THE TELANGANA STATE
HEATWAVE
ACTION PLAN
2019

BACKGROUND OF THE PLAN
HISTORY AND VULNERABILITY ANALYSIS
PURPOSE OF THE ACTION PLAN
PLAN IMPLEMENTATION
IMPORTANT CHECKLISTS
DOS AND DONTS

Government of Telangana
REVENUE
(DISASTER MANAGEMENT) DEPARTMENT
Heatwave Action Plan - 2019
Revenue (Disaster Management) Department
Government of Telangana
Foreword

In Telangana State, the periods from April to June are extreme Summer months. During this period the temperatures rise considerably, sometimes touching 48.9° C. This negatively impact the health and wellbeing of the community and vulnerable population groups such as children, senior citizens, lactating mothers and pregnant women, older people, those working in the open and those with a disability or a pre-existing medical condition. The extreme weather condition is attributed to Climate Change and it is expected to increase the frequency and intensity of such heat waves now and in future, if proper preparedness and mitigation measures are not undertaken.

Through the continuous and sustained efforts of the Government of Telangana, State level line departments supported by the Telangana State Development Planning Society (TSDPS), the number of casualties has been diminishing since 2016. TSDPS has been constantly collating crucial information regarding weather changes and temperature fluctuations and disseminating alerts and warnings through multiple LED display boards and other facilities in prime locations.

To protect and prepare Telangana State from extreme heat events, the State Government of Telangana has revised the comprehensive ‘Heatwave Action Plan’, prepared in 2018 to enable various departments of the State, Media and Public at large to utilize the plan to reduce fatalities and ill health among people and livestock.

This plan aims to provide guidelines on the steps to be taken by the administration and various stakeholders for minimizing the impact of heatwaves. Additionally, the plan encompass departmental checklists on preparedness and response towards heat wave mitigation, sector specific roles and responsibilities of all major state and district line departments and Do’s and Don’ts in a detailed manner.

It is expected that this action plan would be incorporated according to the guidelines and checklists developed to minimize the effects of heatwave. The Government of Telangana emphasizes that the actions mentioned in the Heatwave Action Plan be implemented and requests all stakeholders to use the plan document for reference and also seek guidance from various academic and scientific institutions and civil society organizations to ensure zero fatalities due to Heatwave in the State.

RAJESHWAR TIWARI IAS
Special Chief Secretary to Govt., &
Prl. CDM& E.O. Prl. Secretary to Govt., (FAC)
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ABOUT THE DOCUMENT

• BACKGROUND
• HISTORY AND VULNERABILITY ANALYSIS
• PURPOSE OF THE ACTION PLAN

• PLAN IMPLEMENTATION
• IMPORTANT CHECKLISTS
• DOs and DON'Ts
• IEC
BACKGROUND

Telangana experiences disasters of various scale, its geographic and topographical contexts making the state extremely vulnerable to droughts, floods, hailstorms, fire, lightening and heatwave and northern districts experience cold waves occasionally. The state is highly vulnerable to Heatwaves, out of 585 Mandals in the state 582 are vulnerable to heatwave. Telangana State Heat Wave Action Plan was first prepared in 2016 as per High Court orders and the guidelines issued by the National Disaster Management Authority (NDMA), Government of India and the same was submitted to NDMA. Based on regular inputs from NDMA and Scientific Institutions the Heat Wave Action Plan is revised and updated in 2017, 2018 and 2019.


Revenue (DM) Department Govt. of Telangana initiated heatwave preparedness programmes for the year 2019. Telangana State Development Planning Society (TSDPS), Indian Meteorological Department, Indian Meteorological Society and UNICEF organised a day long workshop and review of heatwave preparedness for District Officials and agencies working in all the 33 districts on extreme weather conditions on 6th March 2019. It is communicated to District Administrations to conduct orientation and plan for the implementation of the Heatwave Action Plan. It was requested to all departments and District Administrators to submit suggestions for the revision of heatwave action plan for the year 2019. Departments and agencies submitted their suggestions to include in the Heatwave Action plan. Since 2018 it was proposed to send weekly reports on actions taken to mitigate heatwave conditions and also during exigencies.

In 2018 and 2019, with support from Telangana State Development Planning Society, Indian Meteorological Department, Dr. MCR HRD Institute and UNICEF conducted workshops/conferences with State and District Officials on extreme weather events.
PREPAREDNESS MEASURES

DISTRICT COLLECTORS
District Collectors held regular Press conferences on the risks and dangers of heat related illness, activated “cooling centres” at important locations – Religions places, Community and Public buildings, Malls and bus stands. District administrations also supported NGO’s, Community Groups and Individuals to open “Chali vendrams” at public congregation places for providing drinking water and butter milk during Heat Wave conditions.

TELANGANA STATE DEVELOPMENT SOCIETY (TSDPS) & INDIAN METEOROLOGICAL DEPARTMENT (IMD)
TSDPS and IMD are providing daily three-day temperature forecasts and communicating district wise max. temperature details on daily basis. Giving Heatwave alerts/warnings promptly through Mobile application, LED Display boards and TSDPS website. TSDPS conducted a periodic workshop for all stakeholders in the month of March in association with Revenue (DM) Department IMD, IMS and UNICEF.

I & PR DEPARTMENT
District officers has been instructed to identify high risk areas for giving more attention. I & PR Department prepared and positioned IEC Material for adequate publicity through posters, pamphlets, flexi boards & banners, radio jingles across the State. It also created public awareness on heat-related illnesses, provided preventive tips and on Do’s & Don’ts of Heat wave through electronic and print media.

MEDICAL AND HEALTH DEPARTMENT
Medical and Health Department alerted public effects of ill-health that will occur during heatwave. The department deployed additional staff to take care of affected persons due to Sunstroke, activated 108 / 104 Emergency services and also kept adequate stocks of medical supplies such as ORS and IV fluids in all hospitals / PHC’s / UHC’s by positioning ORS packets and IV fluids in each district.

LABOUR AND EMPLOYMENT DEPARTMENT
Labour and Employment Department activated employers to shift the outdoor workers schedules away from peak afternoon hours (1PM to 4 PM).

PR & RD DEPARTMENT
PR & RD Department restricted the working hours from 7 to 11 AM during Heat Wave Conditions for the labours working under Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

ANIMAL HUSBANDRY DEPARTMENT
Animal Husbandry Department activated field staff to create awareness among the Livestock farmers on the Animal Management during Heat waves and printed posters and exhibited in the public places of the villages. Cattle troughs were also provided with transportation of Drinking water.

TRANSPORT DEPARTMENT AND TSRTC
Transport Department and TSRTC established health teams at major bus stands / terminals and other public places for safe transportation by changing the timings of buses during peak hours (12 to 4 PM).

EDUCATION DEPARTMENT
Education Department issued directions to schools to alter school timings to ensure children are not affected. Summer leave was declared.

IT DEPARTMENT
IT Department built ‘The Telangana State Disaster Management Control Portal’ and
upload data such as maximum, minimum and average temperatures, humidity and wind speed recorded by 885 AWS sensors deployed across the state by TSDSP. The Telangana State Disaster Management Control Portal provides functionality of mapping the nearest hospitals, schools and public offices in the identified area to disseminate information.

**WOMEN AND CHILD DEVELOPMENT DEPARTMENT**

Women, children and infants are most vulnerable to heatwave seasons. WCD has to take essential precautionary measures to ensure that essential nutritional services will not get affected during the time of heatwaves. The department has to ensure staff sensitisation before heat wave season. Capacity building programmes for AWC workers on DOs and DONTs. Ensure the accessibility to services through alternative schemes and service distribution patterns. All AWCs will complete delivery of services by 12.00 noon instead of 4.00 pm every day.

**FOREST DEPARTMENT**

Identify the spots of fire accidents in the forest using the historical data and ensure prevention of the possible fire related accidents in these spots through creation and maintenance of fire lines, control burning of the forest litter in the fire lines, clearance of dry wastes, awareness to the villagers adjoining the forest etc.

In the state of Telangana, from the historical data it is identified that (1106) compartments are identified as Highly vulnerable, (1621) Compartments are Medium fire prone and (5076) compartments are low fire prone, 1987 compartments are not fire prone. Forest Survey of India is providing satellite-based fire alerts every day in near real time through SMS alerts. Registering for FSI fire alerts is taken up and mostly completed by December 2019. Till now 3625 forest staff and others have been registered. Peripheral trench has been dug for 6100 km length along the boundary to prevent fire spreading to other areas. These trenches act as fire barriers. Fire blowers (265) Nos and other equipment (Rakers, Boots etc) have been provided to effectively segregate the dry leaf litter from catching fire and used in control of fire spread. A total of (5187) km fire lines have been created to control fire spreading and about 8000 km of old fire lines have been maintained for prevention of fire spread. (940) public awareness meeting have been conducted in the forest fringe villages and wide publicity has been given on fire preventive measures and to give information if fire breaks out and assist forest staff in control of fire. A training program was conducted to the in-charge officers of forest fire monitoring cells of the Districts well in advance and exposure given with mock drill from fire department.

**UNICEF, HYDERABAD FIELD OFFICE**

UNICEF, Hyderabad field office in association with Revenue (DM) Department and Telangana State Development Planning Society (TSDPS) organized workshop on extreme weather events and review of last year heatwave action plan. UNICEF, as the part of its Global platform-GRIP (Guidance for Risk Informed Programming) has organized two-day workshop for all the state line departments and agencies working in the state. Child Risk and Impact Analysis (CRIA) has been done for Telangana considering the major hazards of the state like Heatwave to identify various risks and impact of natural hazards especially on children and women and various social sectors providing critical services to them. Emphasise has been given to Heatwave hazard and it will help in developing special strategies in development planning of each line department in order to reduce the impact during heatwave season.
TELANGANA STATE DEVELOPMENT PLANNING SOCIETY (TSDPS)

Telangana state development planning society has initiated accurate and timely weather forecast and hazard warning to state line departments and public. Weather data is being collected from 924 Automated Weather Stations (AWS) located across the state on hourly basis. It creates and archives data base of weather information and makes real-time analysis, three-day weather forecaster of Heatwave on real time basis. Society has organized capacity building activities and review of action plan in association with Revenue (DM) department and UNICEF, Hyderabad Field Office. TSDPS has prepared Heatwave Atlas -2019 consisting of analysis of heatwave conditions of the state since last 09 years. TSDPS is developing a mobile App (T-Weather) to know about the village level weather conditions from the nearest AWS for the use of department officials, expert agencies and common public. In addition, the local weather information the App will also give information on top ten hottest locations in the state which will be helpful to the district officials to issue weather bulletins locally to make necessary precautionary measure. For transmission of real-time weather updates and alerts for public and official use, LED display boards were installed in the District Collector Offices and other prominent places in Hyderabad.
Heat wave is considered only after the maximum temperature of a station reaches at least 40°C for plains and at least 30°C for hilly regions. When actual maximum temperature of a station is more than or equal to 40°C.

**HEAT WAVE**

- Departure from normal temperature is 5°C - 6°C
- SEVERE HEATWAVE
- Departure from normal temperature is 7°C or more

When actual maximum temperature is 45°C or more, irrespective of normal maximum temperature, heat wave is declared.

When actual maximum temperature is 47°C or more, irrespective of normal maximum temperature, Severe Heat Wave is declared.

**Warm Night** is declared if actual maximum temperature of a station is more than or equal to 40°C and minimum temperature departure is more than or equal to 5°C.

**Very Warm Night** is declared if actual maximum temperature of a station is more than or equal to 40°C and minimum temperature departure is more than or equal to 7°C.

**HEATWAVES**

Spells of abnormally high temperatures that occur in different parts of the country during April to June are referred to as heat waves. The term heat wave is a description of prevailing temperature conditions relative to daily normal value. The IMD (India Meteorological Department) has laid down the following criteria for describing a heat wave or a severe heat wave or a Warm Night.

Coordinated action is needed among government agencies at the State level to reduce the devastating health effects of heat stress on local residents. A practical plan of targeted interventions can increase information-sharing, communication, preparedness, and response coordination to improve the most vulnerable population resilient to rising temperatures and consequently minimize heat wave fatalities.

Temperature and humidity index, which could be used for reference to understand the Heatwave and colour coding

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<table>
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<th>Table 1: Temperature/ Humidity Index</th>
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<td><strong>Relative Humidity</strong></td>
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<tr>
<td>%</td>
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<td>35</td>
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<td>30</td>
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<tr>
<td>25</td>
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</tbody>
</table>

*Source: Calculated from NOAA’s National Weather Service*

Table 1: Heatwave defined by Indian Meteorological Department (IMD)

Following shows the Monthly climatology maps of number of Heat Wave days for the 5 months of (a) March, (b) April, (c) May, (d) June and (e) July over India. The climatology was computed by averaging the number of HW days for the period (1961-2010)

Map shows the duration of the longest Heat Wave spell over each of the stations used in the study during the analysis period of 1961-2010. The duration of (a) HW spells ≥10 days and (b) SHW spells ≥5 days are shown using red colour.

In Telangana, during 1986–1993, the heat waves were mainly of moderate in nature with maximum duration of 7–13 days (April 1987). The highest maximum temperature was 47°C recorded at Nalgonda, and Ramagundam on 11 May 1988.

In 1984 Heat Waves prevailed for 16 days from 14 May to 29 May in Ramagundam. From 1994 onwards, the frequency of severe heat waves and the duration of heat wave spells have increased significantly. In 1997 (18 May to 5 June) and 1998 (23 May to 10 June) the duration of moderate to severe heat wave spells had extended up to 19 days. Since Heat wave conditions prevail in several parts of the state during the summer, deaths occur due to sunstroke every year.
Map showing district wise maximum temperature recorded from the year 2010 to 2018 is given below:

### Table 1

<table>
<thead>
<tr>
<th>S. No</th>
<th>District</th>
<th>Mandal</th>
<th>Date</th>
<th>Max. Temp (°C)</th>
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<td>1</td>
<td>Adilabad</td>
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<tr>
<td>4</td>
<td>Jagtial</td>
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<td>23/05/2015</td>
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<tr>
<td>5</td>
<td>Jangaon</td>
<td>Zaffergadh</td>
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</tr>
<tr>
<td>6</td>
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Table - 3,MANDAL WISE MAXIMUM TEMPERATURE RECORDED FROM THE YEAR 2010 TO 2018

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<tr>
<th>S.No</th>
<th>District Name</th>
<th>Mandal Name</th>
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MANDAL WISE MAXIMUM TEMPERATURE RECORDED FROM THE YEAR 2010 TO 2018
Mandal wise number of severe heat wave days recorded from the years 2012 to 2018

Mandal wise number of severe heat wave days recorded from the year 2012 to 2018
Vulnerability Map
The Heatwave Vulnerability is derived for all the Mandalas in the state, using count of years, the Mandalas which have experienced severe Heatwave are categorized into five different categories. The following table shows the five status of the Vulnerability of the state:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Severe Heatwave (No. Years)</th>
<th>Heatwave (No. Years)</th>
<th>Status</th>
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<tr>
<td>1</td>
<td>&gt;&gt;5</td>
<td>&gt;&gt;6</td>
<td>Severe</td>
</tr>
<tr>
<td>2</td>
<td>3 to 5</td>
<td>&gt;&gt;4</td>
<td>Critical</td>
</tr>
<tr>
<td>3</td>
<td>1 to 3</td>
<td>&gt;&gt;3</td>
<td>Semi Critical</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>&gt;=1</td>
<td>Vigilant</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>Safe</td>
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HEATWAVE ACTION PLAN
After a severe heat wave affected the State of Telangana in May 2015, causing several deaths, Government of Telangana has taken the initiative to develop a comprehensive heat wave management action plan for extreme heat events.

In Telangana State, the period from April to June is summer months. During this period the temperatures rise considerably, to a point of 47°C in the month of May in Districts – Khammam, Nizamabad, Bhadrachalam, Nalgonda, Karimnagar and Warangal. To protect and prepare people of Telangana from extreme heat events, State Government formed a Committee to prepare a comprehensive Heat Wave Action Plan based on guidelines issued by NDMA and plans prepared by other states such as Gujarat, Odisha, etc., to avoid sunstroke fatalities and illness in the future.

COMMITTEE:
The following are the members of the Committee:

1. The Prl. Secretary, Health, Medical & Family welfare Dept. - Member
2. The Prl. Secretary, School Education Dept. - Member
3. The Prl. Secretary, PR & Rural Development Dept. - Member
4. The Prl. Secretary, Municipal Admin. & Urban Development Dept. - Member
5. The Prl. Secretary, Animal Husbandry & Fisheries Dept. - Member
6. The Prl. Secretary, IT, Electronics & Communications Dept. - Member
7. The Director, Public Health & Family Welfare Dept. - Member
8. The Director, Institute of Preventive Medicine Dept. - Member
9. The Commissioner, Information & Public Relations Dept. - Member
10. The Director, Indian Meteorological Dept. (IMD) - Member
11. The Director General of Fire Services Dept. - Member
12. The Special Chief Secretary, Revenue (DM) Department & Convener
PURPOSE OF HEATWAVE ACTION PLAN

Heat Wave Action Plan is a Plan intended for multiple purposes:

To protect the population from heat related harm to health. It aims to prepare for, alert people to, and prevent, the major avoidable effects on health during periods of severe heat, while the days are sunny in summer, it should not be forgotten that the temperature can get too high, that it can become uncomfortably hot, and for some, it can become dangerously hot putting their life at risk. The plan evolved is to address all sections of the society, with special focus on the following vulnerable population.

VULNERABLE GROUPS OF THE POPULATION

- Young children
- Pregnant Women & Nursing mothers
- Older people mainly above the age of 60
- Below Poverty Line (BPL) families with no or poor housing conditions
- Infirm, isolated, and destitute
- People with pre-existing medical conditions (e.g., cardiovascular and respiratory illness, diabetes), people on certain medications
- People with limited mobility, impairment of thermoregulatory capacity and reduced ability to perceive changes in temperature
- People engaged in outdoor occupations

Extreme heat wave management planning includes:

- Identifying vulnerable populations and the health risks specific to each group;
- Developing effective strategies, agency coordination, and response planning to shape a Heatwave Action Plan that addresses heat-health risks;
- Implementing the Heat Action Plan and activating heat alerts;

The Telangana Heat Wave Action Plan (HAP) aims to provide guidelines on the steps to be taken by the state & district administration for minimising the impact of Heat Waves. The Plan’s primary objective is to ensure no fatalities among the population most at-risk during Heat wave and reduce related illness due to the effects of the heatwaves.
IMPLEMENTATION OF THE PLAN

Phase 1 - Pre-Heat Season
Phase 2 - During the heat season
Phase 3 - Post heat season
IMPLEMENTATION

The plan is to be implemented in three phases:

**Phase - I**
Pre-Heat Season
Jan-Mar

**Phase - II**
During-Heat Season
Mar-Jul

**Phase - III**
Post-Heat Season
July-Sep

The Special Chief Secretary Revenue (DM) Department as Nodal Officer to head the Heat Wave Action Plan at State Level, District Collector is the Nodal Officer at District Level and Commissioner Greater Hyderabad Municipal Corporation (GHMC) is the Nodal Officer for GHMC area Municipal Corporation and Commissioner, Municipal Corporations/Municipalities in their respective Municipalities.

The Nodal Officer is responsible for coordinating and communicating ahead of, and during, extreme heat events. The Nodal Officer should adopt the steps given in three Phases.

As per plan and directions, training programmes were conducted with officials from Medical and Public Health, Community Health Staff, Health Care Professionals, Administrators, and also VROs, VRAs, paramedical & field staff and link workers (ASHAs, ANMs etc.) for effective implementation of “Heat Wave Action Plan”.

The State Government constituted a ‘Three-member Committee’ at Mandal level with Tahsildar, Sub Inspector of Police and Assistant Civil Surgeon to enquire into and certify the deaths due to Sun strokes / Heat Waves, in order to ensure the deceased families, receive the relief at the earliest under “Apathbandhu Scheme” amounting to 50,000/
**PHASE 1: PRE-HEAT SEASON**

**JANUARY TO MARCH**

- Convene Meeting with Departments/Organisations/NGOs involved in rehab /Agencies to review mechanism to respond to extreme heat events.
- Interact regularly with concerned Departments for review and feedback.
- Identify high-risk areas of the State/District vulnerable to heat waves and focus on such areas and initiate focused activities on prevention of heat related illness.
- Organize training for health workers, link workers, teachers, school children, and the local community with the Health Department in preventive measures and treatment protocol.
- Distribute pamphlets and posters in local language with tips to prevent heat stress to hospitals, schools, and professional associations.

**COLOUR SIGNALS FOR HEAT ALERT**

The following colour codes are being used by the Department to alert all the stakeholders.

- **Display the information provided by TSDSP/IMD in the web portal and for displaying the same in display boards across the City and District HQs.**
- **Request all telecom service providers to send Heat wave messages to subscribers at no cost.**

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**Hyderabad Weather**

Max Temperatures Recorded in the District

<table>
<thead>
<tr>
<th>Location</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nampally</td>
<td>41.5°C</td>
</tr>
<tr>
<td>Tirumalagiri</td>
<td>41.1°C</td>
</tr>
<tr>
<td>Chandulal Baradari</td>
<td>41.1°C</td>
</tr>
<tr>
<td>Sardarmahal (GHMC)</td>
<td>41.1°C</td>
</tr>
</tbody>
</table>

Weather information LED Display boards installed across the city and District Headquarters, Managed by TSPDS.

- >=45°C Warning
- >40 to < 45°C Alert
- >=35 to <= 40°C Watch
- <35°C No Warning
ROLES AND RESPONSIBILITIES OF THE DEPARTMENTS/AGENCIES

REVENUE (DM) DEPT
1. Promote research on heat related management and mitigation practices in collaboration with knowledge partners in the state.
2. Conduct periodic coordination meetings with all relevant departments towards implementation of the heat wave action plan.
3. Coordinate heat wave awareness campaigns, Dos and Don’ts and capacity building activities in the state.

INDIA METEOROLOGICAL DEPARTMENT (IMD)
1. Issue Prior Warnings with details of temperature and districts.
2. Conduct awareness workshops for media and Departments.

INFORMATION & PUBLIC RELATIONS (I & PR) DEPARTMENT
1. Identifying high-risk areas through survey by Dist. Officers of I & PR Dept as to be made focus of attention
2. Developing and designing information materials in local languages on heat stress prevention and tips for health protection during extreme heat events:
   - Posters/hoardings
   - Pamphlets
   - Booklets
   - CM Open letters to the public to be read in the Gram Sabhas
3. Developing cinema slides to be shown in cinema theaters, besides TV scrolls and Radio Jingles.
4. Developing themes for widespread communications through social and print media. Use of folk artists to spread message in rural and tribal artists.

MEDICAL & HEALTH DEPARTMENT AND MEDICAL PROFESSIONALS
1. Initiate targeted training programs, capacity building efforts and communication on heat illness for medical staff at local PHCs/hospitals and Urban Health Centres (UHCs), nursing staff and also VROs, VRAs, paramedics, field staff and link workers. (ASHA Workers ANMS etc.). Identify the susceptibility of particular wards for special attention.
2. Ensure hospitals update their admissions and emergency case records to track heat-related cases. Train hospitals to improve expedience of recording the cause of death certificates. The training could also include recording Information Education & Communication (IEC) efforts.
3. Adopt heat-focused examination procedures at local hospitals and urban health centers.
4. Promote use of reusable soft plastic ice packs for the state wide UHCs, 108 emergency centres, ambulances and hospitals.
5. Explore creation of ice pack dispensaries to increase access to vulnerable communities.
6. One day workshops in 18 hospitals with the medical students may be organized before commencement of summer – Director Medical Education (DME).
7. Separate beds for the Sunstroke victims may be provided – Director Medical Education (DME) and Telangana State Vaidya Vidhana Parishad(TSVVP).
8. Help desk with Toll free 104 may be established for further information on Heatwave – S.O-104.

9. Ensure the availability of separate room for Heat Stroke patients in hospitals in a well ventilated and cool space.

10. In PHCs and CHCs, wherever AC and Coolers are available, to be utilized in the heat stroke room.

11. Provision of power backup, ambulances & other PHC vehicles should be kept ready.

12. Proper sensitization of health workers and medical staff is to be done in all categories such as preparedness measures, awareness on dangers of heatwave etc.

108/104 EMERGENCY SERVICE:

1. Create displays on ambulances during local events to build public awareness.

2. Identify at-risk areas of vulnerable populations, in part by utilizing the list of high-risk areas.

LABOUR & EMPLOYMENT DEPARTMENT

1. Organize awareness camps for employers, factory manager’s outdoor labourers and workers regarding health impacts of extreme heat and recommendations to protect themselves during high temperatures.

2. Utilize maps of construction sites and outdoor work spots to identify more high-risk outdoor workers. Potentially overlay with irradiation map from IMD or heat island map. Conduct publicity campaigns during high-risk days to these specific areas.

3. To regulate construction/work site contactors to provide drinking water, ORS and shelter to worker’s labourers.

4. To Instruct Factory Management to provide cool drinking water, ORS and shelter to worker’s labourers.

5. To Instruct Factory Management to provide cool drinking water, ORS and shelter to worker’s labourers.

6. Ensure availability with of ORS, Ice pack, and Cool drinking water.

ANIMAL HUSBANDRY DEPARTMENT

1. Review and discuss implementation of Heatwave Action Plan for safeguarding cattle and poultry district heads and also Farmers Training Centres.

2. Prepare material like Posters & pamphlets separately for tips to take care of cattle and poultry during heatwaves.


4. Prepare plan for drinking water for cattle with RWS Dept.

TRANSPORT DEPARTMENT

1. Review plan with cab operator / auto / transport associations and also Highway patrol.

2. Explain importance of proper shade, availability of drinking water and other facilities for, transport office visitors and applicants.

3. Discuss and involve cab operator / auto / transport associations.

4. Distribute pamphlets / posters on heat related illness prevention; Do’s and don’ts for display & further distribution to passengers at Bus stations, bus shelters, cab and auto stands etc.

5. Plan and Ensure availability of proper shade, drinking water and Butter Milk for applicants and visitors.

6. Ensure availability with of ORS, Ice pack, and Cool drinking water.

TELANGANA STATE ROAD TRANSPORT CORPORATION


2. To create awareness among the Staff and Passengers through gate meetings, Pamphlets, Posters and Banners on the ill effects of Heat Wave and Sunstroke during summer.
3. Organize heat wave risk awareness programmes for Bus crew, staff at bus stands
4. Explain importance of proper shade, availability of drinking water and other facilities for passengers in bus stations
5. Distribute pamphlets/posters on heat related illness prevention; Do's and Don'ts for display & further distribution to passengers at Bus Stations, Bus Shelters.
6. Ensure supply of safe drinking water to its Staff and Passengers in the depots and bus stations through RO plants, Municipal Water Supply, through chalivendram organized by social organizations during summer season.
7. Procure Hot weather equipment such as Earthen pots, Ranjans., Water glasses etc at all work places like offices, workshops, Depots, bus stations for the use of employees and passengers.
8. Contact District Medical Administration to procure ORS and sodium lactate packets which have to be supplied to the passengers who are found with symptoms of Sunstroke.
9. Ensure availability of proper shade, drinking water for passengers at bus stands.
10. Ensure availability of ORS, Ice pack, and Cool drinking water, in long distance buses.

EDUCATION DEPARTMENT
1. Review plan with Education Department officials (School/Colleges, etc) organise awareness camps classes on heat wave related illness/sunstrokes for teachers and also students
2. Explain importance of proper shade, availability of drinking water and other facilities for Students
3. Distribute pamphlets/posters on heat related illness prevention; Do's and Don'ts for display & further distribution to students in Schools & Colleges.
4. Ensure availability of ceiling fans in class room’s proper shade, drinking water for students.
5. Ensure availability with of ORS, Ice pack, and Cool drinking water.

INFORMATION TECHNOLOGY (IT) DEPARTMENT
1. Arrange with Planning Department to collect real time information through sensors in Automatic Weather Stations (AWS) for monitoring the temperatures and also for disseminating the same.
2. Prepare Dash board with a login to monitor heat wave scenario and its impact constantly.
3. Prepare map on web interface with colour coding system.

DEPARTMENT OF FOREST AND ENVIRONMENT
1. All Field Officers should be directed to divide the Forest areas into grids of 3 x 3 km (2 x 2 km in case of PAs) to assess availability of water source in each grid and to take measures to ensure water supply in grids without water source. 6102 grids have been identified out of which 2763 grids have at least one water source. Steps are on to provide water in another 970 grids which are accessible. With this nearly 76% of the Forest areas will have water sources for Wild animals. The measures being taken include transportation and supply of water in saucer pits.
2. The Nehru Zoological Park, Hyd. and Kakatiya Zoological Park, Warangal have already made summer arrangements as is done every year to help Wild animals overcome the severe
hot conditions. The measures include installation of Sprinklers, Foggers, Air Coolers, Shade Nets, Water Pools, Wallow pits etc. in animal enclosures including Bird and Reptile enclosures.

3. Special diet is consisting of fruits and vegetables like water melon, cucumber, tomatoes, tender coconut, sugarcane etc., with plenty of water is made available. The roof of the enclosures is covered with thick layer of grass / gunny bags and is watered frequently to retain moisture and cool down the enclosure.

4. Large numbers of check dams and percolation tanks have been constructed in Forest areas to harvest and impound rain water for benefit of Wild animals. Several of the percolation tanks are now supplied water from solar bore wells in the installed Forest areas.

5. The solar bore wells and other water storage structures constructed for Wild animals also benefit the inhabitants of human settlements inside the Forests.

6. Rain water harvesting structures are being taken up in Forest areas as a practice for several years in the form of soil and moisture conservation program. Percolation tanks, check dams, peripheral trenches, staggered trenches etc., have been constructed in Forest areas to conserve soil and moisture.

7. Directive for making water available for animals in reserved/ protected forests and make necessary provisions, where necessary.

8. Issue directives to the Zoo Authorities for special arrangements for the animals in zoo to protect them from the effect of Heat Wave.

9. Provision of drinking water like ponds/water bodies for wild life

10. Directive for provision of water to human habitations facing water scarcity inside reserved forests

11. Promote rain water harvesting


13. Identify spots for possible fire accidents in the forest and ensure to defuse any possible fire related accidents. Clearance of dry wastes to be priority.

WOMEN DEVELOPMENT AND CHILD WELFARE DEPARTMENT

1. Setting up of nutritional resource centers at anganwadi centers to supplement nutritional deficiency in children.

2. Pre heatwave necessary precautionary methods such as provision of proper stock of ORS, buttermilk and other rehydration methods may be arranged well in advance as the heatwave extends for about 17-45 days in Telangana.

3. To create a surveillance mechanism on tracking children, lactating mothers and women through ICDS and Anganwadi centers in the state.

4. Capacity building of Anganwadi sevikas, Asha workers, ANM nurses and ICDS workers to identify symptoms in women and children and to report it when necessary.

5. To identify the districts or villages where high child mortality rates are present to take necessary precautionary methods.

FIRE DEPARTMENT

1. To check the readiness of vehicles and firefighting equipment to face any emergency situations.
POLICE DEPARTMENT

1. Conduct of joint capacity building and awareness building activities to the police staff posted in vulnerable mandals on topics such as importance of periodic hydration, working in shade and effects of pollution combined with heatwave.
2. Suggest on shifting the work hours of Traffic personnel in the early morning and late evening along with convenient shifts throughout the day with enough rest.
3. Addressing the thick material of police uniforms that trap heat addition to the body heat.
4. Updating the guidelines for police personnel on duty and creating awareness at all levels.

NGOs, COMMUNITY GROUPS AND INDIVIDUALS

1. Initiate educational preventative trainings aimed at children and distribute heat protection materials at local schools. A workshop could be organised for teachers to equip them with knowledge of heat protection tips and materials that they can teach in classrooms. Students can be assigned activities and projects on health dangers of extreme heat.
2. Conduct Training workshops and outreach sessions with community groups and mobilizers such as ASHA workers, Anganwadies, Self Help Groups and municipal councils to help inform and also actively involve vulnerable communities. Other sectors such as higher education, NGOs and community leaders may also be involved to increase reach to communities.
3. Encourage individuals’ discussion of the early signs of heat exhaustion with their local doctor or Urban Health Centre.
4. Inform fellow community members about measures and tips to keep cool and protect oneself from heat.
5. Distribute pamphlets & paste, posters in vulnerable areas.
**PHASE 2: DURING THE HEAT SEASON**

**APRIL TO JUNE**

Prl. CDM & E.O. Prl. Secretary to Govt. - Nodal Officer for State
District Collector - Nodal Officer for District
Commissioner, GHMC - Nodal Officer for GHMC
Commissioner - Nodal Officers for Municipal Corporation/Municipalities

* Issue a State and District wide heat alert when extreme heat events are forecast. The key agency leaders, IMD, SDMA in accordance with the Communication Plan above may be notified.

* When necessary, monitor and increase the heat alert level to match the severity of the forecast and threshold established. Special meetings with key agency leaders may be convened.

* Activate “cooling centers,” such as temples, public buildings, malls, during a heat alert and/or State Government - run temporary night shelters for those without access to water and/or electricity.

* Provide access to shaded areas for outdoor workers, slum communities, and other vulnerable populations on a large scale. For example, confirm that night shelters stay open all day for migratory populations during a heat alert.

* Hold regular (daily, if necessary) conference to discuss reports and fresh breaking developments during a heat alert and ensure that communication channels are functional and operating.

* Monitor temperature data and forecasts.

* All non-essential uses of water (other than drinking, keeping cool) may be suspended.

* Increase efforts to distribute fresh drinking water to the public by opening ‘Chalivendrams’ at people congregation points. For example, expand potable water access during a heat alert at religious spaces including temples and mosques, Bus stations, pouch handouts to the poor and high-risk areas (identified by the mapping of high-risk areas).

* Inform power supply Companies to prioritize maintaining power to critical facilities (such as hospitals and UHCs).

* Notify when the heat alert is over.
INDIAN METEOROLOGICAL DEPARTMENT (IMD) and TELANGANA STATE DEVELOPMENT SOCIETY (TSDPS)

1. Provide weekly forecasts
2. Communicate Heatwave alerts/warnings promptly.
3. Communicate Max temperatures district-wise periodically.
4. Update heatwave details regularly.

INFORMATION & PUBLIC RELATIONS (I & PR) DEPARTMENT

1. Creating awareness among public through advertisements in regional languages
2. Displaying hoardings at important places
3. Creating awareness through TV and Radio spots and jingles
4. Conducting regular press conferences at the State level and District level through concerned Ministers, Secretaries and Collectors on the risks and dangers of heat related illness.
5. Circulating heat wave warnings i.e. text alerts or WhatsApp messages in collaboration with private sector telecom companies in addition to traditional media.
6. Sending warnings in bulk to the public via centralized email databases during heat waves.
7. Developing SMS alert system from time to time on treatment systems to send messages to private doctors and medical professionals at Government hospitals including PHCs and UHCs.
8. Utilizing local radio FM broadcast through special programmes and during popular programmes to alert the public.
9. Exploring other means of communication like Facebook, Twitter and WhatsApp for wide publicity.

MEDICAL & HEALTH DEPARTMENT AND MEDICAL PROFESSIONALS:

1. Display heat-related illness prevention tips and how to stay cool around hospitals PHCs and UHCs
2. Keep adequate stocks and Ensure availability of medical supplies like ORS in all hospitals/PHCS/UHCs, hospitals.
3. Generate reports of the public health impact for Nodal Officer, every week/month during a heat alert.
4. Deploy additional staff at hospitals and PHCs/UHCs to attend to the influx of patients during a heat alert, if feasible
5. Increase link worker and community health worker outreach in at-risk neighbourhoods during a heat alert, if feasible
6. Have Regional Health Officers visit UHCs to confirm proper preparation has been made for heat related illness case audits during heat season may be conducted.
7. Update heatwave related illness information to Revenue (Disaster Management) Department to monitor the impact of heat wave.

108/104 EMERGENCY SERVICE:
1. Ensure adequate supply of ice packs and IV fluids
2. Disseminate SMS text messages to warn local residents during a heat alert
3. Ensure ambulance vehicles are available for emergency purposes.

LABOUR & EMPLOYMENT DEPARTMENT
1. Encourage employers to shift outdoor workers’ schedules away from peak afternoon hours (1pm – 5pm) during a heat alert
2. Provide emergency ice packs and heat-illness prevention materials to construction workers as pilot project.

ANIMAL HUSBANDRY DEPARTMENT
1. Conduct training for Dept., field workers as well as for cattle and poultry farmers on heat wave management plan in Animal Husbandry sector, can use giant coolers in Cattle sheds and poultry farms
2. Display posters / distribute pamphlets in villages, and important government offices
3. Ensure availability of adequate field staff during heat wave and ensure that they visit villages for follow up action.

TRANSPORT DEPARTMENT / METRO RAIL/TRAIN
1. Display posters & distribute pamphlets on prevention of heat related illness
2. Ensure availability of shade, drinking water, ORS etc
3. Permit use of school premises as shelter during day time

4. Establish Health teams at major bus stands / Terminals and other public places.
5. Involve Auto/Transport associations wherever possible in distribution of drinking water and Butter milk at all RTA offices and CPs.

TELANGANA STRATE ROAD TRANSPORT CORPORATION
1. Display posters & distribute pamphlets on prevention of heat related illness
2. Ensure availability of shade, drinking water, ORS for passengers & crew at Bus stands, Depots
3. Establish Health stations at major bus stands / Terminals and other public places
4. Ensure that buses do not run during peak hours (12–4 pm) when Heatwave is declared.
5. Provide emergency ice packs and heat-illness prevention materials to TSRTC staff (Drivers, Conductors) etc
6. Operate more AC buses during peak hours (12 noon – 4.00 p.m.) when Heat wave is declared. Keep the AC buses in operational conditions.
7. Contact District Medical Administration to procure ORS and sodium lactate packets which have to be supplied to the passengers who are found with symptoms of Sunstroke.
8. Provide immediate Medical Aid to be given to the staff & passengers who are found to be affected by Sunstroke and to be shifted to nearest Hospital for further treatment.
9. Play the CD made on the ill effects of HEAT WAVE and the precautions to be taken during the summer season in all the buses and bus stations where the TVs are functioning.
10. Utilize public addressing system in all bus stations for announcing ill effects of HEAT WAVE.
11. Provide Buttermilk at places like Adilabad, Nizamabad, Kothagudem and
Badrachalam etc., where the temperatures often go very high, through sponsors.

12. Display the list of steps to be taken for prevention of sun stroke as prepared by Tarnaka hospital Authorities at all conspicuous places in the Depots/garages/bus stations and other premises through pamphlets/flexi banners etc. to educate the staff and passengers.

EDUCATION DEPARTMENTS
1. Display posters & distribute pamphlets on prevention of heat related illness in Schools and Colleges
2. Identify shelter space, of shade, drinking water, ORS facilities with signs
3. Ensure that Schools do not function during peak hours (12-4 pm) when Heat wave is declared
4. No open-air classes to be conducted
5. Ensure school buses are parked in sheds, sprinkle water on the roof of the buses, before commuting.
6. Distribute heat protection materials at local schools and orient school teachers to equip them with knowledge of heat protection tips and activities which they can disseminate in classrooms.
7. Scheduling of examinations before starting of Heat period normally.
8. Hostels operated by Social Welfare, Minority, and by Private Institutions to ensure proper measures are adopted to provide sufficient water and arrangements to keep the environment in the hostels cool. Ensure sufficient power supply is available, health facility is available, fans/cooler’s installed.
9. All non-essential uses of water (other than drinking, keeping cool) may be suspended, if necessary.
10. Actively involve NGOs, Lions Club, Rotary Club and Corporate houses in providing shelter and drinking water facilities in places like public buildings, malls, temples, schools and State

INFORMATION TECHNOLOGY (IT) DEPARTMENT
1. Prepare Dynamic Heat wave Plan with links of Departments for real-time / implementation.
2. Send real time information to all Departments through Dash board/interface.
3. Activities to be displayed on Dash board/Interface/Online Monitoring Tool
4. Activate Heat Wave management APP
5. Prepare Dynamic Heat wave Plan with links of Departments for real-time / implementation.
6. Send real time information to all Departments through Dash board/interface.
7. Activities to be displayed on Dash board/Interface/Online Monitoring Tool
8. Activate Heat Wave management APP
9. MA & UD DEPARTMENT / CORPORATIONS / MUNICIPALITIES
1. Display temperature data in the electronic display boards in its jurisdiction (Junctions and public places)
2. Parks to be open for rest – no charges to collect. Keep open the parks for a longer duration during evenings.
3. Malls/shops to keep cold water at their locations
4. Department of Water Supply to provide drinking water to “Chalivendrams”
5. Activate “cooling centers,” such as public buildings, malls, temples, schools and State Government or Local body, run temporary night shelters for those without house or access to water and/or electricity at home.
6. Expand access to shaded areas for outdoor workers, slum communities, and other vulnerable sections of population.
7. All non-essential uses of water (other than drinking, keeping cool) may be suspended, if necessary.
8. Distribution of fresh drinking water to the public by opening water centres (Chalivendrams) at people congregation points like market places, construction and infrastructure work locations, Bus stations etc.
9. Water may be distributed through pouches to the poor in the identified high-risk areas.
Government or Local body, run temporary night shelters for those without house or access to water and/or electricity at home.

11. Expand access to shaded areas for outdoor workers, slum communities, and other vulnerable sections of population.

WOMEN DEVELOPMENT AND CHILD WELFARE DEPARTMENT

1. Use opportunities, such as nutrition day, SHG meetings for creating awareness and educate young girls and mothers regarding the dangers of Heat Waves, its related health impacts and the precautionary measures to be taken.

2. Display IEC materials at Anganwadis and encourage integrated child development scheme (ICDS) workers to disseminate Heat Wave related information with special focus on infants, children below five years, pregnant and lactating mothers, and geriatric population to protect them from dehydration.

3. Provision of drinking water and first aid at all the Anganwadi Centers, old age homes, orphanages.

4. Ensure that visits to homes by AWWs are done early mornings, so as not to be exposed to high temperatures.


6. ORS, buttermilk and other dehydration methods should be provided to all the school going children under anganwadi centres and mid day meal scheme

7. Monitoring and evaluation of heatwave impacted infants, women and lactating mothers during the heatwave period.

8. Child and Women specific Hot Line numbers should be active 24/7

9. The government’s nutritional Aarogya lakshmi programme for spot feeding should be provided at home instead of making the women travel to centers.

FIRE DEPARTMENT

1. Obtain feedback on Fire calls, plan, and measures taken.

POLICE DEPARTMENT

1. Provision of drinking water, preferably in earthen pots to keep the police personnel hydrated.

2. Proper usage of caps and sun glasses for traffic police in prolonged shifts from morning to afternoon.

3. Management of traffic through traffic lights instead of police personnel standing out in the sun.

4. Ensure the usage of covered police vehicles (4 wheelers) for personnel travel and resting.

NGOs, COMMUNITY GROUPS AND INDIVIDUAL

1. Keep cool and hydrated during the heat season by drinking water, staying out of the sun, and wearing light clothing

2. Office and field visit timings to be re-worked

3. Check on vulnerable neighbours, particularly during a heat alert

4. Limit heavy work in direct sun or indoors if poorly ventilated, especially during a heat alert.
**Phase 3: Post-Heat Season**

**July to September**

- Organize an annual meeting with key agency leaders and relevant stakeholders to review Heat Wave Action Plan.
- Evaluate the reach and impact of the Plan and update/revise it based on review and evaluation.
- Evaluate the Plan process based on performance and revise accordingly.
- Evaluate the reach and impact of the Plan and revise accordingly.
- Display the revised Plan in the Disaster Management/District website ahead of the next heat season for stakeholders.
- Discuss establishing cooling center facilities in high-risk areas around city.
- Make important recommendations arising out of review and evaluation to Government.

**India Meteorological Department (IMD)**

1. Provide season report containing duration of Heatwave, maximum temperatures location-wise.
2. Obtain feedback on cases, plan, and measures taken
3. Revise plan accordingly
4. Report to Government

**Information & Public Relations (I & PR) Department**

1. Collect feedback on publicity, reach and implementation of plan from media and other sources.
2. Collect all news items/reports on Heatwave plan published/telecast.
3. Collect all new items/reports on Heatwaves.

**Medical & Health Department and Medical Professionals**

1. Perform an epidemiological case review of heat-related mortalities during the summer.
2. Conduct and gather epidemiological outcomes from the data on heat risk factors, illness and death, based on average daily temperatures.
4. Measure mortality and morbidity rates based on data before and after the Plan’s interventions.

108/104 EMERGENCY SERVICE
2. Obtain feedback on cases, plan, and measures taken.
3. Revise plan accordingly.

LABOUR & EMPLOYMENT DEPARTMENT
2. Obtain feedback on cases, plan, and measures taken.
3. Revise plan accordingly.

TRANSFERT DEPARTMENT
1. Review implementation and effectiveness of Plan.
2. Obtain and give feedback for further improvement of Plan.

TSRTC
1. Review implementation and effectiveness of Plan.
2. Obtain and give feedback for further improvement of Plan.

EDUCATION DEPARTMENTS
1. Review implementation and effectiveness of Plan.
2. Obtain and give feedback for further improvement of Plan.

ANIMAL HUSBANDRY DEPARTMENT
2. Obtain feedback on cases, plan, and measures taken.
3. Revise plan accordingly.
4. Report to Government

FIRE DEPARTMENT
1. Collect Fire call data and find reasons and plan for future

INFORMATION TECHNOLOGY (IT) DEPARTMENT
1. Collect data of temperatures mandal wise.
2. Collect data on number of downloads of APP & map accordingly

WOMEN DEVELOPMENT AND CHILD WELFARE DEPARTMENT
1. Evaluate the reach of Asha workers and ICDS programme in reducing the child mortality in all heatwave affected districts.
2. Revision of Heat wave Action Plan

POLICE DEPARTMENT
1. Evaluation of the past heat wave season and issues faced by the police staff.
2. Compilation of works done, milestones achieved and lifes saved. New learnings by the department shall also be compiled and shared among the departments.
3. Acknowledgment and token of appreciation in monetary forms may be granted for the service of the police personnel.

NGOs, COMMUNITY GROUPS/SHGs/WARD LEVEL COMMITTEES / INDIVIDUALS
1. Reach the unreached and educate the community on a continuous basis.
2. Conduct training programmes, workshops and outreach sessions with community / Self-help groups and mobilizers such as DWACRA groups, Mahila Arogya Samiti, ASHA workers, Anganwadis, and Ward Committees in Municipalities to help inform and get vulnerable communities more actively involved
3. Identification of NGOs, Voluntary Organizations in reaching out to the Public, especially vulnerable groups

4. Encourage discussions for finding early signs of heat exhaustion with local doctor or Health Centre

5. Inform fellow community members about how to keep cool and protect oneself from heat

All Departments are requested to (create awareness) circulate this plan to their District/Division/ Mandals /Village offices for the benefit of field staff.
## CHECKLIST FOR DISTRICT MAGISTRATE / DISTRICT REVENUE OFFICERS

### Pre-heat season
- Organize district level line department review and planning meeting
- Prioritise updation and review of department SOPs
- Designate point of contact for each department in heatwave management
- Organize monthly review of activities and situation analysis
- Establish heat illness and mortality tracking system and update datasets
- Give priorities to departments dealing with vulnerable populations
- Ensure proper impact mitigation strategies at Education and WCD for uninterrupted education and critical health and nutrition services to women, children and infants.
- Create list of high-risk areas of city heat-wise

### During Heat Event
- Ensure updates and communication from each line department nodal officers.
- Announcement of heat wave warning at least 48 hrs in advance.
- Maintain contact with department points of contact for updates on conditions
- Ensure staff presence and availability of supplies with each department – including distributing fresh drinking water
- Communicate locations of emergency facilities and cooling shelters/shaded areas, chalivendrams with each department
- Monitor heat alert and increase level when severe forecast

### Post-heat season
- Review quantitative and qualitative data for process evaluation and improvements
- Organize annual evaluation of heat plan with key line departments, civil organization and agencies.
- Review and revise heatwave action plan

## WOMEN DEVELOPMENT AND CHILD WELFARE DEPARTMENT

### Pre-heat season
- Ensure capacity building programmes to parents, teaching and non-teaching staffs at AWCs under ICDS, staffs at nutrition centres.
- Prepare alternative plans for ensuring uninterrupted nutrition services during heat season especially for pregnant women and infants.
- Ensure availability of IEC materials and headlines prevention materials at centres.
- Staff capacity building on DO’s and DON'Ts

### During Heat Event
- Proper monitoring with the support of factories and boilers department, department of labour, different civil engineer’s consortium etc. to ensure no child labour and abuse.
- Ensure working hours changes and AWS working hours accruing to the situation.
- Monitoring of shelter, cooling and heat illness management facilities at AWCs and nutrition centres.
- Depute officer at state and district level for monitoring and evaluation of the strategies and situations

### Post heat season
<table>
<thead>
<tr>
<th>Checklist for Medical Colleges and Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-heat season</strong></td>
</tr>
<tr>
<td>* Ensure ORS and first aid kits available</td>
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<tr>
<td>* Special capacity building programme for the staffs at causalities.</td>
</tr>
<tr>
<td>* Adopt heat-focused examination materials</td>
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<tr>
<td>* Get additional hospitals and ambulances ready</td>
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<tr>
<td>* Update surveillance protocols and programs, including to track daily heat-related data</td>
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<tr>
<td><strong>During Heat Event</strong></td>
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<tr>
<td>* Adopt heat-illness related treatment and prevention protocols</td>
</tr>
<tr>
<td>* Equip hospitals with additional materials</td>
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<tr>
<td>* Deploy all medical staff to be on duty</td>
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<tr>
<td>* Keep emergency ward ready</td>
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<tr>
<td>* Monitor water borne diseases, malaria and dengue</td>
</tr>
<tr>
<td>* Keep stock of small reusable ice packs to apply to PULSE areas</td>
</tr>
<tr>
<td>* Report heat stroke’s patients to District/DRO on daily basis</td>
</tr>
<tr>
<td>* Expedite recording of cause of death certificates</td>
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<tr>
<td><strong>Post-heat season</strong></td>
</tr>
<tr>
<td>* Participate in annual evaluation of heat action plan</td>
</tr>
<tr>
<td>* Review revised heat action plan</td>
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<table>
<thead>
<tr>
<th>Checklist for Health Department</th>
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<tbody>
<tr>
<td><strong>Pre-heat season</strong></td>
</tr>
<tr>
<td>* Identify areas that are vulnerable</td>
</tr>
<tr>
<td>* Check inventories of medical supplies in health centers</td>
</tr>
<tr>
<td>* Identify cooling centers and barriers to access cooling centers</td>
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<tr>
<td>* Community involvement in mitigation and preparedness measures</td>
</tr>
<tr>
<td><strong>During Heat Event</strong></td>
</tr>
<tr>
<td>* Prepare rapid response team</td>
</tr>
<tr>
<td>* Distribute Do’s and Don’ts to community</td>
</tr>
<tr>
<td>* Effectively send a “Don’t Panic!” message to community</td>
</tr>
<tr>
<td>* Ensure access to Medical Mobile Van in the Red Zone</td>
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<tr>
<td>* Ensure additional medical vans available</td>
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<tr>
<td><strong>Post-heat season</strong></td>
</tr>
<tr>
<td>* Participate in annual evaluation of heat action plan</td>
</tr>
<tr>
<td>* Review and revise heatwave action plan</td>
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<tr>
<th>Checklist for CHCs/PHCs</th>
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<tbody>
<tr>
<td><strong>Pre-heat season</strong></td>
</tr>
<tr>
<td>* Distribute pamphlet and other materials to community</td>
</tr>
<tr>
<td>* Sensitize health workers and community leaders</td>
</tr>
<tr>
<td>* Develop and execute school health program</td>
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<tr>
<td>* Dissemination of materials in slum communities</td>
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<tr>
<td><strong>HEAT WAVE ACTION PLAN 2019</strong></td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td><strong>Coordinate outreach efforts with other community groups, non-profits, and higher education</strong></td>
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<tr>
<td><strong>Training to AWC workers, ASHAs and other community health workers.</strong></td>
</tr>
</tbody>
</table>

**During Heat Event**
- Modify working hours to avoid impact of heat hours
- Recheck medical stock
- Visit at-risk populations for monitoring and prevention
- Communicate information on tertiary care and emergency services and DDMA

**Post-heat season**
- Participate in annual evaluation of heat action plan
- Review and revise heatwave action plan

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### CHECKLIST FOR DISTRICT INFORMATION & PUBLIC RELATION DEPARTMENT

**Pre-heat season**
- Secure commercial airtime slots for public service announcements
- Identify areas to post warnings and information during heat season
- Organize training for health workers and medical Professionals
- Activate telephone hotline
- Begin placing temperature forecasts in newspapers
- Increase installed LED screens with scrolling temperature data

**During Heat Event**
- Issue heat warnings in heat and electronic media
- Ensure proper communication with TSDPS/IMD for getting warnings and alerts.
- Contact local FM radio and TV stations for announcements
- Use SMS, text and WhatsApp mobile messaging and centralized mobile databases to send warnings
- Contact transport department to place warnings on buses

**Post-heat season**
- Evaluate reach of advertising to target groups and other means of communication such as social media
- Participate in annual evaluation of heat action plan
- Revise heat action plan as per the changes required

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### CHECKLIST FOR LABOUR/INDUSTRIAL SAFETY & HEALTH DEPARTMENT

**Pre-heat season**
- Communicate directly about heat season with non-factory workers
- Capacity building programmes
- Ensure change in working hours according to the situation
- Heat illness orientation for factory medical officers and general practitioners
- Generate list of factory medical officers and contractors to include in heat action communications from Nodal Officer
- Utilize maps of construction sites to identify more high-risk outdoor workers.
- Conduct publicity campaigns during high-risk days in identified high-risk areas

**During the Heat Season**
- Provide water and heat resistant measures at work sites
- Ensure proper cooling facilities where ever required
- Extended hours at Occupational Health Centres
- Consider extended afternoon break or alternate working hours for workers
### Post-heat season
- Participate in annual evaluation of heat action plan
- Review and revise heatwave action plan

### CHECKLIST FOR EMERGENCY MEDICAL SERVICE (HEALTH DEPARTMENT)

#### Pre-heat season
- Identify most vulnerable locations based on the warnings provided in IMD and TSDPS websites and LED displays.
- Prepare handouts for paramedics about heat illness
- Create displays on ambulances to build public awareness during major Spring events
- Identify media point of contact
- Establish Dynamic Strategic Deployment Plan for ambulances
- Ensure adequate supply of IV fluids
- Prepare SMS/other mode of communication messages to disseminate during emergencies

#### During the Heat Season
- Send messages to all employees alerting them of heat action plan
- Activate Dynamic Strategic Deployment Plan
- Ready medicine stocks
- Keep accurate records of pre-hospital care

#### Post-heat season
- Provide data to DDMA/Revenue (DM) Department
- Participate in annual evaluation of heatwave action plan
- Review and revise heatwave action plan

### CHECKLIST FOR ANIMAL HUSBANDRY

#### Pre-heat season
- Ensure additional mobile hospital ready at vulnerable villages
- Update surveillance programme and protocol including track daily heat is related to livestock
- Update facilities according to the data available from TSDPS Website.
- Establish more clinical education to villagers who have animals
- Continue to train medical and paramedical staff in this period
- Identify the areas that are vulnerable for animals
- Check inventory of medicine supply in animal health centres
- Prepare handouts for animal paramedical to heat illness
- Establish dynamic strategic development plan for mobile ambulance for animals
- Ensure medical supply of medicines & fluids
- Capacity building programmes at veterinary hospitals/centres especially for farmers

#### During the Heat Season
- Prepare Do’s and Don’ts and distribute to community
- Adopt heat related illness and prevention protocol
- Equip mobile van with additional materials
- Deploy all animal husbandry staff on duty during heat wave
- Monitor water borne diseases
- Prepare quick reaction team
- Ensure additional annual husbandry van available
**Heatwave Action Plan 2019**

**Post-heat season**
- Ready medicine stocks
- Provide data to key agency leaders
- Participate in annual evaluation of heat action plan
- Review and revise heatwave action plan

**CHECKLIST FOR MUNICIPAL CORPORATION**

**Pre-heat season**
- Arrangements for drinking water specially “Challivendram” at all strategic and vulnerable points
- Capacity building programmes to disaster management units under GHMC.
- Display heat alerts and precautionary measures at strategy points
- Arrangement for shelters and sheds in open and consisted places
- Instruction to open parks/zoos during peak hours
- Arrangements for water supply to slums
- Fire advisory to be given to fire departments
- Water conservation for fire tankers

**During the Heat Season**
- Distribute Do’s and Don’ts to community
- Develop control room with sufficient staff
- Arrangement for emergency water supply
- Maintain contact with Hospital Water Supply department, PWD, HUDA
- Ensure staff presence
- Monitor heat alerts and increase level for severe forecast
- Prepare quick reaction team
- Ensure GHMC control room in emergency communication loop.

**Post-heat season**
- Participate in annual evaluation of heat action plan
- Review and revise heatwave action plan
ANNEXURES

Annexure -I
Format for Sunstroke Deaths – 2019
Annexure -II
Format for Sunstroke ill health reported – 2019
Annexure -III
DOs and DON'Ts
Annexure -IV
Symptoms and first aid for various heat disorders
### Annexure I

#### Details of Sunstroke Deaths - 2019

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Urban Male</th>
<th>Urban Female</th>
<th>Rural Male</th>
<th>Rural Female</th>
<th>Economic Status</th>
<th>Location of Death</th>
<th>Occupation of the Deceased</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>&lt;1 Year</td>
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<td>1-4 Years</td>
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<td>10-14 Years</td>
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<td>15-24 Years</td>
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<td>25-34 Years</td>
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<td>35-44 Years</td>
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<td>45-54 Years</td>
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<td>55-64 Years</td>
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<td>65-74 Years</td>
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<td>75-84 Years</td>
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<td>85+ Years</td>
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**District**

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**Sd/-**  
Rajeshwar Tiwari  
Special Chief Secretary to Govt., &  
Prl. CDM & E.O. Prl. Secretary to Govt., (FAC)
## Annexure II

### Details of Sunstroke ill health reported - 2019

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Urban Male</th>
<th>Urban Female</th>
<th>Rural Male</th>
<th>Rural Female</th>
<th>Economic Status</th>
<th>Location of Death</th>
<th>Occupation of the Deceased</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 Year</td>
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<tr>
<td>1-4 Years</td>
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<td>5-9 Years</td>
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<tr>
<td>10-14 Years</td>
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<tr>
<td>15-24 Years</td>
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<tr>
<td>25-34 Years</td>
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<tr>
<td>35-44 Years</td>
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<tr>
<td>45-54 Years</td>
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<tr>
<td>55-64 Years</td>
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<tr>
<td>65-74 Years</td>
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<tr>
<td>75-84 Years</td>
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<tr>
<td>85+ Years</td>
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</tr>
</tbody>
</table>

### District

**Sd/-**

Rajeshwar Tiwari

Special Chief Secretary to Govt., &

Prl. CDM & E.O. Prl. Secretary to Govt., (FAC)
ANNEXURE -III

**Do’s**

* వేడిగా ఉనన రోజులలో తప్పనిసరిగా గొడుగు వాడండి.
* మంద్ంగా ఉండండి వేడి గాలి మొదలు పాత ధమికం.
* మంచి మార్పులు లేనిచో శీతల వాతావరణంలో ద్గగరలో వునన పాత ధమిక ఆరోగా కందాత నికి తరలించండి.
* మధాం తరువాత (అనగా ఉద్యం 10.00 గంటల నుండి స్రాయంతతం 4.00 గంటలాం) ఆరుబ్యట ఎకుువ శారీర శరమతో కూడిన ప్ని ప్నిచేందురాది అలసాం చేయండి.

**Don’ts**

* సతరా కిరణాలకు వేడి గాలి కంటే అయితన పడడాలి.
* యుమరి ఉనన సతరా కాంత్తలో గొడుగు లేకుండా త్తరుగరాది.
* వేసవి కాలంలో మంద్ంగా ఉండే ద్ుసుి లు ధరించండి.
* నెత్తికి టోపి లేకపోయి సతరా కాంత్తలో త్తరుగరాది.
* వడదెబ్బకు గురి అయినవారిని వేడి నీటిలో ముంచిన బ్టుతో తుడువరాది.
* ద్గగరలో పాత ధమిక అరోగా కందాత నికి చేరుటలో ఏ మాతతం అలసాం చేయండి.
**DO’s**

- Try to stay in cold places
- Use umbrella during hot days
- Wear thin, loose cotton garments, preferably of white colour
- Wear a hat of cotton or a turban
- Avoid outdoor physical activity from 12-3 P.M. If unavoidable, attend to only light physical activity under the hot sun
- Take ample water along with salted butter milk or glucose water
- Take measures to reduce the room temperature like watering, using window shades, fanning, and cross ventilation
- Shift the person with heat stroke symptoms to cool dwelling
- The person suffering with heat stroke should have minimum clothing
- The person suffering with heat stroke has to be sponged with cold water, indirect application of ice-packs
- The person suffering with heat stroke should be kept in between ice-blocks
- If the person affected with heat stroke is not showing any improvement, he should be shifted to a hospital immediately preferably with cooling facility

**Don’ts**

- Expose to direct sunlight or hot breeze
- Move under hot sun without umbrella
- Use of black and synthetic, thick clothes during summer season
- Move under the hot sun without a hat or turban.
- Attend to strenuous physical activity under the hot sun
- Allow direct hot air into the living room
- Delay in shifting the person suffering with heat stroke to a cool place
- The person suffering with heat stroke to have thick clothing
- The person suffering with heat stroke to be sponged with hot water and to be exposed to hot air.
<table>
<thead>
<tr>
<th>Heat Disorder</th>
<th>Symptoms</th>
<th>First Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunburn</td>
<td>Skin redness and pain, possible swelling, blisters, fever, headaches.</td>
<td>Take a shower, using soap, to remove oils that may block pores preventing the body from cooling naturally. If blisters occur, apply dry, sterile dressings and get medical attention.</td>
</tr>
<tr>
<td>Heat Cramps</td>
<td>Painful spasms usually in leg and abdominal muscles or extremities. Heavy sweating.</td>
<td>Move to cool or shaded place. Apply firm pressure on cramping muscles or gentle massage to relieve spasm. Give sips of water. If nausea occurs, discontinue.</td>
</tr>
<tr>
<td>Heat Stroke (Sun Stroke)</td>
<td>High body temperature (106+F). Hot, dry skin. Rapid, strong pulse. Possible unconsciousness. Victim will likely not sweat.</td>
<td>Heat stroke is a severe medical emergence. Call 108 and 102 for Ambulance for emergency medical services or take the victim to a hospital immediately. Delay can be fatal. Move victim to a cooler environment. Try a cool bath or sponging to reduce body temperature. Use extreme caution. Remove clothing. Use fans and/or air conditioners. <strong>DO NOT GIVE FLUIDS.</strong></td>
</tr>
</tbody>
</table>
Heatwave Action Plan 2019

IEC MATERIALS

 neighbouring getturu & nakampeta village

 heatwave conditions prevailing in report. The temperature is expected to remain high for the next 2-3 days. The Department of Agriculture has advised farmers to take necessary precautions.

region, the government has advised farmers to take necessary precautions. The agriculture department has advised farmers to take necessary precautions.

Agriculture department has advised farmers to take necessary precautions.
హేతు, చెప్పించిన ప్రశస్తిలో దానిచే సమాధ్యంలో నిర్ణయించబడిన పరిస్థితి మార్పులు మాత్రమే నిర్ధిష్టం లేదు, ఎందుకంటే నాయకాలు నిర్భయత పెంపడాడు. ఈ పరిస్థితిలో నిర్ణయించబడిన పరిస్థితి నుండి మాత్రమే నిర్భయత పెంపడాడు.

మాధ్యమచాలన బిగ్గర్ ఉపయోగించ తుంటే దానికి సమాధ్యం. ఈ పరిస్థితిలో నిర్ణయించబడిన పరిస్థితి నుండి మాత్రమే నిర్భయత పెంపడాడు.

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"హేవేడు మామేడు, ప్రపంచ తోటలు నిరంతర నిర్ణయాలు"

సన్స్టర్క్ (Sunstroke) కొత్తాన మాంత్రిక సంశయాలు

పతనం
- సన్స్టోర్క్ అవసరమైన స్వస్తి కనుమ అయితే మాంత్రిక సంశయాలు
- సన్స్టోర్క్ చేసే సంశయాలు
- పరిస్థితిలో ఉత్తమాంతరాన్ని సంశయాలు
- పరిస్థితిలో ఉత్తమాంతరాన్ని సంశయాలు
- పరిస్థితిలో ఉత్తమాంతరాన్ని సంశయాలు

మొదలు
- సన్స్టోర్క్ చేసే సంశయాలు
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పని
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- సన్స్టోర్క్ చేసే సంశయాలు
- సన్స్టోర్క్ చేసే సంశయాలు
HEATWAVE POSTER

Maximum Temperature:

- <=35°C No Warning
- 35-40°C Watch
- 41-45°C Alert
- >45°C Warning
HEATWAVE ACTION PLAN 2019
REVENUE (DISASTER MANAGEMENT) DEPARTMENT

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