongst the urban population, nearly 59 lakhs is categorized as Below Poverty Line (BPL). It is also estimated that 50% of the total poor are living in urban areas. This is attributed to the migration of people from rural areas in search of better livelihood opportunities in the urban growth centers.

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>District</th>
<th>Total Population</th>
<th>Urban Population</th>
<th>% of Urban Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Visakhapatnam</td>
<td>42,90,589</td>
<td>20,35,922</td>
<td>47.5</td>
</tr>
<tr>
<td>2</td>
<td>Krishna</td>
<td>45,17,398</td>
<td>18,43,660</td>
<td>40.8</td>
</tr>
<tr>
<td>3</td>
<td>Cuddapah</td>
<td>28,82,469</td>
<td>9,79,132</td>
<td>34.0</td>
</tr>
<tr>
<td>4</td>
<td>Guntur</td>
<td>48,87,813</td>
<td>16,52,738</td>
<td>33.8</td>
</tr>
<tr>
<td>5</td>
<td>Chittoor</td>
<td>41,74,064</td>
<td>12,31,386</td>
<td>29.5</td>
</tr>
<tr>
<td>6</td>
<td>Nellore</td>
<td>29,63,557</td>
<td>8,57,630</td>
<td>28.9</td>
</tr>
<tr>
<td>7</td>
<td>Kurnool</td>
<td>40,53,463</td>
<td>11,49,286</td>
<td>28.4</td>
</tr>
<tr>
<td>8</td>
<td>Ananthapur</td>
<td>40,81,148</td>
<td>11,45,711</td>
<td>28.1</td>
</tr>
<tr>
<td>9</td>
<td>East Godavari</td>
<td>51,54,296</td>
<td>13,13,972</td>
<td>25.5</td>
</tr>
<tr>
<td>10</td>
<td>Vizianagaram</td>
<td>23,44,474</td>
<td>4,90,911</td>
<td>20.9</td>
</tr>
<tr>
<td>11</td>
<td>West Godavari</td>
<td>39,36,966</td>
<td>8,08,777</td>
<td>20.5</td>
</tr>
<tr>
<td>12</td>
<td>Prakasam</td>
<td>33,97,448</td>
<td>6,64,582</td>
<td>19.6</td>
</tr>
<tr>
<td>13</td>
<td>Srikakulam</td>
<td>27,03,114</td>
<td>4,36,703</td>
<td>16.2</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>4,93,86,799</td>
<td>1,46,10,410</td>
<td>29.6</td>
<td></td>
</tr>
</tbody>
</table>
1.2 Objective and Scope

1.2.1 Objective of the Plan

a. To mitigate the impact of natural and man-made disasters through preparedness at various levels

b. The Disaster Management Plan (DMP) helps to bring together the information related to equipment, skilled manpower and critical supplies available with the department in the affected area

c. It helps to know the standard operating procedures of the department at the time of disaster. The role and responsibility of each and every officer can be detected at the time of disaster

d. It helps the Department to assess its own capacity in terms of available resources and get ready to mitigate any unexpected disaster effectively and to prevent the loss of human lives and property through preparedness, prevention & mitigation of disasters

e. To assist the line departments, block administration, communities in developing compatible skills for disaster preparedness and management

f. To disseminate information in a timely, accurate and tactful manner while maintaining necessary confidentiality.

g. To develop immediate and long-term support plans for vulnerable people in/during disasters.

h. To have response system in place to face any eventuality

1.2.2 Scope of Plan (DMP)

a. To improve state of preparedness of the department to meet any contingency

b. To reduce response time in organizing the assistance

c. To identity major resources, man power material & equipment needed to make the plan operational

d. Making optimum use of the combined resources
1.3 Institutional Arrangements and Organizational Structure of the MA & UDD

Disaster Management & Mitigation

Risk Analysis
- Hazard Analysis
- Vulnerability Analysis
- Risk Assessment

Prevention
- Structural
  - Hazard Resistant Building Retrofitting
  - Load Baring Building
  - Construction of Dams, Bridges, Roads.
  - Non Structural
    - Land use rules and T.P Schemes
    - Removal of Un-Authorised Structures & Encroachments
    - Modification of Building ByLaws

Preparedness
- Early Warning and Evacuation
- Planning for Disaster Response
  - DM Plan
  - Training
  - Awareness

Response
- Search & Rescue
- Humanitarian Assistance
- Relied Co-Ordination
- Reconstruction
- Rehabilitation
2. Multi Hazard, Vulnerability, Capacity and Risk Analysis

Andhra Pradesh is one of the most natural hazard prone states in India because of its long coastline and geographical location. About 44 percent of the state is vulnerable to tropical storms and related hazards. In addition to cyclones and related hazards, monsoon depressions bring heavy to very heavy rains causing floods in the inland rivers between June and September. Many areas in the state adjacent to coastal districts are vulnerable to flash floods. The state has a population of 49.4 million (population density – 308 persons/sq.km), out of which proportion of rural population is 70.4% while that of urban is 29.6%. Visakhapatnam is the most urbanized district of the state having 47.5% as urban population. Out of total 13 districts in the state, nine are coastal districts and account for approximately 69% (34.19 million) of its total population. The coastal region of Andhra Pradesh comprises of around 980 km coastline and includes 9 districts of the state. The four districts of Vishakhapatnam, Vizianagaram, Srikakulam and East Godavari make up nearly half of the coastal region of the state. The geographic location combined with high population density makes these districts highly vulnerable to cyclones and its associated hazards like storm surge, high winds and heavy rainfall. Recurrent cyclones account for a large number of deaths, loss of livelihood opportunities, loss of public and private property, and severe damage to infrastructure, thus reversing developmental gains at regular intervals.

Figure 1: Multi Hazard Zones in Andhra Pradesh (Source: http://mapsof.net/kerala/hazard-map-of-andhra-pradesh)

1 Note: The original map is covering combined state of Andhra Pradesh and Telangana
## 2.1. Multi Hazards Profile

### 2.1.1. Nature, frequency and intensity of potential hazard to linked to MA&UDD

The probable disaster situations to happen includes both natural and operational.

<table>
<thead>
<tr>
<th></th>
<th>Natural</th>
<th>Operational</th>
</tr>
</thead>
</table>
| 1) | (i) Flood  
(ii) Earthquake  
(iii) Cyclone  
(iv) Tsunami | (i) Fire  
(ii) Explosion  
(iii) Accidents  
(iv) Hazard Gas / chemical leakage / burning  
(v) Riots / strikes etc. |

### Seasonality Calendar:

<table>
<thead>
<tr>
<th>Hazards Vs Months</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclone</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very High</td>
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<tr>
<td>Flood</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Drought</td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Chem. Industrial</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Heat Wave</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>Very High</td>
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<tr>
<td>Epidemics</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Medium</td>
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</tbody>
</table>
Andhra Pradesh is extremely vulnerable to cyclones, storm surges and floods. The state risks being battered by cyclones of moderate to severe intensity every two to three years. Since the 1975, the state had faced more than 60 cyclones. Some of them moderate and a few of them very severe. In the past 40 years, there may not be a single year in which the state did not experience either a storm, a cyclone or heavy rains and floods.

The deadliest cyclone in the past 40 years was the one that struck Andhra's coast in November 1977, killing about 10,000 people. About 250,000 cattle heads perished, one million houses were damaged and crops on 1.35 million hectares (ha) were destroyed that year.

### Major cyclones

- **November 1977:** Severe cyclonic storm—the most devastating in the past 40 years. Eight coastal districts affected. About 10,000 people killed. About 250,000 cattle heads perished; 1 million houses damaged and crops on 1.35 million hectares were damaged. Estimated loss: INR 172 crore.
- **May 1979:** Cyclonic storm with core of hurricane winds. Heavy rains and floods. As many as 748,000 lakh houses damaged. Estimated loss: INR 242 crore.
- **October-November 1987:** There were three cyclonic storms. First one in October, which was a severe storm but with no casualty. The second one, on 2-3 November was very severe. 10 districts affected. 119 people died; more than 100,000 houses and 960,000 ha of crops damaged; estimated loss: INR 126.48 crore.
- **July 1989:** Cyclone followed by heavy rains and floods. 22 districts affected. Death toll: 232; crops on about 600,000 ha lost; estimated loss: INR 913.5 crore. It was followed by a cyclonic storm with no casualty.
- **May 1990:** Severe cyclonic storm with core of hurricane winds. 14 districts affected. Death toll: 817; houses damaged: 1.4 million; crop loss: more than 500,000 ha; loss INR 2,137.27 crore. It was followed by heavy rainfall in August in which 50 people died and the loss was assessed at INR 179 crore.
- **November 1996:** Severe cyclonic storm with core of hurricane winds. Four districts affected. Death toll: 1,077; houses damaged: 600,000; crop loss: 500,000 ha; loss INR 6,129.25 crore. One more severe cyclone in December claimed 27 lives.
- **May 2010:** Cyclone Laila. 14 districts affected. Death toll: 22; houses damaged: 14,298; crop loss: 260,000 ha; loss INR 1,603 crore.
- **November 2012:** Severe cyclone Nilam. Death toll: 30; crop loss: over 700,000 ha; loss: INR 1,710 crore.
- **October-November 2013:** Severe cyclone Phailin. Death toll: 40; crop loss: INR 2,400 crore; loss: INR 420 crore.
- **October 2014:** Severe cyclones Hudhud.


Floods:
The major river basins of AP are Godavari and Krishna, while the minor river basins are Nagavali and Vamsadhara on the north and Pennar in the south. The floods in the Godavari and Krishna Rivers caused havoc in the East and West Godavari and Krishna districts. Inadequate capacity of the rivers to contain the heavy water flows after heavy rainfalls leads to flooding. The Passage of storms/ cyclones in quick succession over a river basin invariably leads to severe floods. The problem is exacerbated by factors such as silting of the riverbeds, reduction of the carrying capacity of river channels, beds and banks leading to changes in river courses, obstructions to flow due to landslides, synchronization of floods in the main and tributary rivers and retardation due to tidal effects.

Earthquakes:
The state of Andhra Pradesh has a history of earthquakes from the year 1800 to date but fortunately there have not been major losses due to the low intensity of earthquakes. Earthquakes in the recent past have occurred along and off the Andhra Pradesh coast and in regions in the Godavari river valley. Earthquake of magnitude of 5.0 – 5.7 have been recorded on the Richter scale in Ongole, Bhadrachalam, Srikakulam, Secunderabad and Vizianagaram areas of AP. Mild tremors have also hit the capital city of Hyderabad in September 2000.

2.1.3. Causes of losses/ Emerging concerns

Most lives are lost during a cyclone on account of floods and the devastating storm surge that often accompany cyclones. In case of severe cyclonic storms with storm surges, more than 90% of the fatalities occur due to drowning, either during the incoming water phase or
during the out surges. In severe cyclonic storms without storm surges, the deaths are more or less evenly divided between drowning and the collapse of buildings, urban infrastructure. The most common health problems include water borne diseases such as diarrhea, dysentery, typhoid, viral hepatitis, respiratory diseases such as pneumonia and whooping cough, measles, gastroenteritis, cholera, conjunctivitis, and fever.

Some of the factors responsible for vulnerability of the state to disasters are:

- Almost half of the storms in the Bay of Bengal become severe cyclones often accompanied by storm surges
- Low-lying areas along the coast are vulnerable to extensive flooding and deep inland sea water incursion.
- High concentration of population, infrastructure and economic activities along the coast.
- Lack of proper maintenance of the flood protection and irrigation systems, drains, embankments etc.
- Lack of comprehensive coastal zone and delta management
- In the past two decades, major cyclones caused immense loss of human lives and livestock and massive damage to property, both of people and the Government viz., November 1977, May 1979, November 1984

2.1.4. Composite Vulnerability Profile wrt Department (to which the State is prone and Department is connected)

The vulnerability of urban population to disasters is high due to improper development practices including construction of unsafe housing and infrastructure, encroachments of the flood plains and increasing exposure of the population in risk prone areas. The people in low income group residing in flood plains and hill slopes usually opt for non-engineered structures. These structures are of brick walls covered with tin or thatched roofs and undergo modifications over the years depending upon their increase in income and need for further expansion. Often along the flood plains people occupy the land without permission from the Municipality.

Apart from the initial construction, some of the major problems arise due to the expansion of the houses. Having settled in the risk zones people over the years develop mechanisms to live with the hazards and disastrous situations, developed resilience to the dangers, and started to accept such events as part of their regular life. The expansion in the hill slopes follow similar pattern as that in flood plains. In addition, unlike the flood plains where risk is felt usually during the monsoon, the constructions along the slope of the hills due to expansion of urban areas experiences landslides/hillslides/rockslides year around. The frequencies of these events do increase during the monsoons/storm season. The overall quality of construction was found to decrease as one proceeds uphill where new developments are taking place. This is mainly due to lack of professional engagement in
design and construction, lack of monitoring and supervision of activities, improper use of material, followed by poor maintenance.

*Creation of new risks through development*

It is very crucial to study and analyze the vulnerability at macro, meso & micro level in the State from municipal administration and urban development point of view. Currently the state of Andhra Pradesh is going through the development and rebuilding phase. The new towns are also coming up, and apart from it, the roads, buildings, electricity, bridges & other allied infrastructure work is going on full swing. There is a possibility of increasing the physical vulnerability here, which may lead to overall risk because of the development related activities. Therefore, it needs to be checked that development should not create new risks or increase the existing level of risk.

*Inclusion and Dis-aggregation of data*

The inclusive approach is very crucial in disaster risk management, as it is important to take the people with disability (PWD), old age persons and especially women and children, on board. Gender insensitivity is an issue in many States, partly including Andhra Pradesh. The women are important social and economic agent, and their potential is required to be enhanced in A.P. A gender sensitive approach can not only empower women but also the resilience of society. However, in developing gender sensitive approach the main obstacle is lack of sex-disaggregated data. Without dis-aggregation of data, the situation is vulnerable as it is difficult to identify, understand and address different needs of men and women before, during & after the disaster, especially in urban context. As gender considerations vary depending on social-economic conditions and cultural beliefs, dis-aggregation data is required at all levels in AP. Data dis-aggregation also helps in some way to better analyze and involve women in disaster management planning, preparedness, execution & usage on the ground.

The following table indicates the hazard wise vulnerability to which the MA & UDD is prone:

<table>
<thead>
<tr>
<th>Type of hazard</th>
<th>Magnitude of vulnerability</th>
<th>Areas/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Disaster</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclone</td>
<td>Medium to High</td>
<td>In the pockets of 10 coastal districts</td>
</tr>
<tr>
<td>Flood/Flash flood</td>
<td>Medium to High</td>
<td></td>
</tr>
<tr>
<td>Earthquake</td>
<td>Low to Medium</td>
<td></td>
</tr>
<tr>
<td>Landslide</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Fire</td>
<td>Low to Medium</td>
<td></td>
</tr>
<tr>
<td>Man-made Disaster</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Contamination</td>
<td>Low to Medium</td>
<td></td>
</tr>
<tr>
<td>Epidemic</td>
<td>Low to Medium</td>
<td></td>
</tr>
<tr>
<td>Explosion</td>
<td>Medium to High</td>
<td></td>
</tr>
</tbody>
</table>

### 2.2. Capacity of Department (Institutional, Organizational and physical/Infrastructural) to deal with disasters

The capacity and needs assessment of the Department have to be carried out for the district administration as well as for urban communities. The capacity in terms of response and relief with respect to knowledge, skills, and awareness towards mitigation and adaptation measures needs comprehensive analysis. The MA & UDD administration has reasonably good infrastructure, knowledge and resources for disaster management. It is essential to enhance the knowledge about the emerging risks and climate change impacts on disaster, and their adverse impacts on the urban areas to mainstream disaster management into the urban developmental planning.

At the urban community level, awareness on building codes, land use restrictions, hazard zones etc. are required. There should be sensitization programs on hygiene and preventive measures for minimizing epidemics particularly during post disaster situations. NGOs and community organizations need to be encouraged to be part of community capacity building activities.

Considering the potential hazards and existing vulnerabilities applicable to the State of Andhra Pradesh, the comprehensive resource mapping of *Municipal Administration & Urban Development Department* (MA&UDD) will be carried out, to evaluate the actual risk assessment.

The mapping of resources will help in analyzing the capacity of the *Municipal Administration & Urban Development Department* in an extensive manner. The capacity gaps of the Department, will be identified, reviewed and addressed periodically.

*The comprehensive risk assessment, including the hazards, vulnerabilities and capacities of the MA&UD Department, will be carried out periodically.*

*Apart from existing multi hazard risks, the possibility of creation/ evolvement of new risks will also be explored and addressed under the comprehensive multi hazard risk analysis.*
3. Prevention and Mitigation

3.1. Prevention Measures

The prevention measures consist of those actions or the specific interventions which prevent/reduce the risk from natural or manmade disasters. These risks may be the potential loss of life and damage to the property.

The key tasks for the risk prevention are:

- Identify areas vulnerable to specific disasters
- Prevent development/construction along the flood zones/hazard locations
- Avoid habitation in hazardous areas
- Develop structures resistant to the onslaughts of hazards
- Promote and construct flood resistant housing
- Construct barriers to prevent coastal erosion
- Develop the ability to rapidly evacuate hazardous areas or to shift residents to hazardous resistant structures.

3.2. Mitigation Measures

Mitigation embraces measures taken to reduce both the effect of the hazard and the vulnerable conditions to it in order to reduce the scale of a future disaster. Therefore mitigation activities can be focused on hazard itself or the elements exposed to the threat with the required support from MA&UD Department on the following interventions:

<table>
<thead>
<tr>
<th>Natural Disasters</th>
<th>Mitigation Measures</th>
</tr>
</thead>
</table>
| **Floods**        | • Structural measures like construction of new embankments, drainage channels and raising 4700 critical villages above the flood level.  
|                   | • Construction of multipurpose dams and reservoirs with flood moderation as one of the objectives.  
|                   | • Development of flood plains in a regulated manner |
| **Cyclones**      | • Building of cyclone shelters and afforestation in coastal areas.  
|                   | • Reconstruction projects with elements of disaster mitigation. The Cyclone Reconstruction Project (1990-93) implemented in coastal Andhra Pradesh is one such example |
| **Earthquakes**   | • Extensive studies at the research universities/institutions with inputs from the Geological Survey of India  
|                   | • Execution of a World Bank-assisted project on seismological instrumentation upgradation and other collateral geophysical studies in the Indian peninsular region by technical support from the Department of Science and Technology.  
|                   | • Promote the culture of safe buildings and concept of retrofitting for the |
old structures.

**Droughts**
- Irrigation development by harnessing water through the medium of reservoirs, developing traditional system of tanks, and exploiting groundwater.
- Command Area Development Programme (CADP) to strengthen water management capabilities.
- Control the process of desertification and mitigate the adverse effects of drought through afforestation, sand-dune stabilisation, shelterbelt plantation, grassland development, and soil and moisture conservation.
- National Watershed Development Project for Rainfed Areas (NWD-PRA) for conservation of rainwater, control of soil erosion, regeneration of green cover and promotion of dryland farming systems.
- Constitution of a National Wasteland Development Board for promoting integrated wasteland development.
- The passing of the National Forest Conservation Act (1980) to bring down the erosion of forest cover all over the country.
- Employment Assurance Schemes to provide employment opportunities mostly in drought-prone areas.

### 3.3. Schemes for mainstreaming DRR and CCA

State’s initiatives for water supply, sanitation, solid waste management, including waste to energy plans, affordable housing, conservation of urban water bodies like Neeru Chettu mission, roof top rainwater harvesting, green building development, clean energy initiatives, energy conservation missions, public transportation systems like metro rail and Bus Rapid Transit System (BRTS), urban poverty alleviation etc. are providing appropriate ground for enhancing process of mainstreaming Disaster Risk Reduction and Climate Change Adaptation (DRR and CCA) in to departmental actions of Urban Development.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Agencies/Department</th>
<th>Key activities</th>
<th>Key actions for mainstreaming DRR and CCA</th>
</tr>
</thead>
</table>
| 1.      | Commissioner and Director of Municipal Administration (CDMA) | Make policies, procedures and guidelines. | • Incorporate DRR and CCA in to policies and plans  
• Prepare guidelines and directives for officers and stakeholders for integration of DRR and CCA aspects |
| 2.      | Andhra Pradesh Municipal Development Project (APMDP) | Coordinating and implementing important Urban Development Plans. | • Incorporate DRR and CCA in to development plan and to address underlying vulnerabilities of urban areas  
• Prepare guidelines and directives for officers and stakeholders for integration of DRR and CCA aspects |
<p>| 3.      | Public Health Engineering | Formulation, Designs, and Execution of Water Supply | • Address underlying vulnerabilities of urban poor |</p>
<table>
<thead>
<tr>
<th>Department (PHED) and Sewerage Schemes and besides the Technical Control over all the Engineering works in these Municipal Towns and Corporations.</th>
<th>Enhance adequate water supply in slum areas and Develop efficient sewerage system in vulnerable areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Town and Country Planning (DT&amp;CP) Prepared Master Plans for the urban centres and rural areas by way of Master Plans and indicative Land Use Plans.</td>
<td>Incorporate DRR and CCA in to Master Plans and Efficient and sustainable land use planning</td>
</tr>
<tr>
<td>Andhra Pradesh Urban Finance &amp; Infrastructure Development Corporation (APUFIDC) Implementing infrastructure and housing projects for urban poor</td>
<td>Promoting sustainable urban development thorough integration of DRR and CCA in to schemes like AMRUT &amp; Smart Cities and Addressing vulnerabilities of urban poor</td>
</tr>
<tr>
<td>Mission for Elimination of Poverty in Municipal Areas (MEPMA) Formulating strategies to implement poverty reduction programmes in urban areas.</td>
<td>Promote, strengthen and nurture self-sustainable institutions of the poor particularly the poorest of the poor</td>
</tr>
<tr>
<td>Municipal Corporations Responsibility of coordinating and implementing important Urban Development Plans.</td>
<td>Strengthening service delivery system in vulnerable areas</td>
</tr>
<tr>
<td>Urban Development Authorities (UDA) Responsibility of coordinating and implementing important Urban Development Plans.</td>
<td>Incorporating DRR and CCA through risk assessment of urban areas and addressing vulnerabilities through appropriate measures and Strengthening service delivery system in poor urban areas</td>
</tr>
<tr>
<td>Capital Region Development Authority (CRDA) Planning, Co-ordination, Execution, Supervision, Financing, Funding and for Promoting and Securing the Planned Development of the Capital Region and Capital City Area for the State</td>
<td>Ensure inclusion of multi-hazard resistant structures and green building construction in newly developing areas of capital region</td>
</tr>
<tr>
<td>Andhra Pradesh Swacha Corporation For effective implementation of the components of Swachh Bharat mission in urban</td>
<td>Enhance and promote affordable sanitation for urban poor and women and Promote best waste management</td>
</tr>
</tbody>
</table>

24
11. Andhra Pradesh Cleaning & Greening Corporation

- Greening and beautification of urban areas, protecting and planning of all urban vacant lands, municipal lands, parks, green zones etc. and to manage them effectively by establishing parks, urban forestry and herbal plantations, play grounds etc. within urban areas

- Promote and creating enabling environment for conservation of urban lakes/wet lands
- Promoting urban plantation

### 3.3.1. Provision of funds for disaster mitigation and related interventions

MA&UD Department of Andhra Pradesh will actively contribute in the associated disaster related preparedness, mitigation and relief measures at the State level.

The Department will make budgetary provisions for disaster mitigation and related interventions, through the integration with the ongoing or proposed development/ support programs associated with Urban development sector.

### 3.3.2. Minimizing Losses

The prevention, preparedness and mitigation measures of MA&UD Department will certainly help to reduce the direct and indirect losses. In addition to it, through capacity building of stakeholders, the potential risks and losses can surely be minimized. It is also the overall objective of Sendai Framework is to build resilience of communities to disasters, by achieving substantive reduction of disaster risks and losses in lives, and in physical, social, economic, businesses, and environmental assets of communities and countries.

Apart from it Insurance is the best way to transfer risk, as per disaster management experts. It is a mechanism for spreading the cost of losses over time. Further, it is highly recommended to go for the equal participation of gender (especially women), for all the disaster prevention and mitigation related initiatives by Department.

### 3.4. Action Plan for mainstreaming DRR & CCA

There is a great potential in mainstreaming DRR and CCA aspects systematically in to urban development department of Andhra Pradesh. Here is the suggested Action Plan:
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Activities to be undertaken for mainstreaming DRR &amp; CCA by Urban Development Department</th>
<th>Responsible Authorities/Agency</th>
<th>Tentative Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Establishment of Climate Change Action Cell/Climate Change Knowledge Centre</td>
<td>Urban Development in support of Disaster Management Department</td>
<td>Within One Year</td>
</tr>
<tr>
<td>2.</td>
<td>Climatic baseline studies in ULBs and municipal corporation.</td>
<td>ULBs and municipal corporation</td>
<td>Within 6 months and at regular intervals</td>
</tr>
<tr>
<td>3.</td>
<td>Study and remodel existing water supply, sanitation and sewerage systems to reduce climate change vulnerability</td>
<td>Urban Development in support with research institutes</td>
<td>Within One Year and update as per annual development plans</td>
</tr>
<tr>
<td>4.</td>
<td>Establishment of automatic weather stations in urban areas at different locations</td>
<td>Urban Development in support of Disaster Management Department</td>
<td>Within 3 months</td>
</tr>
<tr>
<td>5.</td>
<td>Establish adequate systems for dissemination of disaster warnings like for cyclone, tsunami, heatwave etc.</td>
<td>Urban Development in support with Disaster Management</td>
<td>Within 3 months</td>
</tr>
<tr>
<td>6.</td>
<td>Establish adequate cyclone shelters and all-weather connectivity to all vulnerable habitations</td>
<td>Urban Development, (funds under schemes like MPLADS may also be used for constructions of cyclone shelters)</td>
<td>Within one year</td>
</tr>
<tr>
<td>7.</td>
<td>Establishment of a Disaster Rapid Response Force, with equipment, communication systems etc. at urban agglomerations</td>
<td>Disaster Management Department in support with Police, Fire Brigade, Health, Military and Para Military Forces</td>
<td>Within One year</td>
</tr>
<tr>
<td>8.</td>
<td>Protection works on rivers and seacoasts, such as flood banks, groynes, dykes etc.</td>
<td>Urban development</td>
<td>Within One year</td>
</tr>
<tr>
<td>9.</td>
<td>Creation of forests in degraded/public lands, including such lands in and around cities and towns</td>
<td>AP Cleaning &amp; Greening Corporation and Forest department</td>
<td>Such activities should be implemented immediately with long term goals</td>
</tr>
<tr>
<td>10.</td>
<td>Improve the efficiency of transmission, including elimination of pilferage</td>
<td>Urban Development</td>
<td>Within 6 months</td>
</tr>
<tr>
<td>11.</td>
<td>Improve the efficiency of electrical equipments</td>
<td>Urban Development</td>
<td>Within 6 months</td>
</tr>
<tr>
<td>12.</td>
<td>Promotion of affordable alternative energy sources i.e. solar home systems, solar street lights, solar thermal systems</td>
<td>Urban Development</td>
<td>Within One year</td>
</tr>
<tr>
<td>13.</td>
<td>Electricity generation using nonconventional sources</td>
<td>Urban Development</td>
<td>Within 6 months</td>
</tr>
<tr>
<td>14.</td>
<td>Encourage non-motorised transport like walking and cycling though development of necessary infrastructure.</td>
<td>Urban Development in support with Andhra Pradesh Road Development</td>
<td>Within One year</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Activities to be undertaken for mainstreaming DRR &amp; CCA by Urban Development Department</td>
<td>Responsible Authorities/Agency</td>
<td>Tentative Timeline</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
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</tr>
<tr>
<td>15.</td>
<td>Design or redesign road networks so as to facilitate smooth traffic movement</td>
<td>Urban Development in support with Andhra Pradesh Road Development Corporation</td>
<td>Within One year</td>
</tr>
<tr>
<td>16.</td>
<td>Ensure Safe water supply as per norms</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>As per development plan</td>
</tr>
<tr>
<td>17.</td>
<td>Ensure 100% coverage of sewerage and sanitation for the urban population</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>As per development plan</td>
</tr>
<tr>
<td>18.</td>
<td>Protection and restoration of existing water bodies in urban areas, creation of new water bodies</td>
<td>Urban Development</td>
<td>Immediate</td>
</tr>
<tr>
<td>19.</td>
<td>Promote Scientific management of municipal solid waste in all municipalities and corporations</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>Immediate</td>
</tr>
<tr>
<td>20.</td>
<td>Restoring efficiency of drainage network of all municipalities to enable quick evacuation of water and to avoid flooding</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>As per development plan</td>
</tr>
<tr>
<td>21.</td>
<td>Mandatory rainwater harvesting in Government buildings, larger homes and apartment blocks, commercial establishments, offices, schools/colleges, academic/research establishments and industrial units</td>
<td>Urban Development and ULBs</td>
<td>Within One year</td>
</tr>
<tr>
<td>22.</td>
<td>Incentives for rooftop solar power generation and provision of grid connectivity</td>
<td>Urban Development and ULBs</td>
<td>As per schemes</td>
</tr>
<tr>
<td>23.</td>
<td>Promote Green Development in town planning</td>
<td>Urban Development and ULBs</td>
<td>As per schemes</td>
</tr>
<tr>
<td>24.</td>
<td>Promote low emission/fuel-efficient mass transportation, to and within tourist areas e.g. battery operated vans</td>
<td>Urban Development with support of Tourism Department</td>
<td>Within One year</td>
</tr>
<tr>
<td>25.</td>
<td>Promote energy efficiency lighting, climate control equipment etc. in hotels and other areas where tourists congregate</td>
<td>Urban Development</td>
<td>Within One year</td>
</tr>
<tr>
<td>26.</td>
<td>Promote eco-tourism to enhance environmental consciousness</td>
<td>Urban Development with support of Tourism Department</td>
<td>Within One year</td>
</tr>
<tr>
<td>27.</td>
<td>Enforce cleanliness in tourist areas</td>
<td>Urban Development with support of Tourism</td>
<td>Within One year</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Activities to be undertaken for mainstreaming DRR &amp; CCA by Urban Development Department</td>
<td>Responsible Authorities/Agency</td>
<td>Tentative Timeline</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>28.</td>
<td>Protect both built and natural heritage against climate related damage</td>
<td>Urban Development with support of Disaster Management and Tourism Department</td>
<td>Within One year</td>
</tr>
<tr>
<td>29.</td>
<td>Ensure plantation and greenery development in urban areas are sustainable to emerging disasters like frequent storms</td>
<td>Andhra Pradesh Cleaning &amp; Greening Corporation along with ULBs</td>
<td>Within One year</td>
</tr>
<tr>
<td>30.</td>
<td>Promote community based rainwater/rooftop harvesting mechanisms in urban areas to meet growing need of water as well as minimizing burden of water supply on concerned authorities</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>Within One year</td>
</tr>
<tr>
<td>31.</td>
<td>Promote community based groundwater recharging mechanisms in urban areas</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>Within One year</td>
</tr>
<tr>
<td>32.</td>
<td>Strengthen piped water supply in poor areas in cities</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>As per development plan</td>
</tr>
<tr>
<td>33.</td>
<td>Ensure capacity building and extension activities in poor and marginalized areas for DRR and CCA</td>
<td>Mission for Elimination of Poverty in Municipal Areas (MEPMA)</td>
<td>Within One year</td>
</tr>
<tr>
<td>34.</td>
<td>Promote Information, Education and Communication (IEC) Activities on CCA and DRR in Urban Areas</td>
<td>Urban Development department along with ULBs</td>
<td>Within 3 months</td>
</tr>
<tr>
<td>35.</td>
<td>Enhance integrated management of municipal solid waste</td>
<td>Public Health Engineering Department (PHED) and ULBs</td>
<td>As per development plan</td>
</tr>
<tr>
<td>36.</td>
<td>Promote activities for conservation of urban lakes, urban watersheds and landscape</td>
<td>Urban Development department in support with ULBs</td>
<td>Within One year</td>
</tr>
</tbody>
</table>
4. Preparedness Planning

Disaster preparedness planning measures will primarily focus on the preparedness of MA&UD Department of Govt. of Andhra Pradesh, in order to safeguard lives, protecting assets and efficient utilization of resources by taking appropriate actions to face any disaster.

4.1 Coordination with Departments and Agencies

The preparedness plan of the Department will further ensure that all concerned departments and agencies are able to respond to potential damage zones in a prompt & coordinated manner. In most disaster situations, the loss of life and infrastructure property damage could be significantly reduced through appropriate preparedness measures.

It is very important for MA&UD Department to get connected with Revenue and other Departments, for the required support during disaster. MA&UD Department may offer emergency water supply during disaster time, search & rescue as well as may also assist in the debris clearance from the highways, roads and streets.

Departmental coordination leads to efficient planning, and it also helps in avoiding overlaps. A foolproof system needs to be institutionalized for seamless communication during disaster.

In most disaster situations the loss of life could be significantly reduced through appropriate preparedness measures. It will be necessary that with respect to every disaster, the concerned departments and agencies will be designated to issue warnings. As part of preparedness plan, it will be ensured by Department that pre-disaster warning & alerts, preparedness before response and dissemination of warning, and evacuation activities will be carried out in coordination with all concerned departments.

4.2 Preparedness planning on the ground

Following are the recommended steps to be taken by the MA&UD Department on the ground pertaining to the disasters:

- The Local Bodies will participate actively in the emergency as volunteers
- The Municipality will monitor the situation at ward level from time to time on sanitation, prevention of epidemics, safe drinking water facility, clearance of debris etc. with the help of SHGs, AWWs and Public Health workers.
- Improve drainage system in all 15 vulnerable wards
• Eruption of water born diseases during disaster can be avoided by replacing of old pipe lines
• Supply of safe drinking water and conduct community awareness camps
• sanitation & chlorination of DW /Bore wells / Open wells
• Preparedness planning for lighting in potentially vulnerable areas.
5. Capacity Building and Training

5.1 Capacity Development Plan of Department
It is very important to prepare and follow the capacity development plan of Department. The plan should be reviewed and revised every year. According to the training needs assessment the training calendar will be prepared and followed.

5.1.a Institutional and Community Capacity Building
*The institutional capacity building will primarily cover the disaster management training and capacity building of key Government officials associated with the municipal administration and urban development functions.*

A number of training possibilities will be explored & selected, including sending key staff outside. Staff would be able to observe the disaster response procedures in a similar environment responding to the emergency. Similar but simpler training workshops will be organized for auxiliary staff. A Checklist may be very useful which is to be prepared in a simple, practical and graphic format whereby they can always be carried and can be available for quick reference at the site.

The community capacity building will exclusively cover the community aligned disaster management aspects. It will also extensively cover the aspects of urban development functions and its handling at the community level.

5.1.b Awareness Generation
For local municipal and urban administrative matters, the professional communicators and extension experts will be enlisted to help design and carry out awareness and publicity campaigns. Radio programmes have proved to be a very effective method for spreading the message. These will broadcast at times of the day when most villagers could be expected to be listening to the radio, which may be early in the morning or at night.

5.2 Recommended Training Need Areas
Training Need areas are recommended as detailed below:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Training Need</th>
<th>To Whom</th>
<th>Suggested duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Techno-legal Regime for DRR for Urban Planners</td>
<td>Municipal Officers/T&amp;CP Dept officials</td>
<td>2-days</td>
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<tr>
<td>2.</td>
<td>Safe Construction practices for disaster resilience</td>
<td>Masons/Builders</td>
<td>2-days</td>
</tr>
<tr>
<td>3.</td>
<td>Enhancing Urban resilience towards disaster and climate change</td>
<td>Commisioners/Minicipal Engineers/Planners</td>
<td>2-day</td>
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<td>4.</td>
<td>Urban Disaster Management</td>
<td>Municipal Officers/ ULB</td>
<td>3-days</td>
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<tr>
<td>Course Number</td>
<td>Course Title</td>
<td>Organizers</td>
<td>Duration</td>
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</tr>
<tr>
<td>5</td>
<td>Climate Change Mitigation and Adaptation</td>
<td>Municipal Engineers</td>
<td>2-days</td>
</tr>
<tr>
<td>6</td>
<td>Sustainable Sanitation plans for emerging urban settlements</td>
<td>PH Engineers/Municipal Officers/Town Planners</td>
<td>2-days</td>
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<tr>
<td>7</td>
<td>Green Building strategies for mitigation of Climate Change</td>
<td>MA &amp; UD Depts. Officials</td>
<td>1-day</td>
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<td>8</td>
<td>Sustainable Habitat Management</td>
<td>Municipal Officials</td>
<td>1-day</td>
</tr>
<tr>
<td>9</td>
<td>Multi-Stakeholders’ approach in Municipal Solid Waste Management</td>
<td>Public Health (PH) Engineers/Municipal Officers</td>
<td>2-days</td>
</tr>
<tr>
<td>10</td>
<td>IT Applications for the Abatement of Climate Change</td>
<td>PH Engineers/ Municipal officers</td>
<td>1-day</td>
</tr>
<tr>
<td>11</td>
<td>Environmental Impact Assessment of Development Projects</td>
<td>NGOs, Planning and Engg. Officials</td>
<td>2-days</td>
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<tr>
<td>12</td>
<td>Role of Community / Institutions and civil society in combating disasters and Climate Change</td>
<td>Health/ Urban Community Development (UCD)/Engg. Officials</td>
<td>1-day</td>
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<tr>
<td>13</td>
<td>Public Health Implications of Climate Change</td>
<td>Doctors, Engineers. And Sanitary Officials</td>
<td>1-day</td>
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<tr>
<td>14</td>
<td>Regulatory Guidelines for Mitigation and adaptation measures against Climate Change</td>
<td>Municipal Commissioners, Plg./Engineering. officials</td>
<td>1-day</td>
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<tr>
<td>15</td>
<td>Gender Implications and Alternative Livelihoods in the Light of Climate Change</td>
<td>Municipal commissioners, Health &amp; UCD functionaries</td>
<td>1-day</td>
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<tr>
<td>16</td>
<td>Conservation of Water Bodies and Ground Water Recharge</td>
<td>Engineering officials</td>
<td>2-days</td>
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<tr>
<td>17</td>
<td>Renewable Energy Options for the Abatement of Climate Change</td>
<td>Municipal commissioners, Plg./Engg. officials</td>
<td>2-days</td>
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<tr>
<td>18</td>
<td>Preparation of Disaster Management Plans in Municipalities</td>
<td>Municipal commissioners/ Planners/Engineers/ Health officers/UCD officers</td>
<td>1-day</td>
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<td>19</td>
<td>Implementation of Disaster Management Act 2005 – Department’s Role &amp; Responsibilities</td>
<td>Senior Middle / Middle / Support/ grassroots level functionaries</td>
<td>3 days</td>
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<tr>
<td>20</td>
<td>Incident Response System (IRS); Basic &amp; Intermediate</td>
<td>Senior Middle / Middle / Support/ grassroots level functionaries</td>
<td>3 days</td>
</tr>
<tr>
<td>21</td>
<td>Community Based Disaster Preparedness</td>
<td>Senior Middle / Middle / Support/ grassroots level functionaries/Elected Representaives of ULBs/PRIs</td>
<td>3 days</td>
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<tr>
<td>22</td>
<td>Preparation and Implementation of Disaster Management Plans</td>
<td>Senior / Middle / support level functionaries</td>
<td>2 days</td>
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<td>23</td>
<td>Basics of integrating DRR into departmental activities/ programs (DRR implementation Strategies)</td>
<td>Senior / Middle / support level functionaries</td>
<td>2 days</td>
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<tr>
<td>24</td>
<td>Gender issues/sensitivity during Disasters</td>
<td>Senior/Middle/support level /grassrootslevel functionaries</td>
<td>2 days</td>
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<tr>
<td>25</td>
<td>National Missions under Climate Change: Activities and Targets</td>
<td>Senior / Middle/support level functionaries</td>
<td>3 days</td>
</tr>
<tr>
<td></td>
<td><strong>Mainstreaming DRR &amp; CCA into development planning</strong></td>
<td><strong>Approaches/Strategies</strong></td>
<td><strong>Senior/Middle/support level functionaries</strong></td>
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</tr>
<tr>
<td>26.</td>
<td><strong>National/State Action Plan on Climate Change – Status and strategies for implementation</strong></td>
<td><strong>Senior/Middle/support level functionaries</strong></td>
<td><strong>2 days</strong></td>
</tr>
<tr>
<td>27.</td>
<td><strong>Hazard Risk and Vulnerability Assessment</strong></td>
<td><strong>Senior/Middle/support level functionaries</strong></td>
<td><strong>2 days</strong></td>
</tr>
<tr>
<td>28.</td>
<td><strong>Mainstreaming Disability into DRR</strong></td>
<td><strong>Senior/Middle/support level functionaries</strong></td>
<td><strong>One-day</strong></td>
</tr>
</tbody>
</table>

**5.3 Status/ Inventory of trained professionals**
The status/inventory of trained disaster management professionals will be properly maintained and documented by the MA&UD Department.

**5.4 Simulation/ Table Top and Mock Exercises**
To measure the training effectiveness, and to check the actual disaster preparedness, the mock exercises and simulation drills will be chalked out at regular intervals, by MA&UD Department. The mock exercise observations will be discussed and documented for the future actions and record purpose.
6. Response Plan

The need for an effective disaster management strategy is to lessen disaster impact which can be achieved through strengthening the existing organizational and administrative structure at the Department of MA & UD. The Emergency Response Plan provides a framework includes specific disaster action plans along with modal scenarios in detail to conduct practice drills at department level.

The Response plan establishes an organized setup to conduct Emergency Support Functions (ESF) operations for any of the Natural and Manmade Disasters. It outlines an implementing framework of sharing resources as per the requirement within National and State level department will be engaged to support during an emergency situation.

*The Incident Response System (IRS) is all about overall coordination mechanism amongst the departments & agencies.*

6.1 Implementation of Incident Response System for Disaster response

A fully understood IRS mechanism shall adapt to address various scale/extent of operations as well as suit individual agency requirements. IRS constitutes an important part of the disaster response at the National, State, District, Sub-division, Tehsil and Block levels. It is very important to understand IRS first by the Department before going for the implementation.
Disaster response is part of the disaster management process and it relates to actions taken in order to mitigate the consequences of an Disaster / incident. The IRS is essentially a management system, which is used for organizing the human and material resource, which is pressed in to service while responding to disasters. IRS is guided by a thorough planning ensures that the critical resources which are used while responding to disasters are deployed in its rightful positions, are mobilized & demobilized in a timely manner to avoid wastage, and further emphasis on a detailed documentation of use of resources, actions and decisions.

IRS achieves this by identifying required functions for responding to disasters and organizes them within an organization (as chart is depicted) which is suitable while responding to disaster.

The activation of the staffing is done on the scale of the event and the demand for response. As, it is not possible to keep dedicated human resources on stand-by 24x7 waiting for a disaster event, the IRS envisages to draw trained persons and press them in to service to respond to disasters.

As the functional expertise required for responding to disasters are various kinds, the IRS envisages to draw human resource with different expertise from different department or agencies and deploy them as a part of the responding team under the IRS framework.

The IRS design acknowledges that the functional expertise required for responding to disasters are available within the functioning environment of the State but they are scattered and they need to brought within an established and known organization chart so that the staff are aware of their positions and function within the team.

One of the primary requisite for implementation of IRS is to get the team members trained in their respective roles and create management structure/arrangement through consultations with respective State agencies traditionally responsible for undertaking response actions/measures. Prior training helps these staff to understand their roles and responsibilities when mobilized.

### 6.2 The response plan - Incident Response Teams - Command Staff & General Staff

IRS organization functions through Incident Response Teams (IRTs) in the field (depicted below). Responsible Officers (ROs) have been designated at the State (Chief Secretary) and District (District Magistrate) Level as overall in-charge of the incident response management. The RO may however delegate responsibilities to Incident Commander (IC), who in turn will manage the incident through IRTs.
IRTs are pre-designated at three levels - State, District, Sub-Division Tehsil and Block. The RO will activate on receipt of early warning. In case of no warning, IRT will respond and contact RO for further support. A Nodal Officer (NO) has to be designated for proper coordination between the District, State and National Level in activating air support for response.

Apart from RO and NO, the IRS has two main components: Command Staff and General Staff.

(i) Function of Command Staff
The Command Staff consists of Incident Commander (IC), Information & Media Officer (IMO), Safety Officer (SO) and Liaison Officer (LO). They report directly to the IC and may have assistants. The Command Staff may or may not have supporting organizations under them.

(ii) Functions of General Staff
General Staff has three components:

The Operations Section (OS) is responsible for directing the required tactical actions to meet incident objectives. Management of disaster may not immediately require activation of Branch, Division and Group. Expansion of the OS depends on the enormity of the situation and number of different types and kinds of functional Groups required in the response management.

Planning Section (PS) is responsible for collection, evaluation and display of incident information, maintaining and tracking resources, preparing the Incident Action Plan (IAP) and other necessary incident related documentation. They will assess the requirement of additional resources, propose from where it can be mobilized and keep IC informed.

Logistics/Finance Section (L/FS) is responsible for providing facilities, services, materials, equipment and other resources in support of the incident response. The
Section Chief participates in development and implementation of the IAP, activates and supervises Branches and Units of his section. In order to ensure prompt and smooth procurement and supply of resources as per financial rules, the Finance Branch has been included in the L/FS.

6.3 Role of Department in context of Incident Response System (IRS)

(Trigger mechanism, Officers appointment wrt ESFs, Roles of agencies & actions)

A fully understood IRS mechanism shall adapt to address various scale/extent of operations as well as suit the department requirements. IRS constitutes an important part of the disaster response at the National, State, District and Local level (disaster affected site). The IRS is essentially a management system which is used for organizing the human and material resource which is pressed in to service while responding to disasters. IRS is guided by a thorough planning ensures that the critical resources which are used while responding to disasters are deployed in its rightful positions, are mobilized & demobilized in a timely manner to avoid wastage, and further emphasis on a detailed documentation of use of resources, actions and decisions.

6.3.1 Operation of Control Room/Emergency Operation Centre (EOC)

EOC is a nodal point for the overall coordination and control of response work in case of any disaster situation. In case of any disaster district level EOC have to be activated. The primary function of EOC is to facilitate smooth inflow and outflow of relief and other disaster related activities. These EOCs act as bridges between District and State Govt.
6.3.2 Trigger mechanism

As soon as Emergency Operation Centre would get the information about any event, the staff on duty in EOC will pass the information the concerned authority and seek for his instruction for further actions. If the information pertains to the occurrence of a disaster in any part of the district, the staff on duty shall also try to inform District Disaster Management Committee members, Emergency Support Functions-team leaders, Major hospitals and District Disaster Management Authority etc.

6.3.3 Officers’ appointment wrt ESFs

Emergency Support Functions (ESFs) are the essentials of Emergency Management comprising of various coordinating agencies, which manage and coordinate specific kinds of assistance common to all disasters types. It outlines an implementing framework of sharing resources and coordinating, preparedness, Mitigation, response and recovery as per the requirement. The Plan has structured the activities of concerned agencies i.e. primary/nodal and support agencies into an organized manner according to their capabilities, skills, resources and authorities across the state and district government. It also attempts to unify efforts of state departments so that they are involved in emergency management comprehensively to reduce the effects of any emergency or disaster within the state.

In any disaster response, the District Administration would always take the initial efforts. However, when District is overwhelmed in any situation, the support necessarily has to come from the State and National level. The hierarchical representation of RO with State EOC/Disaster Response & Information Centre, Headquarters IRT and its lower level of IRTs at District levels. For formation of Incident Response Teams at State, District, Sub-division, Tehsil and Block levels, guidelines on Incident Response System published by NDMA may be followed.

The MA&UD Department will play a vital role being the Head of Logistics Section, which will supervise the Service Branch, Support Branch and Finance Branch. The main responsibility of the Department will be to overall administer the medical, food & communication unit and oversee the finance (including procurement, claim etc)
and support branch functions (including resource provisioning, facilities) and ground support functions. Preferably the Secretary – Municipal Administration & Urban Development, will be the Head of the Logistics Section.

(For further details, the last chapter on Standard Operating Procedures (SOPs) may be referred.)

6.4 Disaster specific response planning

Emergency response is not limited to single organizations of the national or state level government; however it is increasingly recognized to make this function multi-organizational and liaise with business/industry and nongovernmental organizations. Response activities are sequence of required actions including conduct of search and rescue, mobilization of emergency equipment and services and undertake operations to keep population and assets from harm’s way. Response requires immediate activation of functions, high level planning, knowledge of the nature of hazards/disaster (sudden onset, slow onset, escalating incident), interpretation of warning, gathering of structured information, mobilization/deployment of resources and demonstration of coordination skills while undertaking operations.
7. **Recovery, Reconstruction and Rehabilitation**

7.1 **Detailed damage and needs assessment (post disaster)**

The MA&UD Department will play an important role in the disaster loss & damage of the buildings, houses & key infrastructure, placement of the concerned officers and timely & precise reporting of the same at the required locations.

According to the current situation and the loss occurred, the Secretary – MA&UD, will take a final call on the kind of support of support required from the other Departments, such as Revenue & allied agencies.

7.2 **Responsibility of Department in restoration of basic infrastructure**

The utility infrastructure in coastal storm surge areas are generally more exposed than in inland areas. Cyclone Hudhud snapped power poles and lines, dislocated poles, and caused loss of transformers. Damages suffered were about US$ 157.5 million in the three districts of Srikakulam, Vizianagaram, and Visakhapatnam.

Establishing an underground electrical network will reduce future infrastructure and social costs imposed by thunderstorms, storm surges, and flooding.

As the overall duration of a storm recovery is primarily a function of repair and replacement of transmission and distribution lines, societal benefits in terms of reduction in interruption and restoration time will be an additional benefit.

7.3 **Role of Department in Recovery and Reconstruction programs**

MA&UD Department will supplement in coordination with concerned Departments and agencies for the reconstruction of collapsed houses & buildings, and other damage infrastructure related to the municipal administration and urban development functions.
8. Knowledge Management:

8.1 Creating network of knowledge institutions
MA&UD Department will identify the competent technical & knowledge institutions (region wise) in the State to institutionalize the mechanism of knowledge sharing. Then a network of knowledge institutions will be created. All related institutions will get connected.

8.2 Documentation of lessons learnt & practices
Under the knowledge management initiative, the key lessons learnt of past disasters so far and also the best disaster management practices pertaining to urban development sector will be documented. The same will also be uploaded on the departmental website.

9. Financial Arrangements

9.1 Annual budget for Department’s DM plan implementation
As per the National DM Act 2005, Section 40, sub-section (2) concerned State Department shall make (annual) provisions for financing the activities specified in the disaster management plan of Department and its smooth implementation. Funds for relief will be provisioned separately.

9.2 Provisioning of funds for specific DRR interventions
MA&UD Department will coordinate with other concerned Departments for provisioning of funds, specific to municipal, urban development related DRR interventions. This will include funds for prevention, mitigation and disaster risk insurance. The other financing options will also be explored here.

9.3 Provisioning of funds for Disaster Response and Direct Relief

As per DM Act Section 48, State Disaster Response Fund & District Disaster Response Fund will be established by State Govt. Further, there is a provision for release of National Disaster Response Fund (NDRF) amount as per the specified items and norms of assistance of MHA. According to the type, the assistance will be provided as per norms, through State Disaster Response Fund (SDRF) with regard to losses.

Apart from it, there is a continuous focus by Govt on the cashless economy and digitalization for easy, safe and prompt transaction, which will surely help in timely delivery of payment to the concerned entity associated with the MA&UD Department, internally as well as externally.
10. Dissemination, Review and updating of DM Plan:

10.1 Dissemination of DM plan to stakeholders

Departmental Disaster Management Plan of MA&UD Department will be communicated and disseminated to all concerned stakeholders for clarity of roles, pertaining to municipal administration and urban development aspects, in case of disasters and specific responsibilities point of view.

10.2 Periodic review of plan, annual updating

As per the DM Act 2005, Section 40(2) the Departmental DM plan will be reviewed and updated annually. Especially the contact list of nodal persons and resources will be checked, verified and updated.

11. Summarized Standard Operating Procedures (SOPs) of MA&UD Department

The Department of Municipal Administration & Urban Development plays an important role in providing the required administrative support at the affected sites and in the adjacent areas. The roles and responsibilities of the department (Disaster Phase wise) shall be:

11.1. Pre-Disaster

- Formation of DM Cell and manning with senior personnel from key sections of the department.
- Formulation of Building Codes and Building Construction Policy and strategize implementation of the same.
- In association with Building Construction Department, organise orientation and training of architects to mason for the safe and earthquake resistant construction of houses, buildings and apartments on the one hand and retrofitting in the old ones, on the other.
- In association with police, road construction, energy departments and BSNL work by removing encroachments, relocating the electricity supply and telephone poles etc. so that accessibility be there to reach the area during emergencies.
- Measures necessary for prevention of disasters, mitigation, preparedness and capacity building in accordance with the guidelines laid down by the National Authority and the State Authority.
- Integration into its development plans and projects, the measures for prevention of disaster and mitigation;
- Provision of funds for prevention of disaster, mitigation, capacity building and preparedness.
- Drawing up mitigation, preparedness and response plans, capacity building, data
collection and identification and training of personnel in relation to disaster management

- Review the enactments administered by it, its policies, rules and regulations with a view to incorporate therein the provisions necessary for prevention of disasters, mitigation or preparedness.
- To bring awareness about disasters among the inmates of all institutions and residents of all communities in the district.
- To pave way for strict enforcement of building rules in construction department and Contractors.

11.2. During Disaster

- Participate in search & rescue operations.
- Supply of safe drinking water for needful.
- Provide support in the Removal of debris.
- Monitor the situation at ward level from time to time on sanitation, prevention of epidemics, safe drinking water facility, clearance of debris etc. With the help of SHGs, SLFs, AWWs and Public Health Workers.
- Establish communication links with ERCs and Search & Rescue Teams
- Make transport arrangement for mobilization of all emergency
- Arrange for logistic support to all emergency response team.

11.3. Post Disaster

- Resettlement of victims through building back better townships.
- Eruption of water born diseases during & post disaster to be avoided.
- Arrange to provide the alternate arrangements for habitation to victims.
- Ensure maintenance of record, timely reporting and information management.
- Depute additional officers and supporting staff to cyclone affected areas from non-affected areas (if required) to accelerate the rescue and relief operations.
- Ensure that key administrative and lifeline buildings are brought back to operation quickly.
- The Municipalities should give information about relief camps, material supply for shelters, medical camps, distribution of rice, kerosene, compensation, etc., through media and other communication systems.
- Ensure restoration of traffic movement wherever possible by quick repair of breaches. Inspection of roads and removal of traffic obstruction.
- Inspection of roads for assessment of damages and reporting in higher authorities and preparation of its estimations.
- Coordinate with State and plan for providing adequate number of drains by the side of roads, particularly considering the experience.
# Annexure:

Key contacts of the Department:

### Municipal Administration and Urban Development Department, A.P.

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Office Tel:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri R. Karikal Valaven, IAS</td>
<td>Principal Secretary to Govt.</td>
<td>23452499 23450622 Ex:2404</td>
</tr>
<tr>
<td>Sri Ajay Jain, IAS</td>
<td>Secretary to Government, (CRDA - MAUD).</td>
<td></td>
</tr>
<tr>
<td>Smt. V.Nagamani</td>
<td>Deputy Secretary to Govt.</td>
<td>23756305 Ex:2429</td>
</tr>
<tr>
<td>Sri N.Srinivasulu</td>
<td>Deputy Secretary to Govt.</td>
<td>23450353 Ex:2361</td>
</tr>
<tr>
<td>Sri RMJ Naik</td>
<td>Deputy Secretary to Govt.</td>
<td>23450353</td>
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<tr>
<td>Sri K. Veeranjaneyulu</td>
<td>Deputy Secretary to Govt.</td>
<td></td>
</tr>
<tr>
<td>Sri A.Suresh</td>
<td>Addl. Director</td>
<td>23450111 Ex:2625</td>
</tr>
<tr>
<td>Sri P. Thimma Reddy</td>
<td>Director</td>
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<th>Office Tel:</th>
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<tr>
<td>Commissioner &amp; Director of Municipal Administration</td>
<td>Sri. K. Kannababu IAS</td>
<td>Commissioner &amp; Director</td>
<td>23302158 23002157(F)</td>
</tr>
<tr>
<td>Andhra Pradesh Municipal Development Project</td>
<td>Sri. K. Kannababu IAS</td>
<td>Secretary to Govt. MA&amp;UD Dept., &amp; Project Director</td>
<td>23435585 23435589(F)</td>
</tr>
<tr>
<td>Mission For Elimination of Poverty in Municipal Areas (MEPMA)</td>
<td>Sri Solomon Arokiaraj IAS</td>
<td>Mission Director</td>
<td>23371055 23378955(F)</td>
</tr>
<tr>
<td>Andhra Pradesh Urban Finance &amp; Infrastructure Development Corporation</td>
<td>Sri. K. Kannababu IAS</td>
<td>Managing Director</td>
<td>23435500/ 23435522</td>
</tr>
<tr>
<td>Public Health Engineering Department</td>
<td>Dr. P. Panduranga Rao</td>
<td>Engineer-in-Chief</td>
<td>23343530 23316841 23393371(F)</td>
</tr>
<tr>
<td>Directorate of Town &amp; Country Planning Department</td>
<td>Sri Gv Raghu</td>
<td>Director</td>
<td>23731091 23731094(F)</td>
</tr>
<tr>
<td>AP Capital Region Development Authority</td>
<td>Sri N. Srikanth IAS</td>
<td>Commissioner</td>
<td>0866-2577475 0866-2577357</td>
</tr>
<tr>
<td>AP Swachh Corporation</td>
<td>Sri D. Muralidhar Reddy IAS</td>
<td>Managing Director</td>
<td></td>
</tr>
<tr>
<td>AP Urban Greening &amp; Beautification Corporation</td>
<td>Sri N. Chandra Mohan Reddy, IFS</td>
<td>Managing Director</td>
<td></td>
</tr>
</tbody>
</table>