

# “I am a COOL SURTI in HEATED SURAT”

Community resilience for heat stress: Experience from Surat city (India)

Technical Contribution by team UHCRC



Dr. Vikas Desai, Mr. Anuj Ghanekar  
Ms. Priyanka Jariwala, Dr. Suresh Rathi, Mr. Kaustubh Parihar

“Surat was never hot like this!”

“This is the hottest summer I have ever seen”

“I just avoid going out in afternoons, it is too hot outside”



Protecting from hot sun (2010 Surat Heat wave)

Summer 2016 has repeatedly heard such exclamations from citizens of Surat (a coastal city of India). Global temperature rise has already started shooting its local effects. India witnessed highest temperature records since 2010 and noticeable increase from 2014-2016. In case of coastal cities like Surat, not only heat but humidity too plays a vital role. Well-being of citizens as well as economy of the city is at risk due to high heat index.

2016 is the year for Phase I piloting of “Heat and health Action plan- Surat” by the Health department of Surat Municipal Corporation-SMC. This action plan is the first coastal city action plan in India prepared by Urban Health & Climate Resilience Centre (UHCRC). UHCRC also facilitated community involvement process for heat resilience in these years.



How can community lag behind in action when heat is churning up health of the city?

The efforts of system are being complimented by “community resilience” which is shaping up.

**“Community resilience is nothing but people's capacity to cope with problems. Efforts to build community resilience can strengthen people's social networks, enhance their knowledge and skills to deal with threats competently or increase their economic ability to face threats.”**

Definition adapted from “Social resilience: a new approach in mitigation research”, NCCR, Switzerland, Sept. 2013

Heat resilience drawing made by a Surti child

# 1

## Resilience through dialogue

Why being “summer season” is loved or hated?  
(Opinion poll of citizens health dialogue forum)

- 72% say We dislike summer because
- I don't feel like eating food and appetite lowers.
  - High temperatures result in too much sweating.
  - I feel thirsty a lot.
  - I am not being able to do my work actively and efficiently.
  - Summer brings tiredness and overall it creates discomfort.
  - Physical as well as mental discomfort leads to family tensions.
  - There is desperate need of Air Conditioning (AC).
  - It is difficult for lower economic class to manage in summers.
  - Laziness, stress and health problems like migraines are rampant.
  - Humidity adds to stress.
- 28% say We like summer because
- Summer is full of colourful flowers.
  - Some tasks can be done only in summers, say, few agricultural activities, so it is essential.
  - Summer is part of nature's cycle system and needed for rains.
  - Summer brings fruits like watermelon and mangoes.
  - Thin Indian cotton and khadi cloth wearing is possible in summers.

***“Being Indians, we are very fortunate to have specified distinction of annum into three seasons-summer, monsoons and winter. Above all, we also have vegetables, food appropriate to season. But, if we continue to destroy the environment with our activities, we will lose this natural wealth.”***

- The common opinion from dialogue forum



Participants of dialogue forum having discussion in the activity



Media coverage of dialogue forum

## 2 Resilience through creative education

U-turn is a community initiative that takes place in Surat every Sunday morning where people gather at a particular street of city and practice music, sports and fitness exercise activities in groups. U-turn is organized by group of NGOs and Surat Municipal Corporation.

U-turn initiative on 22nd May 2016 also witnessed “Heat health education” campaign run by interns at UHCRC – future urban practitioners. Along with traditional means of pamphlets, activities like “creative writing” and “photography for resilience” generated interest and fun element for public. 65 citizens participated, responded and appreciated. The unanimous community opinion was tree plantation is must for Surat and tremendous willingness to participate in tree plantation drives was observed.



Bilingual pamphlets for heat health education



Participants of dialogue forum having discussion in the activity



Media coverage of dialogue forum



Creative writing triggers creative thinking & actions

### Surtis said,

“Dear Sun,  
Please go to  
“Settings”>“Display”>“Brightness”  
&  
Lower your brightness!  
Please! It is too hot to handle”

### Sun replied

I have not changed my settings! Please go to your settings!  
What will be the Sun's suggestions???

Participants unanimously wrote -

1. Save environment
2. Plant more trees
3. Chill & be cool
4. Arrange tree plantation drives

## 3 Resilience through reclaiming traditional wisdom

Fruits of wisdom from senior citizens: Traditional adaptive methods to combat heat in Surat

### Cuisine

Diet is essential in fighting with heat stress. Participants enlisted number of food items- Fruits like sweet lime, orange, watermelon, grapes, tomatoes, galeli, Sakartiti (Musk melon) raw sour mango; Salad items like raw onion, cucumber; Drinks like Chhash (buttermilk), Kairi no baflo/ aam panna (raw mango juice), imli panna, kokam panna, jaljeera, lemonade, Nimbu sharbat, coconut water, fresh fruit juices. Diet should contain maximum amount of water. Water should be drunk frequently and in more quantity, especially while going outside.

## Clothing

Participants reported that dressing in loose and thin Indian cotton clothing helps. Use of scarf, caps and goggles, traditional pagdi while going outside is essential. Areas prone to skin infections and heat health hazards should be covered. There should be planning of dressing in summers.

## Practices

Intra-domestic comfort should be created with use of Khas made curtains, coolers, fans, air conditioning. Water can be sprinkled outside house in morning and evening to keep space cool. Surat's heat humidity combination encourages mosquito breeding. Mosquito repellents and nets can be used to avoid mosquito borne diseases. According to people, taking bath more than once in a day is also essential. The practice of spending time in parks and urban green spaces should be followed frequently in summer evenings. First aid knowledge for heat health hazards should be there with community members.

# 4 Resilience through "Peer education" in schools

Capacity building of "climate smart healthy children"

The battalion of one school is imparting the knowledge, skills and attitudes of "heat resilience" to that of another school with vigour and creativity. Heat and health messages are being discussed, demonstrated and acted upon by youngsters. The creative approaches like skits, drawings, fancy dress show and video discussions are being used. Peer education model "Student to student" is creating more interest and dialogue amongst recipient Peers. Many "peer" recipients from one school are willingly joining as peer educators for other schools, thus facilitating rapid spread of activity.



Climate smart fancy dress show:  
Global warming



Participants of "Valentine day  
tree hugging competition



Children picturing the heat resilience



Child expressing "the pain of tree  
cutting" through her drawing

# 5

## Resilience through “Micro-Green spaces”

Formation of “Surat Alliance for Urban Agriculture & Resilience (SAUAR)”



A multi-stakeholder consortium called “Surat Alliance for Urban Agriculture and Resilience (SAUAR)” was formed by academia, non-governmental organizations in June 2015. Aim of SAUAR is to promote domestic agriculture in the city towards health, nutrition and climate resilience. Activities under SAUAR included citizens trainings, problem

SAUAR terrace gardening, kitchen gardening, exhibitions & green space promotion

-solving and handholding support through social media, city events and exhibitions to promote the idea, peer group formation to ensure sustained interest and documentation of experience. A preliminary follow up study of SAUAR beneficiaries (202 by now) revealed that more than 150 have attempted or are successfully practicing growing domestic vegetable. Majority are using terrace and Balcony space, are satisfied with handholding by technical experts through social media and are in a process of peer promotion.

### Activities under SAUAR

Formal SAUAR formation event on 5th June 2015 (World Environment Day). Event was attended by more than 100 citizens and the concept of SAUAR was explained through presentations.

Stakeholder engagement through occasional meetings and timely decisions were taken.

Formal MOU was signed

3 day trainings programs were conducted covering 202 participants including general citizens, anganwadi workers and sakhi mandals.

Regular handholding and support to participants was provided through social media. Each training batch has formed a whatsapp group where trainers solve queries of those who are attempting the practice.

Participation in 2 city level exhibitions for promotion. The willing visitors are enrolled for training through exhibitions

Preliminary assessment of practice is being conducted through interviews of trainees

### The final thought

Like other Indian cities, Surat scores high on heat health vulnerability scale. The focused community resilience is a key. Community resilience can be built and demonstrated creatively to solve today's urban crisis.

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