

BeBrit Extreme Heat Risk Project City Case Study

Heat-Related Climate Challenges in Delhi: Are We Ready?

Rising Temperatures, Rising Concerns

- Delhi faces significant challenges due to extreme heat, particularly in recent years. In 2024, the city recorded its highest temperature at **52.3°C**, marking a severe increase in heatwave occurrences.
- Hospitals reported a 20% rise in heat-related illnesses, including heat exhaustion and heatstroke, signalling a growing public health concern.
- Heatwave Days:** The number of heatwave days in Delhi has surged, with 203 recorded in 2022, the highest in recent history. In 2024, the city experienced 14 heatwave days by mid-June, the longest stretch in 13 years.
- Health Impact:** A significant mortality rate is associated with these heatwaves, with at least 275 deaths attributed to the extreme heat in the summer of 2024 alone.
- Vulnerable Populations:** Low-income neighbourhoods suffer disproportionately, facing compounded risks from inadequate access to cooling resources, such as electricity and water during heat waves.



What's Being Done?



- Delhi Heat Action Plan 2024-25:** The Delhi government has developed a comprehensive Heat Action Plan 2024-25 (HAP) to address the challenges posed by rising temperatures and heat waves. The HAP aims to prevent heat-related deaths and mitigate the impacts of extreme heat on vulnerable populations. It emphasizes a multi-sectoral approach, involving various departments and stakeholders to create a coordinated response to heat risks.
- Heat Resilience in Urban Planning:** The draft Master Plan for Delhi 2041 integrates heat resilience with climate and development goals.
- Built Environment and Nature-Based Solutions Investments:** Key measures include permeable paving to reduce flood and heat risks, shared district cooling systems to lower energy use, and green solutions to curb heat and pollution.
- Urban Greening Initiatives:** Delhi plans to increase its tree cover by over 20% and introduce bio corridors to link green spaces and incorporate vegetation.
- Cool Roofs Program:** Local leaders are collaborating with the national government to incorporate "cool roofs" in buildings to reduce indoor temperatures.
- Sustainable Cooling:** The 2019 India Cooling Action Plan promotes sector-specific sustainable cooling technologies to reduce energy demand and mitigate the effects of extreme heat.

Preparedness & Gaps

- Early Warning Systems:** Enhanced alerts from the India Meteorological Department (IMD). Successful notifications helped reduce heat-related illnesses during recent heatwaves.
- Public Awareness Campaigns:** Increased education on heat dangers and hydration. Targeted outreach in vulnerable communities.
- Vulnerable Populations Still at Risk**
 - Outdoor Workers & Slum Dwellers:** Significant risks due to lack of access to cooling centres and potable water. Increased cases of heat exhaustion reported.
 - Marginalized Communities:** Poorly ventilated homes and no community cooling centres.
- Infrastructure Gaps**
 - Inadequate Public Transport Facilities:** Many bus stops lack shade, exposing commuters to extreme heat.
 - Densely Populated Neighbourhoods:** Urban heat island effect leads to higher temperatures and increased vulnerability.
- Suggestions**
 - Enhanced Cooling Infrastructure:** Build more cooling centres in underserved areas.
 - Better Public Health Response:** Deploy mobile medical units during heatwaves. Train community health workers for heat-related health issues.
 - Community Engagement:** Promote grassroots initiatives and improve local communication networks.

Images:
Geographical location of Delhi. (Sharma and Joshi, 2014)
NEW DELHI, INDIA APRIL 13: A vendor transports buckets of ice at Gazipur food market, as heat waves started in part of Delhi-NCR, on April 13, 2023 in New Delhi, India. (Photo by Salman Ali/Hindustan Times via Getty Images)
NEW DELHI, DELHI, INDIA - 2024/05/21: Indian tourists walk on Kartavya Path in front of India Gate during the heatwave season in New Delhi. The Indian Meteorological Department (IMD) warns that severe heat wave conditions are most likely to continue over the plains of Northwest India, and heat wave conditions are expected over North Madhya Pradesh and Gujarat State during the next 5 days. (Photo by Pradeep Gaur/SOPA Images/LightRocket via Getty Images)
NEW DELHI, INDIA - JUNE 23: People are filling water in plastic cans from a NDMC water supply tanker at Chanakya Park, Delhi is facing a severe heat wave during the ongoing hot summer weather, on June 23, 2024 in New Delhi, India. (Photo by Salman Ali/Hindustan Times via Getty Images)
NEW DELHI, INDIA - MAY 29: A municipal truck sprinkles water on a road to provide respite from the ongoing heatwave, on a hot summer day in New Delhi, India on May 29, 2024. The national capital records a scorching high of 49.9 degrees Celsius amid a heatwave alert until May 30. Rajasthan, Punjab, Haryana, Western UP, and Madhya Pradesh are also on red alert. (Photo by Amarjeet Kumar Singh/Anadolu via Getty Images)

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