



*Empowered lives.
Resilient nations.*

Application of digital technologies to enhance heatwave resilience --

an initiative to build city and community resilience to heatwaves and
urban heat island effects –





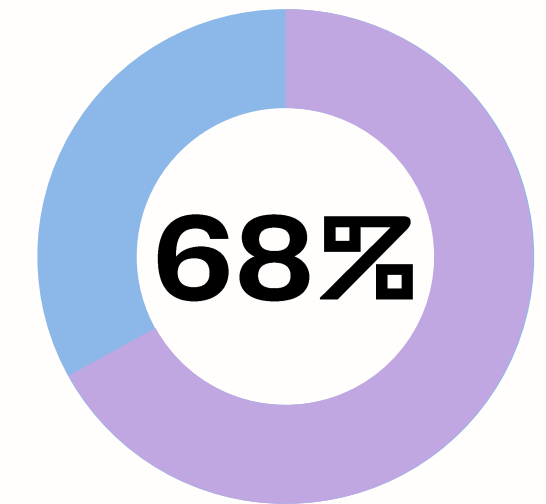
The Urgency of Action

Cities at frontiers of climate change

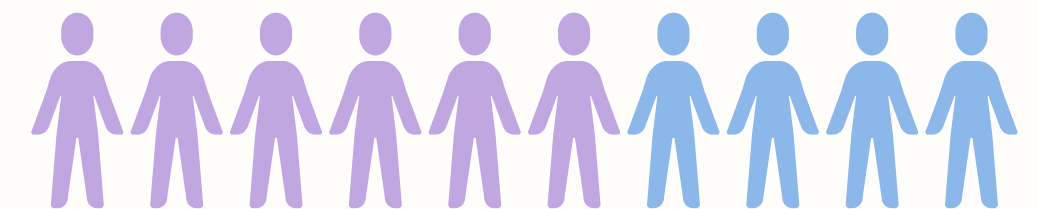
- Impact of record-breaking temperatures, extreme disasters etc.
- Extreme heat waves in urban areas
- 10-15°C higher surface temp than surroundings
- Increasing mortality rates --- more deaths than hurricanes, tornadoes, lightning combined

Socio-economic costs of heatwaves:

- UNICEF - over 2 bn children to face frequent heatwaves by 2050
- Loss of lives, health issues, water scarcity, wildfires, economic productivity
- Vulnerable segments are higher risk – infants, elderly, women, low-income groups
- Heat island effect intensifies impact around built environments



More than 68% of the world's population will live in cities by 2050 —2.5 billion more people than do now





Our Approach

Harnessing Digital Technologies for Change

- Utilizing digital solutions to assess, analyze, and disseminate information
- Predictive analytics, sensor networks, and heat action plans
- Addressing challenges through a comprehensive approach



Key Initiatives

Comprehensive digital strategy leveraging cutting-edge technology to enhance city resilience to heatwaves.

The project aligns with UNDP's Urban Risk Management and Resilience strategy and addresses global targets and priorities set in Sendai Framework and the New Urban Agenda



Digital Solutions

Utilizing **digital public infrastructure**, we'll deploy sensor networks, predictive analytics, and a robust early warning system. This will empower cities to anticipate, manage, and mitigate the impact of heatwaves.

Early Warning App

Our digital platform will host a **user-friendly mobile app** providing real-time alerts, emergency contacts, and locations of cooling centers or shaded streets. **Two-way communication ensures effective response and feedback.**

Urban Planning

Informed by vulnerability data, we'll **integrate heat-resilient elements into urban planning**. This includes low-cost interventions and a platform providing access to crucial data for decision-making.

Mapping Vulnerability

By **compiling and analyzing data** on demographics, income, housing, and health, we'll identify heat-vulnerable areas. Real-time temperature and humidity data, along with low-cost sensors, enhance accuracy.

Public Awareness

Digital **campaigns will educate residents** about heatwave risks and adaptation strategies. Collaborating with city utility companies ensures broad reach, even to digitally disconnected residents.

Nature-Based Solutions

We'll support the **implementation of nature-based solutions**, from community tree planting campaigns to incentivizing cool and green roofs. This approach fosters community engagement and reduces the urban heat island effect



Result areas & activities

Result Areas	Activities
Result Area-1 Map and Identify Heat Vulnerable Areas	Vulnerability Data Compilation and Indicator Selection Climate Data Collection and Sensor Deployment Risk Mapping and Data Integration Community Outreach and Data Validation
Result Area-2 Develop and Promote Heatwave Preparedness Platform	Development of a DPI Platform for Integrated Analysis Heatwave Preparedness Mobile App Development Digital Early Warning System for Heatwaves Health Impact Assessment during Heatwaves
Result Area-3 Public Awareness and Education	Foster Partnerships for Heat Resilience Digital Awareness Campaigns for Heat Adaptation Collaborative Alerts with City Utility Companies
Result Area-4 Risk-informed Urban Planning	
Result Area-5 Nature-Based Solutions for Urban Heat Islands	



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The Objective: *Empowering communities: building resilience against heatwaves*

- 01 Engage non-traditional actors -- philanthropies, private sector, CSOs/INGOs, individual giving for 'common good'

- 02 Foster community participation: Community-centric focus of the hazard merits community-facing strategies

- 03 Harness potential of digital outreach for communications, innovative partnerships, resource mobilization

- 04 Public awareness, preparedness and advocacy for community-action on emerging climate-induced risks

- 05 Develop digital/app-based platforms to map, give real-time alerts, identify safe/green zones and other solutions

Contact

Thank you!

UNDP Geneva

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