Responses to heat stress in South Asia

Heat Wave Management Planning

Ali Tauqeer Sheikh
CEO, LEAD Pakistan
Director Asia, CDKN

May 12, 2016

lead

Heatwave in India and Pakistan 2015

JOURNEY IN AHMEDABAD

2010: 1300 Preventable Deaths
2015: 7 Preventable Deaths

Key Processes

(Immediate and Short term):

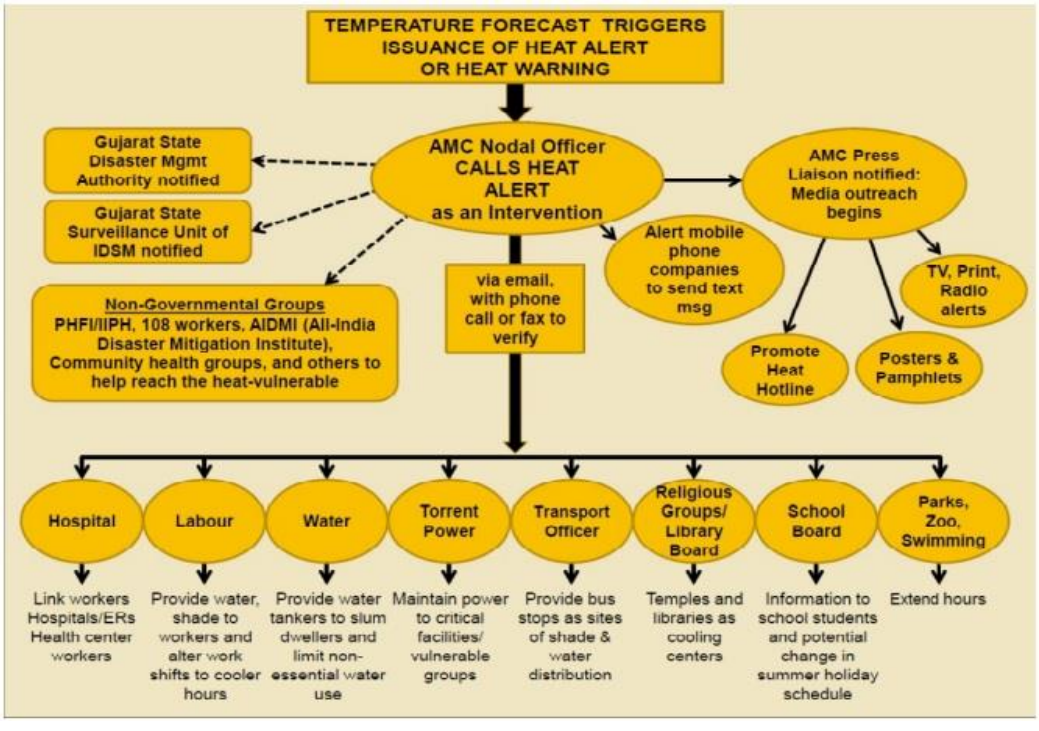
- **Community Outreach Campaign on preparedness and Prevention of heat-related illnesses**
- **Simple Early Warning System**
- **Capacity Building among health Care professionals**

Thursday 23 May 2013 - YELLOW ALERT LEVEL

Current Forecast (Created 22-May)	23-May	24-May	25-May	26-May	27-May	28-May	29-May
Alert Level	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Likelihood of Crossing Threshold	High	High	High	High	High	High	High
Maximum Temp (+/- 1 SD)	42.5°C (41.9-43.2)	42.6°C (42.1-43.2)	42.2°C (41.4-42.9)	42.5°C (42.0-43.2)	42.4°C (41.5-43.4)	42.2°C (41.5-43.1)	42.1°C (40.8-43.2)
Probability of "Safe Day"	0%	2%	6%	4%	6%	8%	22%
Probability of "Hot Day"	88%	86%	90%	82%	82%	90%	71%
Probability of "Very Hot Day"	12%	12%	4%	14%	12%	2%	8%
Probability of "Extreme Heat Day"	0%	0%	0%	0%	0%	0%	0%

Alert Levels:	Safe <41°C	Hot 41.2°C - 43.4°C	Very Hot 43.5°C - 45°C	Extreme Heat >45°C

Likelihood of Crossing Threshold
High>75% Med 50-75% Low<50%

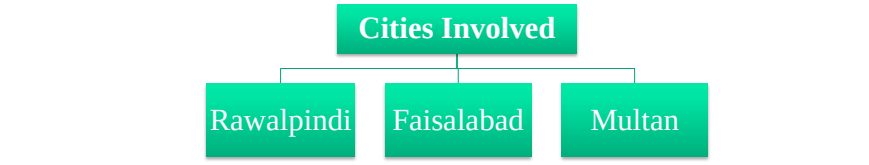


Sheltering from a Gathering Storm

Temperature Resilience in Pakistan

Objective: ***Explore economic impact of temperature on shelter and cost effectiveness of passive heat reducing solutions.***

Research Approach



7

HI-AWARE

Indoor and outdoor heat stress measures

A pilot in Faisalabad – Delhi - Dhaka

AIM

- To better understand exposure to heat and indoor and outdoor thermal comfort
- To compare different measures
- To advise on better planning, building and behavior to adapt to rising temperatures

Set-up

In each city:

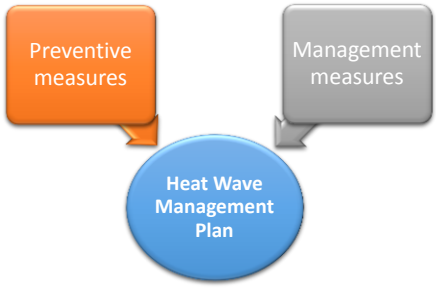
- 66 indoor sensors
- 1-2 mobile transects

- handheld devices
- automatic weather stations
- thermal camera

Improving heat resilience for Karachi City

- **Stakeholder engagement workshops in Karachi city to sensitize and motivate participants about heat wave management planning.**
- **Co-creation exercise of draft protocols for heat wave management in Karachi city.**

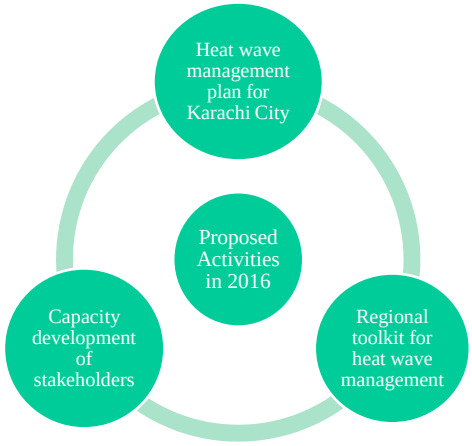
Heat Wave Management Protocols
Recommendation from stakeholders in Karachi



Preventive measures	Management measures
• Information dissemination • Protecting the vulnerable • Research & expertise	• Forecast & alert system • Communication & coodination plan • Health & environmental surveillance

Improving heat wave resilience of Karachi City: Building on the regional experience

- **Building on the previous processes and feedback from Karachi city stakeholders.**
- **Proposed next phase envisions two key activities:**
  - **Development of a heat wave management plan for Karachi city.**
  - **Capacity building of stakeholders to support implementation of heat wave management plan.**



13

Planning and Conceptual Model Development
- Stakeholders with Workshop

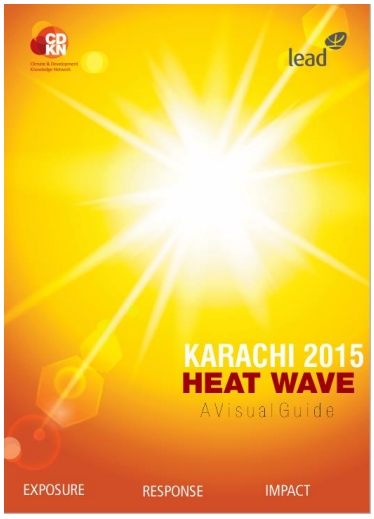
Needs (Vulnerability) Assessment
- Heat Vulnerability, Socio-Economic Vulnerabilities

Developing a Baseline
- Medical Infrastructure Assessment, Mortality Records, Inpatient/Outpatient Records

Coalition Development and Outreach
- Local Officials drafted a list of key community and other stakeholders

Intervention Development
- Medical Capacity Enhancement, Inter-agency cooperation, EWS, Brochures

14



15

Heat Action Plan

- Administrative Tool, Defines Levels of Heat Emergency, Roles and Actions, Community Outreach Campaign

Early Warning Systems

- 7- Days advance Warning based on projections

Implementation of Interventions

Project Evaluation

16

Key Message

- **The length of heat stress and the combined effect of humidity and raised minimum temperatures are more accurate proxies for heat stress on human health, compared to the maximum temperature alone.**
- **Heat impacts differentiated across gender and socio-economic status.**

Thank You