

ANIL AGARWAL
DIALOGUE 2026



HOT ZONES – HEAT AND OUR CITIES





Let's start with a question.

How many of you are swimmers?

And what type of swimming enthusiast you are?

1. I swim, once in a while
2. I regularly swim, at least 4 laps each time
3. I regularly swim 50-60 laps each time.

Fair, so everyone qualifies, but if one set of these people were to be chosen to decide the ideal water temperature which group should it be?

1

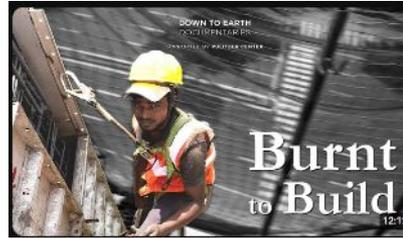
2

3

Perhaps the one who spends the most time in water? The one with most exposure?



Now lets replace a swimming pool with the city itself.



Construction workers



Street vendors

Who is spending the most time outside? Who the most exposed?



Children



Women



Elderly

Who is best suited to judge how hot is too hot?

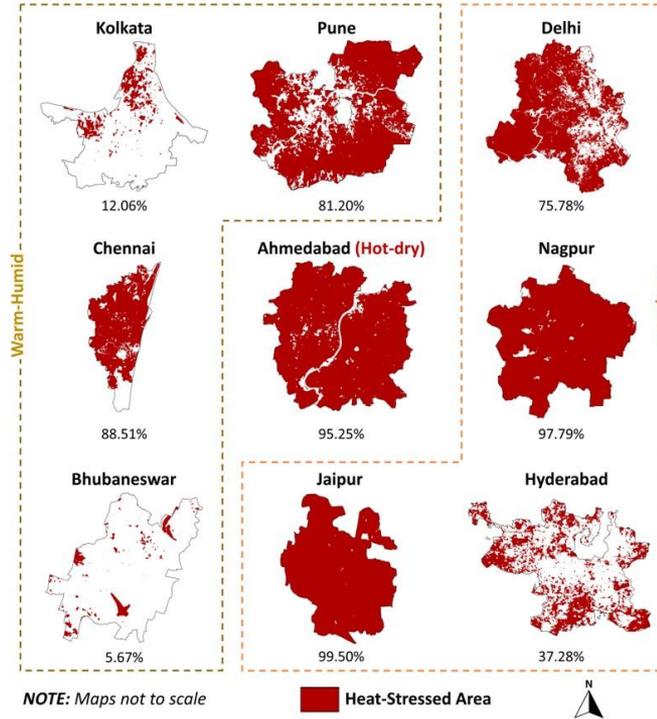
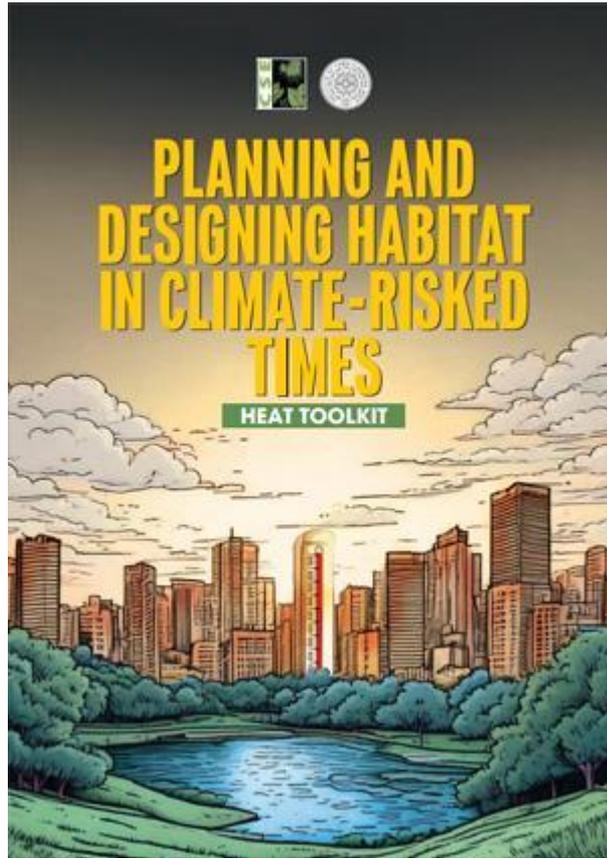


Informal settlement



Homeless

Transforming practice - assessments for heat



- CSE conducted a spatio-temporal analysis across nine cities to identify heat-stressed areas.
- The analysis revealed that six out of the nine cities had more than 75 per cent or more areas under heat stress.



- Heat centres in the city and
- 00 Share of total area covered by heat centres

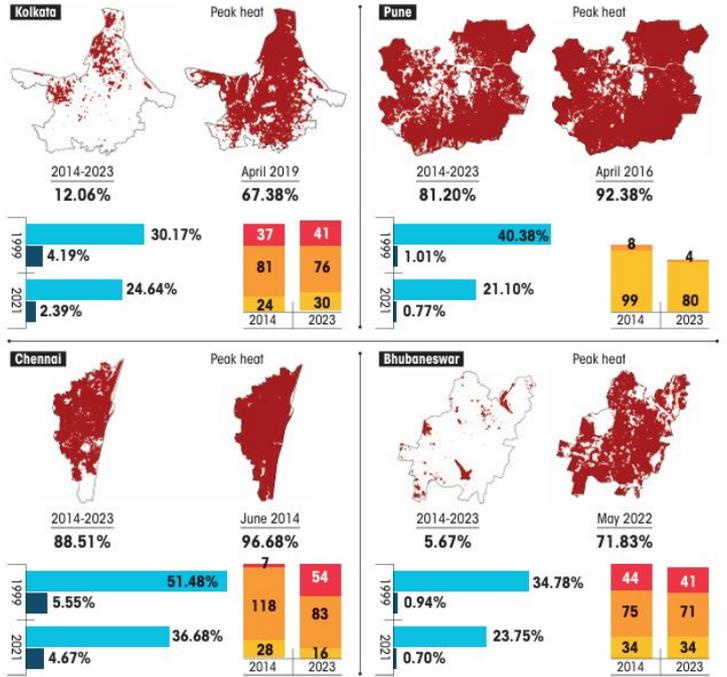
Share of ■ vegetation ■ waterbodies in total geographical area

Number of days with uncomfortable humidex, an index to describe how hot the weather feels to the average person, by combining heat and humidity for period

- Caution (24.67-32.5°C) Fatigue possible
- Extreme caution (32.5-40°C) Heat stroke, cramps, or exhaustion possible
- Danger (40-52°C) Heat cramps or exhaustion likely, and heat stroke possible
- Data unavailable

with prolonged exposure and/or physical activity

WARM-HUMID



Note: Maps not to scale; Source: Centre for Science and Environment analysis based on land surface temperatures recorded by satellites of the Landsat series of the US Geological Survey and NASA, humidex, estimated using US National Oceanic and Atmospheric Administration (NOAA) calculations, and green-blue infrastructure captured by satellites of the Landsat series by US Geological Survey and NASA

- Heat centres in the city and
 - 00 Share of total area covered by heat centres
- Share of ■ vegetation ■ waterbodies in total geographical area

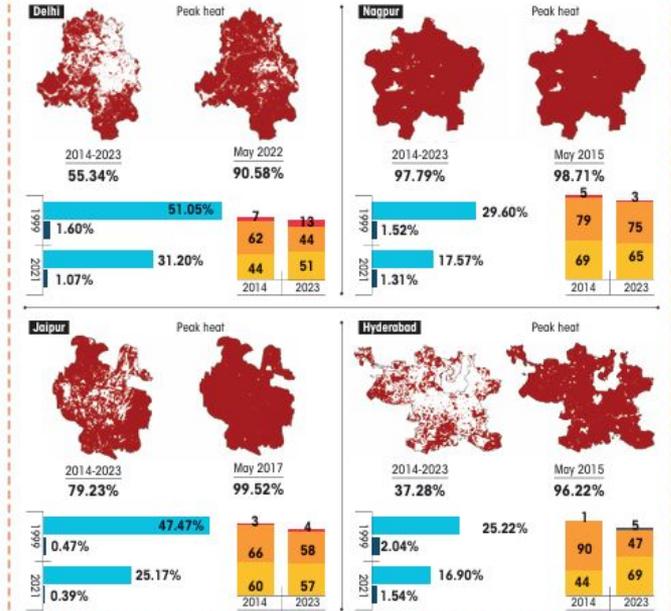
Number of days with uncomfortable humidex, an index to describe how hot the weather feels to the average person, by combining heat and humidity for period

- Caution (24.67-32.5°C) Fatigue possible
- Extreme caution (32.5-40°C) Heat stroke, cramps, or exhaustion possible
- Danger (40-52°C) Heat cramps or exhaustion likely, and heat stroke possible

with prolonged exposure and/or physical activity



COMPOSITE



Note: Maps not to scale; Source: Centre for Science and Environment

Methodology: Mapping and understanding vulnerabilities

Urban heat assessment – performed at multiple scales



Urban cover



Urban structure



Urban metabolism

Regional scale

Spatial assessment

- Estimation of Land Surface Temperature
- Identification of heat-stressed areas
- Estimation of Blue-Green infrastructure

Neighbourhood scale

Spatial assessment and in-situ data collection

- In-depth analysis of the parameters influencing heat gains and reductions –
Elements of shade and exposure

Methodology: Analysis of urban structures and metabolism

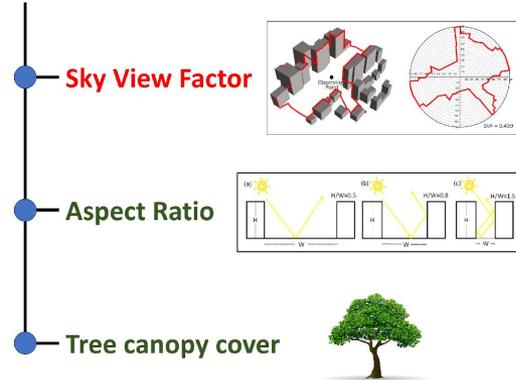
In-depth analysis of the parameters influencing heat gains and reductions

- Spatial assessments and in-situ data collection across various urban morphologies (based on density and height) – compact mid-rise, compact low-rise, open mid-rise, and open low-rise.

- Key elements influencing urban heat dynamics were examined under two categories:

- Elements of shading
- Elements of exposure

Elements of shading



 Elements that aid in surface temperature reduction

Elements of exposure



 Elements that aid in surface temperature increase



Urban Heatscapes



How Pune's Rapid Urbanisation Fuels Rising, Unequal Heat | Urban Heatscapes E4

Views: 283,301 and counting



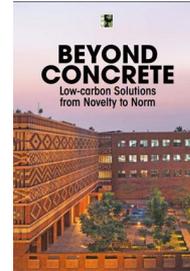
Ahmedabad Against Heat: How is the city adapting to Urban Heat? | Urban Heatscapes E3

Views: 226,288 and counting

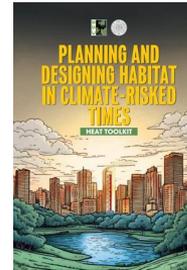


How vanishing lakes and parks are making Bengaluru heat stressed? | Urban Heatscapes E2

Views: 381,066 and counting



Downloads: 5,674



Downloads: 37,352



Downloads: 12,805



Downloads: 28,565

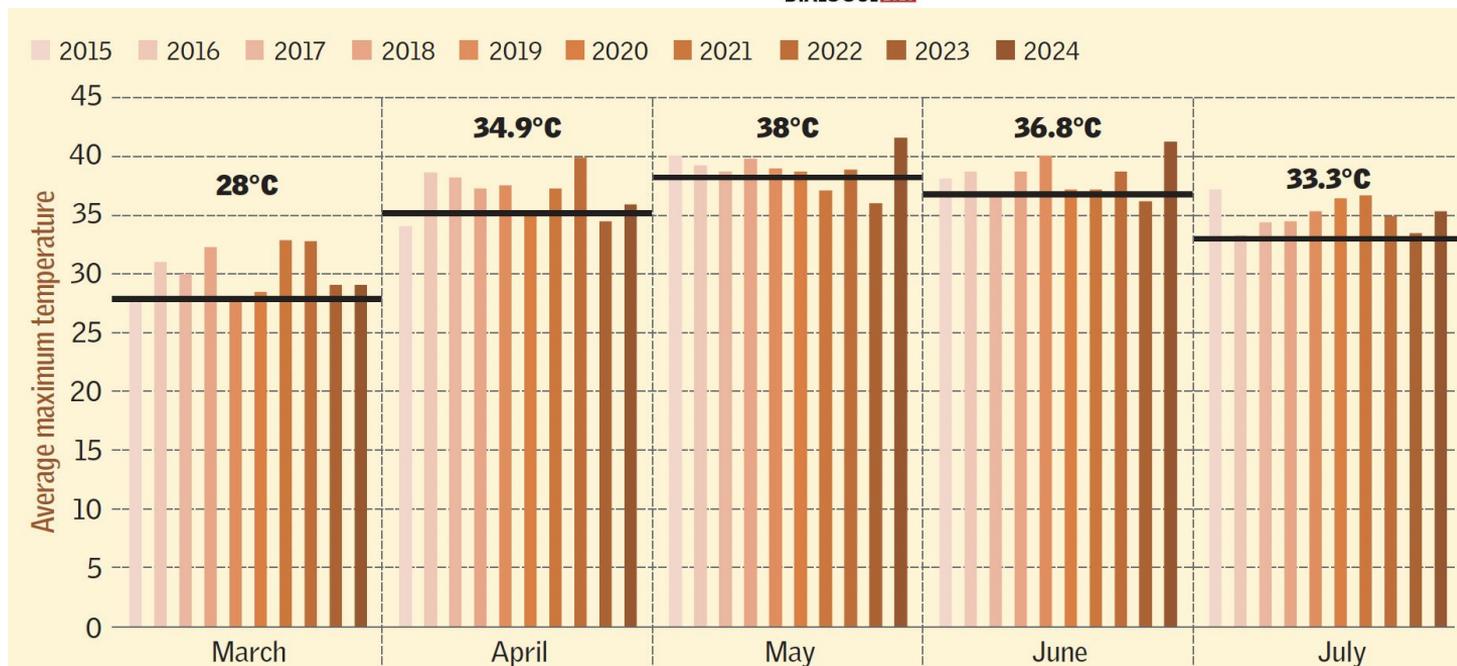


HEAT VULNERABILITY IN DELHI & JAIPUR





TOWARDS A HOTTER NORMAL - DELHI

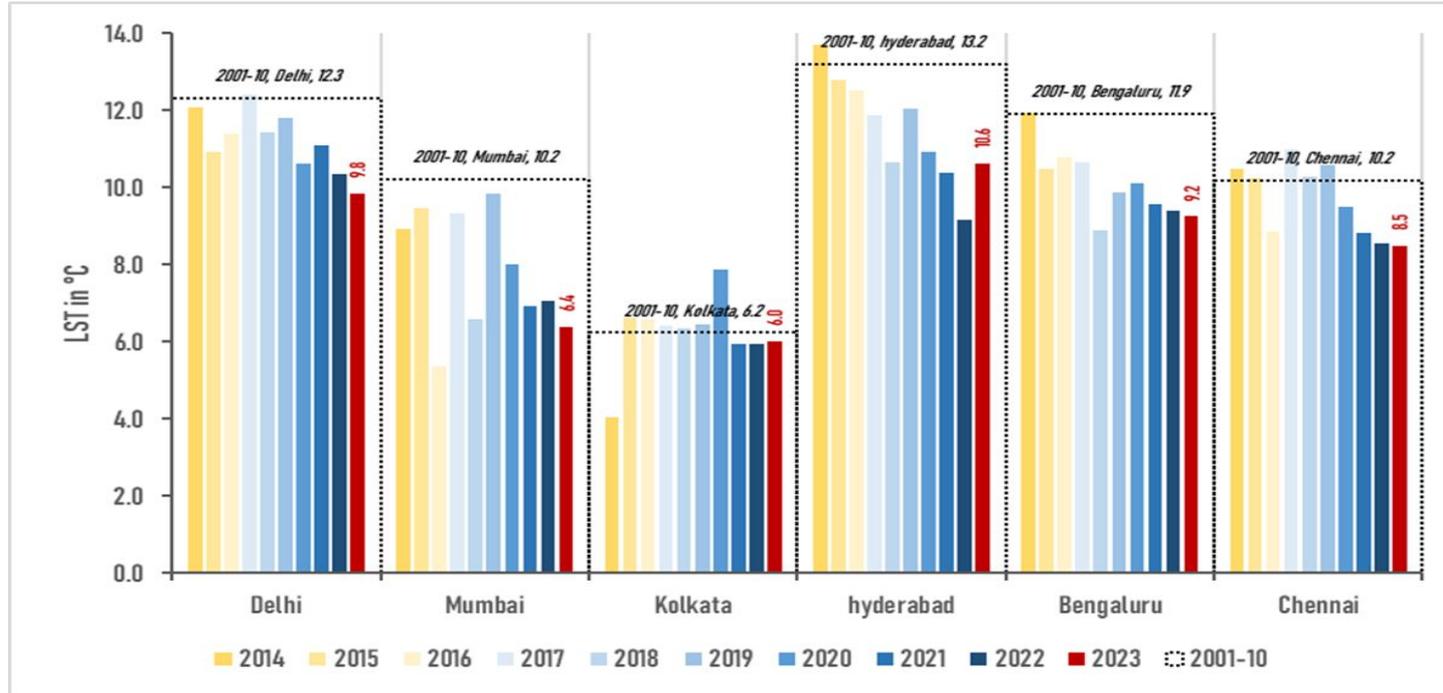


Departure from normal: **42 out of 50 occasions** in the summer months in the decade

Source: CSE analysis based on data compiled from Weather Underground

Note: Normal Mean Maximum Dry Bulb Temperature refers to the long-term average of the highest daily air temperatures recorded over a standard 30-year reference period

Cities are not cooling down at night at the rate they used to during 2001-10



Note: Summer is defined as the period from March to August. A city's weather profile is based on average of all IMD weather stations located in the city. Heat index has been calculated using the U.S. National Oceanic and Atmospheric Administration formula. * Data up till 30 August 2023.

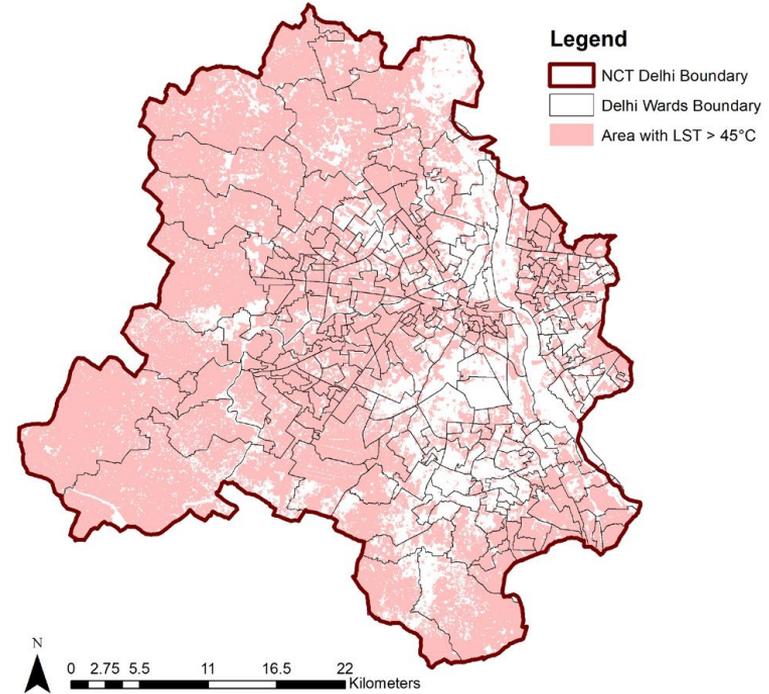
Source: CSE analysis of climatological data from IMD



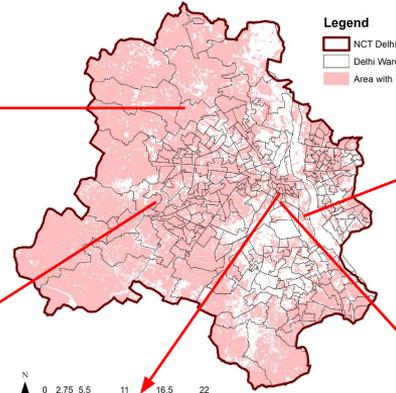
Heating up...

with 75% of Delhi having no or low revival

- Delhi breached the 40°C mark on March 27, 2025 with several heat wave periods since then with the ‘feels-like’ temperature reaching 52°C (IMD).
- 75% of Delhi’s area is heat stressed (LST>45
- Delhi saw 25 heat-related deaths in 2024 according to the Ministry of Health and Family Welfare (MoHFW).
- Independent reports take this upwards of 55.
- People who succumbed to heat included a security guard, woman labourer, car mechanic among others – mainly outdoor workers.
- How well Delhi is equipped to battle growing heat, build resilience and especially protect those vulnerable?



What do these heat stressed areas look like? Why are they heat stressed??



Industrial areas



Redevelopments



Unplanned self-construction



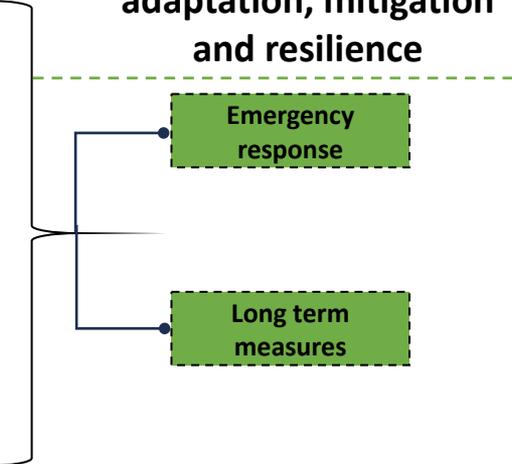
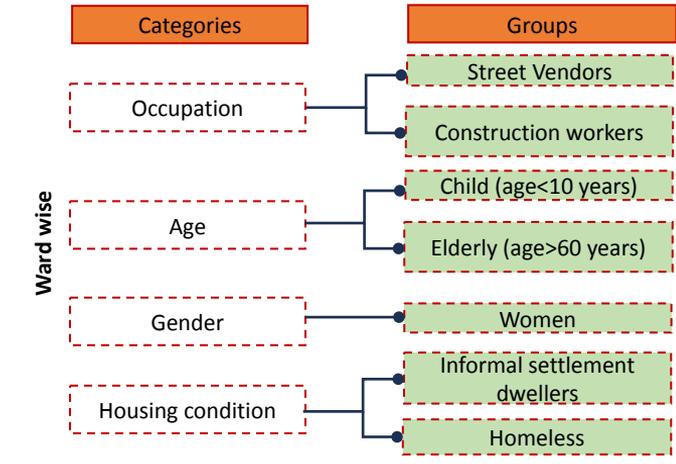
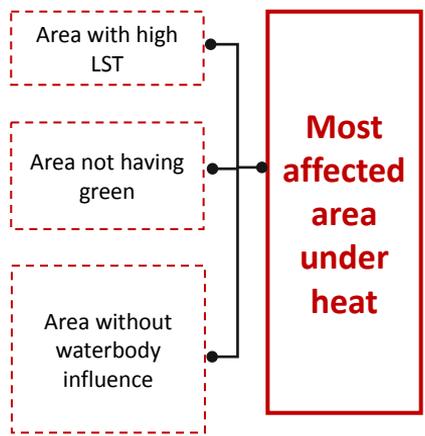
Old city core



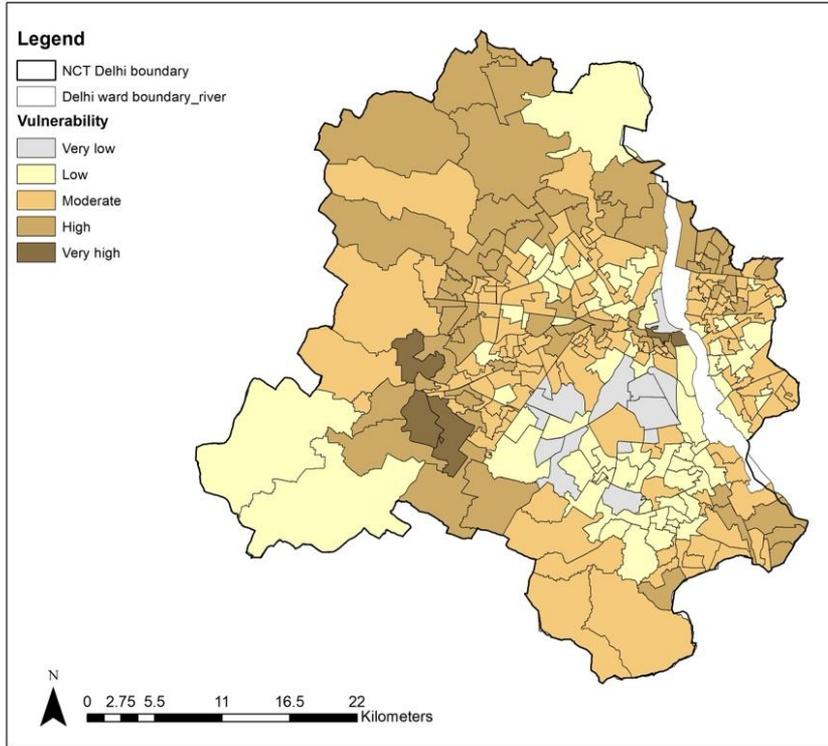
New city core



VULNERABILITY ASSESSMENT DELHI



Cumulative Vulnerability Index

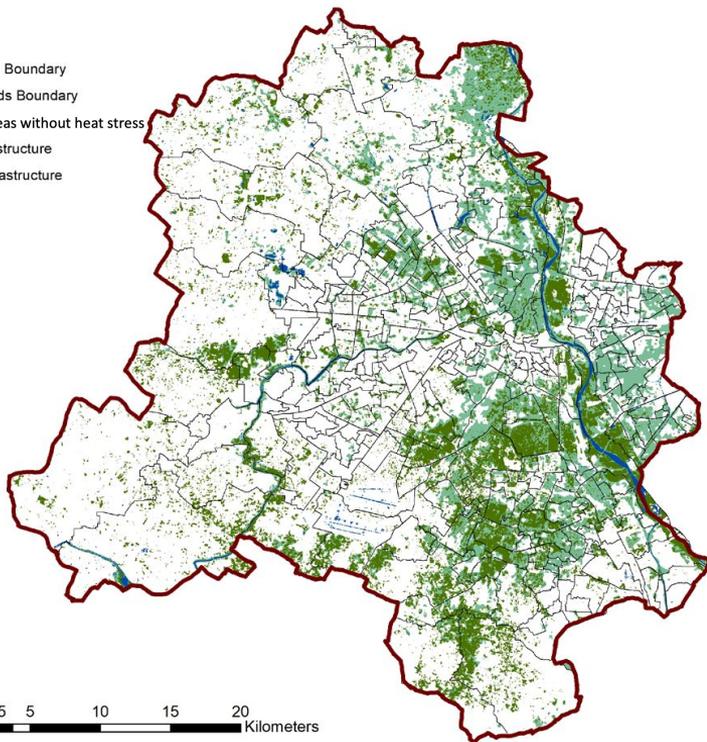


- More than **one-third of Delhi's wards have Very High to High vulnerability**
- These wards are characterized by absence of green or blue spaces, high presence of unplanned self-constructed colonies, industries, informal settlements, urban villages among others.

Searing Delhi has resilient areas and areas with high potential for resilience

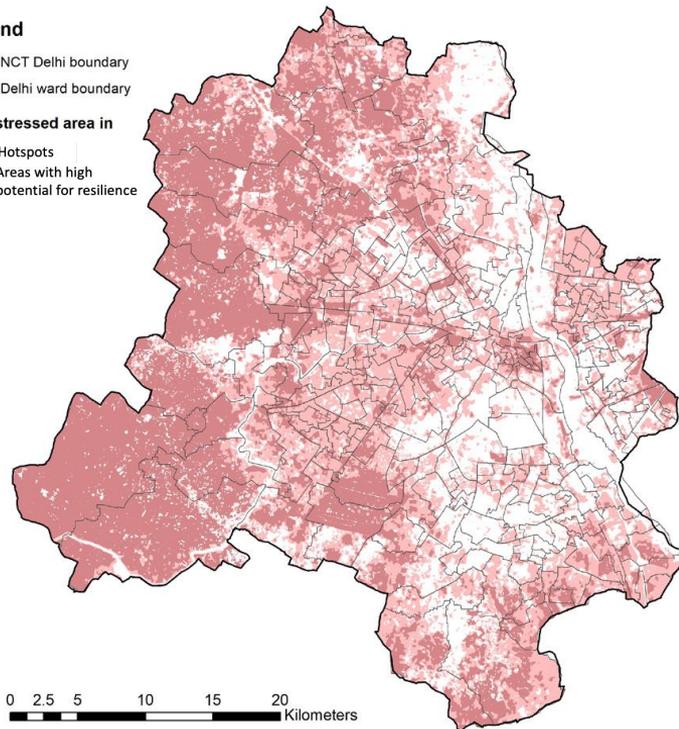
Legend

- NCT Delhi Boundary
- Delhi Wards Boundary
- Builtup areas without heat stress
- Blue Infrastructure
- Green infrastructure

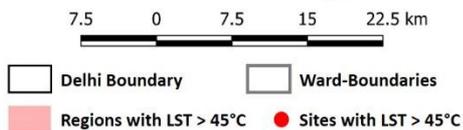
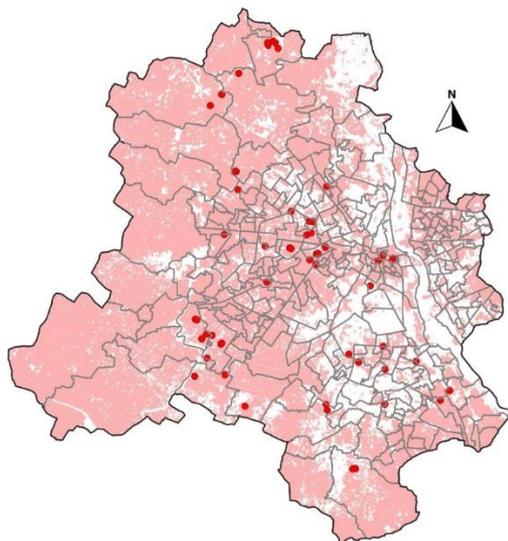


Legend

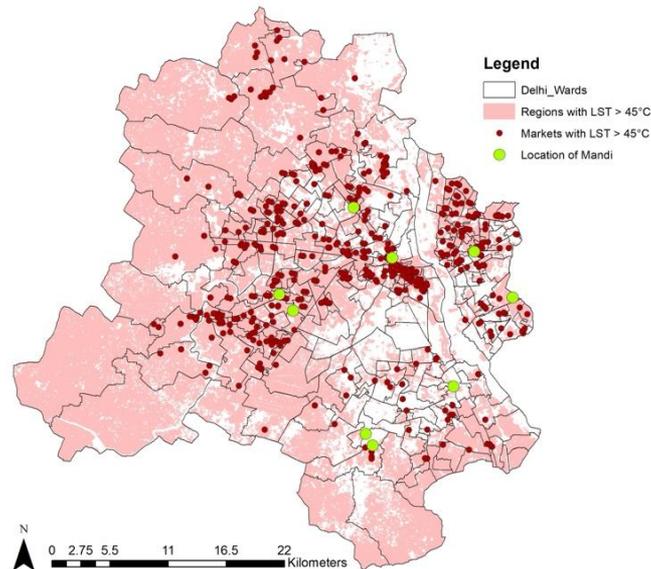
- NCT Delhi boundary
- Delhi ward boundary
- Heat stressed area in
 - Hotspots
 - Areas with high potential for resilience



Most vulnerable groups work and live in heat stressed areas



~77 per cent of RERA construction sites located in heat stressed areas



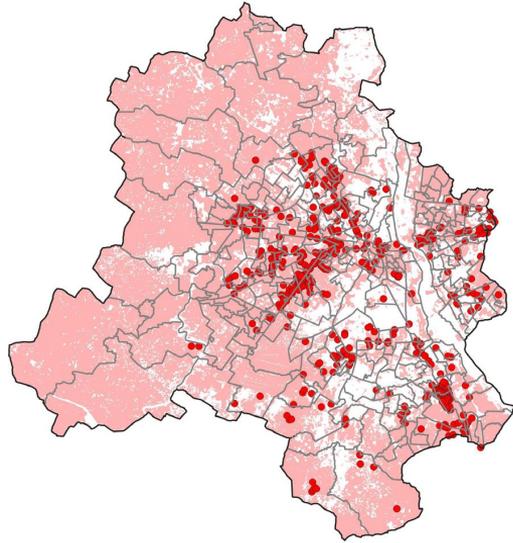
Legend



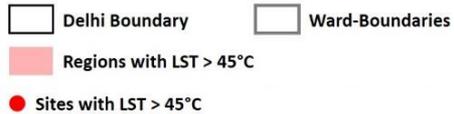
542 of the 643 mapped markets (~84 per cent) and all 7 mandis located in heat stressed areas



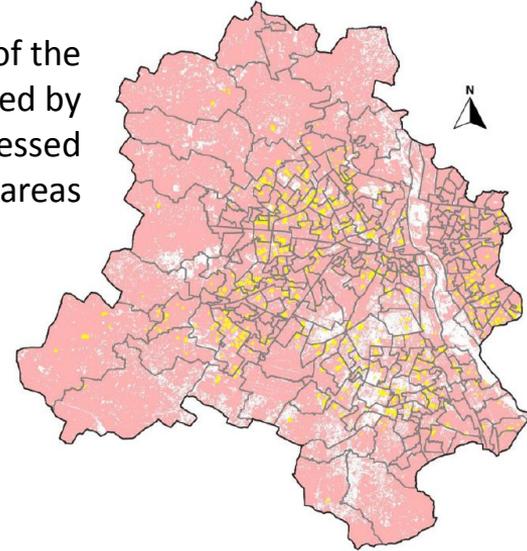
Most vulnerable groups work and live in heat stressed areas



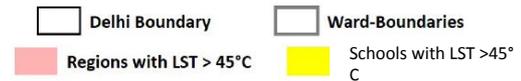
7.5 0 7.5 15 22.5 km



Out of 1066 schools (19% of the total registered) mapped by CSE, 80% lie in heat-stressed areas



7.5 0 7.5 15 22.5 km



516 out of 675 bastis (~76 per cent) mapped by DUSIB (with nearly 1.32 million people) are in heat stressed areas



Heat solutions in Delhi; will they be adequate?



Delhi Disaster Management Authority
Govt. of NCT of Delhi



3000 cool water ATMs



1800 new Aapada Mitras



Delhi Heat Action Plan 2024-25



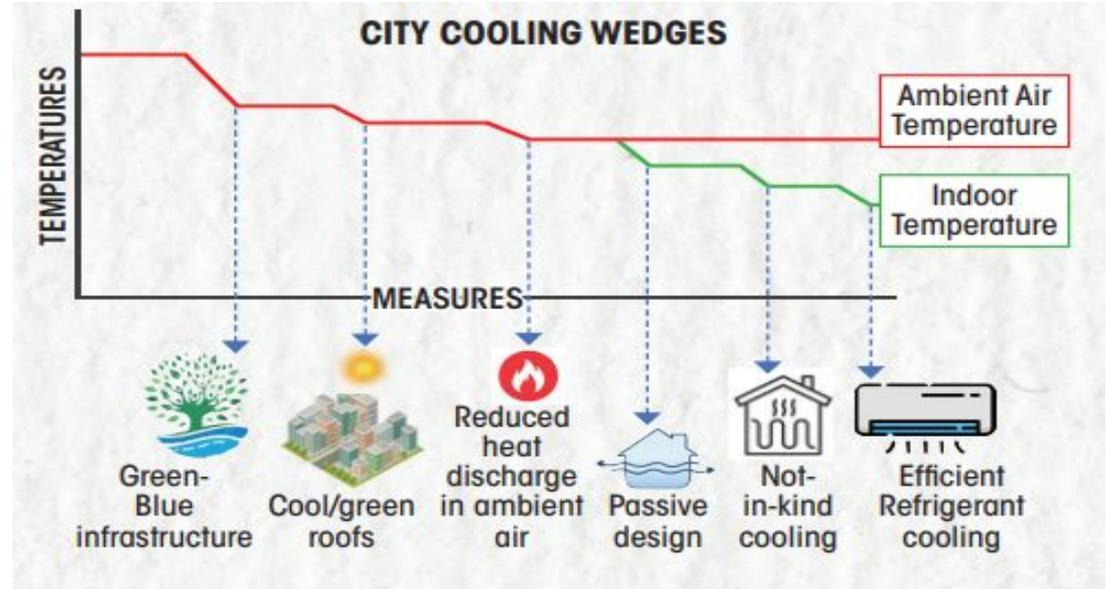
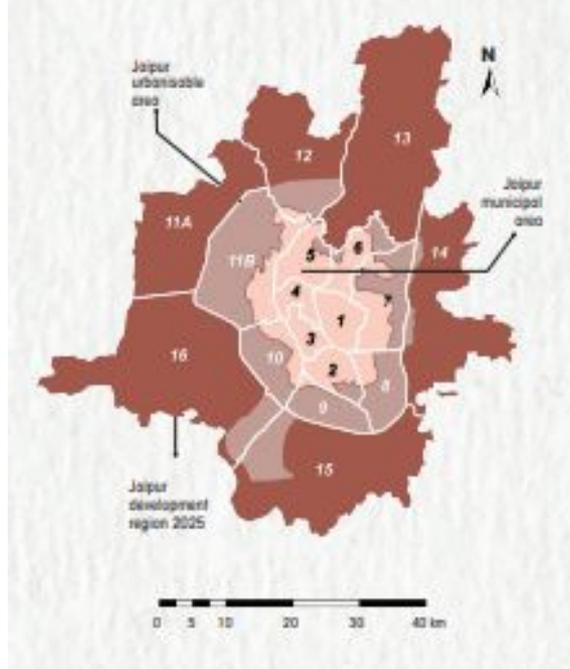
(Guidelines U/S 18 (2) (h) of Disaster Management Act, 2005 for prevention, mitigation, capacity building and preparedness to combat the adverse impact of Heat Waves in Delhi)



3 cool roof pilots

mint

URBAN COOLING FRAMEWORK FOR JAIPUR





THERMAL HAZARD IN JAIPUR

- Jaipur's 250 wards face different levels of heat. This is primarily driven by the intensity of built-up fabric, lack of green-blue infrastructure, and other related anthropogenic activities.
- India's National Building Code 2016 - Model for Adaptive Comfort - sets Jaipur's ambient air temperature threshold at 35.5°C to provide indoor thermal comfort to its citizens at 32°C.
- Departure from this threshold was classified into five thermal zones based on temperature delta: Zone 1 (12°C).
- Jaipur's 13 per cent of wards fall in Zone 4 and Zone 5, which represent high and extremely high heat intensity. 35 per cent fall in Zone 3 (moderate-high) and 48 per cent in Zone 2 (moderate-low) heat intensity. This thermal hazard mapping informs ward-level heat action priorities.

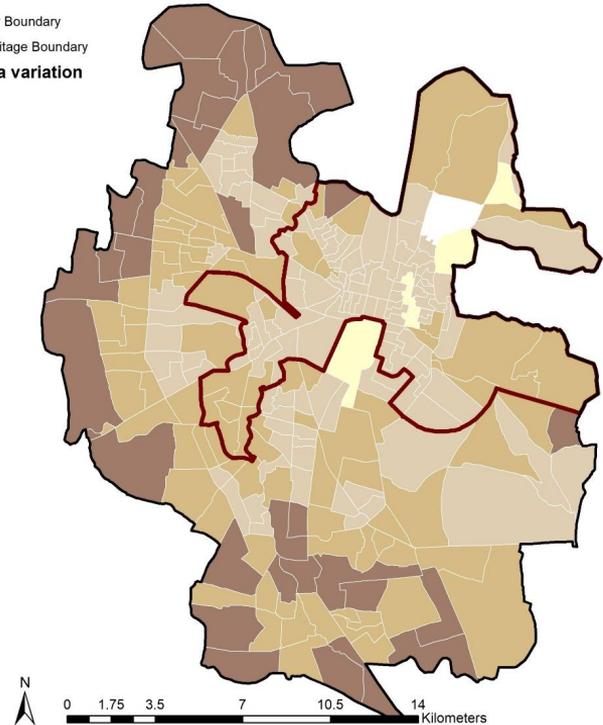
Local thermal hazard

Legend

- Jaipur City Boundary
- Jaipur Heritage Boundary

Thermal delta variation

- > 6 °C
- 6-8 °C
- 8-10 °C
- 10-12 °C
- >12 °C





All wards exceeding the threshold of 35.5°C ambient temperature

Low - Less than 8 °C

Medium - Between 8-12 °C

High - More than 12 °C

Analysis needed: Existing green-blue infrastructure identification, Exposure vulnerability

Solutions: Applicable to entire city

- Urban Forestry
- Water bodies
- Layout
- Building spacing
- Greenery
- Shading
- Orientation
- Construction materials
- Thermally Efficient Roofs
- Renewable Integration

These solutions have the potential to bring down ambient air temperatures by around 5-6°C, as per 'Blue Green Systems for urban heat mitigation: mechanisms, effectiveness and research directions' by International Water Association

Analysis needed: Vulnerability mapping for sensitive population

Principles to be followed

- Minimize heat discharge into air
- Cooling demand aggregation
- Cooling efficiently
- Reduction in carbon intensity

Solutions: Applicable outdoor and indoor

Not-in-kind cooling systems

- Direct and indirect evaporative cooling.
- Structural cooling
- Earth air Tunnel, Geothermal

Misting and fountains
Reduce exposure through shading

Analysis needed: Cooling demand mapping & aggregation, land-use conformity, Land-use proximity analysis

Solutions: Applicable indoor

Refrigerant based cooling

- District cooling system
- Combined Heat and Power
- Vapour Absorption Machines

Alternate energy sources (waste heat, biomass, waste etc.)

Outdoor: Minimize exposure / emergency response

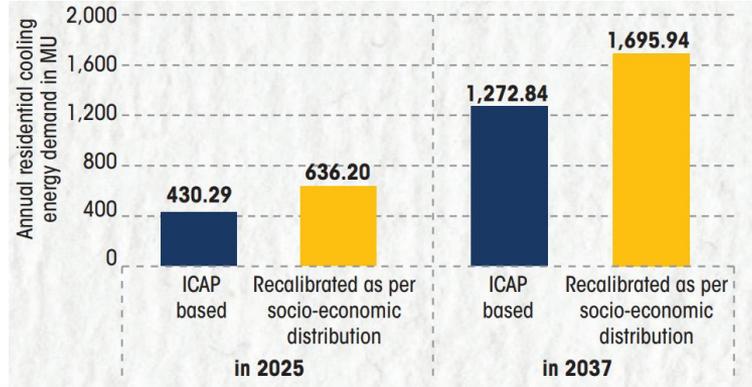
Cooling as a service

Instruments to regulate

- Byelaws
- Environmental Rules
- Development Control regulations
- Town Planning schemes
- Special Area Schemes
- Specific guidance
- Technical guide
 - ECSBC
 - ENS
- Floor Area Ratio
- Voluntary schemes



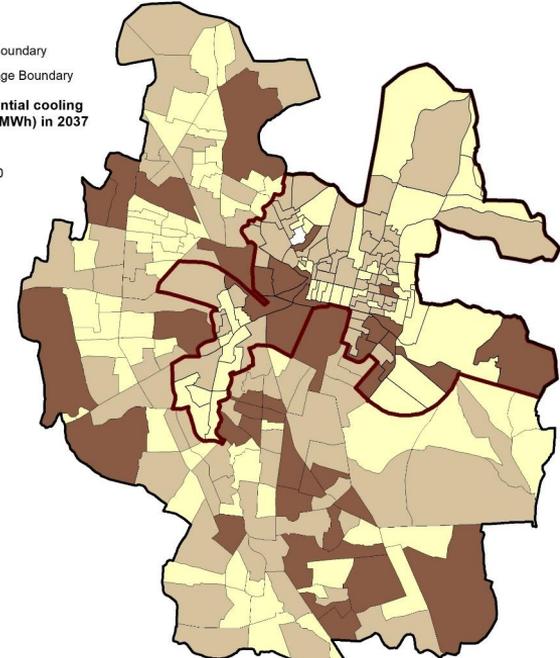
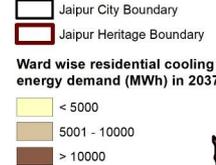
- CSE estimated that residential space cooling in Jaipur will more than triple by 2037.
- Two methodologies : India Cooling Action Plan (ICAP) and the other considering socioeconomic variabilities.
- Both methodologies were applied to respective AC penetration rates and associated cooling demand, and later normalized to arrive at demand projections.
- Further, commercial cooling demand could reach 800 MU by 2037.



COOLING ENERGY DEMAND PROJECTIONS

Residential cooling demand (MWh) in 2037

Legend



PRIORITISATION OF WARDS FOR COOLING INTERVENTIONS

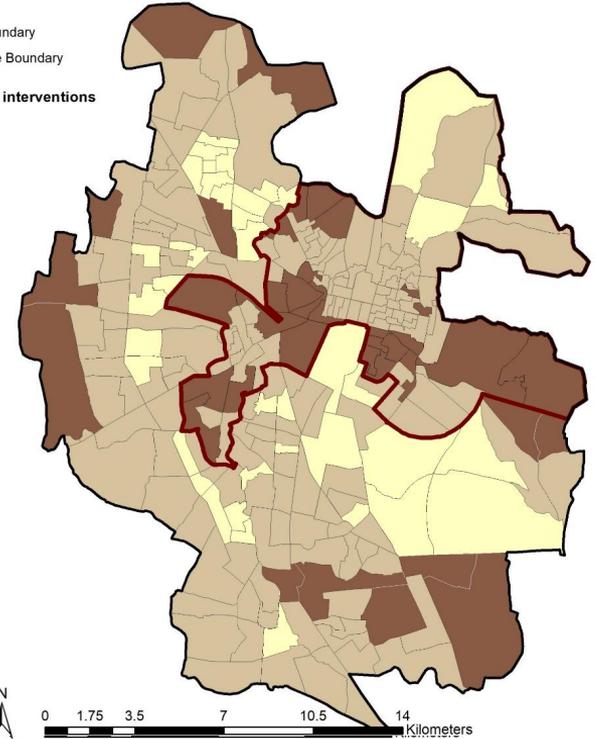
- A prioritization matrix was developed based on the integration of four primary factors: thermal delta, population density, green-blue infrastructure, and economic status across 250 wards of Jaipur.
- The matrix yielded 38 high-priority wards and 172 medium-priority wards where interventions will be critical to arrest Jaipur's growing cooling demand.
- 88 per cent of these wards are dominated by low-income households, demanding cooling equity considering the ICAP goal of thermal comfort for all.

Legend

- Jaipur City Boundary
- Jaipur Heritage Boundary

Priority for cooling interventions

- Low
- Medium
- High



HIGH PRIORITY COOLING INTERVENTION WARD



High Thermal
Delta



Low Green
Cover



High Population
Density

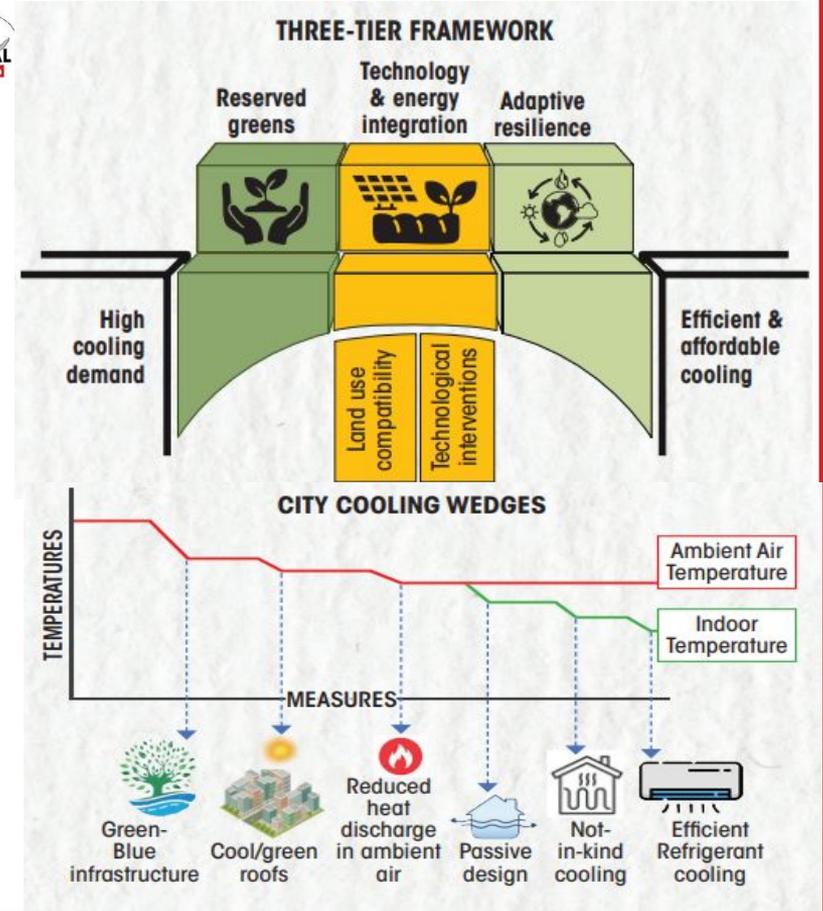


Economic
Status



URBAN COOLING FRAMEWORK: A THREE-TIER STRATEGY

- Jaipur faces mounting heat stress that threatens public health, productivity, and quality of life. To restore the city to ambient temperature thresholds established by the National Building Code (NBC), a comprehensive three-pronged cooling strategy is essential—one that safeguards existing green and blue infrastructure while integrating time-tested passive design principles with innovative energy and technology solutions tailored to the city's unique urban landscape.
- This framework draws upon Jaipur's centuries-old wisdom in heat-resilient architecture and combines it with contemporary climate science to create an equitable, sustainable cooling paradigm for the modern city





TIER 1: GREEN AND BLUE

- The first tier focuses on recognizing and amplifying the inherent cooling potential of Jaipur's natural resources. Green spaces, waterbodies, and ecological corridors provide essential ecosystem services that regulate urban temperatures, yet these assets face increasing development pressure.

Strategic Approach

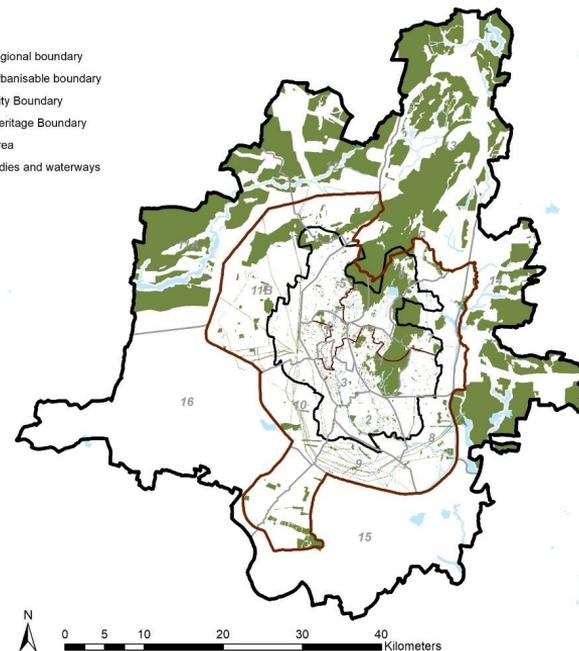
- This tier requires strengthening the regulatory framework through revised bylaws, economic instruments, and spatial planning policies that explicitly value environmental goods and services.
- By quantifying the cooling benefits of parks, lakes, and tree canopy in economic terms, such as transferable development rights, we can build the case for their protection and enhancement within urban development plans.
- Zoning regulations, transferable development rights, and green infrastructure mandates must be recalibrated to preserve the spatial integrity and ecological functionality of these natural cooling systems.
- The goal is not merely conservation but strategic expansion—creating interconnected networks of green and blue infrastructure that maximize cooling effects across neighborhoods, with particular attention to heat vulnerable communities.

NATURAL COOLTH

Green and blue infrastructure

Legend

- Jaipur regional boundary
- Jaipur urbanisable boundary
- Jaipur City Boundary
- Jaipur Heritage Boundary
- Green area
- Waterbodies and waterways





TIER 2: ADAPTIVE RESILIENCE

LEARNING FROM HERITAGE

- Jaipur's historic built environment has withstood harsh climatic conditions for centuries through ingenious passive design strategies. This tier seeks to translate traditional cooling wisdom into contemporary development practices, ensuring that modern construction benefits from time-tested principles of thermal comfort.

Strategic Approach

- Key interventions include promoting cool roofs and reflective materials, optimizing building orientation and shading, enhancing thermal insulation, and incorporating natural ventilation principles derived from Jaipur's architectural heritage.
- These passive measures reduce indoor temperatures while moderating outdoor heat island effects, creating comfort both inside buildings and in surrounding public spaces. Crucially, this tier emphasizes equity and accessibility.
- Through carefully designed cross-subsidization mechanisms linked to carbon credits and climate finance, cooling interventions can be extended to economically disadvantaged communities that bear disproportionate heat burdens.
- Socioeconomic mapping will identify priority zones where passive cooling retrofits can deliver maximum social benefit, ensuring that climate adaptation serves the entire urban population

Heat dashboard for Delhi Wards

Heat Index Level

51°C

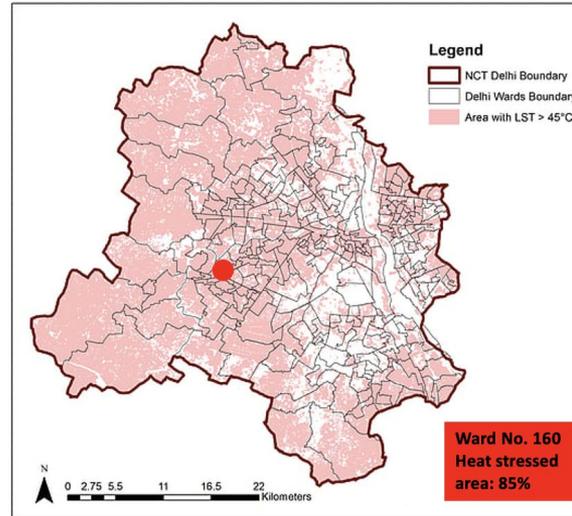
Danger

Temperature: 37°C
Relative Humidity: 60%

How to keep buildings and places cool?

Homes (plotted)
Homes (group housing)
Offices & public buildings
Markets & malls
Schools & colleges
Bus stands
Public squares & places
Homeless shelters
Parks & green belts

Heat stress in Delhi



Public Cooling Centres



Healthcare Facilities



Green-blue spaces



Cooling Projects

Vulnerable population in the selected ward



High



Emergency helpline

Advisory for vulnerable population

Construction workers

- Heat Action Plan

Street Vendors

- Heat Action Plan

Informal settlement dwellers

- Heat Action Plan

Homeless

- Heat Action Plan

Elderly

- Do's and don't's

Women

- Do's and don't's

Children

- Do's and don't's

Outdoor workers

- Heat Action Plan

COOLING PUBLIC SPACES BY ENHANCING MICRO-CLIMATE

COOL IT

COOLING OUR PUBLIC SPACES



CSE studied how outdoor spaces in Indian cities heat up during summer and assessed ways to make them more comfortable. A framework of interventions, developed from existing research, was used to identify strategies for improving thermal comfort. These strategies were then tested through simulations to understand how they can reduce heat build-up in real sites. The impact of these strategies is illustrated through simulations carried out across different cities.

Parameters of assessment:

Surface
Temperatures



Ambient air
Temperatures

Together, these two parameters capture both the heat stored in materials and the heat felt by people, giving a complete picture of urban thermal stress.

Cutting Solar Exposure

Enhancing Microclimate

Reduce Surface
Absorption

Wind Variability

How heat affects our public space and how we can cool them



A spatial analysis was conducted across 11 cities identifying heat-stressed areas for peak summer months. The threshold was chosen based on 'IMD-defined heatwave criteria' (beyond 40°C for plains and 37°C for coasts). **7 out of 11 cities had more than 80% area under heat stress.**

This means more than 80% area for these cities breached the IMD threshold for extreme heat during the summers in the last decade.

[Click on the cities for in depth information.](#)



COOLING PUBLIC SPACES BY ENHANCING MICRO-CLIMATE

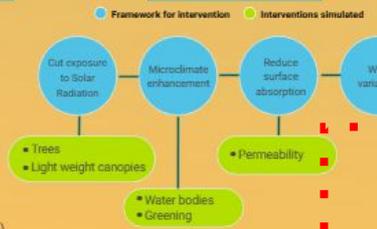
Chandni Chowk

Current Scenario- Missing elements

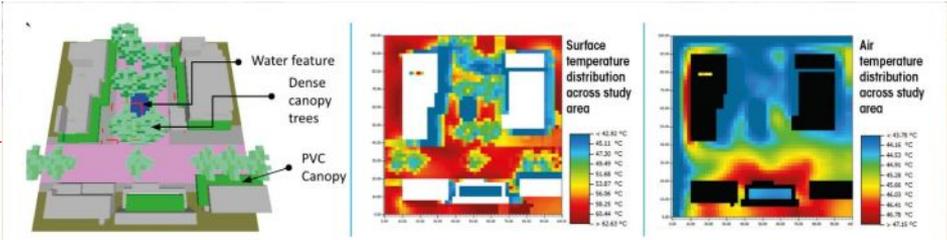
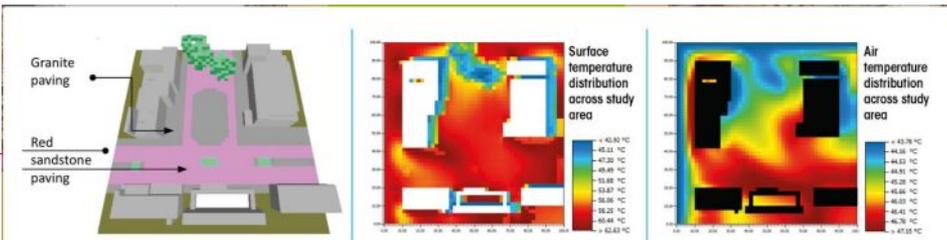
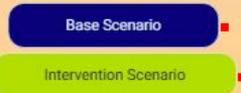


Satellite image of study area (100 X 100 m)

Potential Interventions



Simulation results



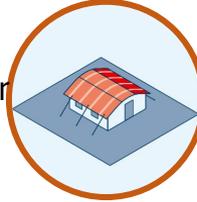
Solutions for
Minimize exposure
/ emergency
response

Restricting / Limiting
activities that involve
outdoor exposure



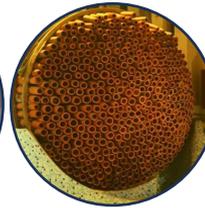
Unavailable
due to high
heat.

Refuge spaces for outdoor
workers/ vendors



Refuge
spaces

Cooling
solutions in
outdoor
spaces



Shading for outdoor
spaces



Shading in
public spaces

Emerging heat solutions



Cooling station in Jodhpur



Cool bus stop in Ahmedabad



Emerging solutions for vulnerable groups



Alufoil static



Reflective paint



Cool cart by Trane Technologies



Alufoil chain sprocket



Wood wool panel



Air-cooled vegetable cart, IIT Roorkee



TIER 3: ENERGY AND TECHNOLOGY INTEGRATION

- The third tier addresses the spatial and technological dimensions of active cooling systems, focusing on modern performance standards and their optimal placement within the urban fabric. As demand for mechanical cooling grows, strategic planning becomes essential to manage energy loads, ensure equitable access, and minimize environmental impact.

Strategic Approach

- This tier employs land use compatibility analysis and proximity mapping to identify zones where district cooling systems, renewable energy installations, and efficient cooling technologies can be most effectively deployed.
- By integrating these findings into Town Planning (TP) schemes, development regulations and creating incentives for renewable energy powered cooling solutions.



DEMAND OPTIMIZATION

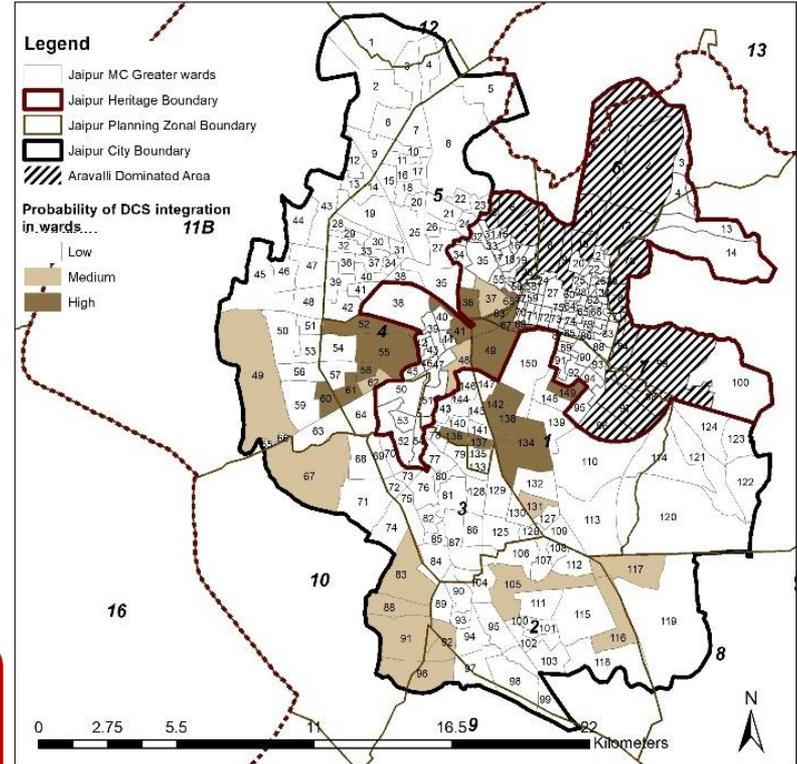
High priority cooling intervention wards

High proximity of confirming landuse

Highly economical feasible wards

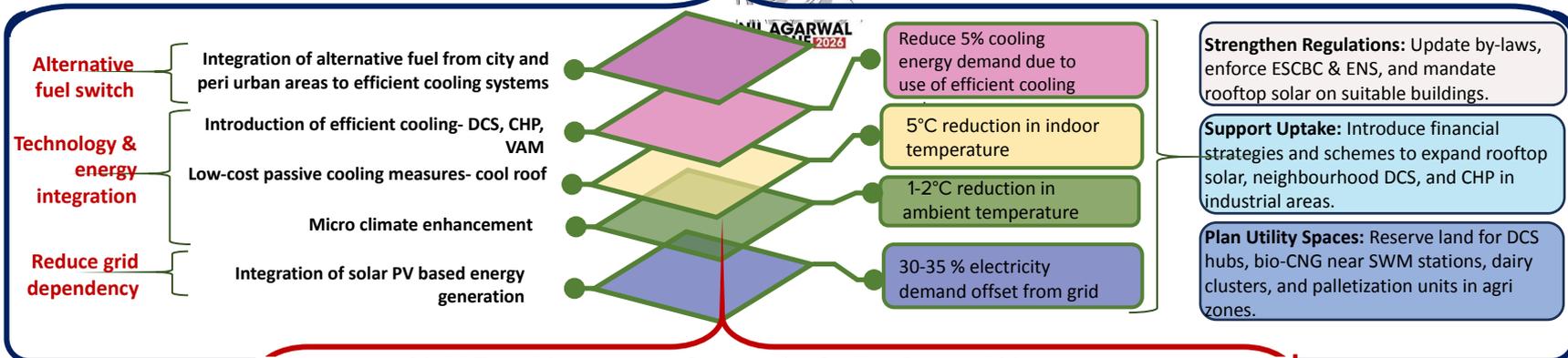


- Land-use proximity analysis: **33 wards in Heritage and 66 wards in Greater** have **medium to high landuse conformity**, indicating strong potential for shared cooling networks.
- In addition to **land-use conformity**, factors like **economic status** and the **type of residential units** play a key role in determining the feasibility of **DCS integration** at the neighborhood level.
- Dormitory-type peripheral wards = **low daytime load, sharp evening peak**— good for DCS-based evening peak management.
- High-Probability DCS Zones Identified: **16 wards, including C-Scheme, Shivaji Nagar, Sindhi Camp, Bani Park, Vaishali Nagar and Sanjay Nagar, where high density + mixed land-use support efficient district cooling deployment within city.**

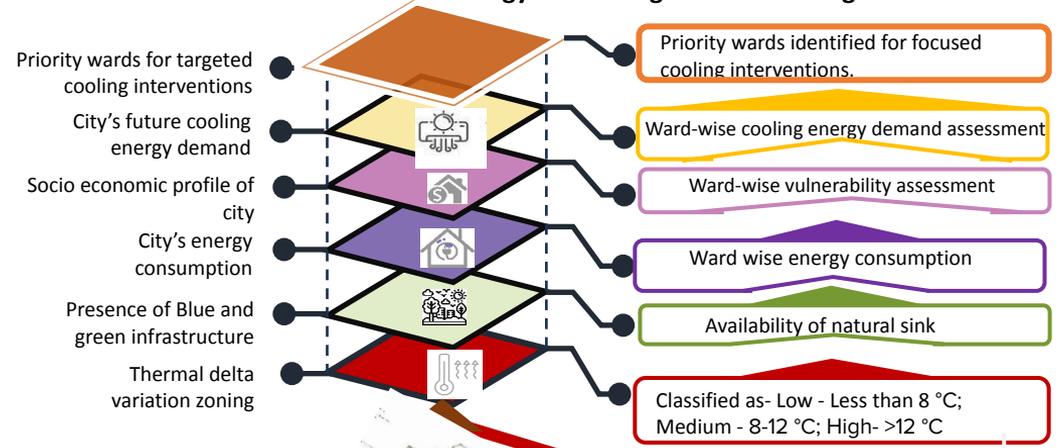




ANIL AGARWAL
2023



Multi-Tiered Intervention Strategy for Cooling Demand Management



Jaipur master development plan



High LST | Heat stressed area | High thermal discomfort

Assessments and solutions for cooling cities

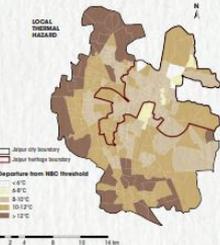


URBAN COOLING FRAMEWORK FOR JAIPUR



Thermal Hazard in Jaipur

- Jaipur's 250 wards have different levels of heat. This is primarily driven by the intensity of built-up fabric, lack of green-blue infrastructure, and other relevant anthropogenic activities.
- India's National Building Code 2016 - Model for Adaptive Comfort-use, Jaipur is constant at temperature threshold of 35.5°C. This provides indoor thermal comfort for 10 climates at 30°C.
- Departure from the threshold was classified into five thermal zones based on temperature scale. Zone 1 (4°C), Zone 2 (6-8°C), Zone 3 (9-10°C), Zone 4 (11-12°C) and Zone 5 (12°C).
- Jaipur's 12 per cent of wards fall in Zone 4 and Zone 5, which represent high and extremely high heat intensity. 30 per cent fall in Zone 3 (moderate) high and 48 per cent in Zone 2 (moderate) low heat intensity. This thermal hazard mapping informs ward-level heat action plans.



Tier 1: Green and Blue Infrastructure - Natural Coolth

The tier first focuses on safeguarding and amplifying the inherent cooling potential of Jaipur's natural resources. Street spaces, residential, and agricultural corridors provide essential evaporative services that regulate urban temperatures, and these assets lose increasingly development pressure.

Strategic Approach
This tier requires safeguarding the regulatory framework through revised zoning, incentive mechanism, and zoning planning policies. Not explicitly view environmental goals and services. By quantifying the cooling benefits of parks, trees, and blue canopy in economic terms, such as habitable development rights, we can build the case for their protection and enhancement within urban development plans. Zoning regulations, habitable development rights, and green infrastructure metrics must be redefined to preserve the spatial integrity and ecological functionality of these inherent cooling buffers.

The goal is to ensure conservation of strategic open spaces—ensuring interconnected networks of green and blue infrastructure that maximize cooling effects across neighborhoods, with periodic attention to heat-vulnerable communities.



Tier 2: Adaptive Resilience - Learning from Heritage

Jaipur's historic built environment has withstood harsh climatic conditions for centuries through indigenous passive design strategies. This is used to habitable built-up cooling demand into contemporary development practices, and the modern construction benefits from time-tested principles of thermal comfort.

Strategic Approach
Key interventions include promoting good roofs and reflective materials, retrofitting building ventilation or shading, enhancing thermal insulation, and incorporating smart ventilation strategies derived from Jaipur's architectural heritage. These passive measures reduce indoor temperatures while maintaining indoor built asset effects, cooling comfort both inside buildings and surrounding public spaces.

Case-study the interventions will be available through carefully designed case-study sub-division mechanisms used to custom such and climate finance, leading interventions can be achieved by community-disseminated communities that help reposition heat barriers. Subsequently mapping and classify priority zones where passive cooling results can deliver maximum social benefit, ensuring that climate adaptation serves the entire urban population.

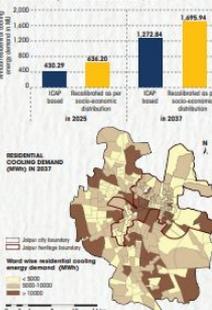
Tier 3: Energy and Technology Integration

The tier first addresses the spatial and technological dimensions of active cooling systems, focusing on modern performance standards and their optimal placement within the urban fabric. As demand for mechanical cooling grows, strategic planning becomes essential to manage energy needs, ensure equitable access, and minimize environmental impact.

Strategic Approach
This tier aims to land-use compatibility analysis and proactively identify to identify zones where district cooling systems, renewable energy integration, and efficient cooling technologies can be most effectively deployed. By integrating these findings into Smart Planning (SP) schemes, development guidelines and zoning regulations, modern energy-powered cooling solutions can create enabling conditions for equitable delivery models such as "Cooling as a Service"—where centralized, efficient cooling infrastructure serves multiple buildings or neighborhoods through shared networks.

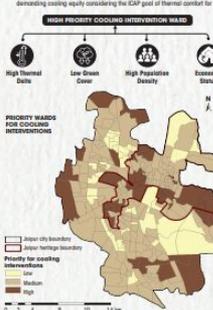
Cooling Energy Demand Projections

CSE estimated that residential spaces cooling in Jaipur will more than triple by 2037. Commercial spaces cooling in Jaipur will increase by 450%. The methodologies were followed are considering the India Cooling Action Plan (ICAP) and the other considerations. Both methodologies were applied to respective AC penetration rates and associated cooling demand and the combination of demand projections. Further, mechanical cooling demand could reach 800 MW by 2037.



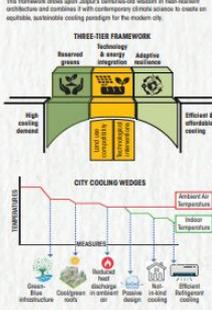
Prioritisation of Wards for Cooling Interventions

- A prioritization matrix was developed based on the integration of four primary factors: thermal hazard, population density, green-blue infrastructure, and socioeconomic status (SES) of Jaipur.
- The matrix yielded 38 high-priority wards and 172 medium-priority wards where interventions will be critical to boost Jaipur's greenery cooling demand.
- 88 per cent of these wards are dominated by low-income households, demonstrating equity considerations in the GSDP part of thermal comfort for all.

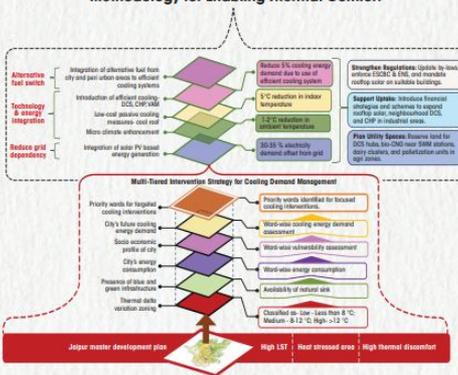


Urban Cooling Strategy: A Three-Tier Framework

Jaipur faces mounting heat stress that threatens public health, productivity, and quality of life. To reduce the city's urban temperature footprint, outlined by the National Building Code (NBC), a comprehensive three-pronged cooling strategy is essential—one that safeguards existing green and blue infrastructure while incorporating modern energy-efficient cooling technologies. This framework addresses both the city's unique urban landscape. This framework draws upon Jaipur's spatial and cultural heritage and robust architecture and combines it with contemporary climate science to create an equitable, sustainable cooling paradigm for the modern city.



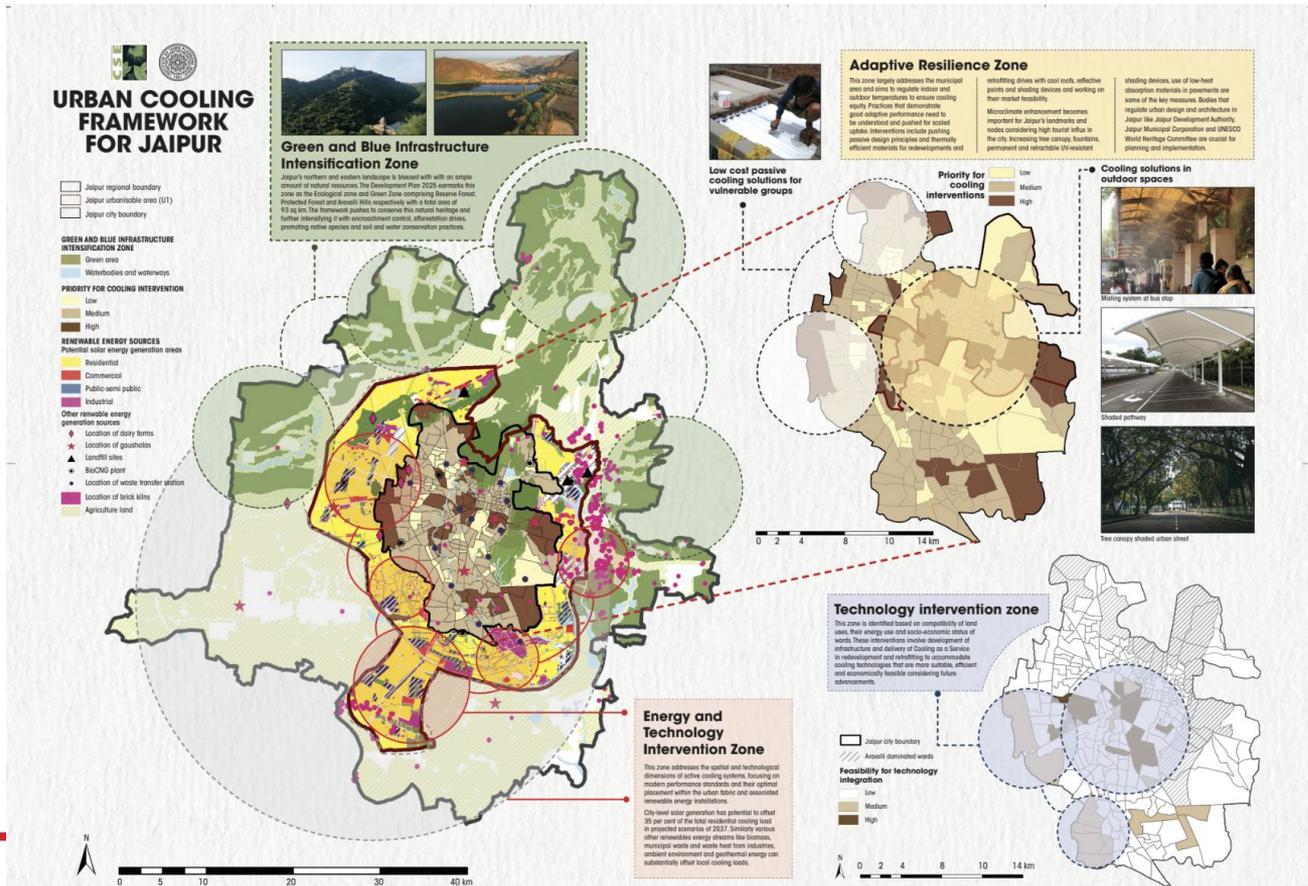
Methodology for Enabling Thermal Comfort



This urban cooling framework is a planning approach that balances sustainability and equitability. It provides a roadmap for rapidly transforming urban regions in a warming world. It merges sophisticated modeling of green and blue infrastructure while integrating time-tested passive design principles with the latest energy and technology solutions for the modern city. This sets a platform for spatial and technological integration for cooling which could be adopted in GIS-based master plans to ensure energy security, cooling equity and local co-benefits of better livability, air pollution and heat mitigation.

This work is a continuation of the Heat Road for Planning and Design of Indian Cities. Climate Resilient Cities which gave a methodology to evaluate heat stress of the city neighborhood and local scales based on the impact of land-use intensity (garbage vehicles, air conditioning, industries, etc.) and anthropogenic activities.

Assessments and solutions for cooling cities





Thank You

*Rajneesh Sareen
Programme Director, CSE India*