Jodhpur Heat Action Plan

MAHILA HOUSING TRUST
Towards Responsible Urban Development

INCEPTION OF HEAT ACTION PLAN

- MHT has been working in Jodhpur City since 2006, with almost 40% of the poor population, fulfilling their developmental demands. It has reached more than 25,000 individuals by providing them with basic services like housing, water, sanitation, and climate solutions.

- Jodhpur is one of the hottest cities in India. High-temperature areas in Jodhpur have increased from 24.2 sq. km in 1991 to 62.5 sq. km in 2019, while low-surface temperature areas have reduced from 42.8 sq. km to 14 sq. km from 1991 to 2019.

- The Community Action Groups (CAG), created and empowered by MHT, on climate change issues, demanded a Heat Action Plan for the city, with a focus on its most vulnerable population in a workshop held on 3rd June, 2022. A first-of-its-kind Heat Action Plan has been prepared for Jodhpur, focusing on passive cooling features.

HEAT ACTION PLAN

Heat Risk Assessment

A risk assessment study has been done by MHT to identify the most vulnerable areas of Jodhpur city based on indicators like Exposure, Sensitivity and Adaptive Capacity related to Heat Risk.

Conceptually, heatwave risk is the product of three latent factors: Exposure, Sensitivity, and Adaptive capacity.

Exposure

The presence and extent of people, ecosystems, and assets in areas that could be adversely affected by extreme heat.

+

Sensitivity

The degree to which people, ecosystems, and assets are affected, either adversely or beneficially, by climate variability or change.

−

Adaptive Capacity

The ability of social and ecological systems to adjust to climate change to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.

= Vulnerability

Source: IPCC (2014)

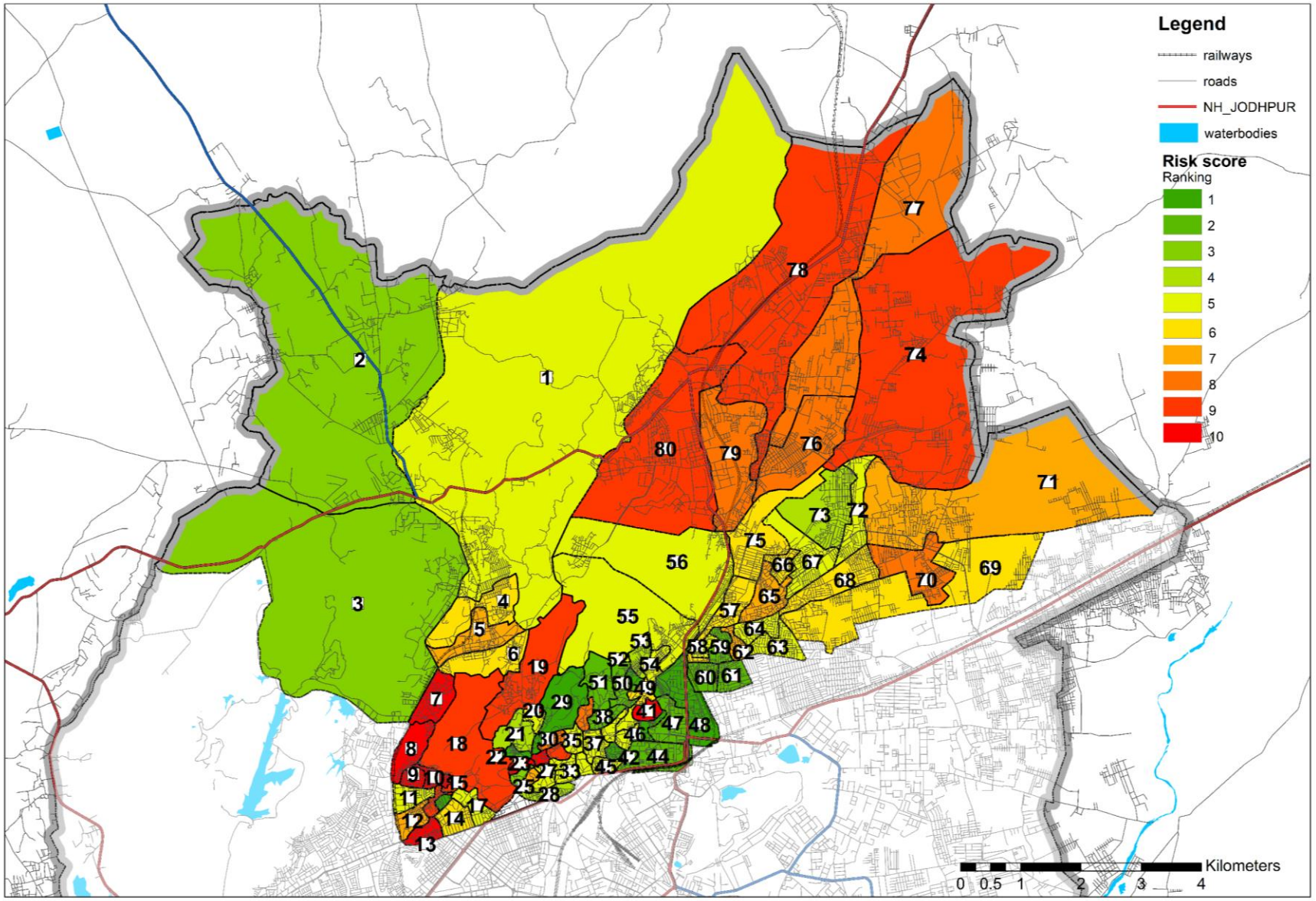
HEAT RISK ASSESSMENT

Heatwave Risk Assessment

	Parameters
Exposure	• Land Surface Temperature • Population Density
Sensitivity	• Number of Slum households • Access to household Water connection • Female Population • Illiteracy rate • Sites of Labor Chowks • Land-use • Built up area
Adaptive Capacity	• Access to Parks • Access to Urban Health Centers • Access to Waterbodies, emphasizing traditional structures Baoris • Water Index • Vegetation Index • Road Density

RISK SCORES BASED ON ASSESSMENT

The map shows ward-wise vulnerability (risk) scores based on the three indicators: Exposure, Sensitivity and Adaptive Capacity. This information will be used to identify and work on the most vulnerable areas of the city.



Category	Risk Score	Total No. of Wards	Percentage (%)
High	8 – 10	22	27.5
Moderate	5 – 7	37	46.25
Low	1 – 4	21	26.25

Risk Category	Ward Number	Conclusion
High	7, 8, 9, 10, 13, 15, 18, 19, 22, 23, 30, 41, 70, 74, 76, 77, 78, 79 and 80	High Exposure and Sensitivity Low Adaptive Capacity
Moderate	1, 4, 5, 6, 11, 14, 17, 55, 56, 58, 59, 63, 66, 67, 68, 72, 73, 75	Low to Medium Exposure and Sensitivity Medium to High Adaptive Capacity
Low	2, 3, 5, 20, 21, 23, 29, 38, 41, 42, 44, 46, 47, 50, 51, 52, 54, 59	Low Exposure and Sensitivity High Adaptive Capacity

DEVELOPMENT OF A CITY HEAT ACTION PLAN - WORKSHOP

Multi-stakeholder workshop was conducted in Jodhpur for reaching out to various government department stakeholders regarding proposing Heat Action Plan.

Letter of intent signed between Jodhpur Nagar Nigam-North, MHT and NRDC in a workshop conducted on Heat Action Plan for Jodhpur City.

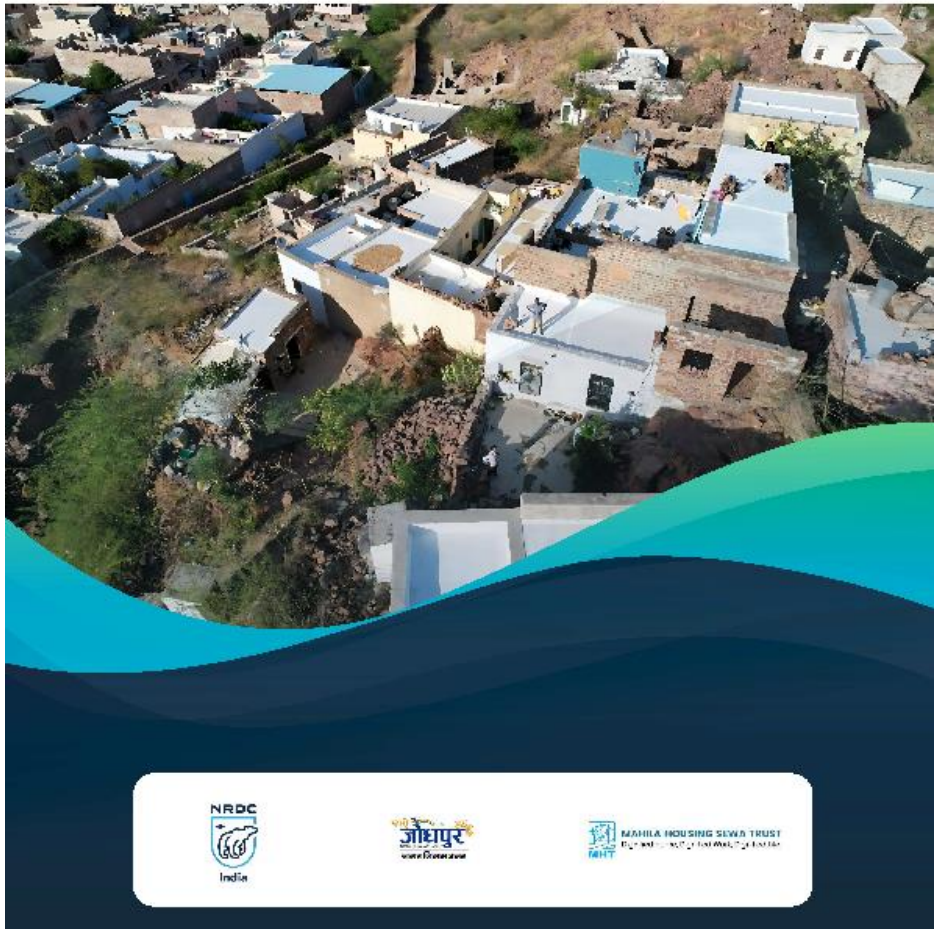
Commissioner Shri Atul Prakash Ji addressed the government stakeholders in the workshop.

WORKSHOP PARTICIPANTS – STAKEHOLDER ENGAGEMENT

The Workshop was attended by 24 prominent stakeholders from various government departments. They form the key stakeholder group for Jodhpur Heat Action Plan.

Sr. no	Name	Designation	Organization	Ph. Number	Email ID
1	Ashkarn Malviya	Joint Labour Commissioner	Labour Department	8112241890	djlcjodhpur@gmail.com
2	Mohit Gupta	DCF	Forest Department		jdpr.forest@rajasthan.gov.in
3	Seema Sharma	CDEO	School and Education board	9829315598	cdeojodhpur@yahoo.com
4	R.B Singh	Project manager	Rajasthan Renewable Energy Corporate Limited	9413300930	pmrrecjodhpur@gmail.com
5	Aakansha Bherva	IAS	Women and Child development	7231954569	ddjodhpur.wcd@rajsthan.gov.in
6	Dr. Vikas	Secretary	Mathura Das Hospital	9928060011	drvikasrajpurohit@gmail.com
7	Dr. Neeti Rustagi	HOD (School of Public Health)	AIIMS	8003996931	drneetigoswami@gamil.com rusogin@aiimsjodhpur
8	Dr. Pankaj	HOD (School of Public Health)	AIIMS	8003996903	pankajbhardwajdr@gmail.com
9	Dr. Ajay Vardhan	Regional Director	IGNOU	9887008922	avacharya@ignou.ac.in
10	Shilpi Sharma	Zonal Incharge	Air pollution	9460380931	rorpcb.jodhpur@gmail.com
12	SL Paliwal	Regional Director	Zila Udyog (for MSME)	8107099201	dicjodhpur@rajasthan.gov.in
13	Anil Ji Vyas	Additional director	Samaj Kalyan Office	9784935724	Sjejodhpur@yahoo.com
16	Mohan Lal Panwar	Deputy Director	Statistics Department	9784834563	ddstat.jodhpur@gmail.com
17	Rajendar Mehata	Superintendent Engineer	PHED (Public Health Engineering Department)	9419974074	se.phedjdp1@gmail.com
18	Dr. Gyaneshwar	Veterinary officer	Animal Husbandry Department	9166577895	gyanerakshkota@live.com
21	Ajay Vyas	Territory Manager	Agriculture Department	8819089871	ajay.shrivas93@gmail.com
22	Atul Prakash	Commissioner North	Jodhpur Municipal Corporation	9654236892	nnjnorth@gmail.com
23	Hemant K. Sharma	Secretary	Jodhpur Meteorological Department	9414411257	hksharmagovt.com
24	Pritam Singh Sankhla	Deputy CMHO	Chief Medical and Health Officer	7073603405	Cmho-jod-rj@nic.in
25	Punit Gehlot	Coordinator	Jodhpur bus services limited	9783234111	jbslijodhpur@gmail.com
26	Dhanpat Gujar	Bal kalyan Adhyaksh	Bal Kalyan	9414270810	dr.dhanpatgujar@gmail.com
27	Vinod Paliwal	Regional Director Jodhpur	AIILSG	9782600101	rdjodhpur@aiilsg.org
28	VN Kiran	Assistant Director	Office of development commissioner service center	9481193652	mscjod-dchc-textiles@gov.in
29	Bharat Tarpan	Superintendent Engineer	Jodhpur Municipal Corporation	7339864452	bharattepan012@gmail.com

LAUNCH OF JODHPUR HEAT ACTION PLAN



Heat Action Plan manual has been prepared by MHT, NRDC and Jodhpur Nagar Nigam (North).
It has been launched by Jodhpur Nagar Nigam Commissioner, Shri Atul Prakash Ji in April 2023.

HEAT EARLY WARNING SYSTEM – WITH GOVERNMENT STAKHOLDERS

Jodhpur Nagar Nigam – North (JNNN) has initiated sharing heat early warnings among all government stakeholders since April 2024. **29 government stakeholders** receive heat early warnings.

कार्यालय नगर निगम,जोधपुर (उत्तर)

पोलीटेक्निक कॉलेज परिसर के अन्दर,गौरवपथ जोधपुर

Phone Number: 0291-2651483 mail: nnjnorth@gmail.com

सेवा मे
संबंधित विभाग

विषय : हीट एक्शन प्लान के तहत अन्य स्टेकहोल्डर्स को पूर्व मौसम संबंधी जानकारी मिल सके उसके बाबत।

जोधपुर में हीट ऐक्शन प्लान के तहत जोधपुर नगर निगम को IMD के द्वारा पूर्व मौसम संबन्धित जानकारी मिल रही है। नागरिकों को ऐसी अत्यधिक गर्मी की घटनाओं के प्रतिकूल प्रभावों से बचाने के लिए, जोधपुर नगर निगम, उत्तर (जेएनएनएन) के सहयोग से वर्ष 2023 की गर्मियों के दौरान जोधपुर हीट एक्शन प्लान (एचएपी) विकसित और कार्यान्वित किया है।फिलहाल हीट स्ट्रोक (लू) के प्रति लोगों को जागरूक करने के लिए IMDसे मोसम संबंधित पूर्वानुमान प्राप्त हो रहा है, ताकि शहरवासियों को गर्मी से सुरक्षा मिल सके और गर्मी के मौसम में लोगों के स्वास्थ्य पर कोई प्रतिकूल प्रभाव न पड़े।

भारतीय मौसम विभाग ने 1 मार्च 2024 को देश के लिए 2024 समर सीजन टेम्परेचर आउटलुक रिपोर्ट जारी की है। यह दृष्टिकोण से बहुत स्पष्ट है कि राजस्थान में इस साल गर्मी के मौसम में दैनिक अधिकतम, न्यूनतम तापमान और हीटवेव की अवधि सामान्य से अधिक रहने वाली है ।

इस गर्मी में जोधपुर के नागरिकों और पर्यटकों को बढ़ती गर्मी से बचाने के लिए, यह बहुत महत्वपूर्ण है कि हम जोधपुर हीट एक्शन प्लान के तहत गर्मी प्रारंभिक चेतावनी प्रणाली का समन्वय करना, जन जागरूकता और सामुदायिक आउटरीच बढ़ाना, प्रमुख हितधारकों की क्षमता निर्माणकरना । माननीय, आप के विभाग से अनुरोध है की येलो अलर्ट, ऑरेंज अलर्ट औररेड अलर्ट के दौरान संबंधित विभाग द्वारा आवश्यक कार्रवाई की जाए।

कार्यालय नगर निगम,जोधपुर (उत्तर)

पोलीटेक्निक कॉलेज परिसर के अन्दर,गौरवपथ जोधपुर

Phone Number: 0291-2651483 mail: nnjnorth@gmail.com

जोधपुर शहर

दिनांक	अधिकतम तापमान (डिग्री सेल्सियस)	न्यूनतम तापमान (डिग्री सेल्सियस)	औसत तापमान (डिग्री सेल्सियस)	विवरण
08.04.24	38.0	21.0		साफ़ आसमान
09.04.24	40.0	22.0		आंशिक रूप से बादल छाए रहेंगे
10.04.24	40.0	23.0		आंशिक रूप से बादल छाए रहेंगे
11.04.24	39.0	22.0		साफ़ आसमान
12.04.24	40.0	22.0		आंशिक रूप से बादल छाए रहेंगे

सामान्य	हरा	सामान्य चेतावनी
मध्यम	ऑरेंज	मध्यम चेतावनी
हीट वैव	पीला	हल्की चेतावनी
तीव्र गर्मी	लाल	तीव्र चेतावनी

HEAT EARLY WARNING SYSTEM – WITH COMMUNITY

The heat early warning system has been functional with the vulnerable communities since May 2023. IMD shares weekly forecast data with MHT which, in turn, is shared with our vulnerable communities **through meetings, posters, and WhatsApp groups. Outreach – 25,000+ across 14 slums.**

MHT

महिला हाउसिंग ट्रस्ट द्वारा जनहित मे जारी

अगले 5 दिवसीय तापमान की जानकारी

जोधपुर शहर

दिनांक	तापमान	विवरण
26-05-2023	40.68	आगामी 5 दिन तक तापमान सामान्य रहेगा
27-05-2023	40.64	
28-05-2023	41.09	
29-05-2023	40.02	
30-05-2023	40.71	

सामान्य	हरा	समान्य होना हरा कलर दर्शाता है
हीट वेव	पीला	45 डिग्री होना पीले कलर दर्शाता है
हीट गर्मी	लाल	47 डिग्री होना लाल कलर दर्शाता है

HeatWave (vassarlabs.com)

Outreach – 25,000+ Urban poor population

COOL ROOF PILOTS

Cool roof paint pilots have been implemented across 9 slums. They are identified in high or moderate-risk areas based on the heat risk assessment. The majority of HHs have RCC or Tin sheet roofs.

1651 houses have been painted with solar-reflective white paint since last year in Jodhpur.

Community contribution: Residents from the slums; majorly women, participated in roof paint training and all beneficiaries applied the paint themselves.

Houses painted - 1651

COOL ROOF PILOTS – DATA ANALYSIS METHODOLOGY

Data Logger Installation

We selected 40 houses w/o cool roof paints (control) and 40 houses were painted with the white coat (case) prior to the heat season. The temperature difference was recorded with the help of Data loggers at 10 minute interval.

Selection of Data

Data was collected and only those days for which entire data was available were selected. We decided on a threshold of 5 days for the analysis. Same dates were selected for the paired control and case houses.

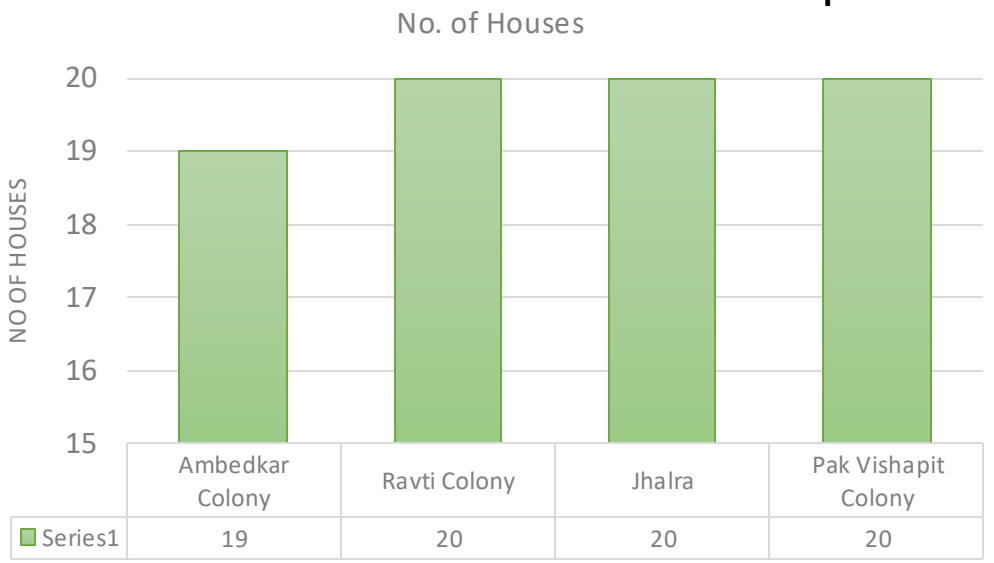
Analysis

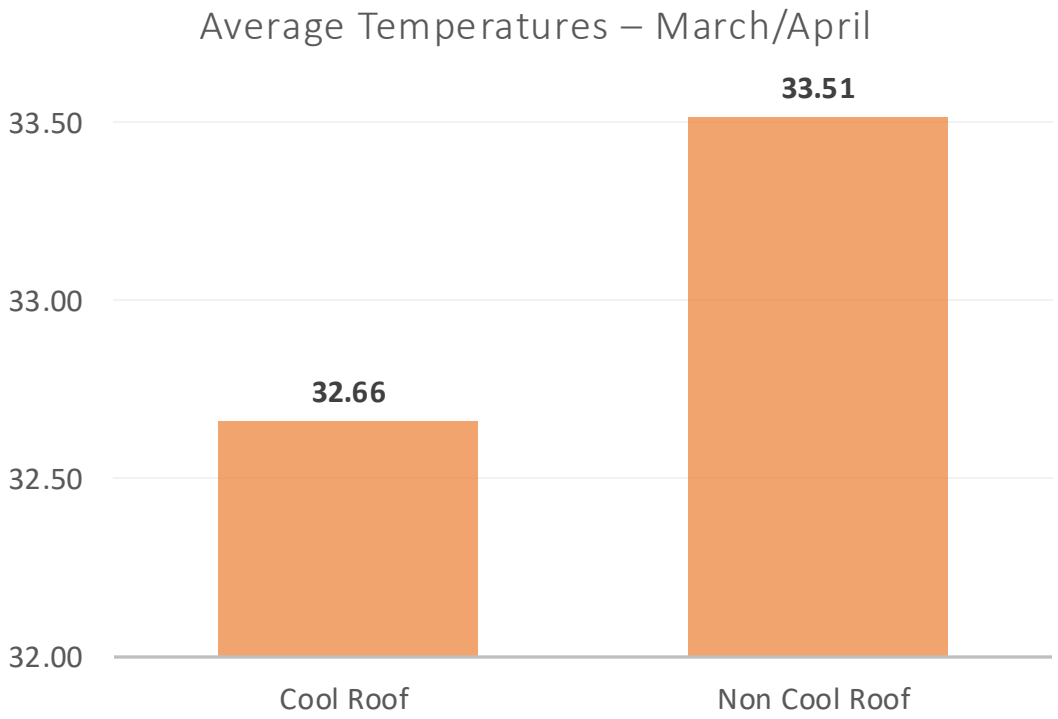
Three categories for comparison of the houses were created – Average Temperature (average value of the day), Maximum Temperature (highest value in the day) and Minimum Temperature (lowest value recorded in the day). Difference in temperature was calculated by daily readings and taking an average of the daily values.

COOL ROOF PILOTS – DATA ANALYSIS

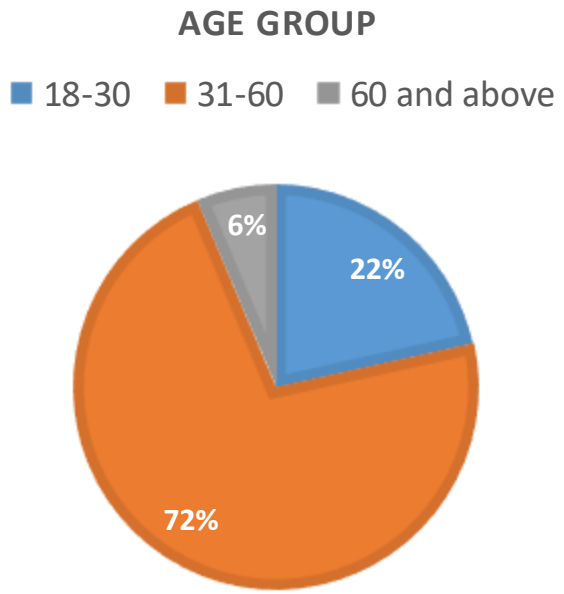
ROOF TYPE OF HOUSES

Sample Size = 79 houses

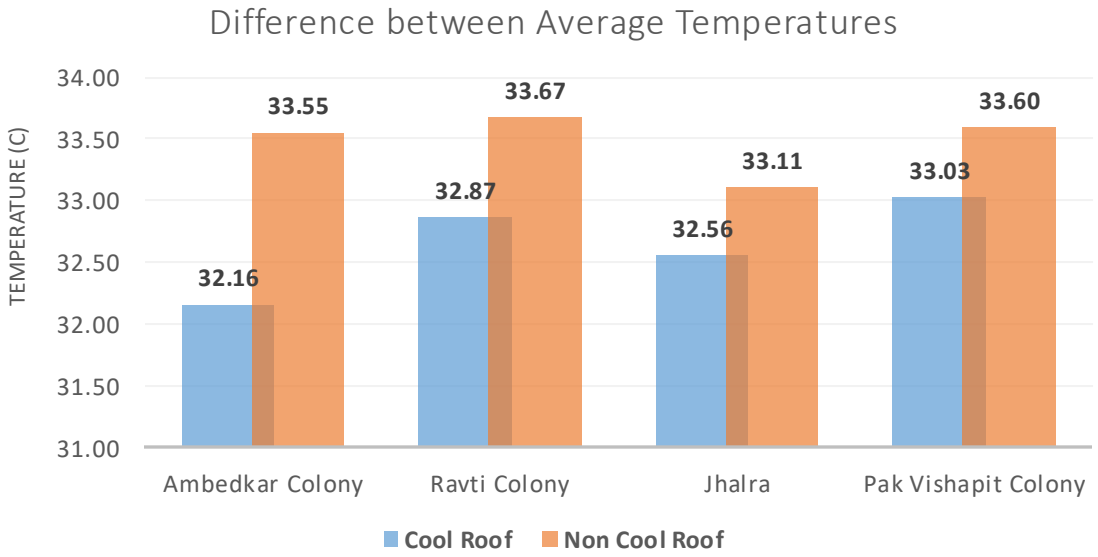


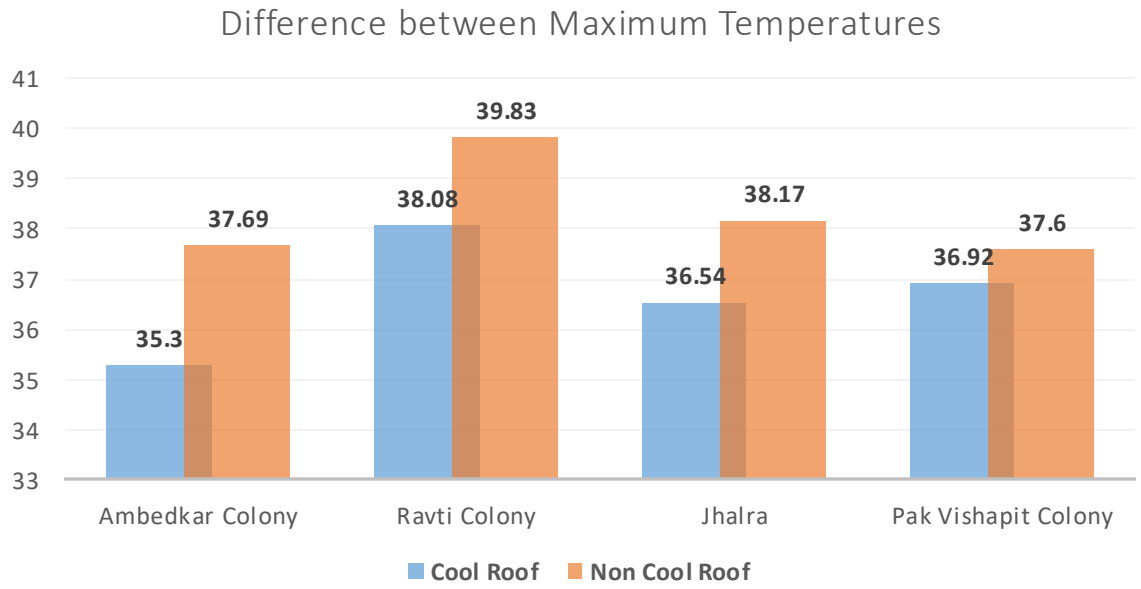


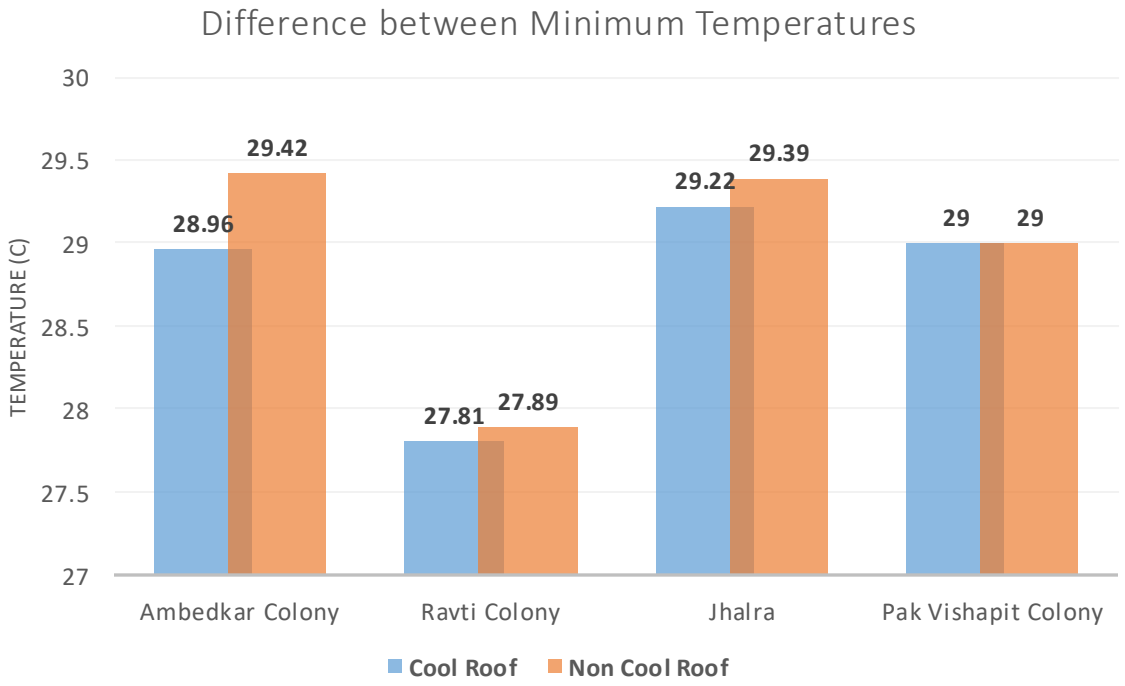
The average temperature difference between the control houses and cool roof painted houses was **0.86°C**.

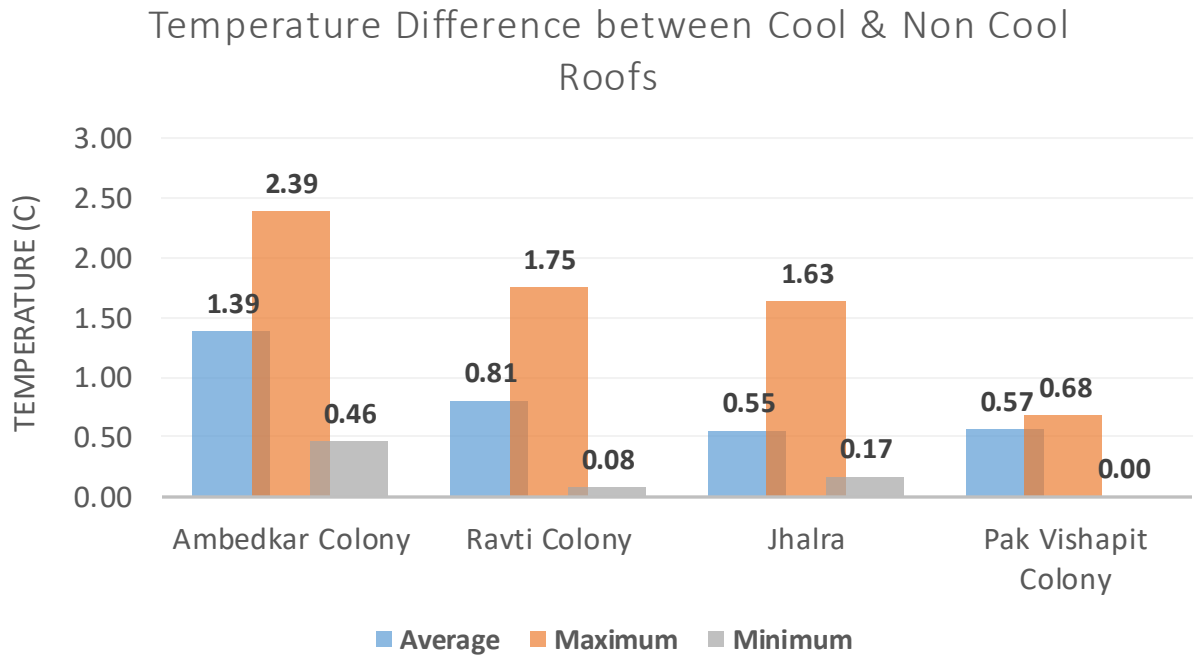


COOL ROOF PILOTS – DATA ANALYSIS





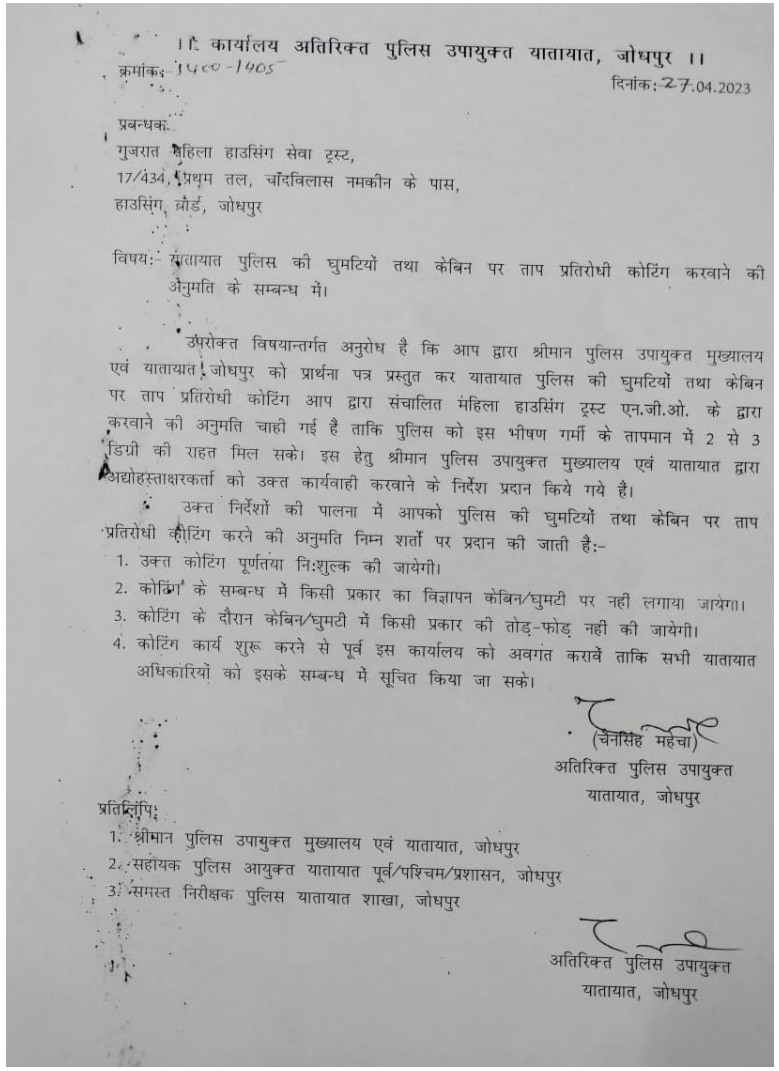




DEMONSTRATIVE PILOTS ON PASSIVE COOLING

Painting police booths with solar-reflective white paint

As a part of the passive cooling pilots, few police booths in Jodhpur-North have been painted with solar-reflective white paint. **13 booths have been painted so far by MHT. The inside temperature has increased thermal comfort by 2-5 degree Celsius.**



।। कार्यालय अतिरिक्त पुलिस उपायुक्त यातायात, जोधपुर ।।

क्रमांक: 1400-1905 दिनांक: 27.04.2023

प्रबन्धक,
गुजरात महिला हाउसिंग सेवा ट्रस्ट,
17/434, प्रथम तल, चाँदविलास नमकीन के पास,
हाउसिंग बोर्ड, जोधपुर

विषय:- यातायात पुलिस की घुमटियों तथा केबिन पर ताप प्रतिरोधी कोटिंग करवाने की अनुमति के सम्बन्ध में।

उपरोक्त विषयान्तर्गत अनुरोध है कि आप द्वारा श्रीमान पुलिस उपायुक्त मुख्यालय एवं यातायात, जोधपुर को प्रार्थना पत्र प्रस्तुत कर यातायात पुलिस की घुमटियों तथा केबिन पर ताप प्रतिरोधी कोटिंग आप द्वारा संचालित महिला हाउसिंग ट्रस्ट एन.जी.ओ. के द्वारा करवाने की अनुमति चाही गई है ताकि पुलिस को इस भीषण गर्मी के तापमान में 2 से 3 डिग्री की राहत मिल सके। इस हेतु श्रीमान पुलिस उपायुक्त मुख्यालय एवं यातायात द्वारा अधोहस्ताक्षरकर्ता को उक्त कार्यवाही करवाने के निर्देश प्रदान किये गये है।

उक्त निर्देशों की पालना में आपको पुलिस की घुमटियों तथा केबिन पर ताप प्रतिरोधी कोटिंग करने की अनुमति निम्न शर्तो पर प्रदान की जाती है:-

1. उक्त कोटिंग पूर्णतया निःशुल्क की जायेगी।
2. कोटिंग के सम्बन्ध में किसी प्रकार का विज्ञापन केबिन/घुमटी पर नही लगाया जायेगा।
3. कोटिंग के दौरान केबिन/घुमटी में किसी प्रकार की तोड़-फोड़ नहीं की जायेगी।
4. कोटिंग कार्य शुरू करने से पूर्व इस कार्यालय को अवगत करावें ताकि सभी यातायात अधिकारियों को इसके सम्बन्ध में सूचित किया जा सके।

(चैनसिंह महेचा)
अतिरिक्त पुलिस उपायुक्त
यातायात, जोधपुर

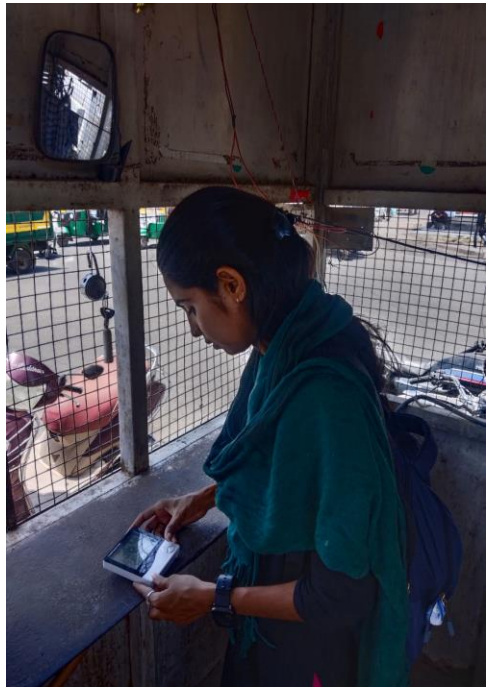
प्रतिलिपि:
1. श्रीमान पुलिस उपायुक्त मुख्यालय एवं यातायात, जोधपुर
2. सहायक पुलिस आयुक्त यातायात पूर्व/पश्चिम/प्रशासन, जोधपुर
3. समस्त निरीक्षक पुलिस यातायात शाखा, जोधपुर

अतिरिक्त पुलिस उपायुक्त
यातायात, जोधपुर

Permission letter for painting police booths

Before paint

Police cabin after paint



Mapping temperature after application of paint

Temperature difference: 2-5 degree Celsius.

HEAT AWARENESS INITIATIVES WITH COMMUNITY

Trainings

7 Climate change trainings are undertaken with a participation of **168 women.** The two-day training encompasses the science of climate change, its causes and impacts, heat prevention, and mitigation. It also focuses on solutions to build resilience against extreme heat.

Initiative	No. of trainings	No. of participants
Climate change training	7 trainings across 7 slums	168

Outreach – 168 slum residents

HEAT AWARENESS INITIATIVES WITH COMMUNITY

Community mobilization forms an important component for effective on-ground implementation. Mobilization tools like area meetings, training, awareness pamphlets, video shows, wall paintings, etc. are often used for awareness generation and execution.

Sr. No.	Initiative	No. of engagements	No. of participants
1	Area meetings	142 (12 slums)	2015
2	Sensitization meetings	34 (12 slums)	892
3	Video shows	31 (12 slums)	772
4	Street plays	8 (7 slums)	1022
	Total	**215**	**4701**

Area meeting

Sensitization meeting

Video show

Outreach – 4701

HEAT AWARENESS INITIATIVES WITH COMMUNITY

Wall paintings

Heat awareness and preventative measures have been depicted within **7 slums through wall paintings, with an outreach of 16,000 individuals.** The posters portray various impacts of extreme heat and remedies to prevent them.

Outreach – 16,000

HEAT AWARENESS INITIATIVES WITH COMMUNITY

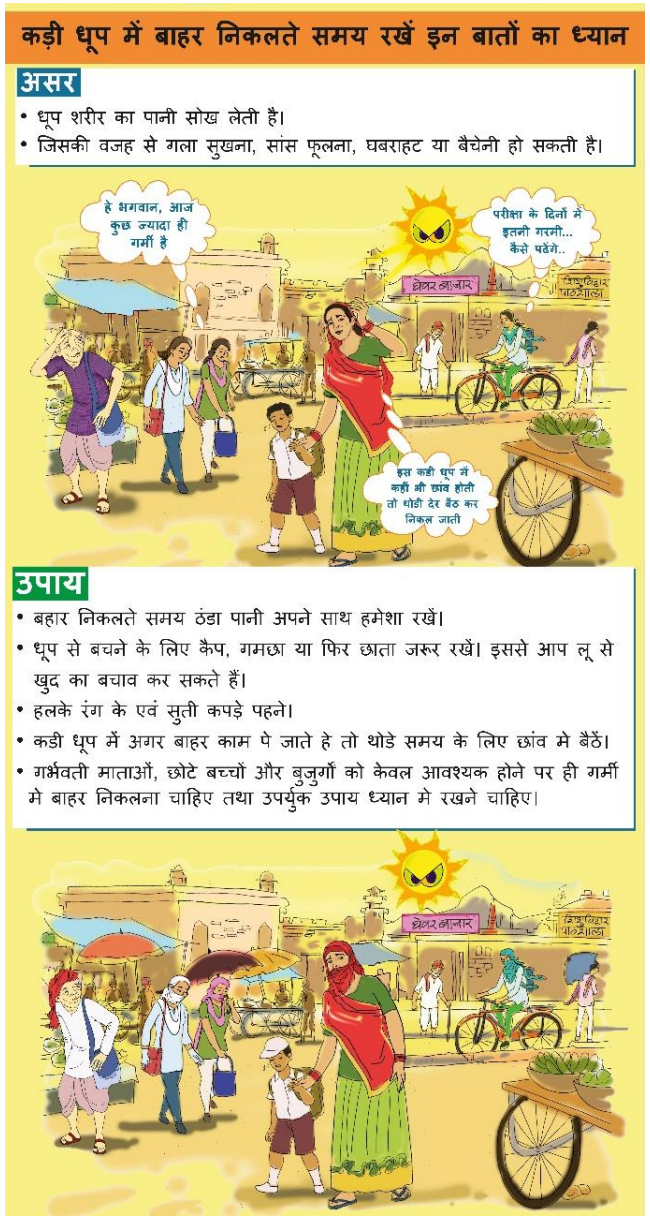
Awareness Campaign

Heat awareness and preventative measures have been shared with community members in the form of awareness campaigns. The posters portray various impacts of extreme heat and remedies to prevent them. As a part of the campaign, women from slums also depicted heat-related issues through drawings and paintings. The awareness campaigns were organized in **6 slums with a participation of 1000+ individuals.**

Outreach – 1000+

HEAT AWARENESS INITIATIVES WITH COMMUNITY

Heat awareness posters have been prepared in local language (Hindi) by MHT. The community is sensitized through meetings and print media.



HEAT AWARENESS INITIATIVES WITH COMMUNITY

Heat awareness posters have been prepared in local language (Hindi) by MHT. The community is sensitized through meetings and print media.

CITY-LEVEL AWARENESS INITIATIVES

City-level heat awareness hoardings have been put up at two locations in Jodhpur – **Ashok Nagar and Paota** and wall painting has been done on Mandor Road as a part of broader outreach. They will spread the awareness to more than **29,000 city residents.**
The hoarding space has been leveraged by Jodhpur Nagar Nigam.

Outreach – 29,000 City Residents

CITY-LEVEL INITIATIVES

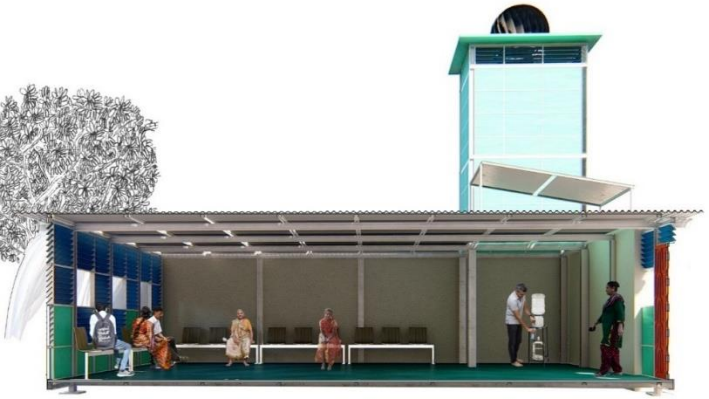
Drinking water kiosks at city-level

As a part of the city-level heat relief initiatives, drinking water pots having cold water are placed at strategic locations in the city. These pots are currently placed at **7 locations – 5 in slums and 2 at ward level,** which will cater to nearby schools, temples, and slum residents.

Community contribution: The residents have provided the space and infrastructure for the kiosks.

COOLING STATION

Cooling station will provide a safe and accessible space for urban poor, commuters, and individuals who seek temporary relief from the heat and reduce the risk of heat-related illness. It is located at Kaylana Circle, in Kabirnagar, a high-risk ward. **It has a seating capacity of 40 individuals.**



Cooling station on site

Wind Tower with Turbo Ventilator

Solar panels

3-layer Roof: Galvanized iron with insulation painted with SRW paint.

Sprinklers

Khas panels on aluminum grill

Raised plinth

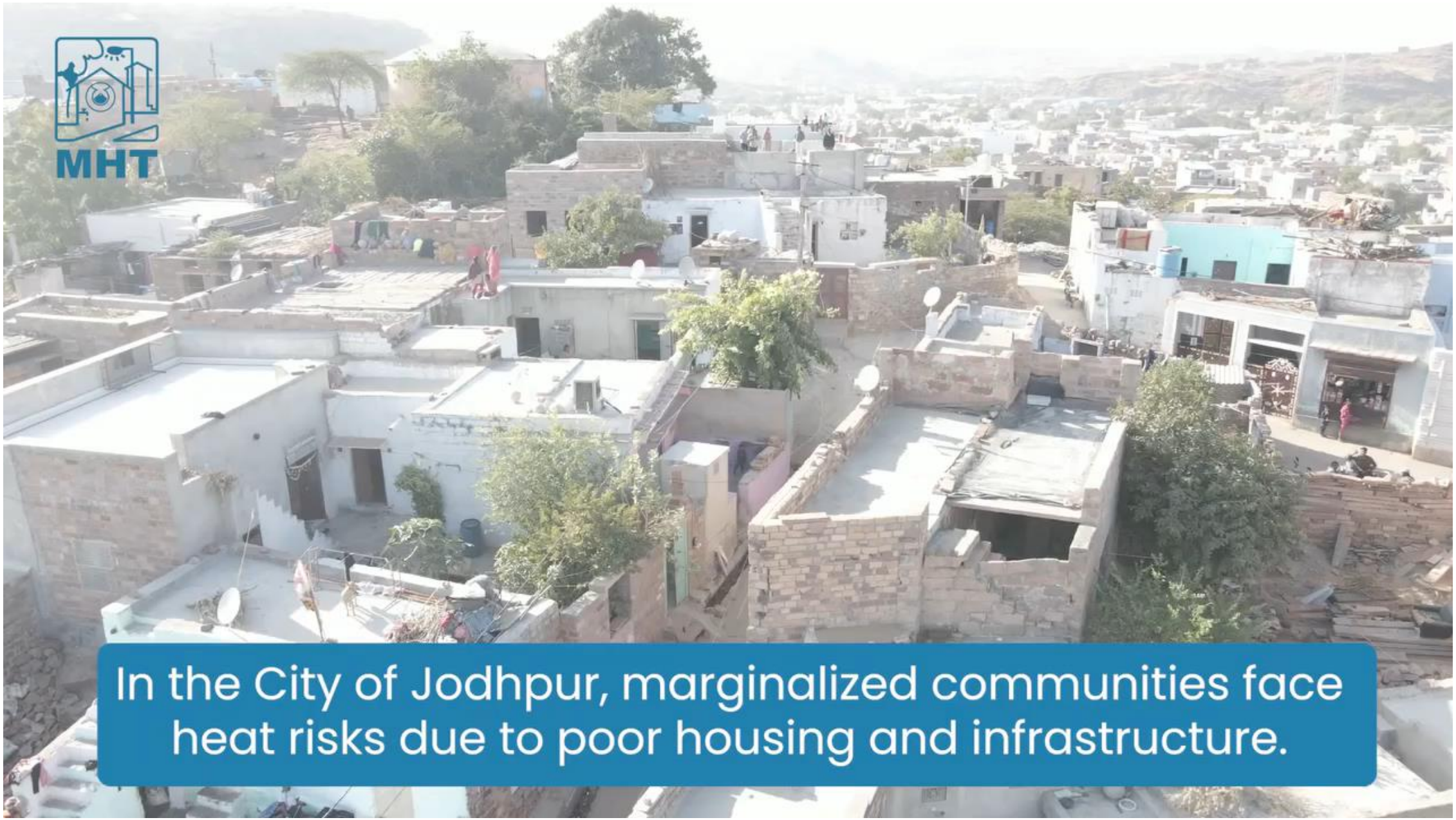
COOLING STATION

The size of the cooling station is 10 m x 6 m (32’ x 20’). It is equipped with passive cooling elements like mist sprinklers, a wind tower, 3-layer roof (coated tin sheet with insulation sheet below), khas panels, and solar panels.

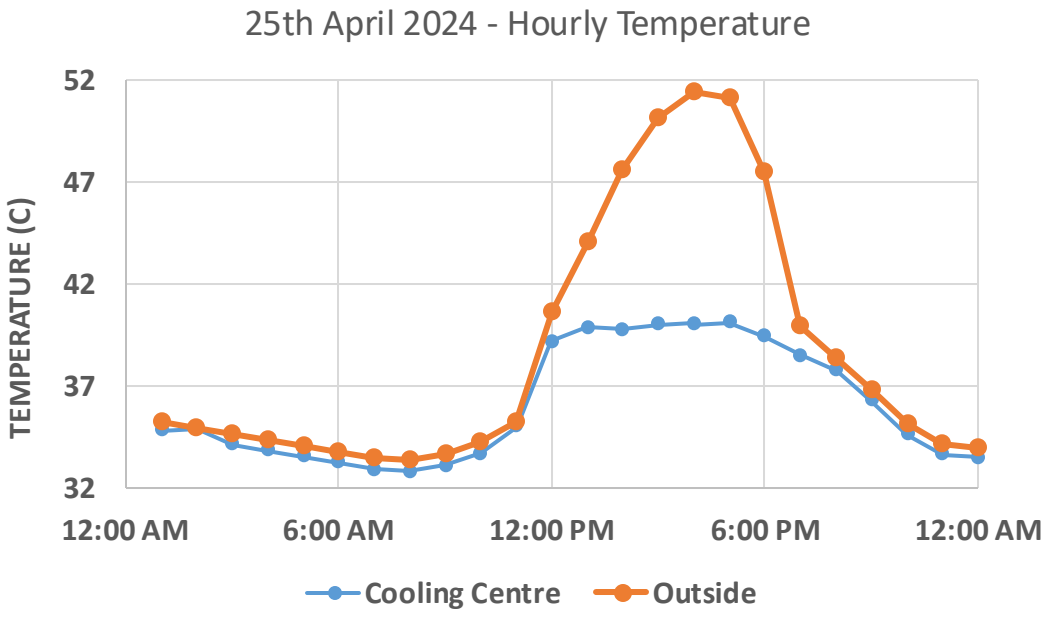
Government contribution: Jodhpur Nagar Nigam has leveraged land for the station.

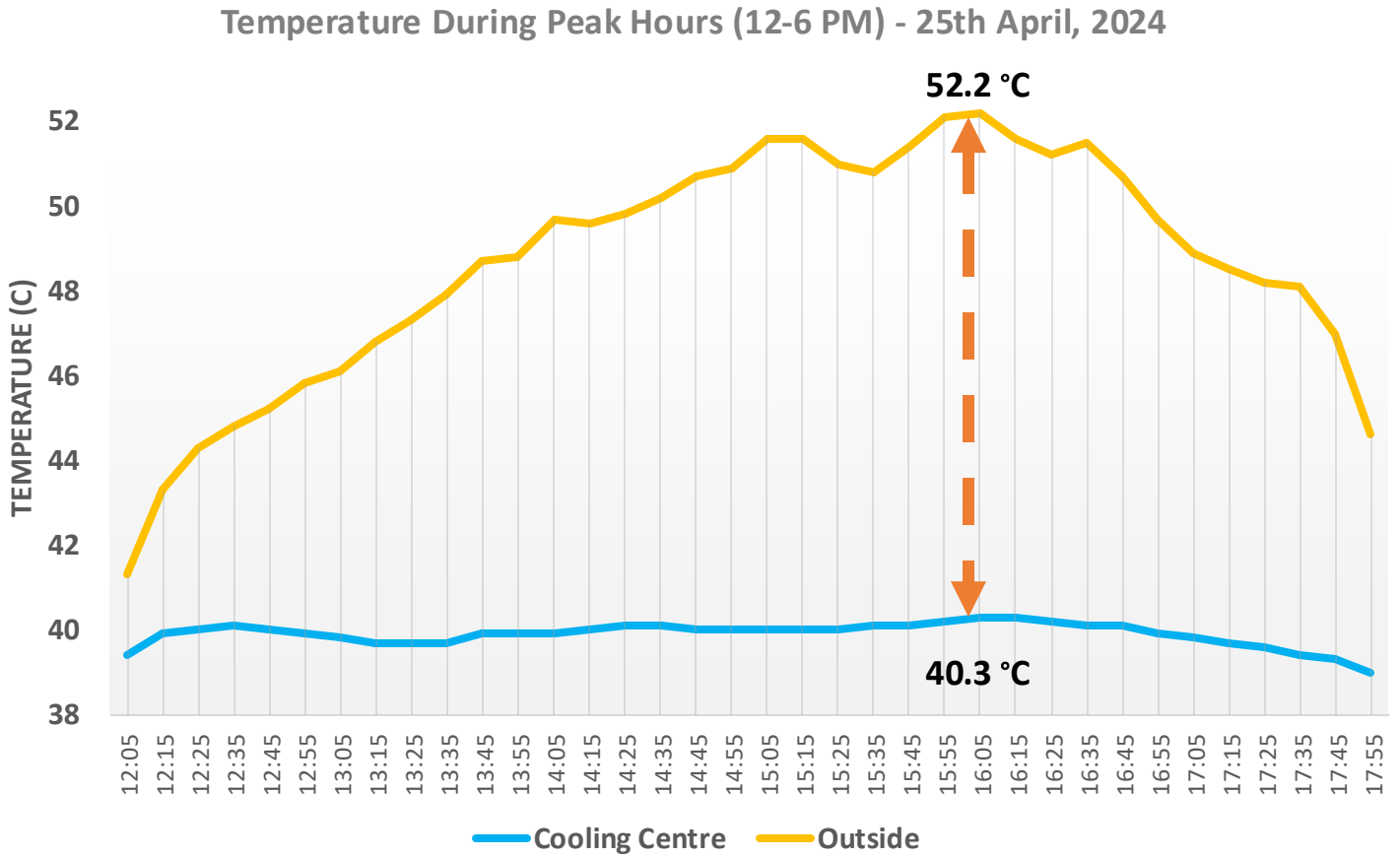
Usage of cooling station

COOLING STATION



COOLING STATION – TEMPERATURE DATA ANALYSIS





This plot highlights the thermal comfort a cooling centre can bring during the peak hours for the people in Jodhpur. The peak came at 04:05 pm where the temperature inside the cooling centre was recorded 12 °C lower than ambient temperature.

Temperature difference during peak hours – 12 degree celsius

COOLING STATION

User Testimonials

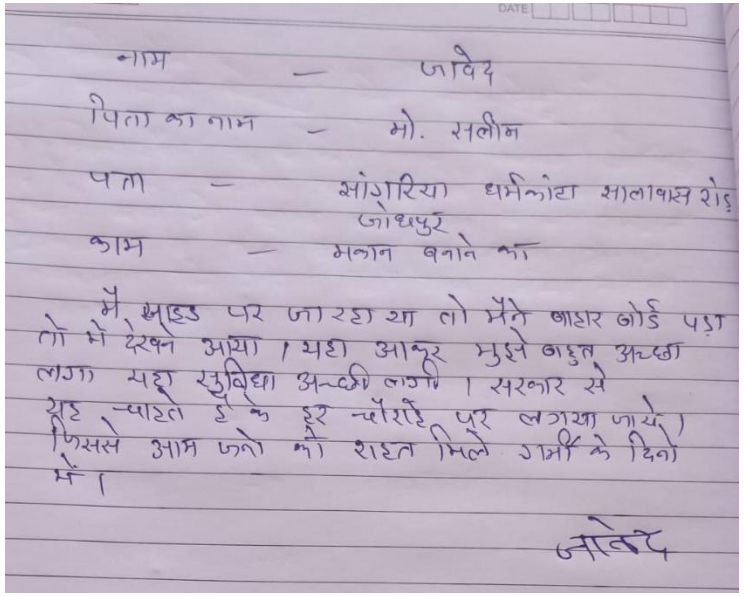
COOLING STATION

User Testimonials

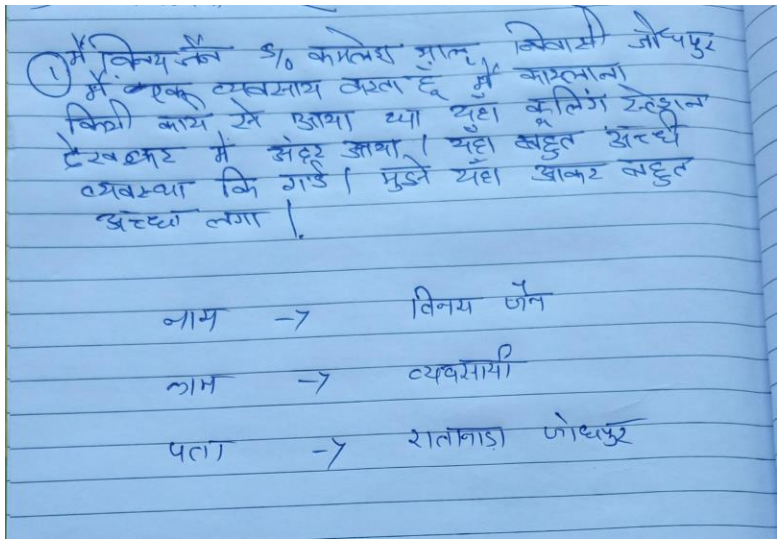
Hemaben, an Aaganwadi worker

चांदपोल निवासी हेमाबेन चांदपोल में आंगनवाड़ी कार्यकर्ता के रूप में काम करती हैं। मई में लू की चेतावनी के दौरान उसने कूलिंग स्टेशन का उपयोग किया। उन्होंने कहा, "वह बेहद गर्म दिन था जब मैं चांदपोल से प्रतापनगर की यात्रा कर रही थी और इंतजार करने के लिए छायादार जगह की तलाश कर रही थी। मैंने कायलाना चौराहे पर कूलिंग स्टेशन देखा और कुछ देर वहीं आराम करने का फैसला किया। वहां 5-10 मिनट बिताने के बाद मुझे बहुत सहज और आरामदायक महसूस हुआ। मेरा मानना है कि मेरे जैसे यात्रियों के लिए यह एक बहुत अच्छी पहल है।"

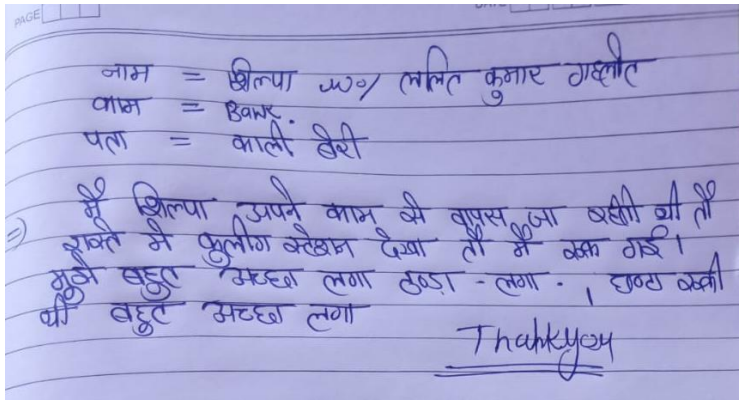
Javed, a construction worker



Vinay Jain, resident of Jodhpur



Shilpa, resident of Kali beri



GREENING WORKSHOP

A 2-day training was organized with the objective to build the capacity of women from slum communities on the basic concepts of plantation.

Initiative	Slums	No. of participants
Greening workshop	4 slums - Gundiya Basti, Ravti, Ojo ka talab, and K K Colony	15

Classroom Training

Plantation at Ram Talayi

FORUMS

S.N	Workshops / Features	Topic	Speakers / Authors
1	Global summit on extreme heat hosted by USAID – International federation of Red Cross and Red Crescent Societies (IFRC)	Climate ready solutions to extreme heat	Ms. Bijal Brahmbhatt, Director
2	UNFCC Global innovation Hub – CoP28, Dubai	Implementing effective Heat Action Plans: Example of Jodhpur	Dipa Singh Bagai, Country Head, NRDC and Siraz Hirani, Senior Programme Management specialist
3	Heatwave 2024 national workshop NDMA, New Delhi	Impact of Heat on Vulnerable Slum Communities & Possible Solutions	Siraz Hirani, Senior Programme Management specialist
4	India Cooling Coalition (ICC) annual conclave, New Delhi	Implementation of ICAP in cities: Jodhpur Heat Action Plan	Ashish Jindal, Lead – Energy efficiency and cooling, NRDC and Aarohi Makdani, Development Associate
5	Rising Above the Heat by Asian Development Bank (ADB), Sri Lanka	Gender & Heat Stress: Lessons from selected countries	Bhavna Maheriya, Programme Manager
6	Newsletter on Heatwave Deaths Are Avoidable by All India Disaster Mitigation Institute (AIDMI)	Enhancing Heatwave Resilience in Jodhpur	Bindiya Patel, Programme Manager, and Aarohi Makdani, Development Associate
7	HomeNet South Asia Trust, Nepal	"UNSEEN AND UNHEARD: The Challenges and Victories of Home-Based Workers in South Asia"	Nitin Macwan, Programme Manager
8	'Heat Action Day June 2' WhatsApp group by Red Cross	Shared Heat Action Plan initiatives	-

Heatwave 2024 national workshop NDMA

India Cooling Coalition (ICC) annual conclave

COMMUNICATION STRATEGY

To reach a wider audience, communication & outreach amplifies coverage around the Jodhpur Heat Action Plan via organic social media outreach by impact driven content, social media campaigns, fostering engagement, collaborations, and PR outreach for the project at large.

Current outreach statistics:

The launch of HAP and cooling station was featured across 9+ media outlets with a combined circulation over 2,00,000, including international and national digital platforms and local daily including Dainik Bhaskar and Rajasthan Patrika.

Sr. No.	Media Outlets	Outreach
1	BBC (International digital platform)	-
2	Hindustan Times (National digital platform)	-
3	Dainik Bhaskar (local daily)	1,23,928
4	Rajasthan Patrika	1,22,035
5	Dainik Navjyoti	99,904
4	Hukmnama Samachar	5981
5	Jaltedeep Jodhpur	25,000
6	Vishwas Express	-
7	Channel24Plus	-
8	Khabar Marwad	-
9	Public. app	-
	Total	**2,54,813**

Article(s): (International)

- https://**www.bbc.com**/future/article/20230628-the-white-roofs-cooling-womens-homes-in-indian-slums
- https://**socialprotection.org**/sites/default/files/publications_files/Climate%20Adaptation%20of%20Inclusive%20Livelihood%20Programmes.pdf

Article(s): (National)

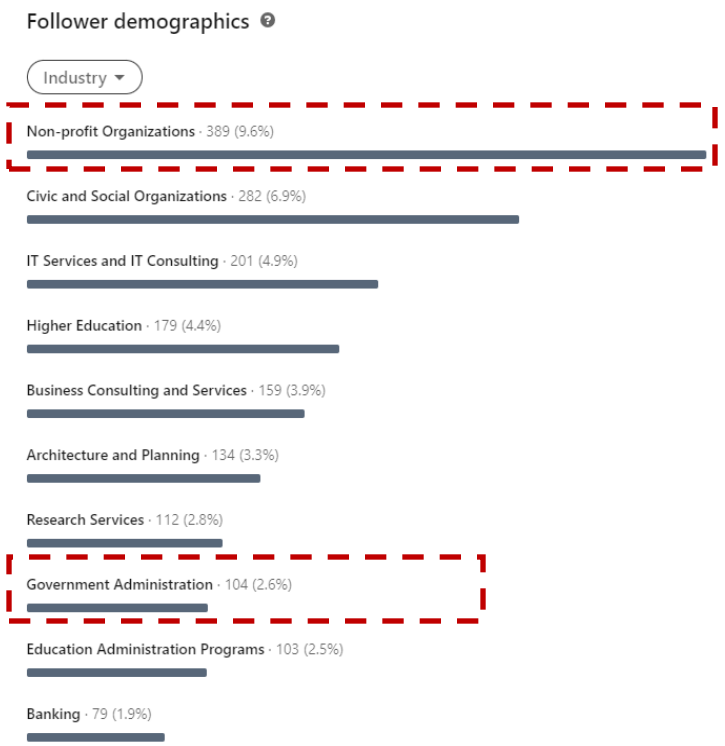
- https://www.hindustantimes.com/india-news/up-bihar-deaths-indicate-lapses-in-heat-action-plans-101687287041103.html
- https://www.nrdcindia.org/stories

Social media statistics:

Consistently shared 184 posts related to the Jodhpur Heat Action Plan across LinkedIn, Twitter, Facebook, and Instagram, generating over 83,000 impressions, reaching to diverse audience, including NPOs like **WRI Ross Center for Sustainable Cities, Build Change, Hindustan Unilever Foundation, Tata Trust** and Government Administration like **Central Institute of Petrochemicals Engineering & Technology (CIPET), BRAC International, Chhattisgarh Renewable Energy Dev. Agency (CREDA)**

Platform	Total Posts	Total Impressions
LinkedIn	66	37,242
X (Twitter)	56	38,983
Facebook	47	6509
Instagram	20	4636
Total	**189**	**87,370**

The launch of the Net-Zero Cooling Station video was syndicated across eight popular Instagram pages, reaching over 19 lakh people.



Jodhpur HAP – Articles / Online Media

Article(s): (International)

- https://**www.bbc.com**/future/article/20230628-the-white-roofs-cooling-womens-homes-in-indian-slums
- https://**www.preventionweb.net**/news/its-all-our-burden-poorest-women-hardest-hit-heatwaves-india
- https://**socialprotection.org**/sites/default/files/publications_files/Climate%20Adaptation%20of%20Inclusive%20Livelihood%20Programmes.pdf
- https://**www.iccrom.org**/news/gathering-indigenous-knowledge-mitigate-climate-crisis-five-climate-hotspots-%E2%80%93-net-zero
- https://**pulitzercenter.org**/stories/heat-proofing-india-cities-india-are-testing-measures-could-help-urban-populations
- https://**www.thenewhumanitarian.org**/news-feature/2023/07/20/its-all-our-burden-poorest-women-hardest-hit-heatwaves-india

Article(s): (National)

- https://**www.thehindubusinessline.com**/news/science/how-ahmedabad-tackled-its-heat-waves-and-saved-1000-lives-a-year/article65083634.ece
- https://www.bhaskar.com/local/rajasthan/jodhpur/news/municipal-corporations-first-cooling-station-132947288.html?_branch_match_id=1304708367625282731&utm_campaign=132947288&utm_medium=sharing&_branch_referrer=H4sIAAAAAAAAA8soKSkottLXT0nMzMvM1k3Sy8zT9%2FGtCHMsyY9K8koCAPxJ0Y8fAAAA
- https://epaper.patrika.com/article/JodhpurCity?OrgId=30478e86384&eid=23&imageview=1&standalone=1&device=mobile
- https://www.rajasthanfirst.in/news/innovation-cooling-station-will-provide-relief-in-summer-heat-in-jodhpur/505/amp/?utm=ampinfinitescrolll
- https://www.newsexpress24.com/national-news-hindi/cooling-station-will-be-built-in-jodhpur-to-reduce-heat/
- https://www.hindustantimes.com/india-news/up-bihar-deaths-indicate-lapses-in-heat-action-plans-101687287041103.html
- https://**niua.in**/c-cube/sites/all/themes/zap/images/cool-city/Urban%20Heat%20Vulnerability%20Assessment%20for%20Jodhpur%20by%20NRDC%20India.pdf https://**niua.in**/intranet/sites/default/files/2669.pdf
- https://www.nrdcindia.org/stories
- https://heatactionplatform.onebillionresilient.org/modules/create-a-heat-action-plan/

Video(s) link:

- https://youtu.be/Tjyf0fOccmk?t=64
- https://www.facebook.com/watch/?v=3104391946531334
- https://www.youtube.com/watch?v=8L2I9QywiIg

CHALLENGES AND OPPORTUNITIES

1. Space to increase engagement of all 24 departments who attended the initial stakeholder workshop and be active stakeholders of the HAP.
2. Opportunity to expand outreach on heat awareness to the entire Jodhpur population with the support of JNNN after reaching out to 25,000+ of the urban poor population through heat early warning system.
3. Develop sustainable and recurring capacity-building trainings for the local community focused on heat and climate change.
4. Logistical Hurdles

    a. Construction of the first-of-its-kind net zero cooling station was time intensive process due to research on materials, passive cooling technologies, and finalization of all these aspects including the vendors.

    b. Challenge for the cool roof initiative in the slums included finding alternate storage for roofs being used as storage space and working around family schedules to implement the technology.

    c. Lengthy and time-consuming process to obtain a No Objection certificate and approvals from government departments.

    d. State and national elections had an impact on the implementation timelines and deliverables.

Thank You