

National Workshop on Heat Wave 2024

SOPs for developing Climate Adaptive and Ward Level Heat Action Plans

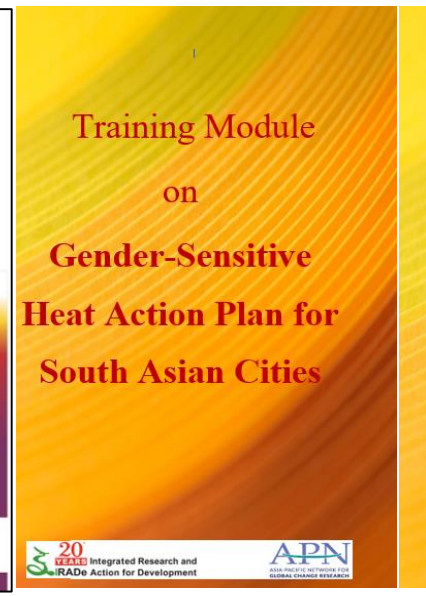
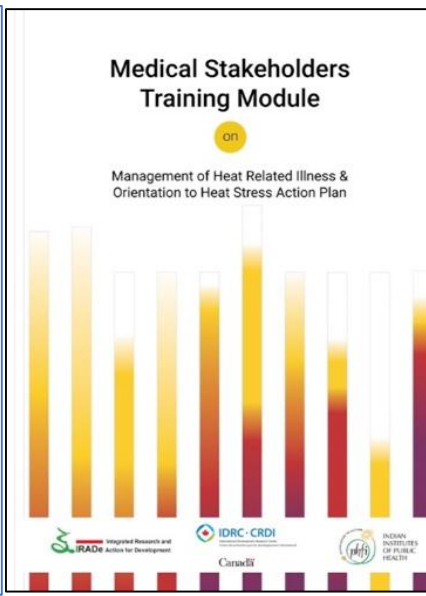
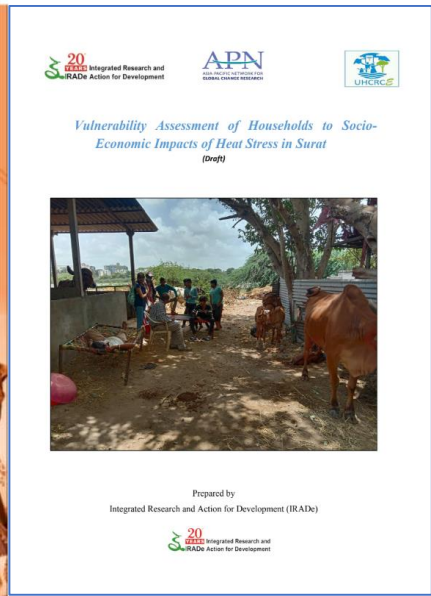
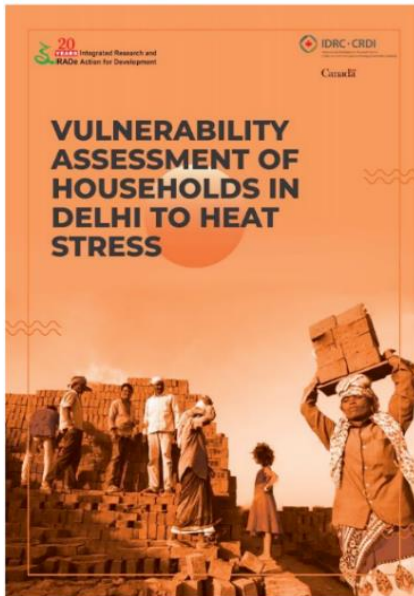
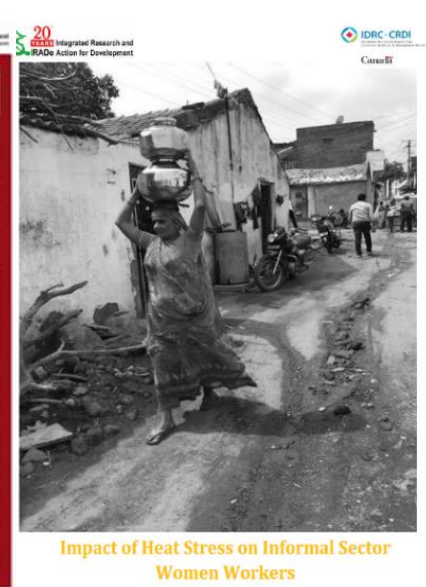
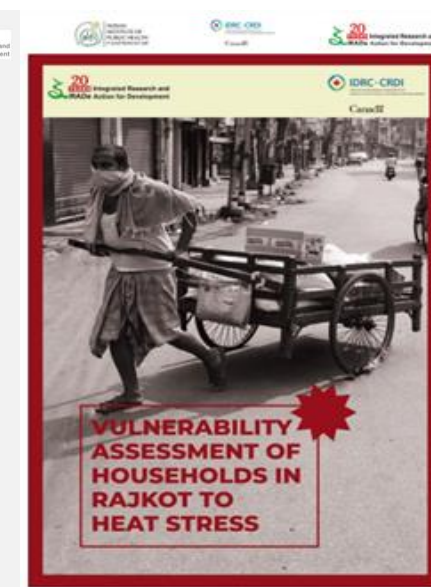
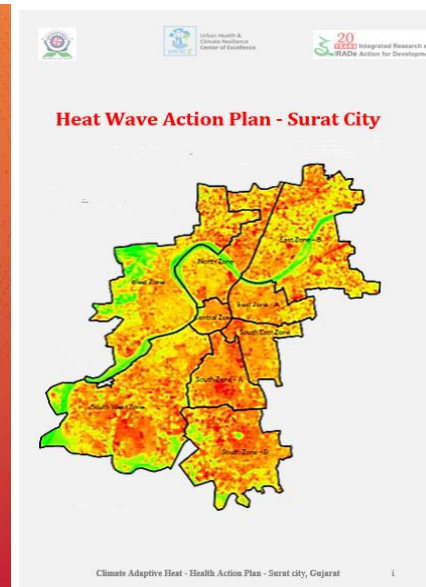
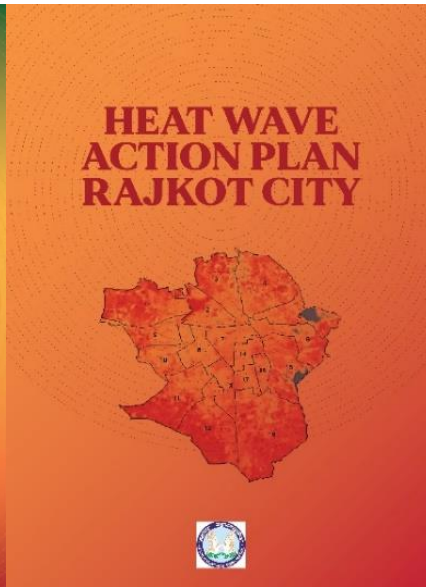
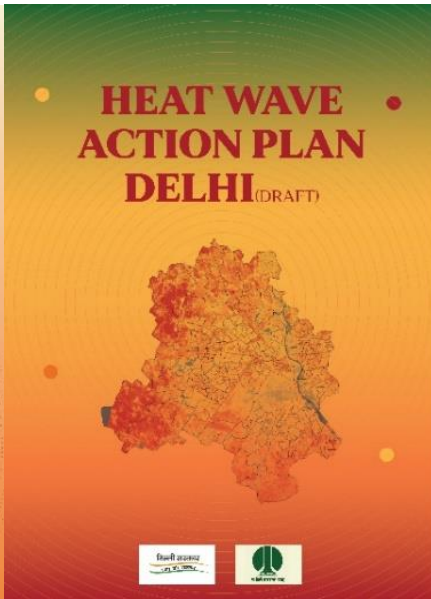
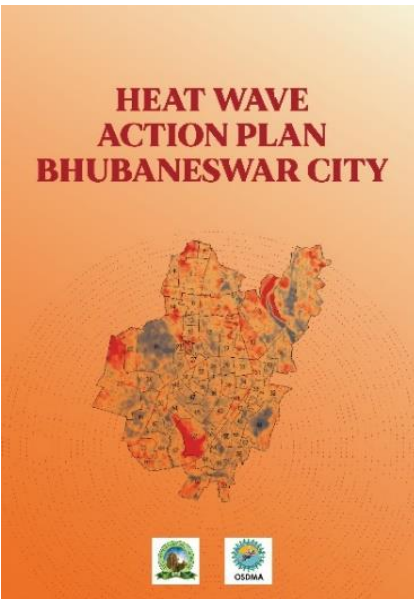
Rohit Magotra

Deputy Director, IRADe

14/02/24



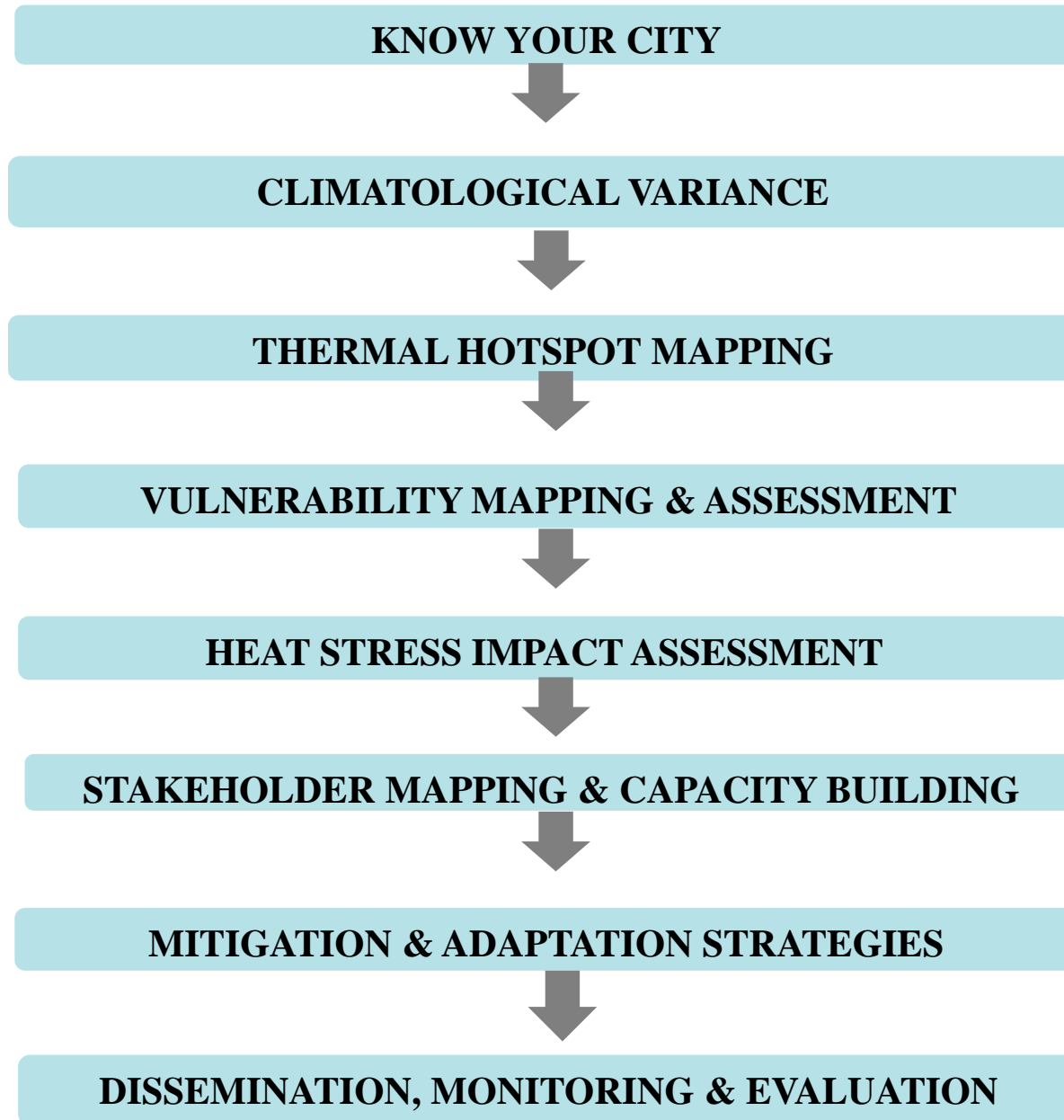
Heat Action Plans and Vulnerability Assessment- 6 cities in South Asia



Purpose of SOPs

- Understand the features of a climate adaptive heat action plan
- Step wise methodology to develop and implement gender sensitive and vulnerable community focused action plans
- Identification of heat hotspots/urban heat islands in the cities
- Focussed and targeted interventions for the cities
- Sensitise and train stakeholders on emergency preparedness in hospitals and health centres
- Enhance the participation of stakeholders in addressing challenges posed by heat waves

Process of Developing a Climate Adaptive and Inclusive Heat Action Plan



Know Your City

**City Overview - Socio-Demographic and Urbanization,
Historical Overview - Heat related Mortality and Morbidity**

Key information for the city overview

About the city

Location, climate, demography covering economy focus and population composition

Status of infrastructure services (Water supply, housing, sanitation, electricity)

Heat Stress - Definition of heat waves by the city or state or region or country

Incidence of heat waves - 30 years

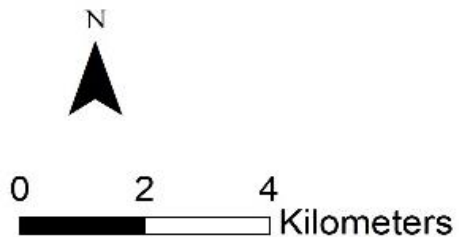
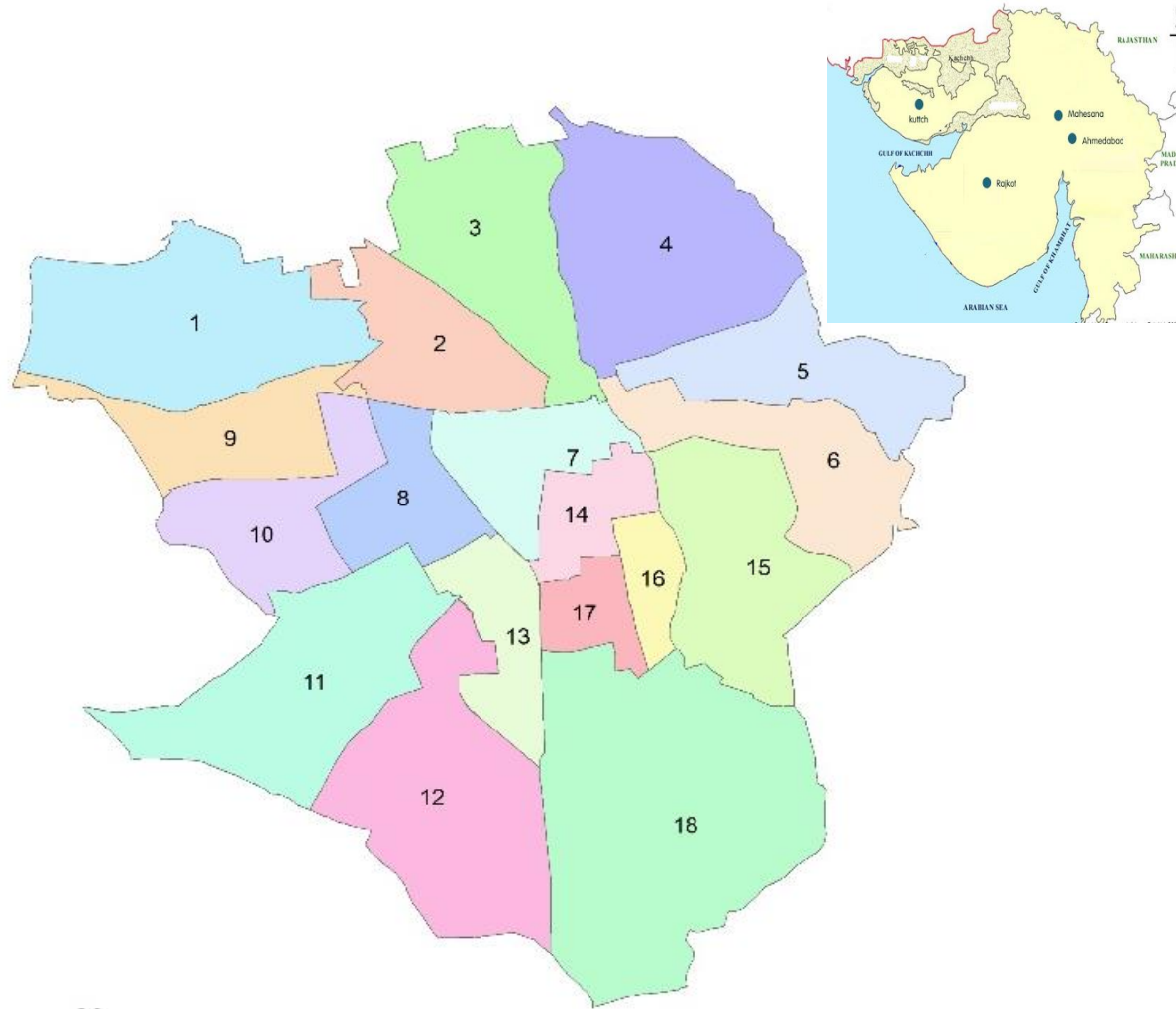
Climatological average of the city

Impact of climate change on heat wave incidences in city

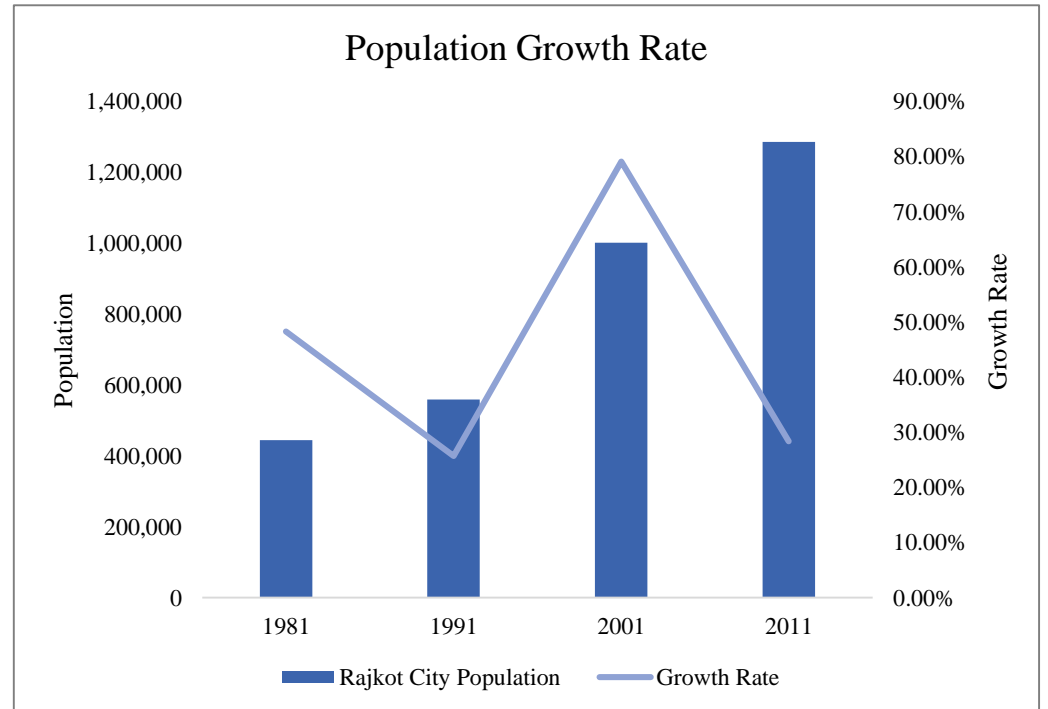
Heat wave management practices in the city

Gaps and recommendations

Know Your City



City Characteristics	
Location	22.3°N 70.78°E
Height above main sea Level	134 mts
Total area (sq. km)	104.85 (Census, 2011) 170 (Present)
No. of Wards	18
No. of Slum Pockets	145



CLIMATOLOGICAL VARIANCE

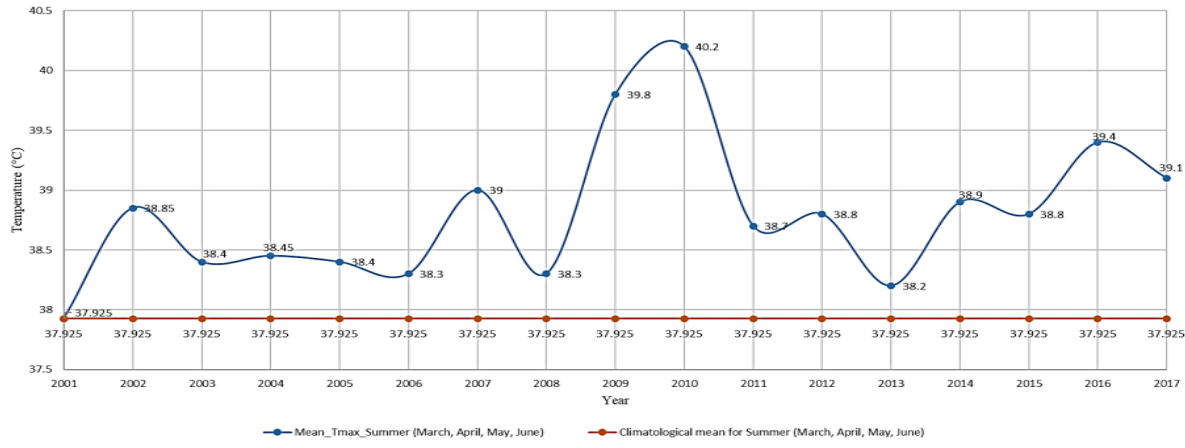
City Climatological Analysis – Temperature (Tmax, Tmin) and Relative Humidity

Check List

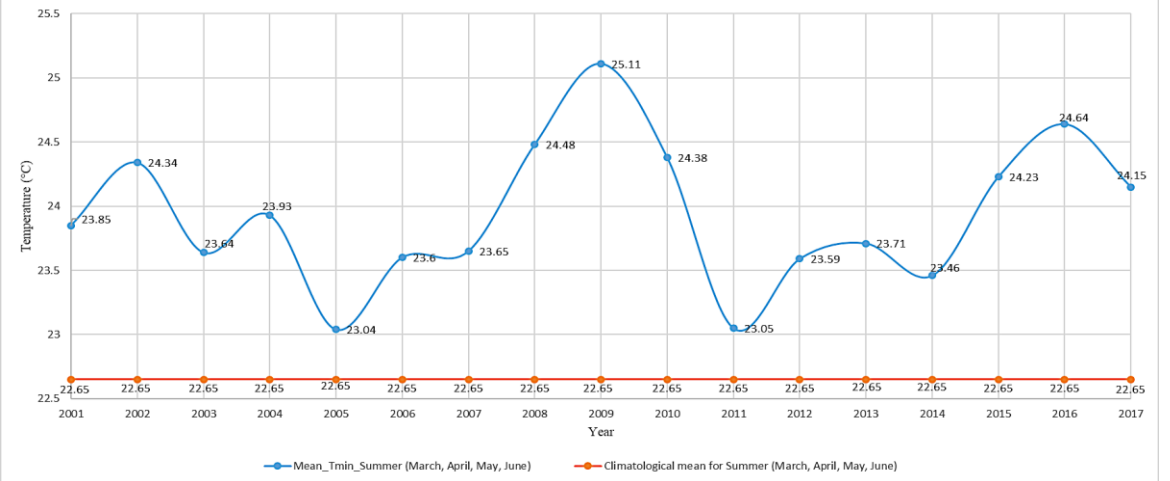
1. Collect the climate data on temperature (T max, Tmin) and relative humidity (10-30 years) from state and national meteorological departments
2. Chronicle the extreme heat events, duration of summer and changes in frequency
3. Understand the climate sensitivity and analyse the climate patterns
4. Impact of the heat wave on the city systems and highlight its fragility
5. Climate projection of the city and lay down pre/during/post hot months of the city
6. Review and if necessary revise the criteria of the city to declare a heat wave
7. Identify the possible effects attributable to climate change

CLIMATOLOGICAL VARIANCE

Variation of Mean Monthly Maximum Temperature (Tmax) for Summer Season in Rajkot during 2001-17

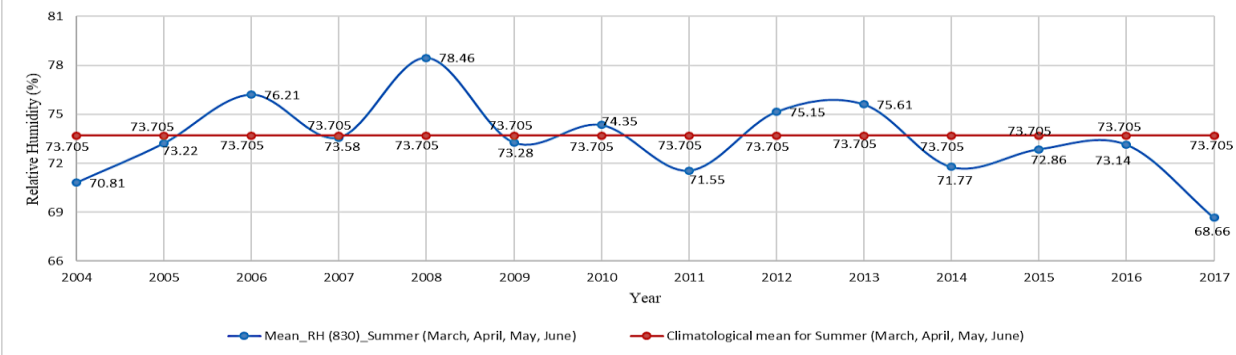


Variation of Mean Monthly Minimum Temperature (Tmin) for Summer Season in Rajkot during 2001-17

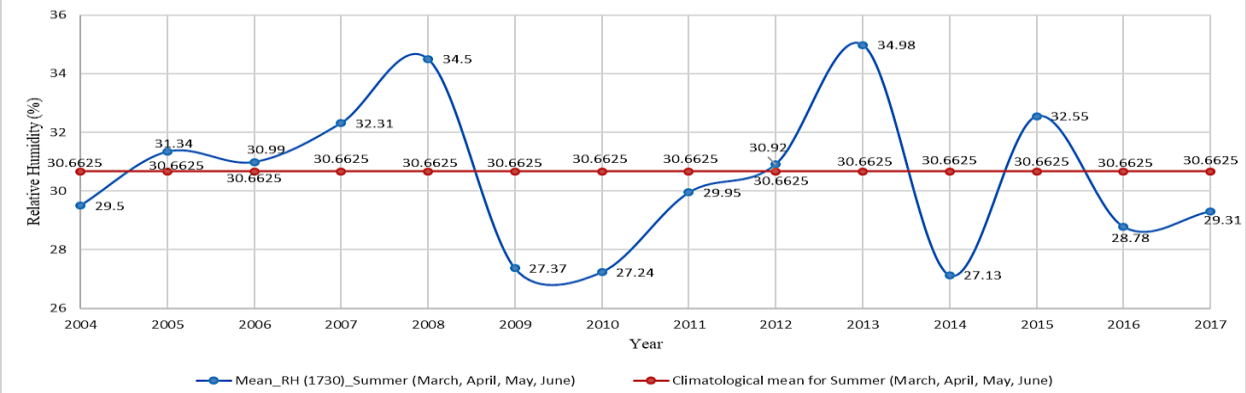


MEAN MONTHLY TEMPERATURE (T max and Tmin)

Variation of Mean Monthly Relative Humidity Measured at 8:30 hrs [RH (830)] for Summer Season in Rajkot during 2004-17



Variation of Mean Monthly Relative Humidity at 17:30 hrs IST [RH (1730)] for the entire summer season in Rajkot during 2004-17



MEAN MONTHLY RELATIVE HUMIDITY (RH 830 and RH 1730)

THERMAL HOTSPOT MAPPING

Developing methodology

GIS mapping of thermal hotspots - city and municipal ward levels mapping

Thermal hotspot mapping of the city

Collect information on land surface temperature (LST) and ambient air temperature

Wet and dry bulb temperature at the municipal ward level to determine intra-city variations

Analyse spatial heat extreme variability with the various influencing factors of the urban environment in the city

Develop heat maps using remote sensing

Build scenarios with temperature variations

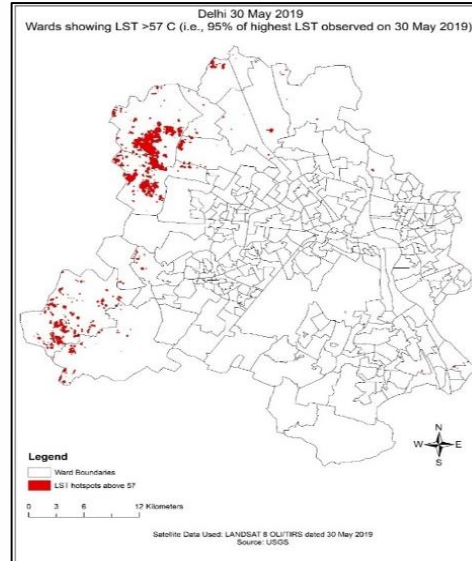
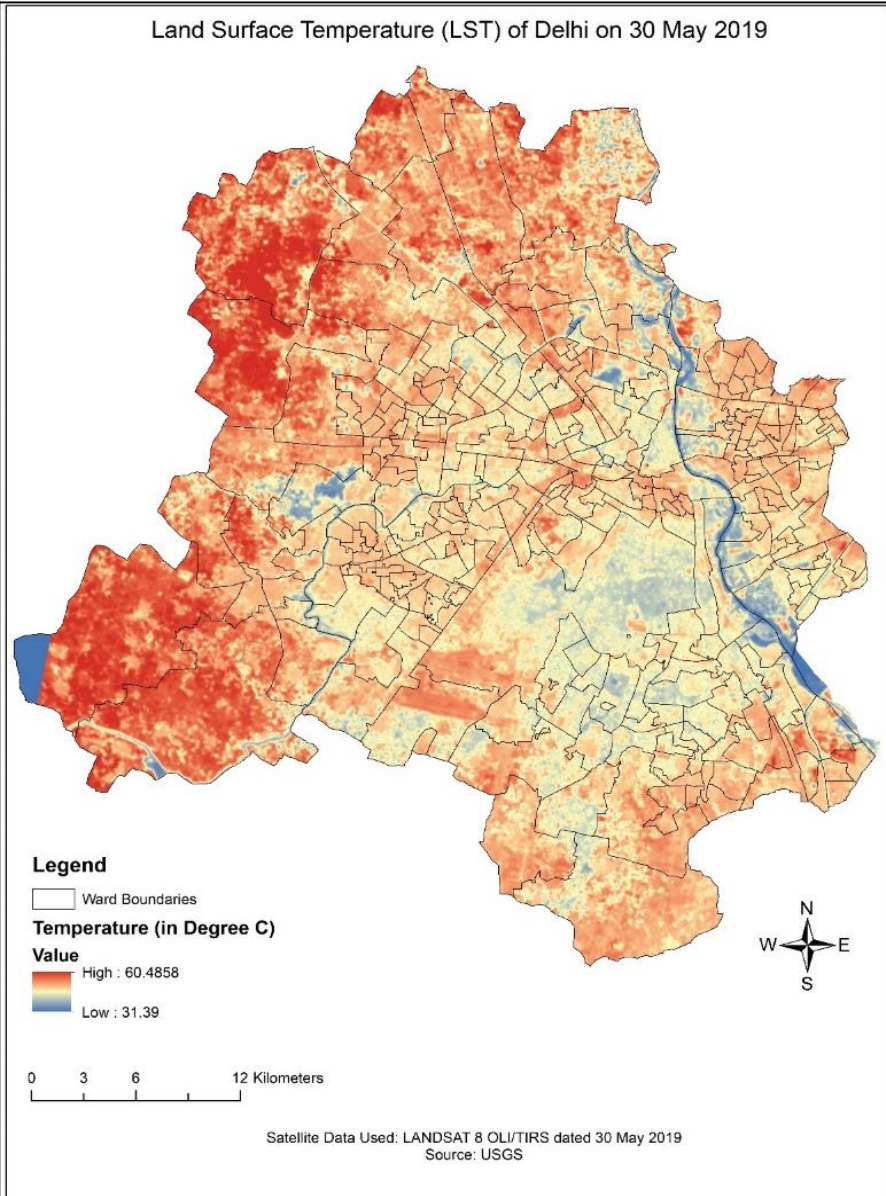
Map climate change patterns

Identify wards/areas that may become heat hotspots due to temperature variations in future

THERMAL HOTSPOT MAPPING

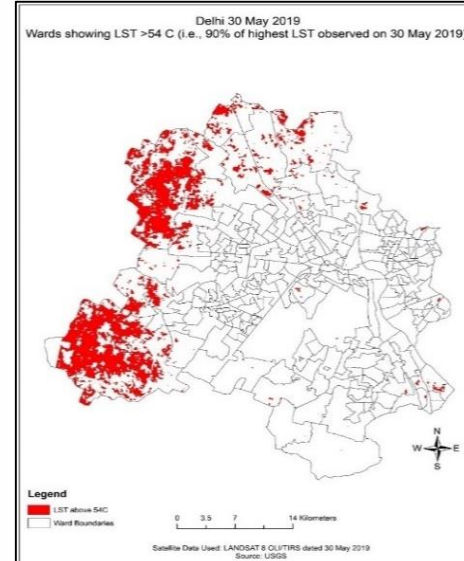
DELHI

Land Surface Temperature (LST) of Delhi on 30 May 2019



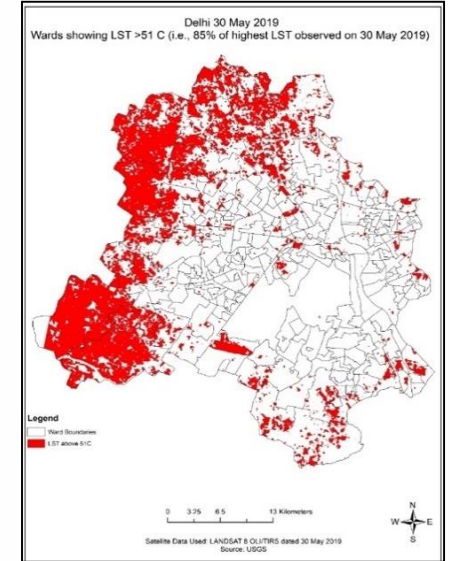
Thermal hotspot map of Delhi showing wards with LST >57.45 °C

Nearly all the wards have 0-25% of area as thermal hotspot
Nangal Thakaran and Kanjhawala, belonged to category III.



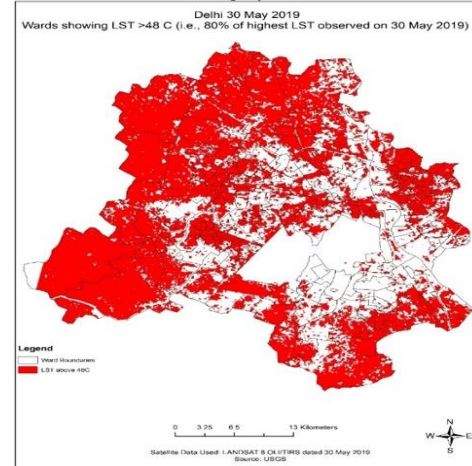
Thermal hotspot map of Delhi showing wards with LST >54 °C

Wards, Isapur and Kanjhawala, Dichaon Kalan, Ghuman Hera and Nangal Thakaran have above 25% area as thermal hotspot



Thermal hotspot map of Delhi showing wards with LST >48 °C

At 80% of the highest LST, all the wards of Delhi showed UHI, with 167 wards falling in Category I.



Thermal hotspot map of Delhi showing wards with LST >51 °C

171 wards showed UHI with LST more than 51 °C, with 8 wards belonging to Category I and 21 wards belonging to Category II

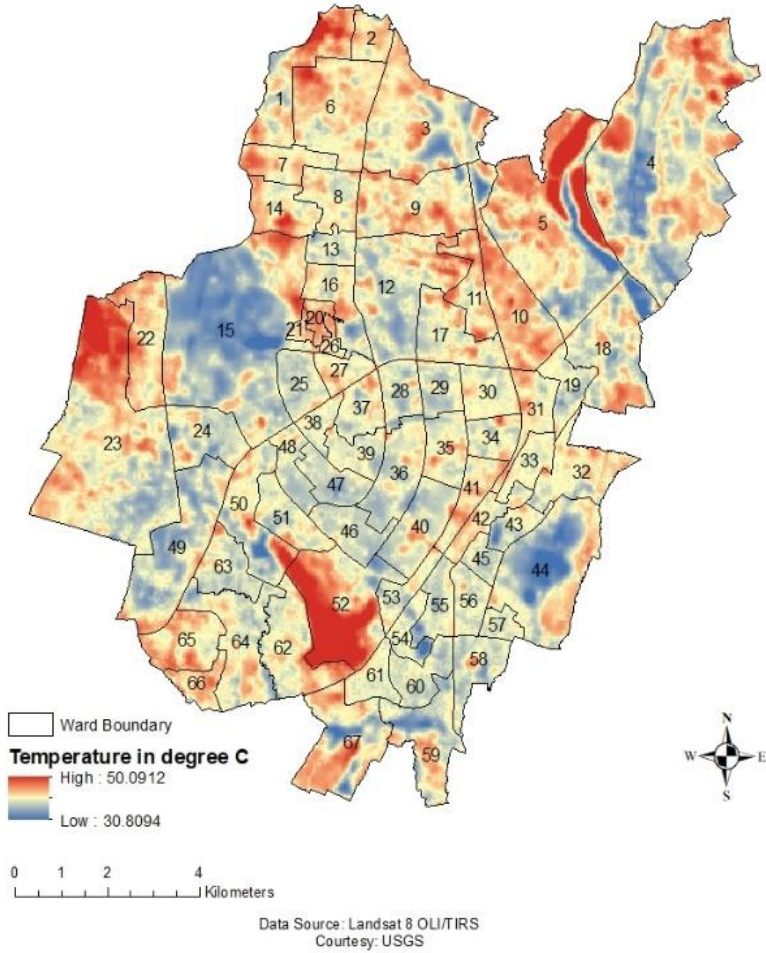
LST- Delhi



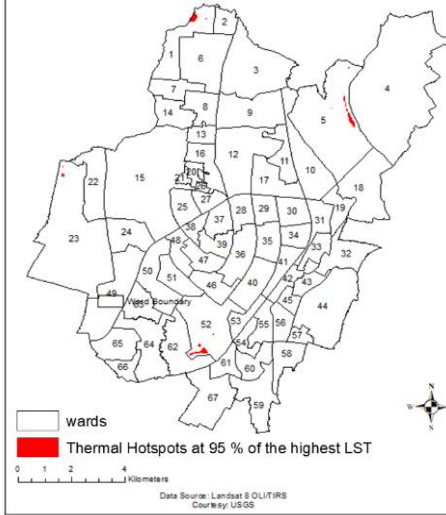
THERMAL HOTSPOT MAPPING

BHUBANESWAR

Land Surface Temperature of Bhubaneswar on 11 April 2019



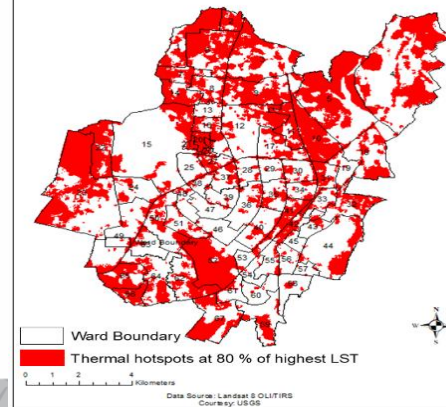
Land Surface Temperature of Bhubaneswar on 11 April 2019



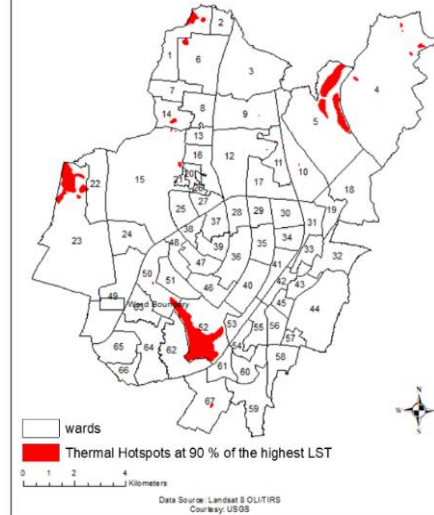
Thermal hotspot map of Bhubaneswar showing wards with LST >53.77°C

No significant area experienced LST in excess of 47.59°C.

Land Surface Temperature of Bhubaneswar on 11 April 2019



Land Surface Temperature of Bhubaneswar on 11 April 2019



Thermal hotspot map of Bhubaneswar showing wards with LST >45.08°C

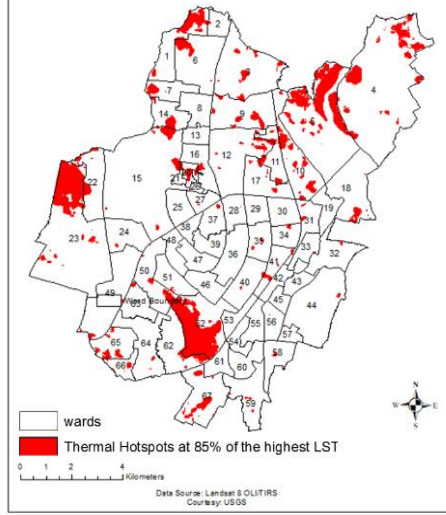
Hotspots found in 11 wards. Ward 52 showed almost 43% of the total area experiencing LST > 45.08°C

Thermal hotspot map of Bhubaneswar showing wards with LST >40.07°C

Nearly 28 wards fall in Category I, ward 10, 21, 22, 26, 65 and 66 had more than 90% of their entire area with LST > 40.07°C

LST- Bhubaneswar

Land Surface Temperature of Bhubaneswar on 11 April 2019



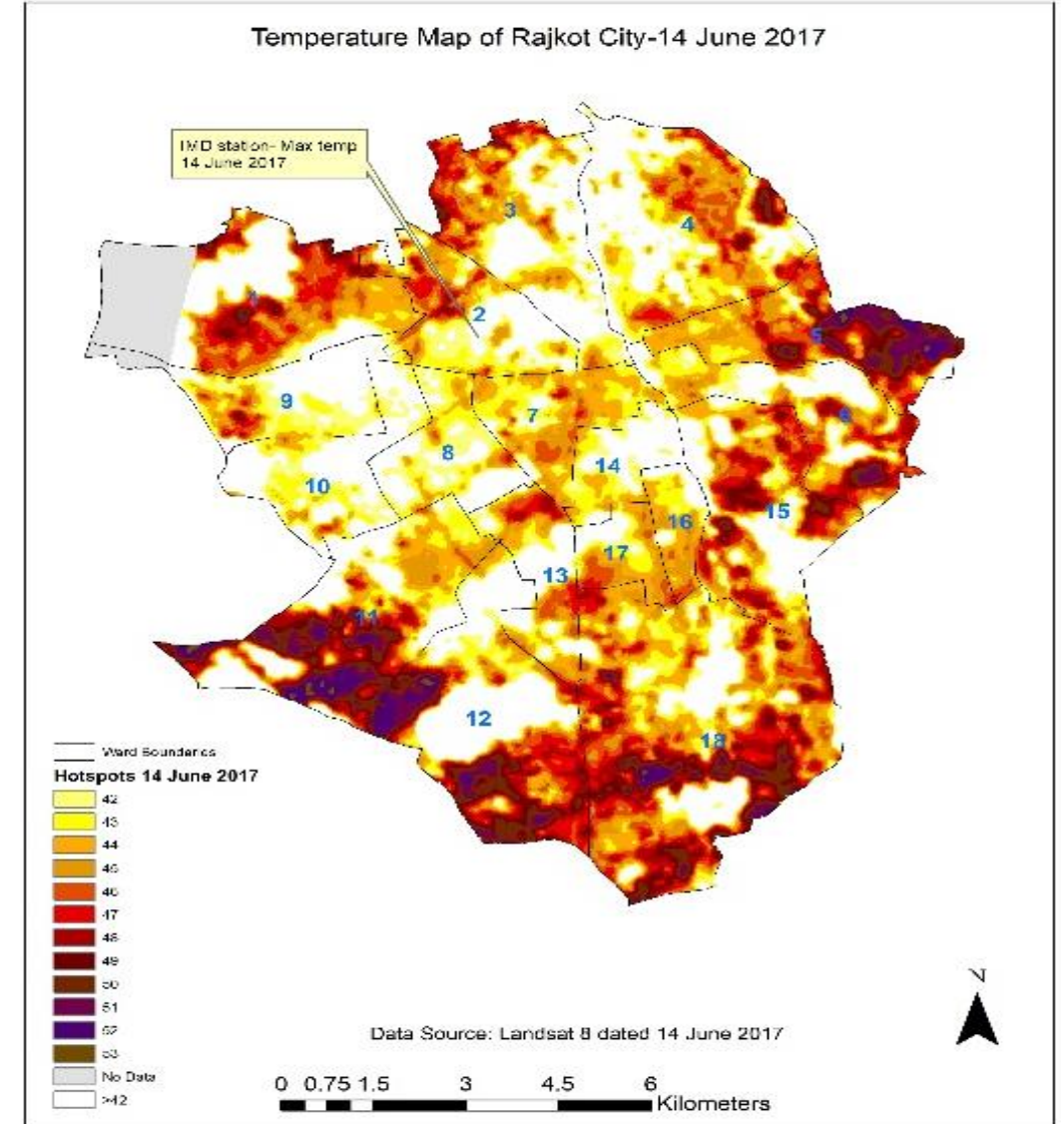
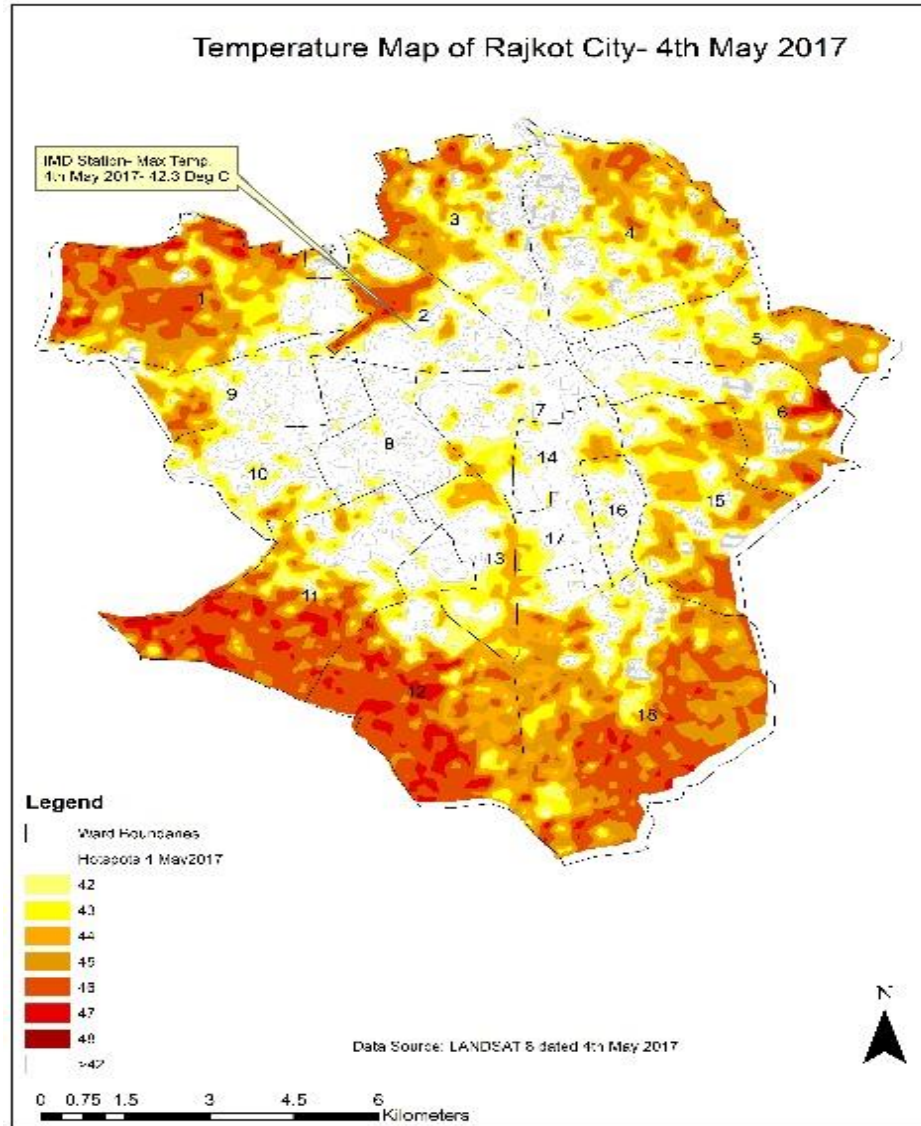
Thermal hotspot map of Bhubaneswar showing wards with LST >42.58°C

Ward 52 falls in Category I with nearly 64% of the area experiencing temperature above 42.58°C. Ward 1, 5 and 20, have 28%, 32% and 31% area showing above 42.58°C



THERMAL HOTSPOT MAPPING

LST- Rajkot

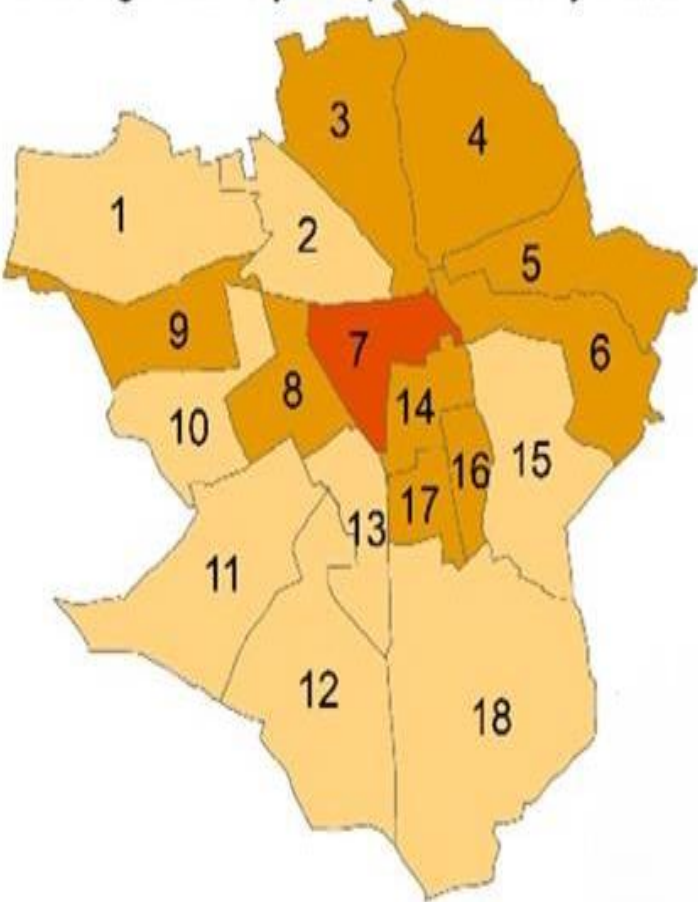


Higher temperature is consistently experienced in ward numbers 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 15 and 18.

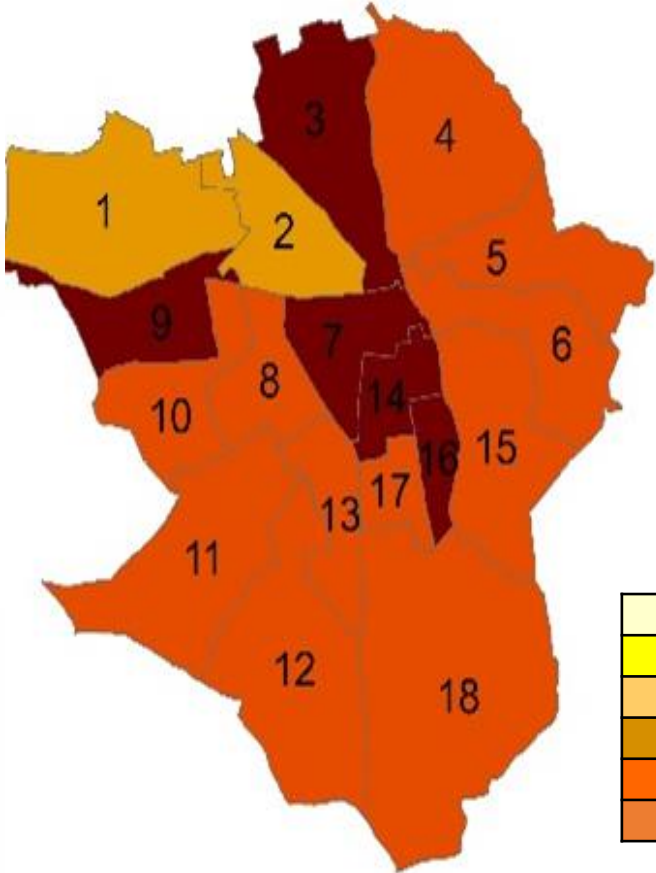
THERMAL HOTSPOT MAPPING

May

Average Monthly Temperature- May 2018



3 Degree C Scenario



36-38 Degree C
38-40 Degree C
40-42 Degree C
42-44 Degree C
44-46 Degree C
46-48 Degree C

- 8 wards are in the temperature range 40-42 Deg C, 9 wards in 42-44 Deg C and 1 ward in 44-46 in the Average Monthly baseline temperature of May (2018).

- In the scenario with 3 Deg C increase in temperature, 2 Wards are in the temperature range 42-44, 11 wards are in 44-46 Deg C and 5 wards in the 46-48 Deg C

FUTURE HEAT HOTSPOT SCENARIOS FOR RAJKOT

Vulnerable Group and Area Identification, City level Surveys and Vulnerability Assessment – Ward level

Check List

1. Identify the vulnerable groups and their respective health risks
2. Identify heat wave-sensitive services in the city
3. Develop a questionnaire and carry out a vulnerability assessment survey in 4-5 locations that are in heat hotspots of the city
4. Carry out a ward-level cumulative heat wave vulnerability study in the city on the scale of low to high vulnerability to devise specific interventions
5. Develop a list of top-priority wards that are vulnerable to heat waves and identify areas of intervention
6. The questionnaire will include an assessment of people's health, livelihood, and productivity
7. Assess the quantum of wage loss due to heat stress

VULNERABILITY MAPPING & ASSESSMENT

Assessing geographic variability in heat wave vulnerability forms the basis for planning appropriate targeted adaptation strategies

Vulnerable areas include:

- Slums and scattered settlements,
- Minimal access to water and sanitation, and
- Minimal presence of household amenities
- Urban Heat Islands
- Industrial Belts

Vulnerable groups include:

- Economically weaker sections
- Elderly, Children, Women , Pregnant Women
- Co- morbid (Diabetes, Kidney , Heart Disease)
- Working individuals – construction workers, factory workers, transport, sweepers, laborers and vendors/street hawkers



VULNERABILITY MAPPING & ASSESSMENT



VULNERABILITY MAPPING & ASSESSMENT

SANITATION

- Type of Toilet
- Separate Toilets

WATER

- Water Source
- Water Source Location
- Water Collection Time
- Frequency Water Supply

ELECTRICITY

- Electricity Cuts

SYMPTOMS

- Heat Exhaustion

HEALTH

- Access to Health Infra-Public/Private/Both
- Distance Hospital
- Health Insurance

TRANSPORTATION

- Preferred Mode of Transport

COOKING

- Cooking Place
- Type of Cooking Fuel

VENTILATION

- Number of Windows

HOUSING

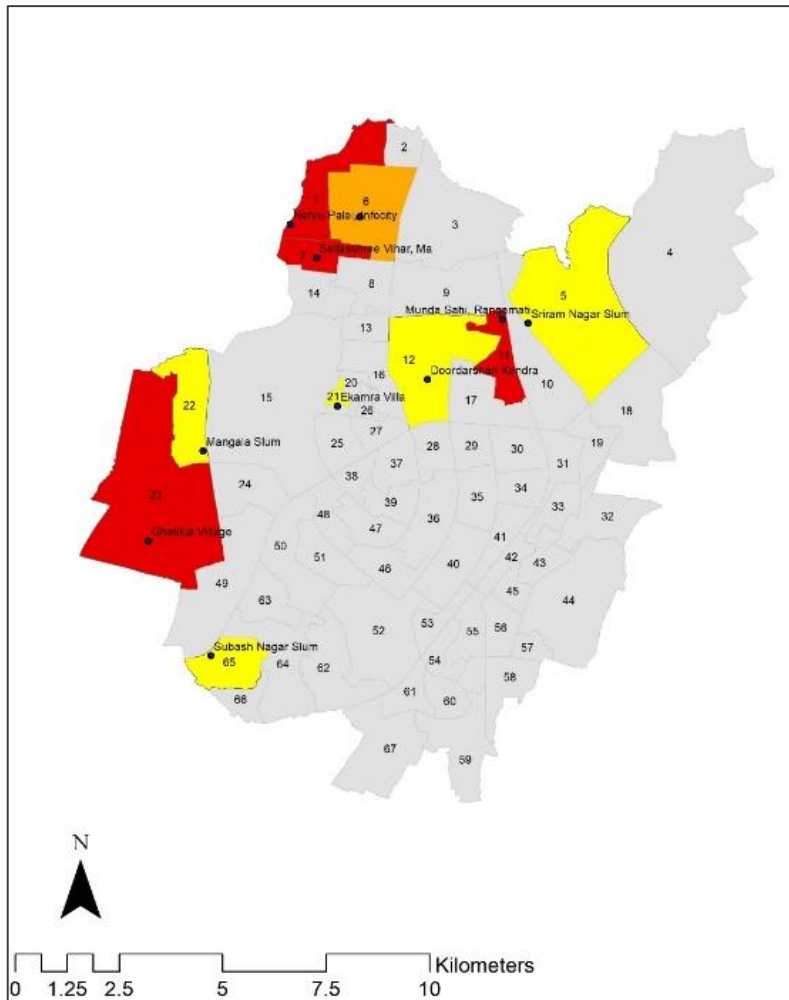
- Years of Occupancy
- Number of Rooms
- Type of House
- Floor Type
- Roof Type
- Wall Type
- Wall Colour

AWARENESS

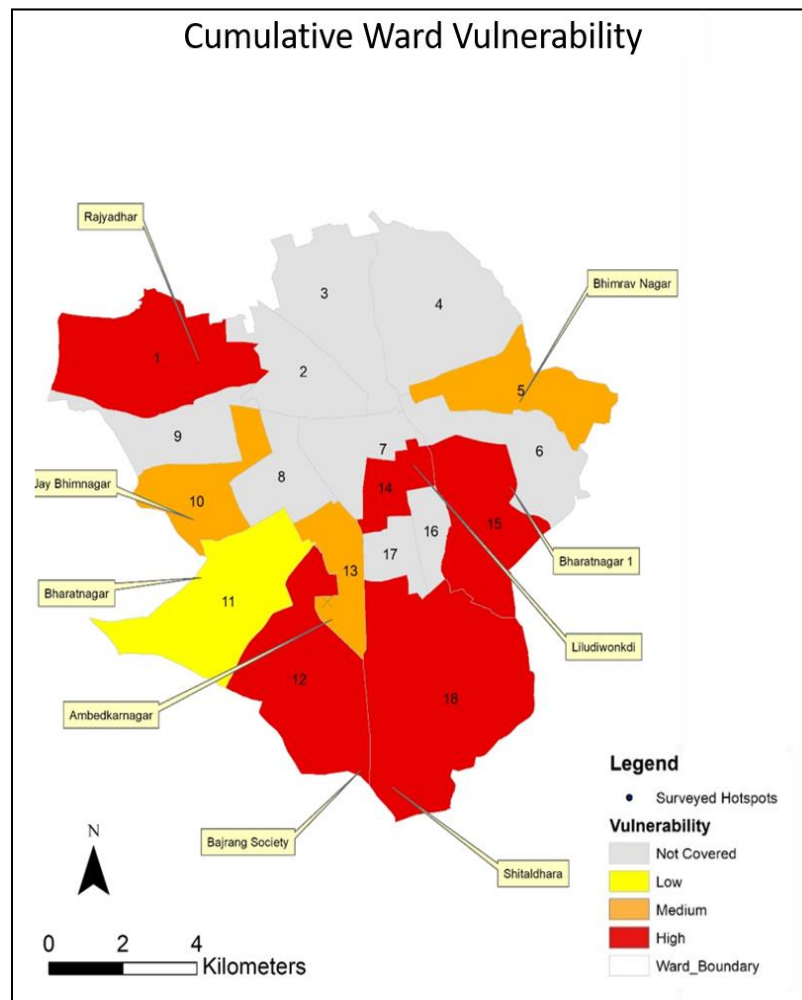
- Heat Stress Awareness
- Aware of Medical facilities for Heat
- Aware of Medical measures ULB

VULNERABILITY MAPPING & ASSESSMENT

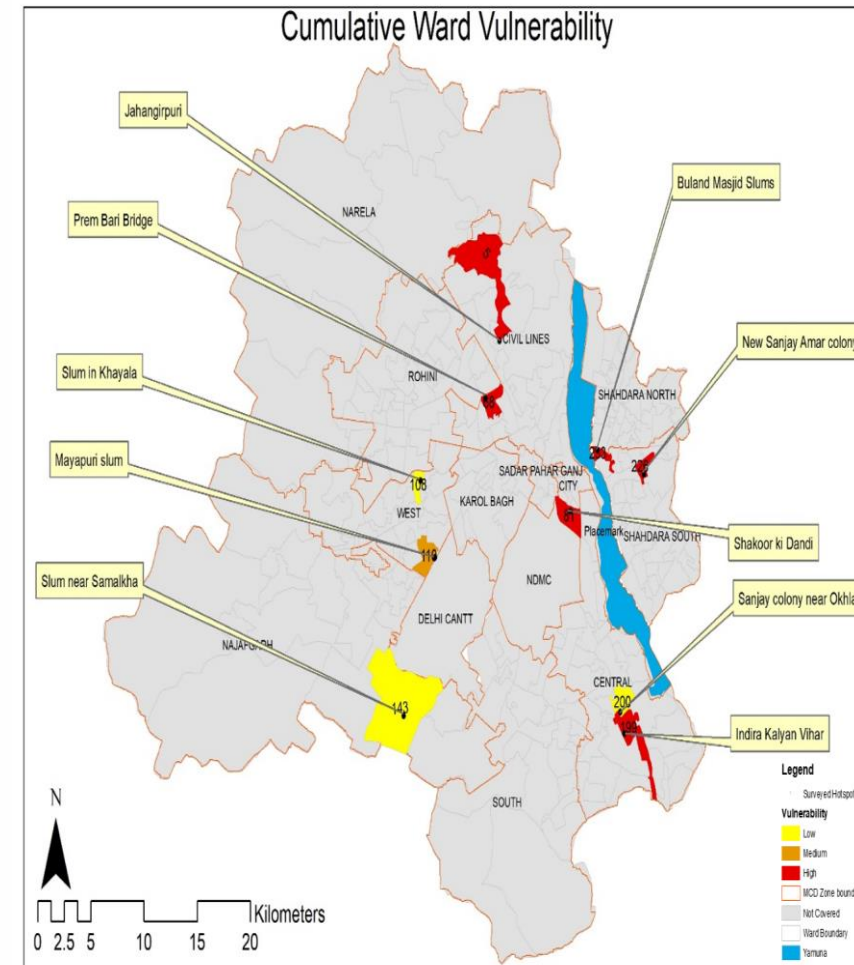
BHUBENESWAR



RAJKOT



DELHI



Impact on Health, Livelihood and Productivity

Survey to assess vulnerability

Carry out ward-level household survey to check the impact of heat waves on the health, livelihood and productivity of the community

Understand how the communities/groups are mitigating and adapting to extreme heat

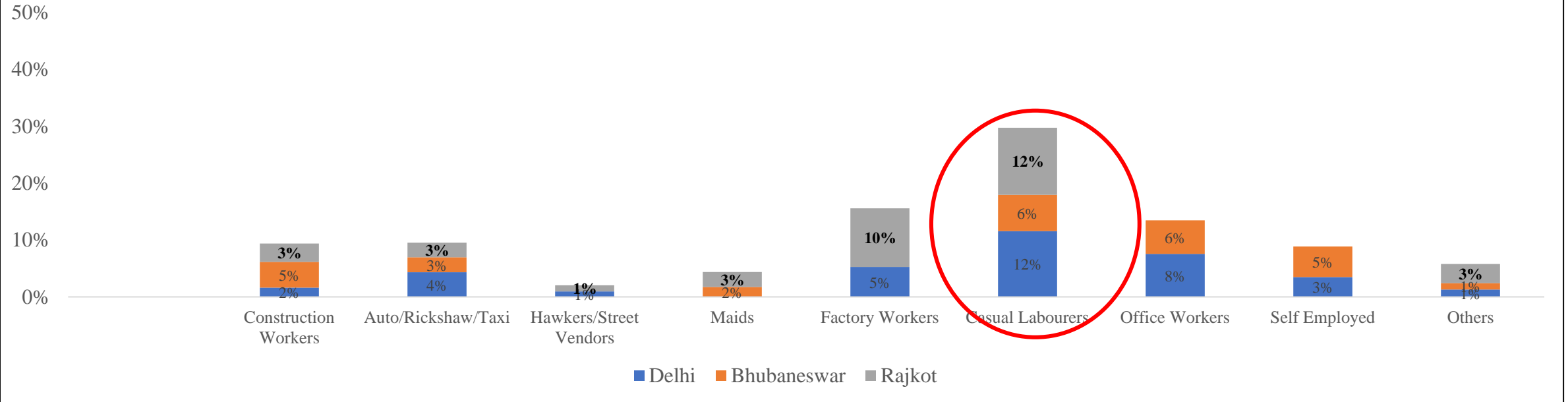
Draw out key challenges faced by specific groups such as outdoor workers, women, among others

Understand the working conditions of the people due to which they lose their productivity and livelihood. Try to quantify the loss in monetary terms

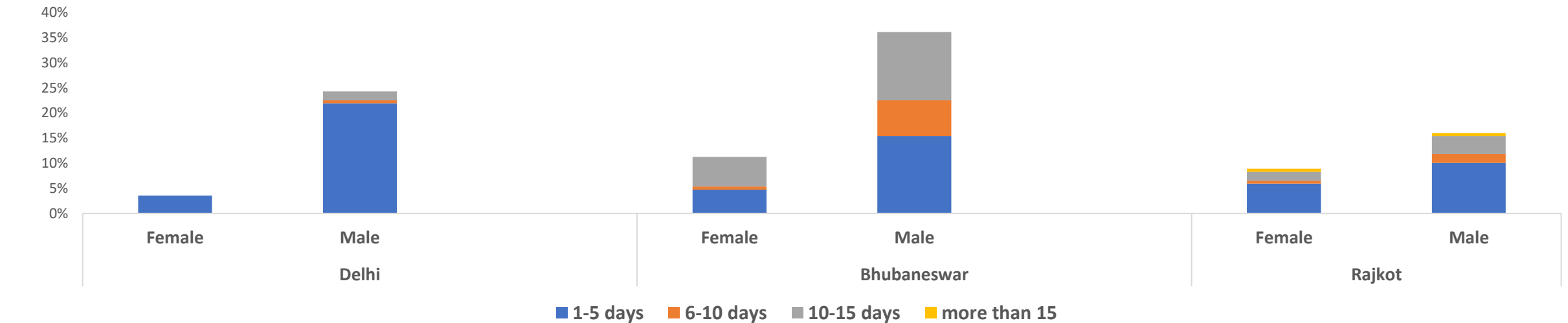
Do a comparative analysis of different locations and develop a list of key approaches that are needed to manage heat stress

HEAT STRESS IMPACT ASSESSMENT

Occupation wise Wage Loss



Gender wise Productivity Loss



HEAT THRESHOLD

Metrication of Template:HeatTable

		temperature (°C)																
		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Relative Humidity (%)	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	34	36	38	41	43	46	49	52	55	58		
	55	28	29	30	32	34	36	38	40	43	46	48	52	55	59			
	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	54												

- Caution
- Extreme Caution
- Danger
- Extreme Danger

ALERT CATEGORY	ALERT NAME	TEMPERATURE THRESHOLD (CELSIUS)
RED ALERT	Extreme heat alert day	Greater than or equal to 45
ORANGE ALERT	Heat alert day	43.1 – 44.9
YELLOW ALERT	Hot day advisory	41.1 – 43
WHITE ALERT	No alert	40

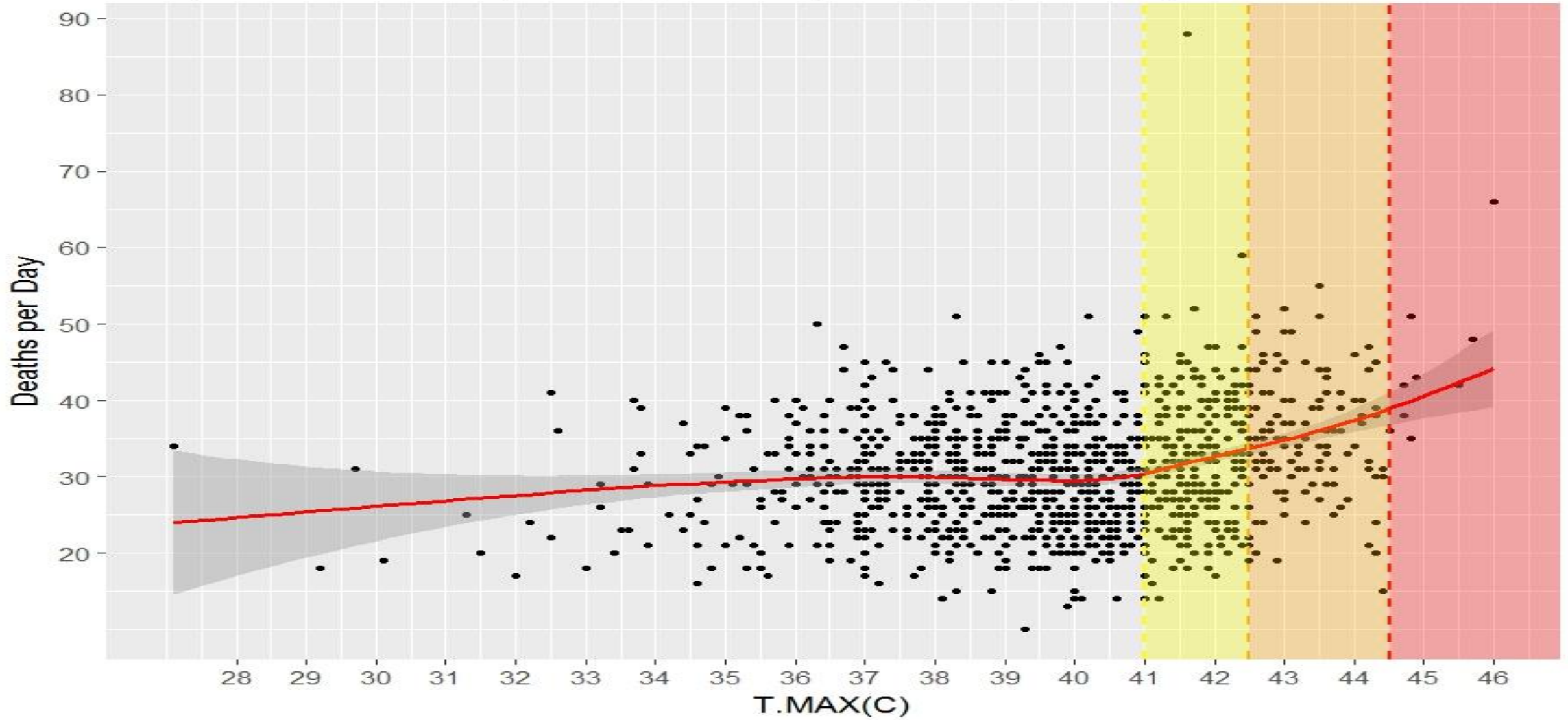
Source: NDMA guidelines¹

Heat- Health Alerts				
Alert Category	Alert Name	Maximum temperatures are near normal		
		Delhi	Bhubaneswar	Rajkot
Green (No Action)	Normal Day			
Yellow (Be updated)	Hot day advisory	>= 40 °C	36.2°C	40.5 - 43 °C
Orange Alert (Be prepared)	Heat alert day	>= 45°C	39.1°C	43.1 – 44.9°C
Red Alert (Take Action)	Extreme heat alert day	>= 47.4°C	Above 41.4°C	>45°C



HEAT THRESHOLD

Temperature Mortality Curve(Summer) - Rajkot (2006-17)



City and State level stakeholder engagement and community participation

The training and capacity building at the city- level should collaborative with common goals and responsibilities that connects with the intended audience.

It is important for the city to identify its training and capacity needs by way of Training Needs Analysis (TNA).

The training initiative needs to adopt appropriately targeted and structured training for enhancing knowledge and skills

Local context and language become extremely critical as the capacity building and training

Training and capacity building initiatives may be carried out with in the city at multiple levels on identified subject areas and the target groups

Training modules to be developed for the delivery of HAP trainings for different stakeholders

STAKEHOLDER MAPPING & CAPACITY BUILDING

BHUBANESWAR



- **Improved Sensitization Towards heat related illness and treatment –more than 50 medical facilitators trained in each city**
- **To recognize and record heat related Impact**



STAKEHOLDER MAPPING & CAPACITY BUILDING

Rajkot



MITIGATION & ADAPTATION STRATEGIES

Key strategies, Pre-heat, during heat and Post Heat Strategies

Sector wise mitigation and adaption measures

Check List

1. Develop a list of gender-sensitive interventions and actions following a consultative process
2. Address all the identified risks and vulnerabilities
3. List actions/interventions, their financial implications and the benefits
4. A year-round calendar of mitigation and adaptation measures should be developed, which could be divided into pre/during/post-heat waves

MITIGATION & ADAPTATION STRATEGIES

RAJKOT



15 Hoardings at public place in Rajkot City - Dissemination of Heat Stress Advisory among 15,000 plus people in Rajkot

MITIGATION & ADAPTATION STRATEGIES

RAJKOT



15 Hoardings at public place in Rajkot City - Dissemination of Heat Stress Advisory among 15,000 plus people in Rajkot

ACTION PLAN STRATEGIES - LANDSCAPE AND URBAN

Short Term Measures

- Improvising the urban landscapes through vertical greenery, roof gardens



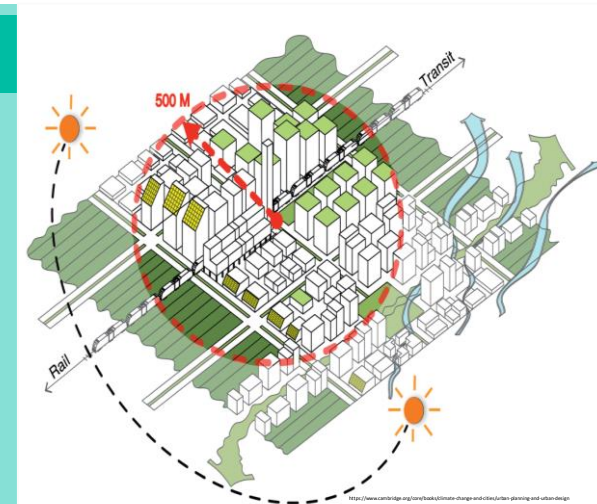
Medium Term Measures

- **Thermal Relief-** Larger parks with adequate tree canopies
- Strategically applying **shade types in cities**, eg. converting solar radiation into electricity.
- Combining **passive shading strategies with green and blue infrastructure**



Long Term Measures

- Identifying locations for **building shelters and shades in urban areas**
- Initiating **research on micro-climate**
- Encourage **investing in water bodies, fountains**
- **Evidence-based cooling strategies** during heat extremes and hot weather
- **Urban ventilation pathways**



ACTION PLAN STRATEGIES - BUILDING LEVEL

Short Term Measures

- **Rooftop sprinklers** enhance evaporation
- **Vegetated surfaces** (eg, so-called green walls) can also reduce **surface temperatures**
- The use of **cool roofs**, minimize heat retention

Medium Term Measures

- **Natural cross ventilation** through building openings
- **Retrofitting roofing of buildings with novel coatings** that are highly reflective

Long Term Measures

- Improving **building bye-laws** along with increasing heat tolerance
- **Passive Cooling techniques** to increase thermal comfort
- Learning from **Vernacular Architecture** - *orientation, building material, shading devices, façade treatments, openings, windows*



**Closed
Knit fabric**
– Optimum
Shade



Chajjas –
to prevent
direct Heat



**Courtyar
ds** to
promote
ventilation

ACTION PLAN STRATEGIES - SLUMS

Short Term Measures

- **Roof painting with white colour - cool roof**
- **Wet Gunny bags for putting on the tin roofs/asbestos in slums.**
- **Water tanker campaign-** in slums during orange/red alert



Medium Term Measures

- **Cooking stoves and/or open fires planned ventilation**
- **Open space avoid crowding**
- **Access to Information**
- **Understanding Heat Risk**



Long Term Measures

- **Avoid Heat-trapping building materials**
- **Improved water quality and sanitation to avoid, secondarily heat increased risk of waterborne diseases**
- **Ensuring thermal comfort– Affordable Policy intervention PMAY**



ACTION PLAN STRATEGIES - INDIVIDUAL LEVEL

Short Term Measures

- Forcing air across the skin - **electric fans**
- Applying cool tap water (about 20°C) to **large skin surface areas (self-dousing) reduces cardiovascular strain**
- **Cold water foot immersion** - during unplanned blackouts



Medium Term Measures

- **Work-to-rest ratios** - to reduce health risks in hot occupational environments

ACTION PLAN STRATEGIES - COMMUNITY LEVEL

Short Term Measures

- **Education** to community influencers
- Access to **sufficient drinking water and shaded cooling** or all **mass gatherings**
- Adequate availability of **heat prevention information**
- **Outdoor misting fans**

Medium Term Measures

- Provision of **water points and ORS** at Public places
- **Stocking ORS and cool packs** at the health centres
- Readiness with **shock management treatments**
- **Medical camps on day of red alerts** at hotspots

Long Term Measures

- Incorporation of **indigenous knowledge**
- **Capacity building**
- Implementing **sustainable cooling strategies** - accessible to **all sections of society**

ACTION PLAN STRATEGIES -COMMUNICATION

Short Term Measures

- **Hoardings, posters, to be displayed by smart city LED**
- **SMS and WHSSAPP 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.
- **Press Releases and campaigns on radio, TV and websites.**

Long Term Measures

- **Recording ward wise heat stroke cases,**
- **Monitoring daily mortality** and daily hospital admission due heat related causes
- **Monitoring and analysis of the morning temperatures recorded from AWS sites** and issue early warnings
- **Initiating early warning systems,** advisories and alerts

ACTION PLAN STRATEGIES - WORKPLACE

Short Term Measures

- **Electric fans** - improve manual work performance
- **Extra breaks** - in relatively hot areas
- **Access to water** for drinking and **self-dousing**
- **Work shifts** to avoid peak temperatures
- **Hydration monitoring** via urine colour and volume

Medium Term Measures

- **Awareness workshops** for **occupationally exposed**
(*traffic police, hawkers, street vendors, construction workers*)
- **Water Facilities** around the work area and
- Access to **clean lavatory facilities**

Long Term Measures

- **Well Ventilated rooms**
- **Temporary rest stations** - sun tents (Outdoor Workers)
- **Protective clothing Design** for High heat exposure

DISSEMINATION, MONITORING & EVALUATION

Public out-reach, campaigns, Heat Alerts & Early warning systems

Check List

1. Develop ToR/assign roles and responsibilities of the key official for the implementation of HAP
2. Monitor the HAP implementation to help routinely gather information on all aspects of heat wave management.
3. Review the post-HAP implementation and evaluate its key achievements, what worked well, and what could have been better
4. A process of follow-up and reporting on the changes should be outlined in the HAP, and stakeholders (horizontally and vertically) should be consulted for its finalisation
5. Communicate the updated HAP for the next heat wave period.

Modes of communicating heatwave alerts and advisories to citizens



Channels ULB can use to get the message across



Gender-Sensitive Heat Action Plan

Design

Collate city-level information using gender-disaggregated data

Literature review of the past trends on gender-sensitive heat action plans nationally/internationally

Analysis of the policies and programme on heat wave prevention and management at the city/state/national/international level for its gender inclusivity

Evaluate existing methodologies/frameworks on gender mainstreaming in Heat Action Plans (HAP)

Identify implementation barriers and local settings for the implementation of gender-sensitive HAP

Vulnerability assessment to include gender-specific heat stress issues

Develop questionnaire that includes gender-specific questions to identify gaps/needs/priority areas

Development

Stakeholder mapping to identify key members and priorities that support gender-sensitive HAP

Consultation (stage 1) with the identified stakeholders through workshops/meetings on gender inclusion in HAP

Conduct survey sampling that includes 50% female respondents between the age group of 18-60 years

Identify a range of policy options and choices for the HAP based on the survey and stakeholder consultation (stage 1)

Develop draft gender-sensitive HAP

Identify risks related to unintended impacts of the policy

Consultation (stage 2) and circulation of the draft policy to the key stakeholders for fine-tuning and clarifications on the gender-inclusive HAP

Implementation

Development of training modules or multiday training for on heat stress for the stakeholders, health care providers, communities etc

Ensure policy interactions among the sectors (Public Health Department, Women & Child Welfare Dept., Environmental services, Housing etc.) actors (Govt., Civil Society etc.) and governance level (local, state, national) to implement gender-sensitive HAP

Develop gender specific heat focused HAP implementation & communication strategy/protocols internally, including the Frontline Health & Social workers

Collaborate with the CBO, CVO, and NGOs to disseminate and train women on responses during extreme heat

Develop advisories/guidelines for gender-sensitive heat stress

Increase heat stress outreach and education for women

Monitoring & Evaluation

Develop heat stress monitoring and evaluation protocols, including tracking daily gender-specific outreach, aid provision etc

Set up systems to ensure that policy is applied and reviewed on an ongoing basis that includes gender-specific inputs from the stakeholders, especially the communities

Develop measurable indicators to evaluate gender-sensitive HAP

Carry out annual evaluation of heat action plan, especially from a gender perspective

Share the gender-sensitive HAP implementation impact with the stakeholders and update the plan as needed, and seek feedback from the stakeholders, especially from the gender perspective

HEAT ADVISORIES



गर्मी/लू के प्रकोप से बचाव



येल्लो अलर्ट सामयिक अधिकतम तापमान 240°C और अधिकतम अधिकतम तापमान में 4.5°C से 6.4°C तक प्रकोप	ऑरेंज अलर्ट सामयिक अधिकतम तापमान 245°C या अधिकतम अधिकतम तापमान में 4.5°C से 6.4°C तक प्रकोप	रेड अलर्ट सामयिक अधिकतम तापमान 247°C या अधिकतम अधिकतम तापमान में 26.5°C तक प्रकोप
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अत्यधिक संवेदनशील समूह



गर्मी/लू से बचाव के उपाय



4-5 लीटर ठंडा पानी पीएँ



छाछ, शिकंजी, ORS बार बार पीएँ



ढीले-ढाले सूती कपड़े पहनें



ठंडे जल से स्नान करें



दोपहर 12 बजे से 4 बजे तक बाहर न निकले



छत पर घूने का पेंट करें या गीले बोरों का उपयोग करें



अपनी कलाई को ठंडे पानी के नीचे रखें



छाया में बैठें



शिर और चेहरा ढककर रखें और छाता लेकर चलें



अत्यधिक शारीरिक श्रम से बचें



बच्चों या पालतू जानवरों को पार्क की गई कार में न छोड़ें



खिड़कियों/दरवाजे पर गीले पर्दे लटकाएँ

गर्मी/लू लगने के लक्षण

गर्मी से बेहोशी

- सिर चकराना
- बेहोशी
- चक्कर आना
- मूर्च्छा

गर्मी से थकान

- बेहद गर्मी महसूस होना
- सिर चकराना, सिरदर्द
- उबकाई
- पसीना और प्यास
- शरीर का तापमान बढ़ जाना
- मौस-पेशियों में ऐंठन
- थकान, चक्कर

लू लगना/हीट स्ट्रोक

- तेज सिरदर्द
- सांस लेने में कठिनाई
- तेज नब्ज
- उबकाई और उल्टी
- खुरक लाल त्वचा
- बुखार बढ़ने पर पसीना न आना
- बुखार 104°F से ऊपर, जोकि पैरासिटामोल/इन्फ्रोफेन से कम नहीं हो रहा
- बेहोशी

फर्स्ट एड

- 1 व्यक्ति को अंदर ले जाएँ और पंखे/कूलर/AC रूम में रखें
- 2 रोगी को नीचे लिटाएँ और उसकी टांगें और कूल्हें को ऊंचा रखें
- 3 कपड़े ढीले करें
- 4 शरीर को एक गीले चादर से ढकें
- 5 बर्फ और ठंडे पानी से पोछें
- 7 प्रचुर मात्रा में आईसी फ्लूइड और इलेक्ट्रोलाइट दें
- 8 फौरन अस्पताल में भर्ती करवाएँ अगर बुखार 104°F से ऊपर है, जोकि पैरासिटामोल/इन्फ्रोफेन से कम नहीं हो रहा



- 6 यदि सचेत है तो थोड़ा थोड़ा ठंडा पानी पिलाएँ



102 आपात चिकित्सा सहायता हेतु कॉल करें

राजकोट स्टाईमेट अेक्शन प्रोजेक्ट राजकोट हीट अेक्शन प्लान

लू भ्रुववेध नीवडी शके छे, पद्य वेनाथी बयवुं शक्य छे.

लू थी बयवा भाटेना उपायो

वारंवार पाणी पीवुं	तडकामां मास करीने भापोरना १:३० थी ३:३० ना गाणामां अहारयवानुं टाणी	आछा/सहेटे रंगना जुला कपडा पहरेखा	भाणडी, घरडा अने गर्भवती महिलागामां मास ध्यान राखवुं	ठंडक आपे तेवा पीला रेमडे ओ. आर. शेम, छास, ज्यूस, शरभट, मिडिछु नु सेवन करवुं
अगर घरनी अहार छो दी छायाडामां रहेवानुं राणी	घरना छापराने रानो/सहेटे रंगथी पेन्ट करवुं.	माथा पर भीनु कपडुं अथवा शरीरने कपडाथी टांडीने अहार जवुं	गरमी मां भाटे शारीरिक प्रवृत्तिओ टाणी	कांसा पर ठंडु पाणी रेडवुं जेथी शरीरनुं तापमान ओखुं रहे
पाई करेदी कारमां भाणक/पालवु जलवर ने छोडशो नही	अगर घरनी अहार छो दी छायाडामां रहेवानुं राणी	माथा पर भीनु कपडुं अथवा शरीरने कपडाथी टांडीने अहार जवुं	गरमी मां भाटे शारीरिक प्रवृत्तिओ टाणी	कांसा पर ठंडु पाणी रेडवुं जेथी शरीरनुं तापमान ओखुं रहे

लू ना लक्षयो

शरीरना तापमानमां वधाओ श्वास लेवामां यवो पद्य परसेवो न छुटवो भुरकेती यवी	भाथानो टुभावो अथवा भावु भाटे लागवुं	आभडी शुष्क अने लाल थवी	छिली थवी	जेमान थट जवुं	रनायुगामां ताराव
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लू भाटेनी प्राथमिक सारवार

- 1 व्यक्तिने ठंडा अथवा छांयडो होय अेवी जवुंयअे लई जवुं
- 2 नजुकना आरोग्य केन्द्रमां लई जवुं अथवा ओम्बुलन्सने फोन करवो(१०८)
- 3 शरीर पर पाणी छांटावुं
- 4 अगर जेमान ना होय तो ठंडुपाणी पीवुं
- 5 जनी शके तेटला टीवा अने पातला कपडा पहरेखा
- 6 शरीर पर पाणी छांटावुं
- 7 भीनु कपडुं राखवुं
- 8 शरीरने ठंडु राखवा ठंडी ठवा आपे तेवा उपकरणोना उपयोग करवो

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कृपा करीने आ माहिलीने वधुमां वधु लोको सुधी पहोयाडवी अने आ पेम्कलेटने घरमां चोटाडवुं



THANK YOU

Contact:
Mr. Rohit Magotra,
APN Project Lead &
Deputy Director, IRADe
Email: r.magotra@irade.org