



Government of Rajasthan

HEAT WAVE ACTION PLAN

BIKANER

2025

OFFICE OF THE COLLECTOR

BIKANER DISTRICT

(RAJASTHAN)

~ Prepared By~

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Executive Summary

In 2023, a global temperature record was set, marking it as the hottest year on record. Such intense global warming will breach the critical 1.5o C threshold within the next five years (World Meteorological Organization 2023). The consequences of this heightened warming are already evident in vulnerable and developing countries such as India. In February 2023, the India Meteorological Department (IMD) reported the hottest February since 1901. Subsequently, in May 2023, 10 Indian states faced a prolonged heat wave lasting 2–3 weeks (IMD 2023). Moreover, in its 2024 summer season forecast, IMD has predicted a high probability of above-normal maximum as well as minimum temperatures leading to longer duration of heat waves in majority parts of India (IMD 2024). Climatic projections for India indicate that heat extremes are likely to intensify, occur more frequently, last longer, and impact wider geographical areas not previously impacted. Other factors, such as humidity and urban heat islands, particularly in cities, will further exacerbate and compound the risks associated with these extremes. With such record-breaking heat waves already being witnessed nationwide, there is an urgent need to develop and implement heat risk mitigation and adaptation strategies to reduce the impacts of heat waves across various geographical scales. Currently, India has more than 4,800 urban local bodies (ULBs), representing approximately 35 per cent of the country's population (Ministry of Social Justice and Empowerment 2023). Urban areas face multifaceted challenges associated with both slow-onset events, such as heat waves, and rapid onset events, such as extreme precipitation-induced urban flooding. Cities are also home to a significant number of vulnerable populations, such as senior citizens, children, and individuals with comorbidities and chronic health conditions. This escalates the risks associated with heat stress. Given this context, cities in India must develop comprehensive heat action plans as recommended by the National Disaster Management Authority (NDMA) in their 2019 guidelines, focusing on localised heat risk mapping and developing effective mitigation, preparedness, and response mechanisms. Coastal cities in India face an additional challenge in the form of compounded risks due to humidity, which can contribute up to an additional 3–4o C when the dry temperature exceeds 30o C and relative humidity surpasses 60 per cent. Consequently, heat action plans for coastal Indian cities such as Thane must factor in the compounded effects of relative humidity. Additionally, the often-overlooked impact of warm nights on health necessitates urgent attention as it significantly contributes to widespread cases of heat strokes and related illnesses as warmer nights do not allow for recovering from daytime heat waves. Thane City's administration attempted to address these challenges by developing a city-

level heat action plan, offering insights into heat risks considering historical trends and projections of dry temperature extremes, humidity, warm nights, and socioeconomic factors at a detailed ward level. The primary objective was to mitigate the impact of heat stress on human health and establish effective pathways for preparedness and response mechanisms.

District Disaster Management Authority Bikaner developed Heat Action Plan (HAP), as per NDMA Guideline 2019. This aims to facilitate the stakeholders in preparing a Heat Management plan by providing insight into the heat related illness and the necessary mitigative and response actions to be undertaken. It would also help in mobilization and co- ordination of various departments, individuals and communities to focus on heat reduction aspects to help and protect their neighbours, friends, relatives and themselves against avoidable health problems during spell of very hot and dry weather.

To implement Heat Action plan in Bikaner the following key strategies have been adopted

- Establish Early Warning System and Inter- Agency Coordination
- Capacity building/ training programme
- Public Awareness and community outreach
- Collaboration with Non-Governmental and Civil Society

Introduction Profile

Bikaner is a District in the northwest of the state of Rajasthan in northern India. The city is the administrative headquarters of Bikaner District and Bikaner division. It was formerly the capital of the princely state of Bikaner. The city was founded by Rao Bika, a Rajput chief of the Rathore dynasty in 1488 CE and from its small origins it has developed into the fourth largest city in Rajasthan. The Ganga Canal, completed in 1928, and the Indira Gandhi Canal, completed in 1987 facilitated its development.

As of the 2011 Census of India the population of Bikaner city was 644,406 placing it in the top 70 major cities of India and 5th in Rajasthan. The female to male ratio in the city was 904/1,000. The literacy rate in the city was about 79%, male literacy being 87% and female literacy being 71%.

Bikaner is situated in the middle of the Thar Desert with very little rainfall and extreme temperatures. In summer, temperatures exceed 50 °C and during the winter it dips to freezing

point. The climate in Bikaner is characterised by extreme variations in temperature. In the summer season it is very hot when the temperatures lie in the range of 28–41.8 °C (82–107 °F). In the winter, it is fairly cold with temperatures lying in the range of 5–23.2 °C (41–74 °F). Annual Rainfall is in the range of 260–440 millimetres (10–17 in). Bikaner is famous for its camel research farm (NRCC), "Bikaneri Bhujia, wool production, sweets etc. It is also known for its handicrafts and leather articles, for its palaces and for having Asia's biggest camel farm. The city is also known for its intricately carved Jharokas. These red sandstone jalis (screens) are found on the windows of the Junagarh fort, temples and havelis (mansions of Northern India). The red sandstone for these window screens was supplied by the nearby village of Dulmera. The Ganga Canal was completed in 1928 and the Indira Gandhi Canal completed in 1987 has allowed the farming of crops such as mustard, cotton, groundnut, wheat and vegetables. Other industries include wool production and the mining of gypsum, plaster of paris and bentonite. According to the 2011 Census of India the population of Bikaner city was 644,406 placing it in the top 70 major cities of India and 5th in Rajasthan. The female to male ratio in the city was 904/1,000. The literacy rate in the city was about 79%, male literacy being 87% and female literacy being 71% Bikaner is well connected by road and rail to the rest of the country. Bikaner is served by two railway stations namely Bikaner Junction and Lalgarh Railway Station. These two stations connect Bikaner with other cities and towns in Rajasthan and with the major cities in North India. There is a very good network of city roads also where all modes of vehicular transport operate. Bikaner has Domestic Civil Airport Nal Airport which is located 15 km west of the city. Regular flights to Jaipur JAI and Delhi DEL commenced in 2017-18.

Heat Wave in Bikaner

Characteristics of Bikaner

Location [28°01'00"N Latitude and 73°18'43"E Longitude](#)

Height above main sea level (MSL) 225 MSL

Total area (Sq.km) 30247.90 sq. km

Total Population 644,406

Population Density 78 per sq. km

Historical Population of Bikaner

Year	Population	±% p.a.
1981	280,400	+34.2%
1901	53,100	−5.7%
1991	416,300	+48.5%
2001	529,690	+27.2%
2011	644,406	+21.7%

Weather by Month / Weather Averages Bikaner

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	14.7 °C (58.4) °F	18.7 °C (65.7) °F	25.1 °C (77.1) °F	31.1 °C (88) °F	34.9 °C (94.9) °F	35.1 °C (95.2) °F	32.5 °C (90.6) °F	30.8 °C (87.5) °F	31.3 °C (88.4) °F	28.9 °C (84) °F	22.6 °C (72.6) °F	16.6 °C (61.8) °F
Min. Temperature °C (°F)	7.8 °C (46.1) °F	11.1 °C (52) °F	17 °C (62.5) °F	22.5 °C (72.6) °F	27.3 °C (81.2) °F	29.4 °C (84.9) °F	28.2 °C (82.8) °F	26.7 °C (80.1) °F	26.2 °C (79.2) °F	22 °C (71.5) °F	15.5 °C (59.9) °F	9.7 °C (49.5) °F
Max. Temperature °C (°F)	21.2 °C (70.2) °F	25.5 °C (77.9) °F	32 °C (89.6) °F	38 °C (100.4) °F	41.3 °C (106.4) °F	40.3 °C (104.5) °F	36.9 °C (98.5) °F	35.3 °C (95.5) °F	36.4 °C (97.5) °F	35.3 °C (95.6) °F	29.3 °C (84.7) °F	23.4 °C (74.1) °F
Precipitation / Rainfall mm (in)	4 (0)	10 (0)	5 (0)	6 (0)	12 (0)	29 (1)	65 (2)	62 (2)	23 (0)	8 (0)	2 (0)	3 (0)
Humidity(%)	50%	38%	27%	19%	23%	36%	54%	60%	45%	29%	34%	45%
Rainy days (d)	1	1	1	1	2	3	7	6	3	1	0	1
avg. Sun hours (hours)	9.1	9.8	10.7	11.5	12.1	12.3	11.0	10.3	10.5	10.3	9.6	9.1

Source Climate-Data.Org

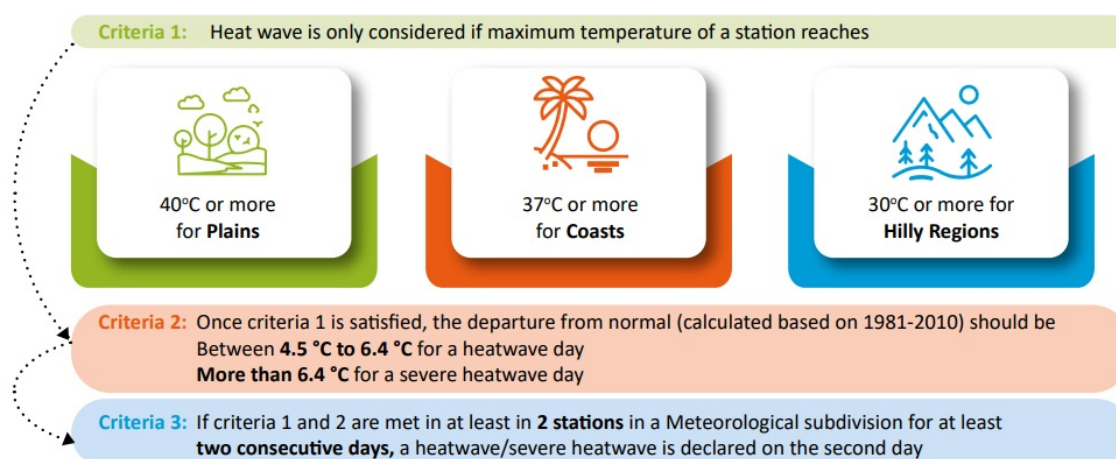
Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours. The variation in the precipitation between the driest and wettest months is 63 mm | 2 inch. Throughout the year, temperatures vary by 20.5 °C | 36.8 °F. The month with the highest relative humidity is August (60.24 %). The month with the lowest relative humidity is April (19.49 %). The wettest month is July (9.97 days). The driest month is November (0.40 days).

Understanding heat waves – definitions and terminologies

The Indian Meteorological Department (IMD) has given the following criteria for Heat Waves

Heat waves do not have a global definition. The World Meteorological Organization (WMO) characterises a heat wave as “Five or more consecutive days of prolonged heat in which the daily maximum temperature is higher than the average maximum temperature by 5°C (9°F).” However, the definition and criteria for gauging temperature extremes vary significantly worldwide, tailored to local conditions based on climatological and impact criteria specific to each region (WMO 2012; Alexander et al. 2006; Vose et al. 2005). The US, for example, adopts a complex felt temperature criterion that incorporates humidity with temperature, while Denmark utilises a straightforward daytime maximum temperature threshold of 28°C. On the other hand, countries such as China and Brazil employ a percentile-based approach for measuring heat waves. In India, the India Meteorological Department (IMD) follows layered criteria for measuring heat waves (Figure 1).

Criteria for mapping heat waves in India



However, if the maximum temperature is $\geq 45^{\circ}\text{C}$ and $\geq 47^{\circ}\text{C}$, a heatwave and severe heatwave is directly declared.

Source: India Meteorological Department 2019

When actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, heat waves should be declared. Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change. India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties. Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change. India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.

Necessity of Heat Wave Action Plan

There is a pressing need for a coordinated, multi-agency approach to managing heat waves in Bikaner. Currently, the issue is largely addressed at an operational level, but a shift towards strategic management is essential to effectively mitigate the impacts of extreme heat.

A clear delineation of roles and responsibilities among various departments is required to ensure an efficient and timely response. Additionally, there is a need for:

- Robust strategic monitoring
- Defined activation triggers

- Effective data sharing mechanisms across systems
- Comprehensive mapping and impact analysis of extreme heat events on vulnerable populations

Recognizing the severity of the situation and its impacts on public health, the District Administration studied Heat Wave Action Plans of other states and adopted best practices. Based on these deliberations, a Comprehensive Bikaner Heat Wave Action Plan was developed to serve as a long-term framework for coordinated action, risk reduction, and enhanced resilience against future heat wave events.

Health Impact of Heat Waves

The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke. The signs and symptoms are as follows:

- Heat Cramps: Edema (swelling) and Syncope (Fainting) generally accompanied by fever below 39°C i.e. 102°F.
- Heat Exhaustion: Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
- Heat Stroke: Body temperatures of 40°C i.e. 104°F or more along with delirium, seizures or coma. This is a potential fatal condition

There will be no harm to the human body if the environmental temperature remains at 37° C. Whenever the environmental temperature increases above 37° C, the human body starts gaining heat from the atmosphere. If humidity is high, a person can suffer from heat wave disorders even with the temperature at 37°C or 38°C. To calculate the effect of humidity we can use Heat Index Values. The Heat Index is a measure of how hot it really feels when relative humidity is factored in with the actual air temperature. As an example, if the air temperature is 34°C and the relative humidity is 75%, the heat index--how hot it feels--is 49°C. The same effect is reached at just 31°C when the relative humidity is 100 %. The temperature vs humidity chart is placed and the temperature actually felt is placed below.

"A thermal index is computed by combining temperature and relative humidity values, and heat stress levels are classified using threshold values derived from bioclimatic charts specifically adapted for the climatic conditions of the Rajasthan region."

The Heat Index Matrix

Relative Humidity %	Temperature °C																
	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
40	27	28	29	30	31	32	34	35	37	39	41	43	46	48	51	54	57
45	27	28	29	30	32	33	35	37	39	41	43	46	49	51	54	57	
50	27	28	30	31	33	35	36	38	41	43	46	49	52	55	58		
55	28	29	30	32	34	36	38	40	43	46	48	52	54	58			
60	28	29	31	33	35	37	40	42	45	48	51	55	59				
65	28	30	32	34	36	39	41	44	48	51	55	59					
70	29	31	33	35	38	40	43	47	50	54	58						
75	29	31	34	36	39	42	46	49	53	58							
80	30	32	35	38	41	44	48	52	57								
85	30	33	36	39	43	47	51	55									
90	31	34	37	41	45	49	54										
95	31	35	38	42	47	51	57										
100	32	36	40	44	49	56											
	Caution		Extreme Caution			Danger		Extreme Danger									

Source Calculated F to C from NOAA's Weather Service

Temperature Humidity Index

Green (No Action)	Normal Day	Maximum Temperatures near Normal
Yellow (Be Updated)	Hot Day Advisory	$\geq 40^{\circ}\text{C}$
Orange Alert (Be Prepared)	Heat Alert Day	$\geq 44.9^{\circ}\text{C}$
Red Alert (Take Action)	Extreme heat alert day	$\geq 45^{\circ}\text{C}$

Heat Alert Thresholds for Bikaner City (source: NDMA)

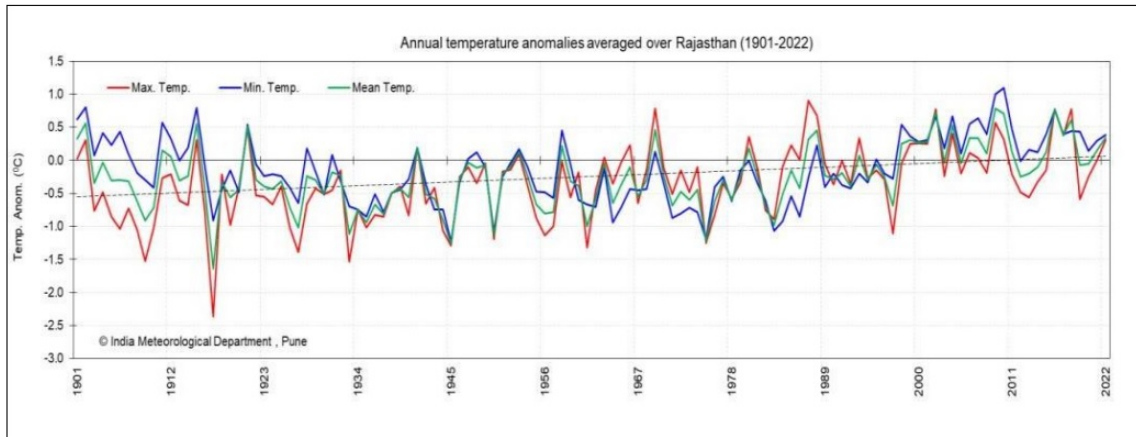
Last 50 years have witnessed a hike in the frequency of hot days, nights and heat waves all over world (IPCC, 2014). India has experienced a number of heat wave incidences, since 2006, and average temperature during 2018 was significantly above normal (+.41 °C above). The year 2019 was the seventh warmest year on record since nation-wide records commenced in 1901. June and July 2019 have been the hottest month record globally, with National Oceanic and Atmospheric Administration (NOAA) confirming June 2019 being hottest on records, 0.95oC above normal average.

Under 2oC warming scenario, the frequency of heat waves in India is projected to increase by 30 times the current frequency by the end of the century. The duration of heat waves is also expected

to increase 92 to 200-fold under 1.5 and 2oC scenarios. Coupled with poverty in South Asia, the impact can be severe. Future projections of temperature indicate a steady increase across the three periods (2030s, 2050s, 2080s), with anomalies reaching 4-5°C for high emission scenarios by 2080. Higher daily peak temperatures of longer duration and more intense heat waves are becoming increasingly frequent globally due to climate change. Extreme temperatures are among the most dangerous natural hazards but rarely received adequate attention.

Annual mean land surface, air temperature anomalies 1901-2022

Rajasthan is located in north-western parts of India and has frequent hot and dry weather conditions during summer season. Annual maximum, minimum and mean land surface temperature anomalies averaged over Rajasthan for the period 1901-2022 is shown in figure. The anomalies were computed with respect to the base period of 1981 -2010. The dotted black line indicates the linear increasing trend in the annual mean temperature over Rajasthan (Rajasthan climate report 2022, India Meteorological Department).



Climatology of the summer season of the period between 1990-2020

Station : Bikaner (42165)		Climatological Information				Period : 1991-2020			
Month	Mean Temperature (°C)		Mean Total Rainfall (mm)	Mean Number of Rainy Days	Mean Number of days with				
	Daily Minimum	Daily Maximum			Hail	Thunder	Fog	Squall	Dust Storm
Mar	17.4	32.8	8.0	0.8	0.0	1.1	0.1	0.0	--
Apr	23.1	38.5	7.9	01.2	0.0	1.7	0.0	0.0	--
May	27.7	42.2	23.7	1.6	0.1	3.8	0.0	0.0	--
Jun	29.4	41.7	36.9	2.6	0.0	3.6	0.0	0.0	--
Annual	20.3	34.3	285.9	18.8	0.1	25.0	06.2	0.0	--

Source: IMD Jaipur

In Bikaner, the summer season—spanning from March to June—is marked by extremely high temperatures, low humidity, and minimal rainfall.

Between 1990 and 2020, the average daily maximum temperatures during this period were:

- March: 37.9 °C
- May: 43.1 °C
- June: Typically the hottest month of the year

These conditions contribute to frequent heat wave events, especially in late May and June, posing significant challenges for public health and water availability.

Average Heat Wave Days in Bikaner (2014-2024)

BIKANER								
YEAR	HEAT WAVE				SEVERE HEAT WAVE			
	MAR	APR	MAY	JUN	MAR	APR	MAY	JUN
2014	0	0	2	7	0	0	0	0
2015	1	1	2	3	0	0	0	0
2016	0	1	9	6	0	0	1	1
2017	0	10	5	2	4	3	0	0
2018	2	7	10	7	1	0	0	0
2019	2	5	3	13	0	1	0	0
2020	0	0	7	3	0	0	0	0
2021	0	1	3	1	2	0	0	0
2022	1	11	12	4	11	4	0	0
2023	0	0	4	0	0	0	0	0
2024	1	0	15	1	0	0	0	0

Source: IMD Jaipur

Between 2014 and 2024, Bikaner, Rajasthan, experienced an average of 6 to 7 heat wave days annually. These include both heat wave days, when temperatures are 4.5°C to 6.4°C above the normal, and severe heat wave days, marked by temperature departures exceeding 6.4°C. According to estimates on Research Gate, the monthly distribution of these heat wave days in Bikaner typically spans 4 to 5 days in April, 6 to 7 days in May, 4 to 5 days in June, and about 1 day in July every five years.

Based on Departure from Normal

Heat Wave: Departure from normal is 4.5°C to 6.4°C

Severe Heat Wave: Departure from normal is >6.4°C

Based on Actual Maximum Temperature

Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$

Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$

the mean frequency of Heat Wave and coefficient of variation based upon 1969-2022 data is depicted in table 1. Lowest mean HW frequency of 0.2-1.9 days with high coefficient of variation is found in March.

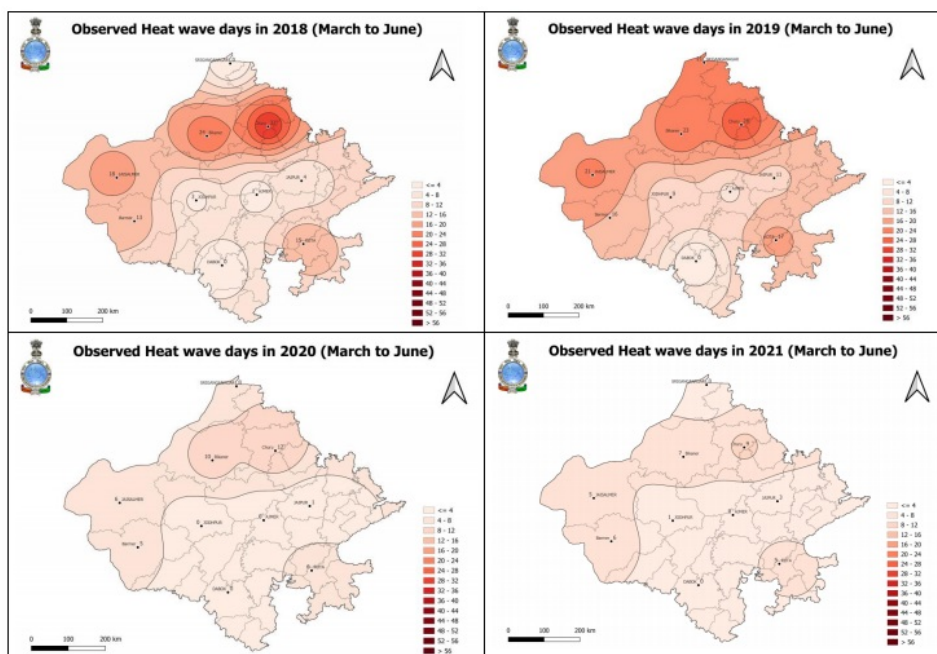
The highest mean HW frequency of 0.4-5.9 days with low coefficient of variation is observed in May.

Month wise mean frequency of HW and Coefficient of variation

Station	Mean Heat Wave Days (1969-2022)				Coefficient of Variation			
	March	April	May	June	March	April	May	June
Bikaner	1.1 $\pm$ 2.1	2.1 $\pm$ 3.2	5.1 $\pm$ 4.8	3.6 $\pm$ 3.6	2.01	1.51	0.94	1.01

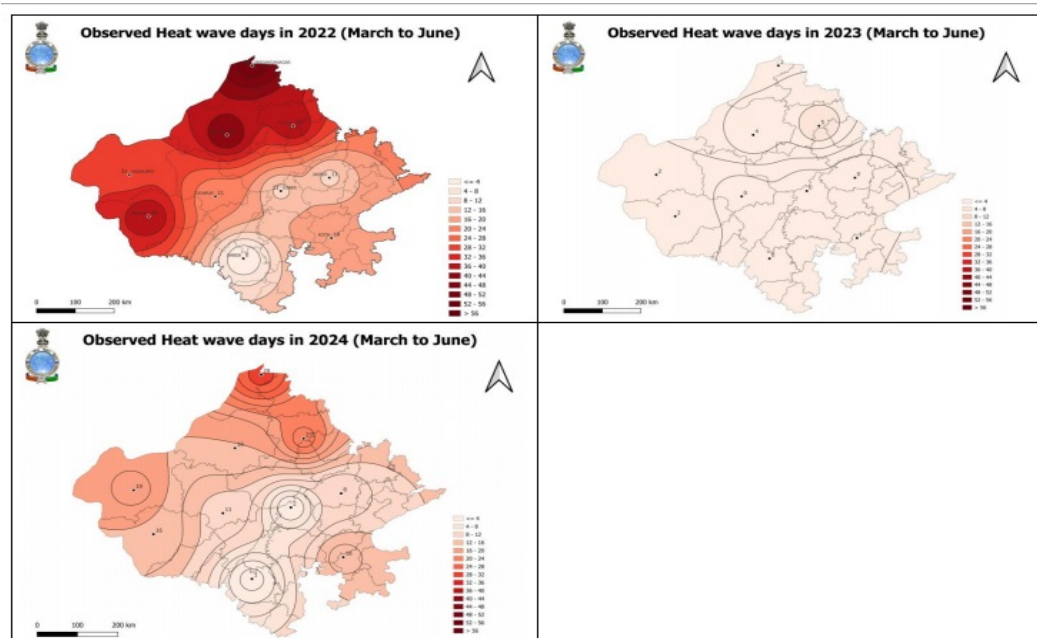
Source: IMD Jaipur

Daily mean maximum Temperatures (2018-2024) for March to June



Heat Wave Maps of Rajasthan (source IMD)

Daily mean maximum Temperatures (2018-024) for March to June



Heat Wave Maps of Rajasthan (source IMD)

Highest Ever Maximum Temperature recorded in Bikaner in Summer Season

Month	Max Temp (°C)	Date
May	49.4	19.05.2016
April	47.2	24.04.1925
March	42.8	25.03.1924
June	48.9	10.06.1897

CLIMATOLOGICAL TABLE 1991-2020

MONTH	STATION LEVEL PRESSURE	AIR TEMPERATURE										HUMIDITY		CLOUD AMOUNTS		RAINFALL						MEAN WIND SPEED	
		MEAN						EXTREMES								MONTHLY TOTAL	NO. OF DAYS	TOTAL IN WETTEST MONTH WITH YEAR	TOTAL IN DRIEST MONTH WITH YEAR	HEAVIEST FALL IN 24 HOURS	DATE AND YEAR		
		DRY BULB	WET BULB	DAILY MAX	DAILY MIN	HIGHEST IN THE MONTH	LOWEST IN THE MONTH	HIGHEST	DATE AND YEAR	LOWEST	DATE AND YEAR	RELATIVE HUMIDITY	VAPOUR PRESSURE	ALL CLOUDS	LOW CLOUDS								
		hPa	°C	°C	°C	°C	°C	°C		°C		%	hPa	Oktas of sky		mm		mm	mm	mm		Kmph	
JAN	I	991.3	9.7	7.3	23.1	7.7	29.2	2.2	32.9	28	-4.0	26	70	8.5	2.4	0.7	4.9	0.5	60.5	0.0	30.1	6	3.9
	II	988.8	20.9	12.9						1991		1964	35	8.5	2.3	0.7			1894		1989		
FEB	I	989.0	13.8	10.3	26.9	11.6	33.1	5.8	37.2	28	-2.5	7	62	9.9	2.1	0.7	7.7	0.9	104.4	0.0	81.1	11	4.9
	II	986.4	25.2	14.8						1953		1974	27	8.7	2.5	1.0			2007		2007		
MAR	I	986.2	20.4	14.3	32.8	17.4	39.0	11.3	42.8	25	-0.6	4	49	11.6	2.1	0.6	8.0	0.8	70.0	0.0	44.6	25	5.9
	II	983.0	31.1	17.3						1924		1898	20	9.0	3.0	1.3			2015		1967		
APR	I	982.5	27.1	17.7	38.5	23.1	43.6	17.3	47.2	24	8.3	1	37	13.0	1.8	0.5	7.9	1.2	115.8	0.0	35.8	29	6.3
	II	979.0	37.0	19.9						1925		1953	16	10.1	2.8	1.5			2008		1997		
MAY	I	978.2	31.4	21.8	42.2	27.7	46.1	21.4	49.4	19	13.7	8	41	18.5	1.1	0.4	23.7	1.6	144.6	0.0	63.1	23	8.5
	II	974.3	40.7	22.6						2016		1960	17	13.3	2.5	1.7			2008		1999		
JUN	I	974.6	32.1	24.6	41.7	29.4	45.9	22.6	48.9	10	17.8	4	53	25.0	1.9	0.9	36.9	2.6	160.2	0.0	110.7	19	9.7
	II	970.7	40.0	25.0						1897		1888	28	19.9	3.1	2.2			1996		1894		
JUL	I	973.6	30.6	25.9	38.8	28.5	43.2	24.6	47.8	7	20.5	4	68	29.7	3.7	1.7	90.5	4.5	311.4	0.0	134.1	28	9.6
	II	970.2	36.7	26.5						1963		1974	45	26.6	5.1	3.5			1942		1920		
AUG	I	976.1	29.3	25.4	37.2	27.2	40.4	24.5	43.4	25	20.6	29	72	29.4	3.5	1.7	56.9	3.6	337.1	0.0	142.0	30	8.0
	II	973.0	35.2	26.2						1987		1983	48	26.9	5.0	3.6			1936		1909		
SEP	I	980.4	28.1	23.7	37.3	25.6	40.7	22.4	43.9	11	16.5	24	68	25.9	1.7	0.8	32.2	2.0	223.4	0.0	165.6	25	6.4
	II	977.1	35.3	24.4						1915		1972	40	22.1	3.2	2.6			1958		1945		
OCT	I	985.9	24.3	17.9	36.2	20.8	39.4	15.9	42.2	5	7.6	30	51	15.6	0.7	0.3	13.1	0.6	111.0	0.0	95.8	26	4.2
	II	982.8	33.5	20.5						1951		1964	27	14.0	1.3	0.9			1998		1917		
NOV	I	989.6	17.8	12.5	31.2	14.4	35.2	9.2	38.5	2	0.6	30	51	10.4	0.9	0.2	1.2	0.2	43.9	0.0	41.9	25	3.2
	II	986.7	27.6	17.2						2001		1937	31	11.4	1.3	0.4			1951		1951		
DEC	I	991.3	11.8	8.4	26.0	9.2	31.0	4.0	33.8	9	-2.3	13	62	8.5	1.6	0.3	2.9	0.3	42.4	0.0	30.0	16	3.3
	II	988.8	22.6	14.2						2016		1964	36	9.7	1.9	0.4			1967		1892		
ANNUAL TOTAL OR MEAN	I	983.2	23.1	17.5	34.3	20.3	46.2	2.7	49.4	19	-4.0	26	57	17.2	2.0	0.7	285.9	18.8	770.9	29.0	165.6	25	6.1
	II	980	32.2	20.2					5	2016	1	1964	31	15.0	2.8	1.7			1945	1899	9	1945	

Necessity of a Heat Wave Action Plan

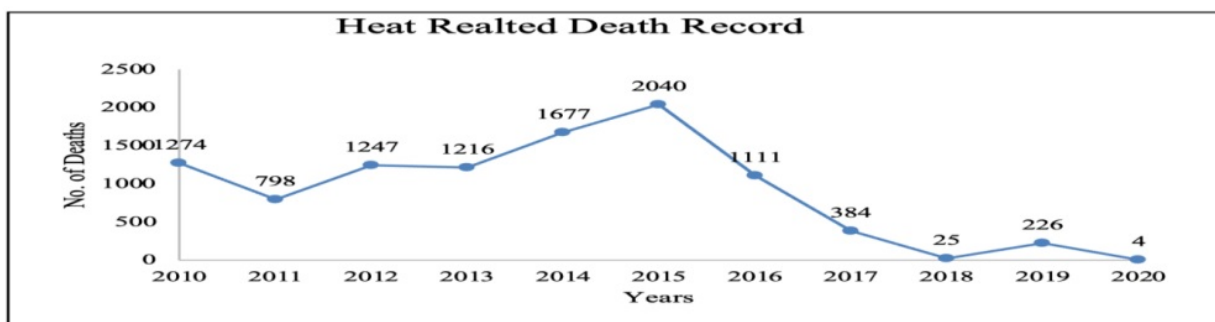
A Heat Wave Action Plan is essential as it addresses the growing threat of extreme heat by prioritizing public health and safety. It plays a vital role in protecting vulnerable populations, such as the elderly, children, outdoor workers, and those with pre-existing health conditions. Beyond health, the plan helps reduce strain on critical infrastructure, limits economic losses due to productivity drops and service disruptions, and fosters community resilience. In the context of a changing climate, such a plan is not just a precaution—it's a necessary strategy to adapt to rising temperatures and ensure long-term sustainability.

Impacts of Heat Wave on Livelihood

Heat wave is a —silent disaster‡ and adversely affects the livelihood and productivity of people. Heat Wave has emerged as a major Health Hazard. WMO predicts Heat Wave related fatalities to double in less than 20 years. Heat waves often lead to poor air quality. The extreme heat and stagnant air during a heat wave increase the amount of ozone pollution and particulate pollution. Air pollution, such as methane and black carbon, are powerful short lived climate pollutants (SLCPs) that contribute to climate change. Although SLCPs persist in the atmosphere for short lifetime, their global warming potential is often much greater than carbon di oxide (CO₂). These pollutants are harmful to human health and also contribute to complex air quality problems such as the formation of ground level ozone (smog), fine particulate matter, and acid rain.

Health impacts of heat are more severe in urban areas, where residents are exposed to higher and nocturnally sustained temperatures, due to the Urban Heat Island (UHI) effect (Climate Council of Australia, 2016). Recent Study by Tata Centre of Development, University of Chicago warns that 1.5 million people may die by 2100 due to Extreme Heat due to Climate Change. The baseline death rate due to heat induced climate change in the early 2000s in India was 550 per 100,000 of the population. There has been a 10% increase upon current death rate (Climate Impact Lab, 2019). In 2010 May, the city of Ahmedabad had a major heat wave, registering 1,344 additional deaths in the city with an excess of 800 deaths recorded in the week of 20-27th May.

India has experienced a lot of heat wave incidences, since 2006. 2017 witnessed the 4th consecutive heat wave in India out of which the year 2016 had the deadliest heat wave. Heat waves in India took a large number of deaths in 4 years (2014-2017). India experienced a loss of 4,500 lives in 4 years period alone.



Heat Wave Mortality Records in India, (2010-2020)

The Integrated Disease Surveillance Programme (IDSP) under the National Centre for Disease Control (NCDC) of the Ministry of Health and Family Welfare (MoH&FW) is responsible to collect and record data regarding the heat waves and related mortality and morbidity. Heat wave often led to poor air quality. The extreme heat and stagnant air during a heat wave increase the amount of ozone pollution and particulate pollution. Air pollutant such as methane and black carbon, are powerful short-lived climate pollutants (SLCPs) that contribute to climate change. Although SLCPs persist in the atmosphere for short lifetimes, their global warming potential is often much greater than carbon dioxide. These pollutants are harmful to human health and also contribute to complex air quality problems such as the formation of ground level ozone (smog), fine particulate matter, and acid rain.

Vulnerability Mapping

	Less Urbanized
Vulnerable Area	Minimal access- Water and Sanitation
	Minimal House hold amenities
	Economically Weaker Sections (EWS)
	Elderly, Children, Women
Vulnerable Group	Working Individual: - Construction workers, factory workers, transport, sweepers, labourers and vendors/ street hawkers.

Vulnerability mapping and its essential components

Vulnerable Areas

Hot temperatures during a heat wave often result in some parts getting much hotter than rest of the city. The air, surface and soil temperatures influence the overall temperature. Hence, it is important to identify beforehand such areas to minimize any potential health impact. The spatial documentation of heat related health risks in addition to the biophysical vulnerabilities will help policy, planners, medical stakeholder etc. in developing heat preparedness plans at local scale /ward level. Vulnerable areas within the city are classified as under:

Heat Wave Vulnerable Hotspots

The hotspots identified during the vulnerability assessment of heat waves undergo significant rise in temperatures as compared to rest of the city. These areas are most likely to have higher number of inhabitants being affected during heat waves and experiencing huge heat-health implications.

Vulnerable Groups During Heat wave

A heat wave has varied health outcomes, with specific group of people being more vulnerable to heat related mortality and morbidity. Among these are, infants, children, woman, elderly, construction workers, destitute and people from economically weaker sections. . Identifying such groups is important as it allows medical professionals to prioritize actions to treat heat related illnesses effectively in order to minimize potential threats. The vulnerable groups are as follows:

Chronic Disease Patients

They are most likely to face the heat wave. Their medication not only impacts their ability to gauge changes in temperatures but also can make effect of hot temperatures even worse. Patients with conditions of heart diseases, mental illnesses, poor blood circulation and obesity are more at the risk of heat related illnesses. Overweight people often tend to retain body heat which makes them vulnerable to heat wave and its associated impacts.

Person with Disabilities

They are highly vulnerable to heat waves as their ability to receive or respond to heat alerts is substantially reduced. In certain cases, such as spinal cord injury, the body does not sweat, inhibiting the body's ability to cool from overheating. Besides, any form of physical or mental disability adds to their vulnerability. In addition, high social risk factors, such as household pattern, poor health conditions, food insecurity and housing instability, likewise further adds to these challenges. It has been observed that heat wave messages are not always designed in a way that makes it easy for people with disabilities to comprehend. For example, people with hearing impairment, visually challenged or reduced mental health have to depend on their caregivers.

The Elderly

They are at a great risk to morbidity and mortality during heat wave. With growing age there is considerable reduction in the cardiac output and capacity to circulate blood to skin, intestinal and renal circulatory beds. Aging compounds these problems which reduces the efficiency of heat dissipation in them.

Working Individuals

They perform activities both indoors and outdoors in farms, manufacturing and construction and hence are at greater risk to dehydration and heat wave. Their capacity to thermo regulate exceeds on a regular basis and exposure to heat for long duration leads to dehydration, compromises abilities to carry out normal activities, chronic kidney disease, cardiovascular and pulmonary illnesses. The cultural aspects such as clothing and use of Personal Protective Equipment (PPE) may also hinder a worker's ability to cool through sweat.

Economically Weaker Sections of Society

They often lack awareness and the means to undertake any measures for protecting themselves against heat related illnesses. Most suffer from chronic diseases which often get aggravated during heat wave. Poor quality housing, lack of access to basic services such as water, health services and sanitation, compounds their vulnerability during.

Heat Action Plan — Strategy, Roles and Responsibilities

Benefits of Heat wave Action Plan

1. Prevents deaths associated with heat strokes.
2. Government commitment to protect the poor and vulnerable citizens.
3. Reduces chances of illness due to heat waves.
4. Making Indian cities future ready, Climate resilient cities.
5. Better preparedness of hospitals/health centres.
6. Economic losses- labour productivity, loss of job days, reduced labour and opportunity loss.

This Heat Action Plan identifies

1. Vulnerable populations and the health risks specific to each group (see section: Impact of Heat wave on Health, Livelihood and Productivity)
2. General heat-health risks (see section: Impact of Heat wave on Health, Livelihood and Productivity)
3. Effective strategies, agency coordination, and response planning
4. Process of activating heat alerts and the plan implementation
5. Evaluate and update the Heat Action Plan based on new learning

Purpose

This Heat Action Plan aims to provide a framework for the implementation, coordination, and evaluation of extreme heat response activities in Delhi that reduce the negative health impacts of extreme heat. The Plan's primary objective is to alert those populations most at risk of heat-related illness that extreme heat conditions either exist or are imminent, and to take appropriate precautions.

Extreme heat planning includes

Identifying vulnerable populations and the health risks specific to each group;

- Developing effective strategies, agency coordination, and response planning to shape a Heat Action Plan that addresses heat-health risks;
- Switching off car ignition / at the red light
- Switching of the AC plant during unwanted time
- Increase greenery
- Implementing the Heat Action Plan and activating heat alerts;
- Evaluating and updating the Heat Action Plan regularly.

Causes

The heat wave was caused in large part by sparser pre-monsoon season showers, which brought less moisture than normal to the area, leaving large parts of India arid and dry. The sudden end of pre-monsoon rain showers, an uncommon trend in India has contributed to the heat waves. Additionally, the monsoon season is later and further south than the normal trend. This weather pattern, coupled with the EL Nino effect, which often increases temperatures in Asia, combined to create the record high temperatures. High humidity compounded the effects of the temperatures on residents. The Loo, a dry wind originating from Pakistan and northwest India, has contributed to increasing the temperature in India.

Key Strategy and Components of Heat Action Plan

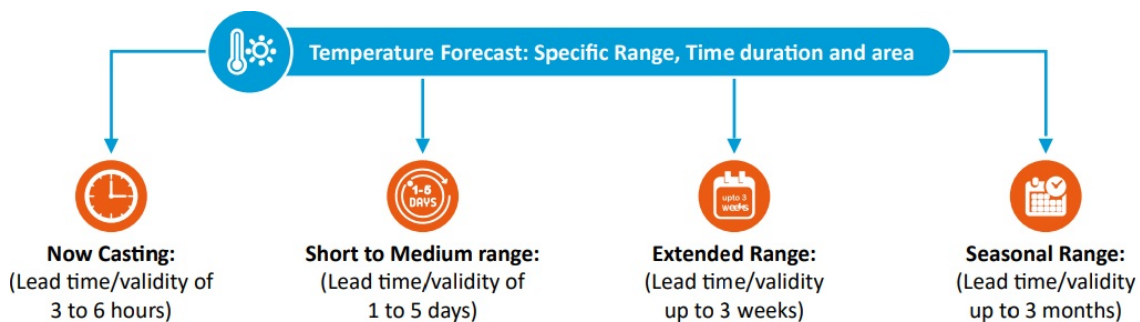
The heat-wave action plan is intended to mobilize individuals and communities to help protect their neighbours, friends, relatives, and themselves against avoidable health problems during spells of very hot weather. Broadcast media and alerting agencies may also find this plan useful. Severe and extended heat-waves can also cause disruption to general, social and economic services. For this reason, Government agencies will have a critical role to play in preparing and responding to heat-waves at a local level, working closely with health and other related departments on long term strategic plan

Early warning system and alert mechanism

The India Meteorological Department, MoES, is the nodal agency that provides weather information, including forecasts and current warnings for all weather-related hazards for optimum operation of weather-sensitive activities. It provides a warning against severe weather phenomena, such as tropical cyclones, squally winds, heavy rainfall/snow, thunder squalls, hailstorms, dust

storms, heat waves, warm nights, fogs, cold waves, cold nights, and ground frost. It also provides real-time data and weather prediction of maximum temperatures, heat wave warnings, extreme temperatures, and heat alerts for vulnerable cities and rural areas. The IMD issues forecasts and warnings for all weather-related hazards in the short to medium range (valid for the next five days) every day as a part of its multi-hazard early warning system. These warnings, updated four times a day, are available on their website at. A new system of exclusively heat-related warnings has been introduced with effect from 3 April 2017. These warnings, valid for the next four days, are issued at 1600 hours IST daily and are provided to all relevant authorities (departments of health, disaster management, Indian Red Cross, Indian Medical Association, NDMA, etc.) for taking suitable action at their end. A bulletin in extended range with an outlook for two weeks (for all hazards, including heat waves) is issued every Thursday and available on their website at. In addition to the above, climate forecast system-based forecast maps of daily maximum temperatures and their departures from normal for the next 21 days (issued every Thursday) are also available on the IMD website at and. The IMD also issues seasonal temperature outlooks for three months, valid from March to May, and a second one for April to June every year. These seasonal outlooks are issued in the form of a press release on the IMD website and disseminated through electronic and print media. These are also provided to all chief secretaries, disaster managers, and the health sector through the Indian Medical Association (IMA).

Operational system of weather forecasts and warnings



Source: IMD 2023

The Disaster management Relief & Civil Defence Department receives forecasts from the IMD regional meteorological centre in Jaipur and relays them to the nodal officer of the Bikaner for the HAP. Analysing meteorological variables such as temperature and relative humidity based on the heat thresholds developed in this plan, the nodal officer will issue colour-coded heat alerts.

Capacity Building / Training Programme

For health care professionals at local level to recognize and respond to heat-related illnesses, particularly during extreme heat events. These training programmes should focus on medical officers, paramedical staff and community health staff so that they can effectively prevent and manage heat-related medical issues to reduce mortality and morbidity.

Public Awareness

Disseminating public awareness messages on how to protect against the extreme heat wave through print, electronic and social media and Information, Education and Communication (IEC) materials such as pamphlets, posters and advertisements and Television Commercials (TVCs) on Do's and Don'ts and treatment measures for heat related illnesses.

Roles and Responsibilities for Managing Heat Wave

There needs to be greater clarity around the roles and responsibilities in the management of Heat wave, for that matter any disaster. Preparation and response to Heat wave is to be managed in an integrated manner for which clear leadership to anchor the process is necessary. A control agency leads the response to a particular type of emergency. Support agencies provide resources, such as personnel, essential services and materials, to support or assist a control agency or affected person

Prevention, preparedness and Mitigation

Pre Heat Season (January to March)

Pre-Heat Season is devoted to develop early warning systems, communication plan of alerts to the general public, health care professionals and voluntary groups (care givers) with emphasis on training and capacity building of these groups.

Designated Department/ Nodal Officers

District Magistrate of respective District – Nodal Officer for District.

Deputy Commissioner – Nodal Officer for Municipal Corporation (MCD).

1. To convene Meeting with Departments/ Organization/ NGOs involved in rehab/ agencies to review mechanism to respond extreme heat event.
2. To Interact regularly with concerned departments for review the feedback.
3. To identify High risk area of the State/Districts vulnerable to heat wave and focus on such area and initiate focused activities on prevention for heat related illness.
4. To organize training for Health Workers, School Children and the local community with the Health Department in prevention measures and treatment protocol.
5. To distribute IEC material (Pamphlets, Posters & Stickers) in Local Language with Tips to prevent heat wave to Hospitals, Schools, and professional associations.

During Heat Season (Annually from March to July)

High alert, continuous monitoring of the situation, coordination with all the departments /agencies concerned on one hand and general public & media on the other hand is the focus of this phase.

Designated Department/ Nodal Officers

- Issue a Heat alert State/District wide when extreme heat events are forecast. The key agencies, IMD, DDMA 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 agencies may be convened.
- Activate cooling centres, such as temples, public buildings, malls etc. during a heat alert and / state government - run temporary night shelters without 32rgani to water and / or electricity.
- Provide access to shaded areas for outdoor workers, slum communities and other vulnerable population on a large scale. For example, confirm that night shelters stay open all day for migratory population during a heat alert.
- Hold regular (daily, if necessary) conference to discuss reports and fresh developments during a heat alert and ensure that communication channels are functional and operating.
- Monitor temperature data and forecast.
- Increase efforts to distribute fresh drinking water to the public by opening _‘Piaau‘‘.
- Inform power supply companies to prioritize maintaining power to critical facilities (such as Hospitals and dispensaries).
- Notify when the Heat alert is over.

Role and responsibility of Post -Heat Season (Annually in July to September)

1. District Magistrate of respective Districts – Nodal Officer for District.
 2. Deputy Commissioner – Nodal Officer for Municipal Corporation (MCB).
- Organise an annual meeting with key agencies 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 to the Disaster Management/ District website ahead of the next Heat season for stakeholders.
 - Discuss establishing cooling centres facilities in high- risk area around city.
 - Make important recommendations arising out of review and evaluation to Government.

Roles and Responsibilities for managing Heat Wave (Pre Heat Season)				
S.No	Name of the activities	Name of the Agency	Responsibilities	Directions
1.	Early warning	India Meteorological Department (IMD)	Issue Heat wave alerts warnings - Weather forecasts on Short/ Medium/ Long range duration, Communicate Max. Temperatures district wise	DDMA – - To disseminate the information received from IMD to Line Departments and Public. - High Risk Area mapping and Identification of vulnerable groups
2.	Measures of Mitigating effect of Heat	MCB, PWD, BDA, Bikaner Police & Traffic Police	-To construct Shelters/ Sheds, Bus Stands with cool roof. - Identification of areas to provide shelters during heat alert period. - Ensuring Drinking Water at all identified major points in the sites & worksite. -Ensure shade for on duty traffic police personnel as they are more exposed to heat waves and distribution of cool jackets for Traffic police personnel. - As a long-term solution all the line departments and the public at large should be asked to promote Cool Roof. -Maintaining water bodies also in forest area for wildlife animals and birds. -Augment use of public transport to reduce private vehicle use and for improving the frequency of transport. -Repair/ Maintenance of mechanical/ technical system with towing arrangement, on priority basis including fan and 28 cooling system in buses. –Aforestation and plantation.	
		Labour Department	Organise training for employers, outdoor labourers and workers. Change the shift of outdoor workers schedule change from peak hours. Make emergency kit (Ice Packs, ORS, etc.) for the construction workers.	Training on Health Impact of extreme heat and suggestion to protect themselves during high temp.

	Wave	Transport Department	Display Posters and distribute pamphlets on prevention of heat wave related illness -Ensure availability of adequate Bus Shelters with Drinking Facilities - Ensure that buses do not run during pick hours (12-4pm) when heat wave is declared. - Augment public transport to reduce private vehicle use and for improving the frequency of transport. -Promote carpooling -Repair/maintenance of mechanical/Technical system with towing arrangement, on priority basis including fan and cooling system in buses.	Transport Department to ensure necessary arrangements.
		Education Department	Display Posters and distribute pamphlets on prevention of heat wave related illness - Ensure that schools do not run during pick hours (12-4pm) when heat wave is declared. -Identify the shelter space, drinking water, ORS facilities with signs. -No open-air classes to be conducted.	Director Education (Raj. Govt., MCB, BDA) to take necessary action and implement in Bikaner- to conduct Training of school teachers to equip them with knowledge of heat protection do's & don'ts and activities which they can disseminate in classrooms.
3	Monitoring and response	Medical & Health Department and Medical Professional	Stockpiling of ORS in Hospitals and Dispensaries -Creating Medical Posts at vulnerable places -Dedicating the ward and the bed in the hospital. -Training of human resources and deploy additional staff to attend to the influx of patients during Heat Wave. -Display Heat-related illness prevention tips and how to stay cool around Hospitals and Dispensaries -Establish more clinical Education -Preparedness of heat health and social care system. -Enable better emergency support system/ ambulance for affected people to health care facilities with adequate equipment's. -Preparedness of heat health, and social care system. -Enable better emergency transport system/ ambulance for affected people to healthcare facilities with adequate equipment's.	

4	Emergency Services	1077 Emergency Helpline No.	Disseminate SMS text messages to advise local residents during a heat alert. -Identify risk area of vulnerable populations, in part by utilizing the list of high-risk area. -Create displays on ambulances to build public awareness during major local events. -To find out Hot spot of the city	DDMA- - To make separate surveillance team during a heat wave. - To create single platform for all the line department - Identifying routes to high risk areas and to reach vulnerable sections of population in shortest time possible by utilizing the list of high-risk areas. Collect all death data from MCB - collect all cases recorded in hospitals of Heat wave. - collect Ambulance call log of summers.
5.	Media campaign and IEC activities	Information and Public Relation	Identification of areas to post warnings and information during heat season -Create awareness among the public through advertisement in local language -Display hoarding at important places -Creation of awareness through Print, Electronic and Outdoor media. -Increase the no. Of Installed LED screens with rolling updated temperature forecast. -Utilizing the local radio FM to alert public during Heat wave. -Send Heat wave warning through Text, What's App Messages, Emails, Etc.	
6		Information Technology (IT) Department	Development of Disaster and Emergency Management System which includes Heat waves and prepare a Dash board to monitor heat wave scenario -Mapping of Risk areas and discrimination of warnings and alerts to all stakeholders automatically through web and mobile applications. -Prepare map on web interface with colour coding system.	
7		MCB Fire Services	-To check the readiness of vehicles and fire fighting equipment's to face any emergency.	
8	Communities	Community groups, Self-help	Conduct training programmes, workshops and outreach sessions with community / Self - help groups and mobilizes	

	and individuals	groups, ward level committees, NGOs	such as RWAs, ASHA workers, Anganwadis, and Ward Committees in Municipalities to help inform and get vulnerable communities more actively involved. -Identification of NGOs, Voluntary Organizations in reaching out to the Public, especially vulnerable groups. -Encourage discussions for finding early signs of heat exhaustion with local doctors or Health Centres. -Inform community members about how to keep cool and protect oneself from Heat	
9		Forest Department, BDA, MCB, PWD, Education Department, Higher Education, NTPC, NGO	-Increase plantation activity	Horticulture and Agricultural department to provide plants
10		PHED Bikaner	To ensure proper arrangement of drinking water at various public places including residential, commercial, industrial areas.	PHED Bikaner to arrange enough storage of water. Sprinkler of water.
11		JDVVNL, BKESL Ltd.	To Provide uninterrupted power supply • Replace and upgrade all the damaged transformers and replace loose wires • Special care should be taken for power supply in Hospitals, Dispensaries and Clinics. • Awareness generation to run the AC at 25degree centigrade, • Proper use of AC in Government Department as well. • Cooperation of consumers	Instructions to all the staff to be ready for emergency

Roles and Responsibilities for managing Heat Wave (During Heat Season)

S.No	Name of the activities	Name of the Agency	Responsibilities	Directions
1.	Early Warning	India Meteorological Department (IMD)	-Communicate Heat Wave alert/ warning promptly -Communicate Max temperature district-wise periodically	
2.		Information & Public Relations (I & PR) Department	• Creating awareness among public through advertisement in Hindi/ English. • Display hoardings at important places • Create awareness through TV and Radio and jingles • Conduct at regular press conference state or district level through concerned person • Circulate Heat Wave warning i.e text/voice alert • Develop SMS alert system • Explore other means of communication like Facebook, Twitter, What'sApp etc.	
3.	Monitoring and response	Medical & Health Department and Medical Professional	• Display of heat-related illness prevention tips and how to stay cool around hospitals • Equip all hospitals/ Dispensaries with additional supplies of medicines and materials. • Ensure adoption of Heat illness treatment and prevention protocols. • Deploy additional staff at hospitals and Dispensaries to attend to the influx of patients during a heat alert, if feasible. Keep emergency wards ready	

			• Deployment of Rapid Medical Response Team • Deployment of Rapid Medical Response Team	
4.	Emergency Services	DDMA, (SEOC)	Activate dynamic strategic deployment plan for ambulances. • Adequate supply of ice packs, I.V. fluids and medicines. • Keep accurate records of pre-hospital care. • Adequate staff on duty and restrict leave if necessary. • Disseminate SMS text messages to advise local residents during a heat alert.	DDMA-collect information regarding the Heat Wave from the Hospitals and Dispensaries and disseminate information to the concerned departments, officers.
5.		Labour & Employment Department	• Encourage employers to shift outdoor workers _schedules away from peak afternoon hours (1pm-5pm) during Heat alert. • Provide emergency ice packs and heat illness prevention material to construction worker as pilot project. • Ensure provision of shelters/ cooling areas, water and supply of emergency medicines like ORS, etc. at work sites by employers. • Re scheduling of working hours for employees in different sectors. • Ensure shed for resting and drinking water facilities for workers at all work places. Special care for vulnerable groups women and old ages. • Co-ordinate with health department and ensure regular health-checkup of the workers and provide emergency packets and heat illness prevention material for construction workers. • Rescheduling of working hours for employed in different sectors • Ensure shed for resting and drinking water facilities for workers at all	Working Hours will be from 7:00am to 1:00pm , 4:00pm to 6:00pm

			work places. Special care for vulnerable groups women and old ages. • Co-ordinate with health department and ensure regular health check-up of the workers and provide and provide emergency packets and heat illness prevention materials for construction workers.	
6.		Animal Husbandry Department	• Display posters and distribute pamphlets on the precautionary measures to be taken to safeguard cattle and poultry birds during heat period in villages and important junctions. • Ensure adequate stock of medicine in all veterinary hospitals. • Ensure visit of field staff during heat wave to villages for follow up action in treatment of cattle / poultry birds. • Shelter for live stocks and animal husbandry should be maintained. • Update contingency plan regarding provision of drinking water for animals. • Shelter for livestock and animal husbandry should be maintained • Update contingency plan regarding provision of drinking water for animals.	Department make arrangements for cool sheds and drinking waters.
7.		Transport Department	• Display posters & distribute pamphlets on prevention of heat related illness at bus stands, auto stands etc. • Ensure availability of shade / shelters, drinking water, ORS packets etc., at bus stands, auto stands etc. • Establish Health teams at major bus stands / Terminals and other public places • Ensure availability of water and ORS packets in long distance buses.	
8.		MCB	• Shelter for stray Animals with provision of drinking water facilities. • Ensure visit of field health staff during heat wave for treatment of stray animals.	

9.		Education Department	• Ensure supply of water for students and teachers if school is functioning. • If school is not functioning, permit use of school premises as shelter during day time • Ensure that Schools do not function during peak hours (12noon-4pm) when Heat Wave is declared. • Display posters & distribute pamphlets on prevention of Heat related illness in schools and colleges. • No open-air class to be conducted. • Rescheduling of school timing and vacation as per heat wave situation. • Ensuring that students avoid outdoor physical activities. • Re-scheduling of school timing and vacation as per heat waves situation. • Ensuring cool places at all education Institutes • Ensure that student avoid outdoor physical activities.	
10.		Information Technology (IT) Department	• Send real time information through Dash board/ interface on all activities related to Heat wave. • Activity to be display on Dashboard / Interface/ on-line Monitoring Tool. • Activate Heat Wave APP • Generate reports encompassing all activities undertaken during heat wave alert to use for evaluation of systems and action plan.	
11.		NGOs, Community Groups and Individual	• Take all precautions to avoid Heat related illness. • Keep cool and hydrated during the heat season by drinking water, staying out of the sun and wearing light clothing. • Check on vulnerable neighbours, particularly during a heat alert.	

			• Limit heavy work in direct sun or indoors, if poorly ventilated, especially during a heat alert.	
12.	Dust Pollution	PWD, MCB, BDA, Revenue, NHAI, Pollution control board	• Hotspots Monitoring • Deployment of Anti-Smog Guns (ASGs) at C & D sites, On Roads and on top of HighRise Buildings • Monitoring through C&D web portal. • Institutional monitoring of Road dust management • Deployment of Mechanized Road Sweeping (MRS) machines • Deployment of water sprinklers. • Repair/ Greening & Paving and maintenance of road and Central verges, road side etc.	
13.		Power Dept./ DISCOMS	• Ensure repair/ maintenance work for uninterrupted water supply • Scheduling load shedding	
14.	Industrial Pollution	MCB, Revenue, Pollution control board, RIICO	• All industries which are using fuel have to operate their industry on approved fuels as per CAQM amended Direction No 65. • Strict compliances on use of PNG by monitoring gas consumptions. • Flexible timing of weekly markets • Shelters for Stray Animals with provision of drinking water facilities • Ensure visit of field health staff during heat waves for treatment of stray animals. • Flexible timing of weekly markets.	
15.	Water Pollution	MCB, Revenue, Pollution control board, PHED	Detailed Action Plan with timelines prepared and Order issued to all stakeholders: • Complete Treatment of Sewage • Trapping of all Drains	

			• Sewerage Network in Unauthorized Colonies • Industrial Effluent Management by CETPs • Sludge (Septage) Management • Regulation of Floodplain • Utilization of Treated Wastewater • Other Issues (Land allotment, IEC, Monitoring etc.)	
16.	Open Burning	MCB, Fire Services, BDA, Revenue	• Enforcement: Municipal solid waste (MSW)/ Biomass Burning • Strict vigilance on Dumping of Waste • Strict vigilance on landfill fires • 100% Collection of Waste	
17.	Increasing Green Cover	Department of Forest	• Development of city forest, parks and gardens • Extensive plantation drive during pre-monsoon. • Development of green spaces at barren/ vacant lands	
18.	Increasing Blue cover	Wetland authority, Water bodies owning agencies	• Restoration of water bodies	

Roles and Responsibilities of Post Heat Season

S.No	Name of the activities	Name of the Agency	Responsibilities	Directions
1.		India Meteorological Department (IMD)	• Provide season report containing duration of Heat Wave, maximum temperature location wise. • Obtain feedback on cases, plan and measures taken • Revise plan accordingly • Report to Government	
2.		Information & Public Relation (I & PR) Department	• Collect feedback on publicity, reach and implementation of plan from media and others sources. • Collect all news items/ reports on Heat wave plan published/ telecast. • Collect all news items/ reports on Heat wave.	
3.		Medical & Health Department and Medical Professionals	• Perform an epidemiological case review of heat- related mortality during the summer. • Conduct and gather Epidemiological outcome from the data on heat risk factor, illness and death, based on average daily temperature. • Incorporate data and finding into future versions of Heat Action Plan Measure • Mortality and morbidity rates based on data before and after the plan's interventions.	
4.	Emergency Services	1077 Emergency Helpline No. Of Delhi	• Review implementation of Heat wave Action Plan. • Obtain feedback on case, plan, and measures taken. • Revise plan accordingly • Report to Government	
5.		Labour & Employment	• Review implementation of Heat Wave Action plan. • Obtain feedback on case, plan and measure taken.	

		Department	• Revise Plan accordingly • Report to Government	
6.		Transport Department	• Review implementation and effectiveness of plan • Obtain and give feedback for further improvement of plan.	
7.		Education Department	• Review implementation and effectiveness of Plan. • Obtain and give feedback for further improvement of plan.	
8.		Animal Husbandry Department	• Review implementation of Heat wave Action Plan. • Obtain feed on cases, plan, and measures taken. • Revise Plan Accordingly • Report to Government	
9.		Information Technology (IT) Department	• Collect data of temperature. • Collect data on number of downloads of mobile app & map accordingly.	
10.		NGOs, Community Group/ Individuals.	• Educate community on regular basis.	
11.	Increasing Green Cover	Greening agencies, viz Department of Forest, PWD, BDA, etc.	• Development of city forest • Extensive plantation drive • Development of green spaces at barren/vacant lands • Development parks and gardens	
12.	Increasing blue Cover	Wetland Authority, Water bodies owning agencies	• Restoration of water bodies in Bikaner	

Health Impact of Heat Waves

Identification of Heat-Wave illness and recordings of casualties: In the past, when the Government declared ex-gratia compensation for heat-wave affected families, it was observed that some people who were aware of the provision of direct cash relief reported natural deaths as the heat wave deaths. In the event of false reporting, the following procedures can be used for verifying and ascertaining the real cause of death.

- Recorded maximum temperature on the particular time periods and place.
- Recording incidents, panchnama or others witnesses, evidence or verbal autopsy.
- Post-mortem/medical check-up report with causes.
- Local authority or Local body enquiry/verification report.
- Deployment of Rapid Medical Response Team.

Heat-related illnesses

Clinical Entity	AgeRange	Cardinal Symptoms	Cardinal Signs	Pertinent Negatives	Prognosis Case	Definition
Heat Rash	All (mainly children)	Small, red, itchy papules with some times filled with clear or white fluid.	Diffuse maculopapular rash, occasionally pustular, at hair follicles; pruritic	Not focally distributed like a contact dermatitis; not confluent patchy; not petechial	Full recovery with elimination of exposure and supportive care	Diffuse, pruritic, maculopapular or vesicular rash in the setting of heat exposure, often with insulating clothing or swaddling.
Heat Cramps	All	Painful spasms of large and frequently used muscle groups	Uncomfortable appearance, may have difficulty fully extending affected limbs/joints	No contaminated wounds/tetanus exposure; no seizure activity	Full recovery with elimination of exposure and supportive care	Painful contractions of frequently used muscle groups in the setting of heat exposure, often with exertion
Heat Exhaustion	All	Feeling overheated, lightheaded, exhausted	Sweaty/diaphoretic; flushed skin; hot	No coincidental signs and symptoms of	Full recovery with elimination	Syndrome of Generalized weakness & or

		and weak unsteady nauseated, sweaty & thirsty, inability to continue activities.	skin; normal core temperature; +/- dazed, +/- generalized weakness, slight disorientation	infection; no focal weakness; no aphasia/ ; no overdose history	of exposure and supportive care; progression if continued exposure	exhaustion, often with light headedness, limiting functioning in a hot environment without history of recent infection. May or may not be exertional.
Heat Syncope	Adults	Feeling hot & weak; light headedness followed by brief loss of consciousness	Brief, generalized loss of consciousness and short period of disorientation,	No seizure activity, no loss of bowel or bladder continence, no focal weakness, no aphasia	Full recovery with elimination of exposure and supportive care;	Brief loss of consciousness in the setting of heat exposure without evidence of heat seizure activity, stroke or medication overdose
Heat Stroke	All	Severe overheating ; profound weakness;	Flushed, dry skin (not always), core temperature ≥ mental status	No coincidental signs and symptoms of	25-50% mortality even with aggressive significant	Altered mental status (including disorientation , delirium, seizure,)

Heat Illness – Treatment Protocol

General Treatment protocol applicable to all patients in any setting, where there is a potential concern for heat illness with slight variations according to the setting (EMS, health centre, clinic, hospital emergency department, etc).

- i. Initial patient assessment – primary survey (airway, breathing, circulation, disability, and exposure), vital signs, including temperature
- ii. Consider heat illness in differential diagnosis if:
 - a. Presenting with suggestive symptoms and signs
 - b. Patient has one or more of the following risk factors:
 - Extremes of age (infants, elderly)
 - Debilitation/physical de-conditioning, overweight or obese
 - Lack of acclimatization to environmental heat (recent arrival, early in summer season)
 - Any significant underlying chronic disease, including psychiatric, cardiovascular, neurologic, hematologic, obesity, pulmonary, renal, and respiratory disease.
 - Taking one or more of the following:

- Sympathomimetic drugs	- Diuretics
- Anticholinergic drugs	- Alcohol
- Barbiturates	- Beta blockers
- iii. Remove from environmental heat exposure and stop physical activity.
- iv. Initiate passive cooling procedures:
 - a. Cool wet towels or ice packs to axillae, groin, and around neck; if patient is stable, may take a cool shower, but evaluate risk of such activity against gain and availability of other cooling measures.
 - b. Spray cool water or blot cool water onto skin.
 - c. Use fan to blow cool air onto moist skin.
- v. If temperature lower than 40°C, repeat assessment every 5 minutes; if improving, attempt to orally hydrate (clear liquids, ORS can be used but not necessary; cool liquids better than cold) and observe.
- vi. If temperature is 40°C or above, initiate IV rehydration and immediately transport to emergency department for stabilization.

Preparedness at community level- Do's and Don'ts

S. No.	Do's	Don'ts
1.	Try to stay in cold places	Expose to direct sun light or hot breeze
2.	Use umbrella during hot days	Move under hot sun without umbrella
3.	Wear thin loose cotton garments, preferably of white colour	Use of black and synthetic, thick clothes during summer season
4.	Wear a hat of cotton or a turban	Move under the hot sun without a hat or turban
5.	Avoid outdoor physical activity from 12 to 3 p.m. If unavoidable attend to only light physical activity under the hot sun.	Attend to strenuous physical activity under the hot sun
6.	Take ample water along with salted butter milk or glucose water	Not stay hydrated
7.	Take measures to reduce the room temperature like watering, using window shades, fanning and cross ventilation	Allow direct hot air into the living rooms
8.	Shift the person with heat stroke symptoms to a cool dwelling	Delay in shifting the person suffering with heat stroke to a cool place
9.	The person suffering with heat stroke should have minimum clothing	The person suffering with heatstroke do not have thick clothing
10.	The person suffering with heat stroke has to be sponged with cold water, indirect application of ice packs.	The person suffering with heatstroke not to be sponged with hot water and not to be exposed to hot air.
11.	If the persons affected with heat stroke and are not showing any improvement, he/she should be shifted to a hospital immediately, preferably with cooling facility.	Delay in shifting the person affected with heat stroke whenever there is no improvement in his condition

Advisory issued by NDMA for Heat Wave

- State Governments must update and customize their Heat Action Plans (HAPs) as per NDMA guidelines 2019.
- Heat Wave Action Plan of the State may be circulated to all Collectors & HODs of concerned line Departments with instructions for its implementation.
- Coordinate with all Stakeholder departments and NGOs involved in Heat Wave Management, local offices of IMD, Health and other sectors and disseminate warnings by using SMS, What'sapp and CAP Platform.
- States must appoint a Nodal Officer at each level (State, District and Block levels) for communicating early warning and coordinating the implementation of HAP.
- State Government must review and monitor the heat wave situation through video conferencing with concerned line departments/ districts/ blocks.
- Mass gathering events may be allowed only if no severe heat wave warning is issued for the concerned districts / cities.
- State Government must ensure shade and drinking water for traffic police personnel
- Coordinate with District Administration on all aspects of heat wave management on regular basis.
- State should make adequate provision in the popular tourist/ religious destinations.

Information and Public Relation Department

Put up display digital boards with colour coding for heat wave alert at different locations.

Widely publicise Do's & Don'ts for general awareness, preferably in regional language

Publish IEC print material (print material, radio jingles and TVs) in regional language

Health Department

- Keep stock of ORS packets essential medicines, intravenous fluids, ice pack etc. at health centres and Aanganwadi.
- Special AC wards may be dedicated for addressing any heat wave related eventuality.
- Monitoring of early warning dissemination to the District hospitals, Primary Health Centre and Community health centres.
- Directions and training of health workers up to village level.
- Monitoring and reporting mortality and Morbidity of deaths due to heat wave may be followed rigorously.
- In case, of a mass gathering nearby health facilities may be alerted & activated.

Urban Local Bodies/ Panchayati Raj Institutions

- Setting up special shelters for MGNREGA workers, construction workers and rescheduling their working hours in association with Rural Development and Labour & Employment departments.
- Arranging drinking water facility in heat wave affected areas/localities
- Arrange shades in the parks, bus stands, tourist spots and open areas.
- Un disrupted supply of water in all the areas especially in informal settlements.

Labour Department

- Trainings with Construction/ industries/ Commercial entities regarding heat wave related illnesses.
- Advisory on timing of work may be issued to avoid peak heat wave hours.
- Health camps in collaboration with the health departments especially in informal sectors & settlements,
- Drinking water facilities in all the work in premises for the labourers.

Agriculture Sector and Animal Husbandry Department

- Awareness to ensure minimum crop damage due to heat by ensuring cold storage facilities and prompt movement in the Mandis/ markets for public procurement.
- Awareness on the impacts of heat on animals and coping mechanisms
- Veterinary medicines and shelters with drinking water for animals

Education Sector

- School timings should be re-scheduled to avoid peak heat/ midday. Schools may start early and close before noon. 48
- Setting up of drinking water stations kiosks/ shades at all schools & educational institutions
- Outdoor physical activities need to be avoided.

District Level

- Undertake awareness campaign to inform and educate the public on Heat wave Do's & Don'ts.
- Hold regular Press conferences on the risks and dangers of heat related illnesses

- Activate cooling centres such as in public buildings, malls, religious places etc.
- Urge NGOs, community groups and individuals to open drinking water/butter milk kiosks at public places during Heat Wave conditions.
- Urge power distribution / transmission companies to priorities maintaining power supply to critical facilities such as hospitals and UHCs.
- Coordinate with District Election Officer for timing of the election voting time and all other required measures.
- Enforce changed timings of schools, colleges, institutions etc. as and when required locally

Short- and Medium-Term Measures

Awareness Campaigns

- Hoardings, posters, to be displayed by city, at various locations, distribution of pamphlets.
- Awareness workshops for occupationally exposed – traffic police, hawkers, street vendors, construction workers and school children.

Capacity Building Workshop

- For residential communities and other concerned stakeholders regarding roof cooling solutions.
- To promote green/ heat resilience infra structure, enhance natural shading, developing green spacing, encouraging energy efficient practices etc.

Mitigation measures

- Keeping gardens, cooling shelters and other possible cooling centres open with water availability.
- Availability of water and sheds at open construction sites.
- Pilot project on roof painting with white colour – cool roof and or distribution of gunny bags for putting on the tin roofs/asbestos in slums.
- Provision of water points and ORS at Construction sites, Bus stands and other public places during processions and political and other rallies and processions during summer.
- Distribution of cool roof jackets to on-duty traffic police personnel.
- Water tanker campaign- Tankers to be made available on call in slums during orange/red alert days.

Early warning communication

- SMS and what'sApp messages for early warning to citizens, NGOs, Citizen welfare groups, construction contractors.
- Public announcement during orange and red alert days a day before and early on the forecasted day through various ways e.g. SMS, CAP (Sachet), News, Social Media.
- Press Releases and campaigns on radio, TV and websites.

Medical Preparedness

- Storage of ORS and cool packs at the various health centres & preparedness with cooling and rehydration's well as heat stroke management treatments.
- Medical camps during red alerts at hotspots.

Monitoring and Analysis

- Recording ward wise heat stroke cases, proper cause of death and monitoring daily mortality's well as daily hospital admission due to heat-related causes.
- Monitoring and analysis of the morning temperatures

Long term Measures/ Strategies

- Heat alerts, high risk area and emergency response plan needs to target vulnerable groups, and incorporate in the City Development Plan.
- Insulation and building standards required to be increased, with improving building bye-laws along with increasing heat tolerance for new infrastructure, retrofitting. Building bye-laws can have components of passive ventilation and cool roof technologies to increase thermal comfort and made mandatory in more vulnerable areas.
- Identifying locations for building shelters and shades in urban areas. Shelter locations for the urban poor and slum dwellers must be identified and constructed.
- Incorporation and documentation of indigenous knowledge to develop protective measures at regional and community level for sensitization and awareness generation. Local culture and physical exposure of population needs to be improvised to reduce the impact of heat on health and physical wellbeing.

- Capacity building at the community level, through awareness campaigns and outreach program's. Communicating risks associated with heat and its impact on health, livelihood and productivity and ways to mitigate.
- Initiating research on micro-climate and corroborating the need to monitor temperatures in urban areas. Policy level intervention to retrieve natural eco-systems and natural shelters.
- Greening infrastructure by vertical garden, roof garden can be an effective method to cope with heat.
- Initiating Early warning systems, advisories and alerts against extreme heat for the communities and Urban Local Bodies. Building communication networks through Local bodies, Health officers, Health care centres, hospitals, communities and media.
- Encourage investing in water bodies, fountains in areas of mass presence and promote greeneries in urban areas along with improving green transport and energy systems.
- Other strategies such as promoting green/heat resilient infrastructure, improving urban planning to enhance natural shading and developing green spacing, energy efficient practice etc. will also be included to reduce heat impacts.
- Ensure capacity building of structural engineers, civil engineering ad architects for construction of green building, maintenance and fire safety of the structure.
- Increase forest coverage and green area
- Mass plantation and afforestation
- Ensure to construction of green building, Energy Conservation Building Code (ECBC) related to heat wave risk reduction.

Cool Roof Deployment (COOL ROOF (NDMA, 2021)

As more people migrate to rapidly urbanizing cities, open spaces are increasingly being replaced by paved surfaces and heat-absorbing infrastructure such as roads and rooftops. This intensifies the urban heat island effect, leading to higher temperatures, deteriorating air quality, and increased energy demands to maintain indoor comfort through fans and air conditioning. A simple and cost-effective solution to these urban challenges is the implementation of cool roofs. By reflecting more sunlight and absorbing less heat, cool roofs can reduce indoor temperatures by 2 to 4°C (3.6 to 9°F), depending on the local climate, offering a practical way to combat rising urban heat.

The roof is an important part of a building because it affects how much energy the building uses and how comfortable it is inside. A cool roof works by reflecting more sunlight than a regular roof, sending the heat back into the air. Around the world, cool roofs are known to save energy and money, keep buildings and cities cooler, and help reduce the urban heat island effect (which happens when cities get hotter than surrounding areas). Many big cities, like New York City, have already started using cool roofs to help with these problems.

Research shows that planting shade trees and using surfaces that reflect sunlight—like special pavements and cool roofs—can lower a city’s air temperature by about 2 to 4 degrees Celsius in the summer.



Cool roofs should be made mandatory for all municipal, commercial, and government buildings. Since the government is leading the Cool Roofs Program, it's important that all government buildings—both new and existing—use cool roofs. This will show leadership and set an example by highlighting the benefits such as better indoor comfort, lower energy use, and reduced urban heat island effect.

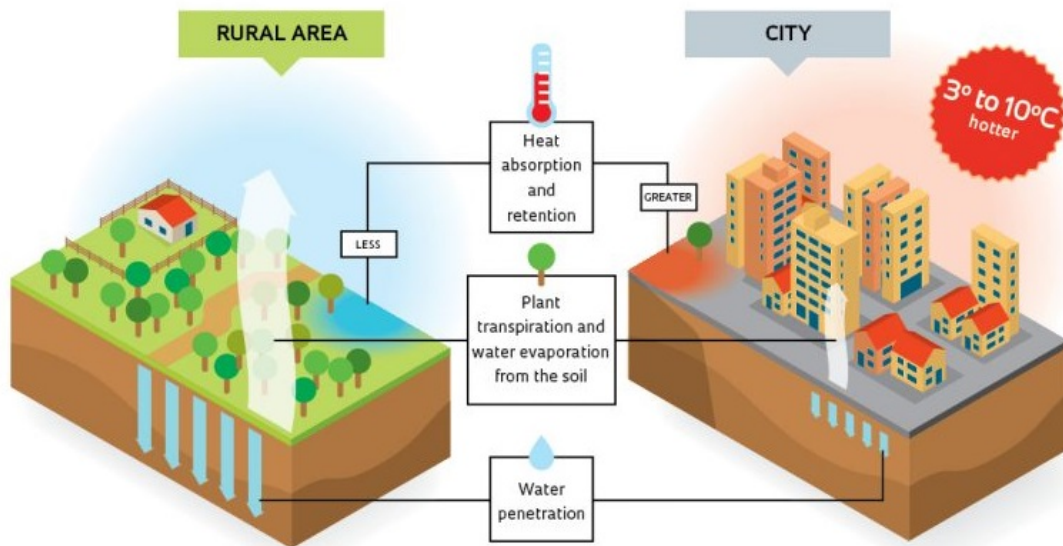
For the commercial sector—including offices, shops, malls, hotels, and industrial buildings—the main reason to adopt cool roofs is to reduce cooling needs, which leads to lower energy costs. For these buildings, it's important to consider the payback period—how long it takes to recover the cost of installing cool roofs through energy savings. This has a direct impact on the building’s total electricity bill.

Voluntary cool roofing for residential buildings

The residential sector includes both multi-story apartment buildings and individual houses. For people living in these homes, the main benefits of cool roofs are greater thermal comfort, lower indoor temperatures, and reduced energy use for cooling. As with commercial buildings, the payback period—how quickly the cost of installation is recovered through energy savings—is important for this group as well.

Under programs like the Housing for All Plans (HAPs) and through CSR (Corporate Social Responsibility) initiatives, cool roofs are being introduced in low-income communities. These roofs help keep homes cooler and more comfortable, especially during extreme heat. In the long term, cool roofs in these vulnerable communities help spread awareness and adoption of the technology—not just for existing homes, but also for future construction leading to locked-in energy savings and reduced demand for air conditioning. For many low-income households, their home is also their workplace. So, better thermal comfort from cool roofs not only improves daily living conditions but also helps increase work productivity.

Urban Heat Island effect



Capacity Building for Heat Waves

Capacity building for heat waves involves preparing communities, health systems, and institutions to better respond to and reduce the impacts of extreme heat. This includes:

- Developing early warning systems to alert people about upcoming heatwaves
- Training healthcare professionals to handle heat-related illnesses
- Raising public awareness about heat risks and safety practices
- Strengthening coordination among government agencies, NGOs, and civil society
- Creating local action plans for heatwave response and long-term resilience

The goal is to minimize health risks, protect vulnerable populations, and ensure a quick, effective response when heatwaves occur.

Heat Wave capacity building Training Programme at Bikaner



The IEC material for preparing alerts for vulnerable populations and other outreach has been made available in this section. This material has been integrated directly from the National Centre for Disease Control (NCDC), NPCCHH (National Program on Climate Change and Human Health)

National Centre for Disease Control
Government of India

National Programme on Climate Change and Human Health

World Health Organization
India

National Centre for Disease Control
Government of India

National Programme on Climate Change and Human Health

World Health Organization
India

Beat the Heat

Beat the Heat

HEAT-RELATED ILLNESSES IN CHILDREN

Do's

Stay hydrated

Stay covered

Block direct sunlight

Remain indoors during 12:00 PM – 4:00 PM

Don'ts

Avoid going out 12:00 PM – 4:00 PM

Avoid strenuous activity in the sun

Don't leave kids and pets unattended in vehicles

Avoid alcohol, tea, coffee, sugary and fizzy drinks

Avoid cooking during 2:00 PM – 4:00 PM

Don't walk barefoot

Symptoms

Fainting

Muscle cramps

Seizures

Irritability

Headache

Increased sweating

Weakness, dizziness

Acts or talks in a confused manner

Rapid breathing / heartbeat

Nausea and vomiting

Difficulty in waking up

Body temperature rises to 40.5°C (105°F) or higher

First aid measures

Bring the child indoors or into the shade immediately

Loosen their clothing while maintaining their dignity

Have the child lie down with slightly raised feet

Sponge with top water

If the child is alert and awake, give frequent sips of cool, clear fluids

If the child vomits, turn onto the side to prevent choking

Use fan to increase airflow

If the child is unconscious, don't give anything to drink or eat

If symptoms persist, immediately visit the nearest health centre or call an ambulance

If your child has severe symptoms, immediately visit the nearest health centre or call an ambulance

Source: National Centre for Disease Control 2021

First-aid measures Safeguarding workers from the heat



FIRST AID MEASURES

If you feel dizzy or uneasy



Drink water to rehydrate



Move to a cooler place immediately



Loosen clothes if possible



Sponge with water



If unconscious do not forcefeed or give water



If symptoms persist, immediately visit the nearest health centre or call an ambulance



Source: National Centre for Disease Control 2021



SAFEGUARD WORKERS FROM THE HEAT





Cool drinking water facility



Timely medical care



Frequent breaks in comfortable rest area



Cool and comfortable area for child care



Insulate and shield hot equipment



Assign additional workers or slow down work pace

If symptoms persist, immediately visit the nearest health centre or call an ambulance



Source: National Centre for Disease Control 2021

Dos and don'ts



**गर्मी को दो मात,
अपनाओ सेहत वाली बात!**

BEAT THE HEAT

 क्या करें  हाइड्रेटेड रहें - पानी, नींबू पानी, छाछ आदि का सेवन करें।	 क्या न करें  धूप में ज्यादा मेहनत वाला काम न करें।
 शरीर को ढक कर रखें - टोपी, छाता, हल्के और ढीले कपड़े पहनें।	 बच्चों और पालतू जानवरों को गाड़ियों में अकेला न छोड़ें।
 सीधी धूप को रोकें - घर में पर्दे लगाकर सूरज की सीधी रोशनी रोकें।	 शराब, चाय, कॉफी, मीठे व कार्बोनेटेड पेय का सेवन न करें।
 दोपहर 12:00 बजे से 4:00 बजे तक घर के अंदर ही रहें।	 नंगे पाँव बाहर न जाएं।

Safeguarding oneself from the heat



Source: National Centre for Disease Control 2021



अपने जानवरों को “लू” से बचाएं

लू के दौरान पालतू जानवरों के लिए सावधानियां



- जहाँ तक संभव हो, तेज गर्मी के दौरान उन्हें घर के भीतर रखें।
- यदि उन्हें घर के भीतर रखा जाना संभव न हो तो उन्हें किसी छायादार स्थान में रखें, जहाँ वे आराम कर सकें। ध्यान रखें कि जहाँ उन्हें रखा हो वहाँ दिनभर छाया रहे।
- जानवरों को किसी बंद जगह में न रखें, क्योंकि गर्म मौसम में इन्हें जल्दी गर्मी लगने लगती है।
- ध्यान रखें कि आपके जानवर पूरी तरह साफ हों, उन्हें ताजा पीने का पानी दें, पानी को घूप में न रखें। दिन के समय उनके पानी में बर्फ के टुकड़े डालें।

- पीने के पानी के दो बाउल रखें ताकि एक में पानी खत्म होने पर दूसरे से वे पानी पी सकें।
- अपने पालतू जानवर का खाना लूप में न रखें।
- यदि आपके पास गुरुत्वा है तो उसे गर्मी में न टहलाएँ। उसे सुबह और शाम को घुमाएँ जब मौसम में ठंडा हो।
- खुले को गर्म सतह (पट्टरी, तारकोल की सड़क, गर्म रेत) पर न चलाएँ।
- किसी भी स्थिति में जानवर को वाहन में न छोड़ें।



आपदा प्रबंधन, सहायता एवं नागरिक सुरक्षा विभाग Toll Free No. - 112/1070 <https://dmrelief.rajasthan.gov.in>



अपने जानवरों को “लू” से बचाएं

लू के दौरान पालतू जानवरों के लिए सावधानियां



- जहाँ तक संभव हो, तेज गर्मी के दौरान उन्हें घर के भीतर रखें।
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- खुले को गर्म सतह (पट्टरी, तारकोल की सड़क, गर्म रेत) पर न चलाएँ।
- किसी भी स्थिति में जानवर को वाहन में न छोड़ें।



आपदा प्रबंधन, सहायता एवं नागरिक सुरक्षा विभाग Toll Free No. - 112/1070 <https://dmrelief.rajasthan.gov.in>

Differences Between heat exhaustion and heat stroke



The infographic features a central silhouette of a person, split vertically down the middle. The left half of the silhouette is colored purple and is positioned against a light purple background, representing heat exhaustion. The right half is colored red and is positioned against a light red background, representing heatstroke. The background is divided into horizontal bands that alternate between the purple and red colors, creating a visual comparison of symptoms.

Heat exhaustion	Heatstroke
Feeling faint or dizzy	Feeling confused
Excessive sweating	No sweating
Clammy skin	Temperature over 40C, hot, dry skin
Nausea or vomiting	Nausea or vomiting
Muscle cramps	May lose consciousness or experience convulsions or seizures

Source: NHS

Conclusion

Heat Wave Action Plans (HWAPs) are essential components of a city's climate adaptation strategy. As the frequency and intensity of heat waves are expected to rise due to climate change, a climate-adaptive HWAP will help Bikaner effectively prepare for, respond to, and adapt to these extreme heat events.

The plan outlines short-, medium-, and long-term strategies to reduce the impact of heat waves. By adopting a spatially targeted approach, these Heat Wave Action Plans (HSAPs) can guide Bikaner's medium-term development goals, ensuring that climate resilience and heat adaptation are integrated into the broader vision of smart and sustainable urban development.

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Rajasthan Heat Wave Action Plan 2025

Delhi Heat Action Plan 2024-25

NEWS ARTICLES

बीकानेर में गर्मी ने तोड़े रिकॉर्ड, बुरी तरह झुलसा रही गर्मी

तपती दोपहरी व झुलसाती रातें

तापमान पहली बार
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पसरा सन्नाटा

बीकानेर @ पत्रिका. जैसे-जैसे जेठ मास अपने चरम पर पहुंचा, बीकानेर की फिजा में लू का असर और तेज होता गया। शुक्रवार को सूरज ने सुबह से ही कहर बरपाना शुरू कर दिया। 45.2 डिग्री सेल्सियस तापमान के साथ यह इस सीजन का सबसे गर्म दिन बन गया। सुबह 9 बजे से ही गर्म हवा के थपेड़े आमजन को परेशान करने लगे थे। दिन चढ़ते-चढ़ते सूरज की तपिश और गर्म हवा को लपेटों ने मिलकर शहर को जैसे झुलसा दिया। सुबह 11 बजे के बाद हालात ऐसे हो गए, जैसे शहर पर गर्मी का लॉकडाउन लगा गया हो।

न दिन में चैन, न रात में आराम: गर्मी ने सिर्फ दिन ही नहीं, रात को भी



आगे क्या...

जूनगढ़ के आगे पसरा सन्नाटा।

भी हराम कर दी है। न्यूनतम तापमान 30.8 डिग्री तक पहुंच गया है, जिससे रात में भी गर्म हवा का असर बना हुआ है। पंखे, कुलर और यहाँ तक कि एयर कंडीशनर भी राहत देने में नाकाम हो रहे हैं।

एहतियात जरूरी: स्वास्थ्य विशेषज्ञों और प्रशासन की सलाह है कि दोपहर 12 से 4 बजे के बीच बाहर निकलने से बचें। आवश्यक हो, तो सिर और शरीर को कपड़े से ढककर

मौसम विभाग की मानें, तो राहत फिलहाल दूर-दूर तक नहीं दिख रही। अगले कुछ दिनों तक पारा और बढ़ सकता है। 20 भाई तक तापमान 45 से 46 डिग्री सेल्सियस के बीच रहने का अनुमान है। इसके साथ ही 20-40 किलोमीटर प्रति घंटे की रफ्तार से सतही गर्म हवाएं चलने की संभावना भी जताई गई है।

ही बाहर जाएं, भरपूर पानी पीते रहें और बच्चों व बुजुर्गों का विशेष ध्यान रखें।

सिटी बुक
CITY BOOK

09 राजस्थान पत्रिका
बीकानेर, रविवार, 17 मई, 2025

मौसम का मिजाज: गर्मी व तलख धूप से लोगों का हाल-बेहाल तेज तपिश और लू के थपेड़ों ने झुलसाया, बिजली की आवाजाही ने बढ़ाई मुश्किल

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मौसम का मिजाज: गर्मी व तलख धूप से लोगों का हाल-बेहाल तेज तपिश और लू के थपेड़ों ने झुलसाया, बिजली की आवाजाही ने बढ़ाई मुश्किल

लोखा खेव में गर्मी ने असर दिखाना शुरू कर दिया है। दो दिन से अचानक गर्मी का पाया बहने से आमजन को परेशानी का सामना करना पड़ रहा है। कच्चे में शुक्रवार को भीषण गर्मी व तेज धूप के कारण लोगों का हाल-बेहाल रहा। दोपहर को लू चलने से लोग घबरे रहे। भीषण गर्मी के इस मौसम में लोगों की दिनचर्या बदल गई है। सुबह व शाम के समय ही लोग घरो से बाहर निकल रहे हैं। गर्मी के कारण उठती दल की बीमारियां भी बढ़ने लगी हैं। गर्म बहने के बाद ठंडे पेय पदार्थ की डिमांड भी बढ़ गई है। फिलहाल दो दिनों से सुबह नौ बजे ही सूर्य रोने के तौखे तेवर दिखाई देना शुरू हो जाते

हैं। दोपहर होते-होते गर्म हवाएं चल रही हैं। इस कारण लोग केवल आवश्यक कार्यों के लिए ही घरो से बाहर निकल रहे हैं। पुरीया बहने वालकों को सफर करने में परेशानी हो रही है, गर्मी से बचाव करने के लिए

लोग स्क्रॉल घटने नजर आए। खरार, इन दिनों लू और तेज धूप से लोग बेहाल हो रहे हैं। शुक्रवार सुबह से सफा आसमन के साथ उखल धूप ने तापना शुरू किया, तो दोपहर में झुलसाती गर्मी व लू ने घमसाने में लक्ष्मण बन दिया। गर्मी इतनी अधिक थी कि सुबह 8 बजे से ही लू जैसे हवा चलने लगी, जो देर रात तक कहर बरपाती रही। सुबह से ही तेज तपिश होने के कारण दोपहर के समय मांस की गरियां व बाजार घुरने रहे। जनरी कार्यों होने पर ही लोग घरो से बाहर निकल रहे हैं। वहीं बिजली की बार-बार हो रही कटौती ने भी ग्रामीणों की मुश्किलें और बढ़ा दी हैं। ग्रामीणों का कहना है कि अब पंखे, कुलर के कड़े जेठे पड़ना भी किसी सजा से कम नहीं है।

हीट वेव की तैयारियां: जानी अस्पतालों की जमीनी हकीकत

बीकानेर @ पत्रिका. भीषण गर्मी के चलते जिले भर में लू तापघात से ग्रसित होने की आशंका बनी हुई है। ऐसे में राज्य सरकार के निर्देशानुसार जिले के प्रत्येक अस्पताल को हीट वेव के विरुद्ध अलर्ट मोड पर किया जा रहा है।

इसी क्रम में मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी डॉ. पुखराज साध प्रतिदिन विभिन्न अस्पतालों का औचक निरीक्षण कर जमीनी स्तर पर हकीकत देख रहे हैं।

शुक्रवार को ब्लॉक सीएमओ श्रीद्वारगढ़ डॉ. राजीव सोनी, बीसीएमओ खजूवाला डॉ. मुकेश



अस्पताल का निरीक्षण करते सीएमएमओ डॉ. पुखराज साध।

मीणा, लेखा अधिकारी इकरार हुसैन तथा जीएनएम भोजराज सीवर के दल के साथ उप जिला अस्पताल श्रीद्वारगढ़, सामुदायिक स्वास्थ्य केंद्र मोमासर, सीएचसी गुसाईसर बड़ा, प्राथमिक स्वास्थ्य केंद्र उदरामर, गुसाईसर व सेरुणा का औचक निरीक्षण किया। अधिकांश अस्पतालों में हीट वेव के लिए अलग वार्ड आरक्षित कर ओआरएस, आइवी फ्लूड व आवश्यक दवाइयों की उपलब्धता सही मिली। पंखे, कुलर तथा ठंडे पेय जल की व्यवस्था भी सुचारु रूप से अस्पतालों द्वारा की गई

थी। कहीं-कहीं साफ-सफाई को लेकर व्यवस्था सुधारने के निर्देश दिए गए।

टीम द्वारा सभी अस्पतालों की मौसमी बीमारियों पर नियंत्रण के लिए की जा रही गतिविधियों, राष्ट्रीय कार्यक्रमों की भौतिक एवं वित्तीय प्रगति तथा सेवाओं की गुणवत्ता को लेकर गहन समीक्षा की गई। डॉ. साध ने सभी प्रभारी चिकित्सा अधिकारियों को सख्त निर्देश दिए कि लू से ग्रसित होकर अस्पताल पहुंचने वाले प्रत्येक व्यक्ति को तत्काल राहत देने और आवश्यकता अनुसार भर्ती करने की माकूल व्यवस्था रहे।

गर्मी से हाल बेहाल, बीकानेर के अस्पताल में बढ़ी मरीजों की तादाद



Rajasthan Heat Wave: गर्मी से हाल बेहाल, Bikaner के Hospital में बढ़ी मरीजों की तादाद |Weather Update

Approved by District Collector Bikaner

कार्यालय जिला कलक्टर (सहायता) बीकानेर

क्रमांक :- सीबी/सहायता/हीट वेव/2025 34)

दिनांक :- 4/4/2025

श्रीमान् संयुक्त शासन सचिव,
आपदा प्रबंधन, सहायता एवं नागरिक सुरक्षा विभाग,
राजस्थान, जयपुर।

विषय - राज्य में हीट वेव प्रबंधन के लिए नोडल हीट अधिकारी नामित किये जाने हेतु।

प्रसंग - आपका राजकाज पत्रांक 14444916 दिनांक 28.03.2025

उपरोक्त विषयान्तर्गत प्रासंगिक पत्र के क्रम में निवेदन है कि राष्ट्रीय आपदा प्रबंधन प्राधिकरण, नई दिल्ली द्वारा हीट वेव प्रबंधन 2025 के लिए जिला स्तर से नोडल हीट अधिकारी की चाही गई सूचना निम्नानुसार है -

जिला बीकानेर

क्रम सं.	अधिकारी का नाम	पद नाम	मोबाईल नं.	टेलीफोन (कार्यालय)	ई-मेल
1	रामावतार कुमावत (RAS)	अतिरिक्त जिला कलक्टर (प्रशासन) बीकानेर	9414444837	0151-2228031	adma@gmail.com


अतिरिक्त जिला कलक्टर (प्रशासन)
एवं प्रभारी अधिकारी (सहायता)
बीकानेर

राजस्थान सरकार
कार्यालय जिला कलक्टर, बीकानेर (राज.)

क्रमांक :- 13

दिनांक :- 03/04/2024

आदेश

निदेशक (जन स्वा.), चिकित्सा एवं स्वास्थ्य सेवाएँ राजस्थान जयपुर की अध्यक्षता में आयोजित वी.सी. दिनांक 12.07.2021 में दिए गए निर्देश के क्रम में एवं निदेशालय पत्रांक क्लाइमेन्ट चैंज/2021/05/दिनांक 26.07.2021 द्वारा राष्ट्रीय क्लाइमेन्टचेन्ज एवं ह्यूमन हेल्थ कार्यक्रम के अन्तर्गत जिला स्तरीय टॉस्क फोर्स एवं जिला, ब्लॉक, सामुदायिक/प्राथमिक स्वा. केन्द्र स्तरीय एनवायरमेन्ट हेल्थ सैल गठित करने के निर्देश प्रदान किए गए हैं। अतः प्राप्त पत्र की पालना में निम्नानुसार जिला स्तरीय टॉस्कफोर्स एवं जिला, ब्लॉक, सामुदायिक/प्राथमिक स्वास्थ्य केन्द्र स्तरीय एनवायरमेन्ट हेल्थ सैल का तत्काल प्रभाव से निम्नानुसार गठन किया जाता है।

> District Level Task Force- Environmental Health:-

01	जिला कलक्टर बीकानेर।	अध्यक्ष
02	प्राचार्य, सरदार पटेल मेडिकल कॉलेज, बीकानेर।	उपाध्यक्ष
03	मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी, बीकानेर।	सदस्य सचिव
04	जिला सर्विलैस अधिकारी (उप मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी (स्वा.) बीकानेर।	सदस्य
05	जिला कार्यक्रम प्रबंधक (NHM)	सदस्य
06	जिला प्रभारी राजस्व, (आपदा) विभाग।	सदस्य
07	उप निदेशक कृषि विभाग, बीकानेर।	सदस्य
08	अधीक्षण अभियन्ता, जल संसाधन विभाग, बीकानेर।	सदस्य
09	जिला परिवहन अधिकारी, यातायात विभाग, बीकानेर।	सदस्य
10	संयुक्त निदेशक, पशु-पालन विभाग, बीकानेर।	सदस्य
11	उप वनसंरक्षक, वन एवं पर्यावरण विभाग बीकानेर।	सदस्य
12	उप निदेशक महिला एवं बाल विकास विभाग, बीकानेर।	सदस्य
13	मुख्य जिला शिक्षा अधिकारी, बीकानेर	सदस्य
14	जिला रसद अधिकारी, रसद विभाग, बीकानेर	सदस्य
15	अधीक्षण अभियन्ता, सार्वजनिक निर्माणविभाग	सदस्य
16	अधीक्षण अभियन्ता विद्युतवितरण निगम, जिलावृत्त/नगरवृत्त बीकानेर।	सदस्य
17	जिला कोषाधिकारी, कोष कार्यालय, बीकानेर।	सदस्य
18	उपविधि परामर्शी कलक्टर, बीकानेर	सदस्य
19	अतिरिक्त मुख्य कार्यकारी अधिकारी, जिला परिषद, बीकानेर	सदस्य

➤ **District Environmental Health Cell :-**

01	मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी, बीकानेर (नोडल अधिकारी क्लाइमेन्ट चैन्ज)	अध्यक्ष
02	संयुक्त निदेशक, पशुपालन विभाग, बीकानेर	सदस्य
03	डिस्ट्रीक सर्विलेंस ऑफिसर (DSO) बीकानेर।	सदस्य
04	जिला प्रजनन एवं बाल स्वास्थ्य अधिकारी (आरसीएचओ), बीकानेर	सदस्य
05	उप मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी (पं.क.) बीकानेर	सदस्य
06	जिला माइक्रोबायोलॉजिस्ट, बीकानेर।	सदस्य
07	जिला एपिडेमियोलॉजिस्ट, बीकानेर	सदस्य
08	जिला प्रशिक्षण अधिकारी, बीकानेर।	सदस्य
09	डाटा एन्ट्री ऑपरेटर,	सहा.कर्मचारी

➤ **Community Health Center Environmental Health Cell :-**

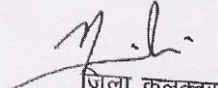
01	चिकित्सा अधिकारी प्रभारी (संबंधित सीएचसी)	अध्यक्ष
02	खण्ड मुख्य चिकित्सा अधिकारी, (संबंधित खण्ड)	सदस्य
03	विकास अधिकारी (संबंधित पंचायत समिति)	सदस्य
04	उप मुख्य जिला शिक्षा अधिकारी,	सदस्य
05	हैल्थ सुपरवाइजर	सदस्य

➤ **Primary Health Center Environmental Health Cell :-**

01	चिकित्सा अधिकारी प्रभारी (संबंधित पीएचसी)	
02	राष्ट्रीय स्वास्थ्य मिशन (NHM) कार्मिकों की कार्यक्रम के क्रियान्वहन में सहभागिता	
03	कार्यक्रम का रिव्यू/निगरानीरोगी कल्याण समिति (RKS) द्वारा किया जावेगा।	
04	स्थानीय स्तर पर एएनएम, आशा, आंगनवाड़ी कार्यकर्ता कार्यक्रम के क्रियान्वहन में सहयोग प्रदान करेगी।	

District Environmental Health Cell की भूमिका एवं उत्तरदायित्व

- ❖ जिला स्तरीय क्लाइमेन्ट चैन्ज एण्ड ह्युमन हैल्थ एक्शन प्लान बनान एवं उनका क्रियान्वयन।
- ❖ जिला स्तरीय Climate Sensitive Illnesses का Vulnerability Assessment, Risk Mapping करना।
- ❖ जिला स्तर पर चिह्नित Climate Sensitive Illnesses का डेटा संधारण एवं समय समय पर उसे अपडेट करना।
- ❖ खण्ड स्तर/सीएचसी स्तर पर प्रशिक्षण/आमुखीकरण।
- ❖ राष्ट्रीय क्लाइमेन्ट चैन्ज कार्यक्रम के अन्तर्गत जिला स्तर पर डेटा संधारण का कार्य सम्पादित करवाया जाना।
- ❖ जिला स्तर पर चिह्नित Climate Sensitive Illnesses का भौतिक वित्तीय एवं एपिडेमियोलॉजिकल रूपरेखा का संधारण।


जिला कलेक्टर
बीकानेर

क्रमांक :-

दिनांक :-

प्रतिलिपि :-

1. आयुक्त, नगर निगम, बीकानेर।
2. प्रधानाचार्य, सरदार पटेल मेडिकल कॉलेज, बीकानेर।
3. समस्त उपखण्ड अधिकारी, जिला बीकानेर।
4. मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी, बीकानेर।
5. उप निदेशक कृषि विभाग, बीकानेर।
6. अधीषाशी अभियंता, पीएचईडी, बीकानेर।
7. जिला परिवहन अधिकारी, बीकानेर।
8. संयुक्त निदेशक, पशुपालन विभाग, बीकानेर।
9. उप वनसंरक्षक वन एवं पर्यावरण विभाग, बीकानेर।
10. उप निदेशक, महिला एवं बाल विकास विभाग, बीकानेर।
11. मुख्य शिक्षा अधिकारी, बीकानेर।
12. जिला रसद अधिकारी, बीकानेर।
13. सचिव, नगर विकास न्यास, बीकानेर।
14. अधीक्षण अभियंता, पीडब्लूडी, बीकानेर।
15. अधीक्षण अभियन्ता विद्युतवितरण निगम, जिलावृत्त/नगरवृत्त बीकानेर।
16. जिला कोषाधिकारी, कोष कार्यालय, बीकानेर।
17. कार्यालय प्रति।


मुख्य कार्यकारी अधिकारी
जिला परिषद बीकानेर

लू-तापघात (ताप लहर) के बेहतर प्रबंधन हेतु कार्य योजना वर्ष 2025
चिकित्सा एवं स्वास्थ्य विभाग जिला-बीकानेर (राज.)

संभावित परिदृश्य :-

लू ताप घात से आम जनता भली प्रकार से परिचित हैं एवं समय-समय पर सरकार एवं अन्य स्वयं सेवी संस्थाएँ विभिन्न माध्यमों से स्वास्थ्य शिक्षा एवं लू तापघात से बचने के लिये जन जागृती पैदा करती रही है। लू तापघात, शरीर में लवण व पानी की आवश्यकता व अनुपात के विकृति के कारण होती हैं। मस्तिष्क का एक केन्द्र जो मानव के तापमान को समान्य बनाये रखता है। जो काम करना छोड़ देता है। लाल रक्त कोशिकाएँ रक्त वाहिनीयों में टूट जाती है व कोशिकाओं में जो पोटेसियम लवण होता है व रक्त संचार में आ जाता है। इसमें हृदय गति व शरीर के अन्य अवयव व अंग प्रभावित हो कर लू तापघात के रोगी को मृत्यु के मुहँ में धकेल देते हैं।

इस गर्मी के प्रकोप में लू से कोई भी आक्रान्ता/ग्रसित हो सकता है। परन्तु बच्चे, वृद्ध, गर्भवती महिलाएँ धूप में व दोपहर में कार्यरत श्रमिक, यात्री खिलाड़ी व ठंडी जलवायु में रहने वाले व्यक्तियों के लू लगने की संभावनाएँ अधिक रहती हैं।

लू तापघात के लक्षण :-

1. सिर का भारीपन व सिरदर्द।
2. अधिक प्यास लगना व शरीर में भारीपन के साथ थकावट।
3. जी मिचलाना, सिर चकराना व शरीर का तापमान अत्यधिक बढ़ना (105°F. या अधिक) हो जाना, पसीना आना बन्द होना, मुँह का लाल होना एवं त्वचा का सूखा होना।
4. पानी की कमी होना, बेहोशी जैसी स्थिति का होना/ बेहोश होना।
5. प्राथमिक उपचार/समुचित उपचार के अभाव में मृत्यु भी संभव है।

लू तापघात से बचाव के उपाय :-

1. लू तापघात से प्रायः कुपोषित बच्चे, वृद्ध गर्भवती महिलाएँ, श्रमिक आदि शीघ्र प्रभावित हो सकते हैं। इन्हें प्रातः 11:00 बजे से सांय 04:00 बजे तक तेज गर्मी से बचाने हेतु छायादार ठंडे स्थान पर रखने का प्रयास करें।
2. तेज धूप में निकलना पड़े तो ताजा भोजन करके उचित मात्रा में ठंडे जल का सेवन कर बाहर निकले।
3. थोड़े-थोड़े अन्तराल में ठंडा पानी, शीतल पेय जैसे-छाछ, आम का पना, ताजा फलों का रस आदि का सेवन करें।
4. तेज धूप में बाहर निकला पड़े तो छाते का उपयोग करें तथा शरीर के अंगों/सिर आदि को हल्के रंग के सुती कपड़े से ढक कर रखें।
5. अकाल राहत कार्य/निर्माण कार्य स्थलों पर श्रमिकों हेतु छाया एवं पानी की उचित व्यवस्था रखी जावे। ताकी श्रमिक थोड़ी-थोड़ी देर में छायादार स्थानों पर विश्राम कर सकें।

लू तापघात का उपचार :-

1. लू तापघात से प्रभावित रोगी को तुरन्त हवा व छायादार ठंडे स्थान पर लिटा दें।
2. रोगी की त्वचा को गीले कपड़े से स्पंज करते रहें तथा रोगी के कपड़ों को ठीला कर दें। रोगी के आस-पास भीड़ इकट्ठा ना होने दें।
3. रोगी होश में हो तो उसे ठंडे पेय पदार्थ दें।
4. रोगी को तत्काल नजदीक के चिकित्सालय में उपचार हेतु लेकर जावें।

लू-तापघात हेतु कार्ययोजना :-

1. जिले के समस्त सामु0/प्राथ0/ शहरी प्राथ0 स्वा0 केन्द्र पर कन्ट्रोल रूम एवं रेपिड रेसपोंस टीमों का गठन किया जा चुका। सभी चिकित्सा संस्थानों में आवश्यक ऐम्बुलेंस, दवाइयों, मोबाइल चिकित्सा दलों, जीवन-रक्षक औषधियों की उपलब्धता सुनिश्चित की गई है।
2. चिकित्सा संस्थानों में लू-तापघात के रोगीयों हेतु दो-चार बैड की अलग से व्यवस्था सुनिश्चित करवाई जा रही है। तथा वार्ड को ठण्डा रखने के लिये कुलर, पंखों की व्यवस्था सुनिश्चित की गई है। तथा रिपेरिंग वाले कुलर पंखों की रिपेरिंग करवाई जा रही है।
3. जिले के जिला चिकित्सालय सहित सभी चिकित्सा संस्थानों पर उपचार हेतु आवश्यक दवाइयां, ओ.आर.एस., ड्रिप सेट, आई.वी फ्लूड-जी.एन.एस/जी.डी.डब्ल्यू /आर.एल0आदि उचित मात्रा में उपलब्ध है।

बीकानेर जिले में गर्मियों में तापमान अधिक रहने की सम्भावना बनी हुई है। जिससे लोगो की जानें चली जाती है। फसलों को क्षति पहुंचती है, पानी की कमी हो जाती है। बीमारियां फैलने लगती है और तमाम स्वास्थ्य समस्याएं पैदा हो जाती है।

Temperature Table Last 5 Year Dist-Bikaner (Raj.)				
Year	Month	Max (Temp in C.)	Min (Temp in C.)	Average (Temp in C.)
2020	May	47	23	35
	June	47	22	36
2021	May	45	23	34
	June	44	23	34
2022	May	45	24	35
	June	46	24	35
2023	May	42	27	34
	June	42	29	35
2024	May	41	28	35
	June	43	29	35
Source of above information		https://www.timeanddate.com/		

लू –ताप लहर का मुकाबला करने के लिए बचाव, राहत, रिसपॉन्स और पुनर्वास ऑपरेशन में संलग्न विभागों, एंजिसियों और सहभागियों के लिए निम्न लिखित कार्य योजनाएं हैं :-

क्रमांक	विभाग	लू-तापघात कार्य योजना
1.	पीआरआई/ स्थानीय प्रशासन	- सभी अधिकारियों जैसे पटवारी, ग्राम सेवक, चौकीदार, आशा सहयोगिनी, आंगनबाड़ी सेविका को निर्देश देना कि वे प्रशासन को समय-समय पर जानकारी दें जिससे लोगों की शिकायतों को दूर करने के उपाय किये जा सकें। - स्थानीय प्रतिनिधियों के साथ मीटिंग करना। - हाइजीन और सेनिटेशन कार्यक्रमों को प्रोत्साहन देना। - जिल के समस्त मनरेगा स्थलों पर कार्य कर रहे लोगों के लिए लू-तापघात से बचाव के लिए समुचित प्रबंध करना उनके पीने के स्वच्छ ठण्डे पानी एवं छाया व बैठने की उचित व्यवस्था करना। साथ ही ऐमरजेन्सी मेडिकल कीट (आवश्यक दवाईयों की कीट) की उपलब्धता सदैव बनाये रखने हेतु चिकित्सा विभाग से समन्वय बनाये रखना। अलर्ट एवं चेतावनी चरण - सभी अग्निशमन केन्द्रों को चेतावनी जारी करना। - सभी संसाधनों को तैयार अवस्था में रखना। आपदा के दौरान - पानी के टैंकर, ट्रेक्टर, क्रैन्स और अन्य उपकरण जैसे अग्नि सूट, मास्क, कम्बल, जैनरेटर, आदि तैनात करना और पर्याप्त मात्रा में श्रमिकों की उपलब्धता सुनिश्चित करना। - तेल, गैस एवं अन्य खतरनाक पदार्थों के रिसाव से पैदा होने वाली संभावित संकटकालीन स्थितियों पर नियंत्रण रखना। रिसपॉन्स एवं पुनर्वास चरण - लू-तापघात का कारगर तरीके से मुकाबला करने के लिए स्वयंसेवी संस्थाओं, सेल्फ हेल्प ग्रुप्स(एस.एच.जी), व सरकारी संस्थाओं में समन्वय स्थापित करना। - पंचनामा के आधार पर मुआवजा दिलवाना।
2	सूचना एवं जनसंपर्क विभाग	- लोगों को स्वास्थ्य, सेनिटेशन एवं हाइजीन के बारे में जागरूक करने के लिए आईईसी द्वारा जारी नोटिस, पोस्टर, जिंगल्स, रेडियो टीवी कार्यक्रमों को जारी/प्रकाशित करना। - सरकार द्वारा किये जा रहे कार्यों के बारे में मीडियों के लिए बुलेटिन जारी करना।

		➤ अफवाहों से बचने के लिए यह सुनिश्चित करना कि मीडिया को दी गई सूचनाएं एकदम सही हैं। ➤ आपदा के समय क्या करें और क्या ना करें, के बारे में संबंधित अन्य लोगों को जानकारी प्रसार करना। ➤ नवीनतम आपातकालीन स्थिति के बारे में सार्वजनिक जानकारी रखें (प्रभावित क्षेत्र, जान-माल नुकसान आदि)। ➤ लोगों को विभिन्न आपदा पश्चात् सहायता और रिकवरी कार्यक्रम के बारे में सूचित करना। ➤ समय-समय पर बुलेटिन जारी करना। ➤ सरकार द्वारा किये जा रहे राहत कार्यों की जनता को जानकारी देना।
3	चिकित्सा एवं स्वास्थ्य विभाग	➤ जिले में मेडिकल कॉलेज, जिला चिकित्सालय के साथ समस्त ब्लॉक स्तर/समस्त सामु0/प्राथम0/शहरी प्राथम0 स्वा0 केन्द्र पर कन्ट्रोल रूम एवं रेपिड रिसपोंस टीमों का गठन किया जा चुका। सभी चिकित्सा संस्थानों में आवश्यक एम्बुलेंस, दवाइयों, मोबाइल चिकित्सा दलों, जीवन-रक्षक औषधियों की उपलब्धता सुनिश्चित की गई है। ➤ मेडिकल कॉलेज, जिला चिकित्सालय में लू-तापघात के रोगियों हेतु वार्ड में छः से दस बैड एवं जिले के अन्य समस्त चिकित्सा संस्थानों पर लू-तापघात के रोगियों हेतु वार्ड में दो-चार बैड की अलग से व्यवस्था की जावे। वार्ड को ठण्डा रखने के लिये कुलर, पखें की व्यवस्था करना। ➤ इसी तरह फ्लू, जल जनित रोग के रोगियों को अलग वार्ड में रखना। ➤ जिले के जिला चिकित्सालय सहित सभी चिकित्सा संस्थानों में आने वाले रोगियों एवं परिजनो हेतु पीने के ठण्डे पानी की व्यवस्था सुनिश्चित करना। ➤ जिले के जिला चिकित्सालय सहित सभी चिकित्सा संस्थानों पर उपचार हेतु आवश्यक दवाईयां, ओ.आर.एस., ड्रिप सेट, आई.वी फ्लूड-जी.एन.एस/जी.डी.डब्ल्यू /आर. एल0आदि की उपलब्धता सुनिश्चित की गई है। ➤ नगर पालिका, स्थानीय प्रशासन एवं स्वयंसेवी संस्थाओं से सम्पर्क कर जगह-जगह पानी एवं छाया की व्यवस्था करने हेतु प्रेरित करना। ➤ शिक्षा विभाग एवं महिला बाल विकास विभाग से समन्वय स्थापित कर स्कूलों/आंगनवाड़ी केन्द्रों का समय परिवर्तन करवाने हेतु अनुरोध किया जावे।

		➤ जिले में संचालित होने वाले शिविर स्थलों पर पानी, कुलर, छाया एवं आवश्यक दवाईयों की उपलब्धता सुनिश्चित करावें। ➤ लू-तापघात की दैनिक रिपोर्ट कार्यालय को प्रतिदिन दोपहर दो बजे तक कार्यालय की ई-मेल आईडी (bikaner_idsp@yahoo.co.in) पर या फोन के माध्यम से उपलब्ध करवाना सुनिश्चित करें। ➤ उपकरण / मशीन(पंखे, कूलर, वाटर कूलर, वार्ड के ए.सी. इत्यादि, को अपग्रेड और कार्यरत स्थिति में बनाए रखा जाना चाहिए। ➤ ग्रामीण क्षेत्रों में नियमित रूप से स्वास्थ्य शिविर लगाना एवं मोबाईल मेडिकल यूनिट (एमएमयू)/मोबाईल मेडिकल वेन (एमएमवी) व आरबीएसके टीमों द्वारा लोगों, विशेषरूप से महिलाओं और बच्चों, के पोषण स्तर का परीक्षण और जरूरी इलाज करना। ➤ प्रधानमंत्री सुरक्षित मातृत्व दिवस (प्रत्येक माह की 9 तारीख) पर गर्भवती महिलाओं को लू-तापघात एवं अन्य मौसमी बिमारियों से बचाव व उपचार के प्रति जागरूक करना। ➤ होटलों/दुकानों/ठेलों एवं सामुदायिक रसोई में दूधित व मिलावटी खाद्यान्नों एवं पके हुये खाद्य सामग्री का परीक्षण एवं उन्हें नष्ट करवाना। ➤ पीएचईडी विभाग से समन्वय स्थापित कर स्वच्छ पेयजल की उपलब्धता सुनिश्चित करवाना। ➤ मौसमी बिमारियों पर सतत निगरानी बनाये रखना।
4	आयुर्वेद	➤ चिकित्सा विभाग के साथ समन्वय स्थापित करना और सहयोग देना। ➤ जिले के जिला आयुर्वेद चिकित्सालय के साथ समस्त आयुर्वेद चिकित्सालयों पर कन्ट्रोल रूम एवं चिकित्सा दलों का गठन करना। सभी चिकित्सा संस्थानों में आवश्यक दवाइयों, चिकित्सा दलों, जीवन-रक्षक औशधियों की व्यवस्था करना। ➤ जिले के जिला आयुर्वेद चिकित्सालय में लू-तापघात के रोगियों हेतु वार्ड में दो से चार बैड एवं जिले के अन्य समस्त आयुर्वेद चिकित्सालय पर लू-तापघात के रोगियों हेतु वार्ड में बैड की अलग से व्यवस्था की जावे। वार्ड को ठण्डा रखने के लिये कुलर, पखें की व्यवस्था होना आवश्यक है। ➤ चिकित्सा संस्थानों में आने वाले रोगियों एवं परिजनो हेतु पीने के ठण्डे पानी व छाया की व्यवस्था सुनिश्चित करना।

5	पशु पालन विभाग	➤ वेटेरिनरी अधिकारियों को चिकित्सा विभाग से समन्वय स्थापित कर कार्य करना। ➤ जिले के समस्त पशु चिकित्सालयों में चिकित्सा दलों का गठन करना। सभी चिकित्सा संस्थानों में पशुओं हेतु आवश्यक दवाइयों की व्यवस्था करना। ➤ पशुपालकों की बैठक आयोजित कर स्क्रब टाईफस रोग के बारे में जानकारी देना एवं पशुओं व बाड़ों में साईपरमैथ्रिन का छिड़काव कराना। ➤ पशुओं से मनुष्यों में फैलने वाली बिमारियों पर सतत निगरानी बनाये रखना। ➤ पीड़ित जानवरों एवं पक्षियों का संगरोधन। ➤ जानवरों का टीकाकरण कर पशुओं की बीमारियों पर नियंत्रण करना। ➤ मृत जानवरों और पक्षियों का सुरक्षित डिस्पोजल करना।
6.	लोक स्वास्थ्य अभियांत्रिकी विभाग	➤ पर्याप्त मात्रा में वाटर टैंकर, ब्लीचिंग पाउडर, नये हैंडपंप लगाना, वर्तमान हैंडपंप की मरम्मत करना, क्लोरिनेशन आदि की व्यवस्था करना। ➤ हाइजीन और सेनिटेशन के बारे में जागरूकता फैलाना। ➤ सुरक्षित पेयजल की व्यवस्था, जल की गुणवत्ता की निगरानी और उन्नत सेनिटेशन। ➤ सभी ग्राम पंचायतों को घरों में बांटने के लिए जल को शुद्ध करने वाली गोलियाँ (क्लोरीन), ब्लीचिंग पाउडर, क्लोरिन की सप्लाई करना। ➤ स्वास्थ्य एवं सेनिटेशन के बारे में लोगों को जागरूक करने के लिए आईईसी द्वारा जारी नोटिस, पोस्टर, पेन्टिंग्स, मीडिया आदि का प्रयोग। ➤ नियमित एवं अन्य स्रोतों से जल की उचित आपूर्ति। ➤ अग्निशमन वाहनों हेतु अतिरिक्त जल की उपलब्धता। ➤ जहाँ बिजली की सप्लाई बन्द हो गई है वहाँ जनरेटर सेट की व्यवस्था करना तथा पानी के टैंकर का इंतजाम करना। ➤ जिले के जिन स्थानों पर लोग पानी के बिल जमा कराने आते हैं उन स्थानों पर आने वाले आमजन हेतु पीने के ठण्डे पानी व छाया की व्यवस्था करना।
7	पुलिस	➤ कानून एवं व्यवस्था बनाये रखना। ➤ भीड़ को नियंत्रित करना और बचाव एवं राहत कार्य व उचित ट्राफिक व्यवस्था के लिए प्रवेश एवं निकास स्थान नियत करना। ➤ अफवाहों को रोकने के लिए जरूरी उपाय करना।
8	एनसीसी और स्काउट्स	➤ स्वयंसेवी उपलब्ध कराना। ➤ मौसमी बिमारियों व आपदा से बचाव व राहत कार्य में

		सहयोग प्रदान करना।
9	बिजली बोर्ड	➤ बिजली की नियमित आपूर्ति सुनिश्चित करना। ➤ जिले के जिन स्थानों पर लोग बिजली के बिल जमा कराने आते हैं उन स्थानों पर आने वाले आमजन हेतु पीने के ठण्डे पानी व छाया की व्यवस्था करना।
10	नागरिक आपूर्ति	➤ बर्फ की आपूर्ति और जैनरेटर्स की व्यवस्था करना। जिले में दूषित खाद्य पदार्थ/मिलावटी खाद्य पदार्थ की जांच कर नष्ट करवाना एवं गुणवत्तापूर्ण खाद्य सामग्री की व्यवस्था सुनिश्चित करना। ➤ जिले में राशन की दुकानों आने वाले लाभार्थियों हेतु पीने के ठण्डे पानी व छाया की व्यवस्था करना।
11	सडक परिवहन	➤ यात्रियों के लू-तापघात से बचाव के लिए समुचित प्रबंध करना। ➤ जिले के सभी बस स्टेण्डों/यात्री प्रतिकालयों पर यात्रियों एवं आमजन हेतु पीने के ठण्डे पानी एवं छाया व बैठने की उचित व्यवस्था करना। ➤ प्रशासन के निर्देशानुसार पीड़ितों को अस्पताल पहुंचाने के लिए विशेष बसों की व्यवस्था करना।
12	दूरसंचार विभाग	➤ बेहतर संचार नेटवर्क जारी रखना। ➤ क्षतिग्रस्त लाइनों और नेटवर्क को पुनःचालू करना। ➤ आपदा की स्थिति में आमजन तक त्वरित संदेश पहुंचाने की व्यवस्था सुनिश्चित करना।
13	रेडियो दूरदर्शन एवं अन्य न्यूज जैनल	➤ लोगो को स्वास्थ्य, सेनिटेशन एवं हाइजीन के बारे में जागरूकत करने के लिये आईईसी द्वारा जारी नोटस, पोस्टर, जिगल्स, रिडियो टीवी पर जागरूकता कार्यक्रमों का प्रसारण करना। ➤ सरकार द्वारा किये जा रहे प्रयासों के बारे में मीडिया के द्वारा समय-समय पर बुलैटिन जारी करना।
14	एन.जी.ओ.	➤ राहत व बचाव के कार्यों में प्रशासन की मदद करना। ➤ पीड़ित लोगों को उपचार की सेवाओं की व्यवस्था करना। ➤ आमजन के सहयोग हेतु पीने के ठण्डे पानी के लिए विशेष स्थानों पर प्याऊ की व्यवस्था करना।

लू से सावधानी बचाएँ सबकी जान

प्रदेशवासियों से अपील है कि आप लू के प्रभाव को गंभीरता से लें, इससे बचाव हेतु आवश्यक सावधानी रखें और सुरक्षित रहें...



क्या करें:

- घर से बाहर निकलने के पहले भरपेट पानी अवश्य पियें।
- सूती, ढीले एवं आरामदायक कपड़े पहनें। धूप में निकलते समय अपना सिर ढंककर रखें, टोपी/कपड़ा/छतरी का उपयोग करें।
- पानी, छाँछ, ओ.आर.एस. का घोल या घर में बने पेय पदार्थ जैसे- लस्सी, नींबू पानी, आम का पना, इत्यादि का सेवन करें।
- भरपेट ताजा भोजन करके ही घर से निकलें, धूप में अधिक न निकलें।

लू के लक्षण:

- सिरदर्द, बुखार, उल्टी, अत्यधिक पसीना एवं बेहोशी आना, कमजोरी महसूस होना, शरीर में ऐंठन, नब्ज असामान्य होना।



क्या न करें:

- धूप में खाली पेट न निकलें। पानी हमेशा साथ में रखें। शरीर में पानी की कमी न होने दें।
- धूप में निकलने के पूर्व तरल पदार्थ का सेवन करें।
- मिर्च मसाले युक्त एवं बासी भोजन न करें।
- बुखार आने पर ठंडे पानी की पट्टियां रखें। कूलर या एयर कंडीशनर से धूप में एकदम न निकलें।
- धूप में अधिक न निकलें।

ध्यान रखें लू के लक्षण हो तो

- व्यक्ति को छायादार जगह पर लिटावें।
- व्यक्ति के कपड़े ढीले करें।
- उसे पेय पदार्थ कच्चे आम का पना आदि पिलायें।
- तापमान घटाने के लिये ठंडे पानी की पट्टियां रखें।
- प्रभावित व्यक्ति को तत्काल नजदीकी स्वास्थ्य केन्द्र में ले जाकर चिकित्सकीय परामर्श लें।



प्रचण्ड गरमी (लू) से बचाव के लिये

आप क्या करें?

आप क्या न करें?

निर्जलीकरण से बचें

- बार-बार पानी पियें।
- घर से बाहर निकलने से पहले भरपेट पानी अवश्य पियें तथा अपने साथ में पीने का पानी हमेशा रखें।
- भ्रमण के दौरान पानी साथ में रखें।
- हल्का व ताजा भोजन करें, अधिक पानी की मात्रा वाले मौसमी फल तरबूज, खीरा, ककड़ी, खरबूजा, संतरा, खीरा, अनन्नास, अंगूर आदि का सेवन करें।
- नींबू पानी, लस्सी, छाछ, जलजीरा, आम का पना, दही, मसूरिया पानी आदि का सेवन करें।



- जहाँ तक संभव हो दोपहर 12 बजे से 3 बजे तक कड़ी धूप में बाहर न निकलें।
- अधिक तापमान में बहुत अधिक शारीरिक श्रम न करें।
- साराब, चाय, कॉफी, सोफ्ट ड्रिंक आदि का सेवन न करें।
- बच्चों को पार्किंग में बंद वाहन में अकेला न छोड़ें।



लू के लक्षण-

- सिरदर्द, तेज बुखार, उल्टी, अत्यधिक पसीना एवं बेहोशी आना, कमजोरी महसूस होना, शरीर में ऐंठन, नब्ज असामान्य होना।

लू लगने पर क्या करें-

- व्यक्ति को छायादार स्थान पर लिटावें। ठंडे पानी की पट्टियां रखें।
- व्यक्ति के कपड़े ढीले करें।
- उसे नमकीन पेय पदार्थ (कच्चे आम का पना) आदि पिलायें।
- अप्राप्त व्यक्ति को तत्काल नजदीकी स्वास्थ्य केन्द्र में ले जाकर चिकित्सकीय परामर्श लें।

घर पर रहें

- छायादार स्थान में रहें।
- ब्लिडिंग्स पर घड़े आदि लगाएं।
- पंखे, कूलर, ए.सी. का उपयोग करें।
- ठण्डे पानी से नहाएं।



शरीर को ढंककर रखें

- हल्के रंग के ढीले-ढाले एवं सूती कपड़े पहनें।
- धूप के घन्टे का उपयोग करें।
- सिर ढंककर रखें टोपी, गमछा, छतरी का उपयोग करें। जूते-चप्पल पहनें।



गरमी को हराव...

लू तापघात का इनको सबसे ज्यादा खतरा

गंभीर बीमारियों से जड़ित व्यक्ति।

गर्भवती महिलाएं।

65 वर्ष से अधिक आयुवर्ग के व्यक्ति।

8 वर्ष से कम उम्र के बच्चे।

नवजात

आकस्मिक उपचार के लिए 108 को बुला

चिकित्सा स्वास्थ्य एवं परिवार कल्याण विभाग,

108

लू—तापघात (ताप लहर) माह वार कार्य योजना वर्ष 2025

क्र.स.	माह	गतिविधियां
1	मार्च	- जिले में गर्मी जनित बीमारियों से बचाव हेतु दो से तीन माह की दवा (ओ.आर.एस., जिंक इत्यादि) की उपलब्धता की सुनिश्चितता। - Suspected heat related illness के मरीज का Rapid assessment हेतु भारत सरकार के Standard Treatment Protocol की पालना Emergency में ही किए जाने की सुनिश्चितता। - जिले के समस्त चिकित्सा अधिकारी एवं पैरा मेडिकल स्टाफ का Sensitization किये जाना सुनिश्चित करें।
2	अप्रैल	- चिकित्सा संस्थान की क्षमता के अनुसार Heat Stroke के मरीजों के लिए Dedicated Bed की व्यवस्था की सुनिश्चितता। - Emergency के लिए, Rapid Response Team का गठन जिला एवं खण्ड स्तर पर किए जाने की सुनिश्चितता। - Staff, Bed, IV Fluid . ORS Essential Medicine, Equipment, वं मानव संसाधन की पर्याप्त व्यवस्था चिकित्सा संस्थानों पर सुनिश्चितता। - स्वास्थ्य केन्द्रों द्वारा अपने आस-पास के समुदाय के लिए Awareness Campaign(IEC Activities) के माध्यम से जन जागरूकता अभियान चलाना जिसमें गर्मी से बचाव के लिए बरती जाने वाली सावधानियों के बारे में चर्चा की जावे यथा :- ➤ नशीले पदार्थ, शराब, चाय, कॉफी, उच्च प्रोटीन, खाद्य पदार्थ तथा कार्बोनेटेड शीतल पेय से सेवन से बचें। ➤ गर्म हवाओं की स्थिति जानने के लिए रेडियों, टी.बी. पर मौसम विभाग द्वारा जारी पूर्वा अनुमान की जानकारी लेना। ➤ हल्के ढीले वस्त्र पहन कर तथा धूप में चश्मा, छाता, टोपी, एवं जूता पहनकर ही घर से निकलना। ➤ यात्रा के समय पानी की बोतल अवश्य रखना। गर्मी के दिनों में ओ. आर.एस. का घोल, नीम्बू पानी, कच्चे आम का रस एवं लस्सी का ज्यादा से ज्यादा उपयोग करना। ➤ दिन के समय यथा सम्भव दोपहर 02:00 बजे से साँय 04:00 बजे तक बाहर जाने से बचना। ➤ बच्चे, गर्भवती महिलाएँ, वृद्धजन एवं श्रमिक का विशेष ध्यान रखना। ➤ स्वास्थ्य केन्द्रों पर किसी भी Heat Related illness के मरीज का पर्याप्त प्राथमिक उपचार करने के बाद ही जिला अस्पताल को रेफर करेंगे। सामुदायिक स्वास्थ्य केन्द्र नजदीकी जिला अस्पताल/उच्च चिकित्सा संस्थान के साथ समन्वय स्थापित करेंगे तथा अधिक संख्या में केस

		रैफर करने पर उनकी अग्रिम सूचना जिला अस्पताल को देगे।
3	मई	● हीट वेव्स या लू के प्रभावको कम करने और गम्भीर बीमारियों या हीट स्ट्रोक से होने वाली मौत से बचने के लिए आप निम्न लिखित उपाय कर सकते है :- ➤ धूप में रहने से बचें, खास कर दोपहर 02:00 बजे से साँय 04:00 बजे के बीच ➤ अपने आपको जितना हो सके उतना पानी से हाईड्रेट करने की कोशिश करें, भले ही आप प्यासे न हो। ➤ सूती कपड़े पहने जो सांस लेने योग्य, हल्के रंग के ढीले और हल्का हो। जब आप बाहर हों, तो धूप का चश्मा लगाए जो आप की आंखों को धूप, टोपी या छाता, जूते या चप्पल से बचाए। ➤ जब बाहर चिल चिलाती धूप होतो आपको कसरत नहीं करनी चाहिए। दोपहर बारह से तीन बजे के बीच अन्दर ही रहे। ➤ आप जहां भी आए अपने साथ पानी लेकर जाए। ➤ ताजा खाना ही खाएँ और ऐसी किसी भी चीज से दूर रहे जिस में बहुत सारा प्रोटीन हो। ➤ यदि आप को बाहर काम करना है, तो टोपी या छाता पहने और अपने सिर, गर्दन, चेहरे और अंगों को ढकने के लिए एक नम कपड़े का उपयोग करें। ➤ बच्चों या जानवरों को भी कभी भी खडी कारों में लावारिस न छोड़ें। ➤ जितनी जल्दी हो सके, आपको चक्कर आने या बेचैनी महसूस होन पर डॉक्टर को दिखाना चाहिए। ➤ लस्सी, तोरानी (चावल का पानी), नीम्बू पानी, छाछ आदि जैसे घर के बने पेय पदार्थों के साथ ओ.आर.एस. का प्रयोग करे। ➤ अपने घर को ठंडा रखने के लिए सनशेड, ड्रेप्स या शटर का इस्तेमाल करे। रात में खिडकियों को और भी चौड़ा करे। ➤ पंखे का प्रयोग करना, नम कपड़े पहने और बार-बार ठण्डे पानी से नहाना।
4	जून	● स्वास्थ्य केन्द्रों पर किसी भी Heat Related illness के मरीज का पर्याप्त प्राथमिक उपचार करने के बाद ही जिला अस्पताल/उच्च चिकित्सा संस्थान को रेफर करेगे। सामुदायिक स्वास्थ्य केन्द्र नजदीकी जिला अस्पताल के साथ समन्वय स्थापित करेगे तथा अधिक संख्या में केस रैफर करने पर उनकी अग्रिम सूचना जिला अस्पताल के साथ राज्य स्तर पर भी प्रेषित करना। ● जिलों में गर्मी से बचाव हेतु किए गए कार्यों की राज्य स्तर पर माह वार सूचना प्राप्त कर समीक्षा करना।

नोट :-

- ❖ Heat Wave से होने वाली बीमारियों के बचाव एवं उपचार की समीक्षा हेतु राज्य स्तर पर प्रथम बैच में 10 जिला नोडल अधिकारियों की दिनांक 03 से 05 मार्च 2025 को NHSRC, New Delhi में कार्यशाला का आयोजन किया जा रहा है।
- ❖ जिला स्तर पर आईईसी हेतु राशि रु. 05.00 लाख एवं प्रोग्राम मैनेजमेन्ट हेतु राशि की स्वीकृति प्राप्त है।
- ❖ आमजन को सूचना शिक्षा एवं संचार (आईईसी) के साथ-साथ एनपीसीसीएचएच कार्यक्रम के अन्तर्गत तैयार की गई सामुदायिक स्तर की जागरूकता सामग्री का अधिक से अधिक प्रचार-प्रसार कराया जावे।
- ❖ सामान्यतः शरीर का तापमान 35.6° C To 37.2° C /97.5° F To 98.9 F से के बीच रहता है।
- ❖ गर्मी से संबंधित निम्न प्रकार की बीमारियों/लक्षण/निवारण एवं प्राथमिक उपचार :-

क्र. सं.	बीमारी	लक्षण	निवारण	प्राथमिक उपचार
01	Heat Rash	त्वचा पर छोटे-छोटे खुजली वाले उभार उत्पन्न होना	साबुन से नियमित रूप से स्नान करे जिस से त्वचा के छिद्र अवरुद्ध न हो और शरीर स्वाभाविक रूप से ठण्डा हो पाए।	साबुन से स्नान करें ताकि त्वचा के छिद्र खुल जाए, और गर्मी से बचाए। यदि छाले हैं तो सुखने के पश्चात ड्रेसिंग करें व चिकित्सक को दिखाए।
2	Heat Oedema	हाथ पाँव व टखने पर सुजन उत्पन्न होना	गर्मी के मौसममें खेलने / व्यायाम के दौरान ओ.आर.एस. या इलेक्ट्रोलाइट युक्त पेय पदार्थ पीते रहे। बहुत गर्म दिनों में व्यायाम सीमित करे। गर्म या बहुत नम स्थितियों में व्यायाम करने के लिए धीरे-धीरे काम करे। व्यायाम से पहले औरा दौरान शराब या कैफीन का सेवन न करे।	मरीज को ठण्डी या छायादार जगह पर आराम करवाए। ऐंठन वाली मॉस पेशियों पर खिचाव दे। ताकि आराम मिले। ऐंठन से राहत के लिए मॉस पेशियों पर धीमी मालिश करे। पीने के लिए ओ.आर. एस. या इलेक्ट्रोलाइट युक्त पेय पदार्थ पिलाए। आराम न अपने पर चिकित्सक को दिखाए।
3	Heat Cramps	मॉस पेशियों में दर्दनाक ऐंठन उत्पन्न होना		
04	Heat Tetany/ Heat Syncope	गर्मी से चक्कर उत्पन्न होना	अधिक पानी पीए, खासकर यदि आप गरम मौसम में सक्रिय हैं। या परिश्रम कर रहे हैं। हल्के रंग के ढीले कपड़े पहने। सुबह 11 बजे से दोपहर 03 बजे के बीच धूप से बचे। अधिक शराब से बचे। अत्यधिक परिश्रम से बचे। यदि बहुत गर्म दिन है तो घर पर ही रहे, पर्दे से खिड़किया	पीड़ित को ठण्डी जगह पर लिटाए, कपड़े ढीले करे, ठण्डा-गीला कपड़ा लगाए, पंखा या पीड़ित को वातानुकूलित स्थान पर ले जाए, पानी की घूंट धीरे-धीरे पिलाएँ और अगर उल्टी होती है तो पानी न पिलाएँ और तत्काल अस्पताल ले जाए,
05	Heat Exhaustion/ Heat Stroke	गर्मी से होने वाली बीमारी का सबसे गम्भीर रूप है। लक्षणों में गर्म, शुष्क त्वचा, तेज बुखार,		

		तेज हृदय गति, भूख न लगना, मतली, उल्टी सिर दर्द, थकान भ्रम बैचेनी, सुस्ती, दौरे, कोमा और मृत्यु शामिल है।	बन्द कर दे, बिजली के उपकरण जो गर्मी और रोशनी देते हैं। उन्हें भी बन्द कर दे। हीटस्ट्रोक एक जोखिम वाली आपात स्थिति है जिसे सरल रोकथाम उपायों का पालन कर के टाला जा सकता है। वृद्ध लोगो, छोटे बच्चों गर्भवती या स्तन पान कराने वाली महिलाएँ और हृदय रोग, गुर्दे की बीमारी और मधुमेह जैसी चिकित्सा स्थितियों वाले लोगो का सबसे अधिक खतरा होता है। अधिक पानी पीएँ खास कर यदि आप गरम मौसम में सक्रिय हैं या परिश्रम कर रहे हैं। हल्के रंग के ढीले कपड़े पहने। सुबह 11 बजे से दोपहर 3 बजे के बीच धूप से बचे। अधिक शराब से बचे। अत्यधिक परिश्रम से बचे यदि बहुत गर्म दिन है तो घर पर ही रहे, पर्द से खिडकिया बन्द कर दे।	एम्बुलेन्स के लिए 108 पर कॉल करें। मरीज को ठण्ड या बर्फ के पानी से नहाने से शरीर का तापमान को तेजी से कम होता है। यदि पानी में डुबोने की सुविधा नहीं है तो पानी का छिडकाव कर के पंखा चला दे। मरीज को अस्पताल ले जाए।
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Number of Pages: 82
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