



# CLIMATE CHANGE AND THE URBAN POOR

IMPACT OF HEAT WAVES ON HOMELESS  
PERSONS IN DELHI



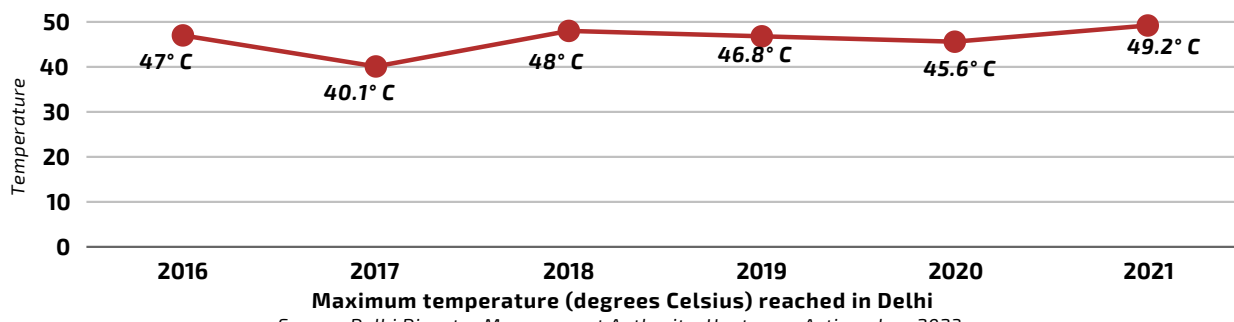
# Introduction

“Extreme weather events and natural disasters threaten a series of essential human rights, particularly for the poorest and most vulnerable populations. The heaviest impacts affect people who have contributed least to the problem and lack the resilience necessary to survive these changes without major harm”- United Nations Special Rapporteur on Adequate Housing, Climate Change and the Right to Housing (2009)

Delhi, known as one of India's hottest cities, is particularly susceptible to the impacts of heatwaves due to its large population and a substantial number of lower-income groups. The city experiences intense heat, with very high temperatures, during the summer months, particularly from April to July. March 2022 marked the hottest month ever recorded in India by the IMD\*, and Delhi experienced its second-hottest April in 72 years. In 2022, India recorded 203 heatwave days, the highest in recent history, with Delhi accounting for around 17 of those heatwave days.

In the absence of a safe and secure home, persons living in homelessness face severe challenges, which are further exacerbated by extreme climatic conditions. Adverse weather events, such as heat waves, heavy rain, floods, and drought, compound challenges faced by homeless persons, especially older persons, persons with disabilities, children, and women.

Heat waves, or periods of abnormally high temperatures, primarily affect those compelled to live or work outdoors, including informal workers, people living in homelessness, and those without adequate housing. Homeless people lack access to adequate potable and clean water, food and nutrition, and healthcare, all of which are necessary for the protection from the intense heat. High temperatures and mosquitoes also make it challenging for people to sleep outdoors and increases health risks from food spoilage and contamination.



Source: Delhi Disaster Management Authority, Heatwave Action plan, 2023

Between May and June 2023, Housing and Land Rights Network (HLRN) conducted a study with Delhi’s homeless community, to document the impact of increasing heat on people living without adequate housing, understand their awareness about climate change, and examine the methods employed by them to adapt to extreme weather events.

The study surveyed **102 individuals** experiencing homelessness in Delhi, including, women, families, older persons, persons with disabilities, and other vulnerable groups. Of the respondents, **40% were women** and **60% men**, spanning ages **16-70**.

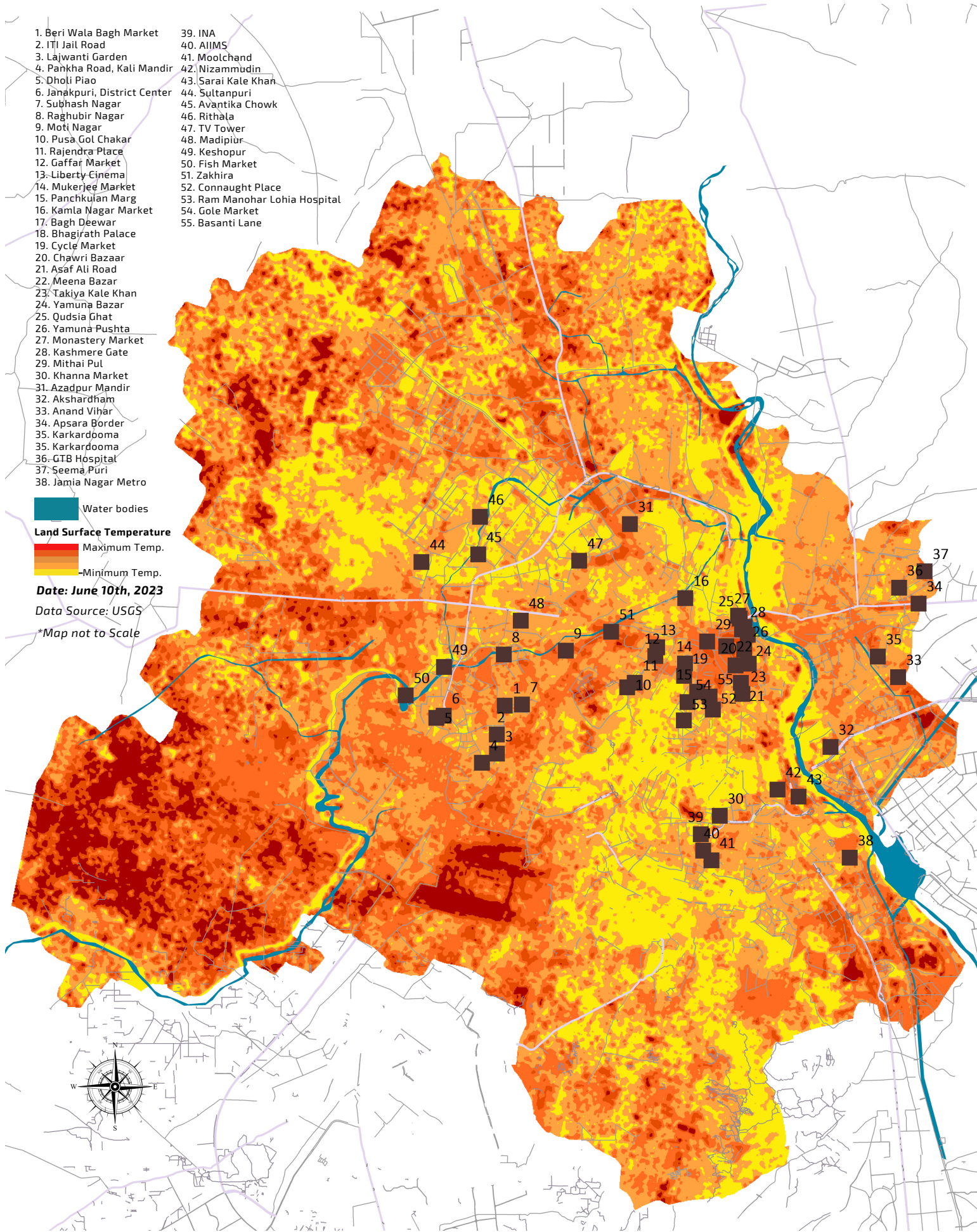
The people surveyed live in different forms of homelessness: 5.9% live in permanent shelters, 17.6% in porta cabins, 8.8% in tarpaulin shanties, and 67.7% on the streets.

## Homelessness in Delhi

In a ‘rapid assessment of the homeless population’ conducted in 2014, Delhi Urban Shelter Improvement Board (DUSIB), the nodal agency for addressing homelessness in Delhi, estimated the number of homeless persons in the city to be 16,760, whereas the Census of India 2011 enumerated 47,076 homeless persons in Delhi. **Independent estimates and experts working in Delhi, however, estimate that there are around 200,000–250,000 persons, including women, children, transgender persons, older persons, and persons with disabilities living in homelessness in Delhi.**

\*Indian Meteorological Department

# Map: Delhi's Land Surface Temperature and Areas with High Homeless Concentrations



# Highlights from the Study

## Livelihood

Most homeless persons, including the respondents of the study, work as daily-wage manual laborers, while others earn their livelihood through rickshaw pulling, selling of balloons and wares at traffic signals, waste picking and segregation, construction workers, street vendors, among others. Several respondents also rely on begging as a means of sustenance.

**9.6**  
Hours

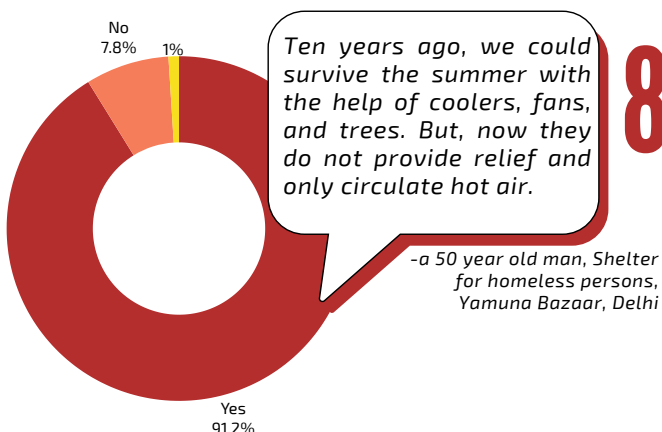
Responses from the survey indicate that, on an average, homeless persons often end up **working outdoors** for 9.6 hours per day, due to the nature of their work, making them even more vulnerable to extreme heat.

On an average, the respondents earn less than \$100 per month. A **low monthly income** indicates lesser ability to mitigate the impacts of increasing heat and the effects of climate change.

**3.1\$**  
per day

## Perception of Climate Change

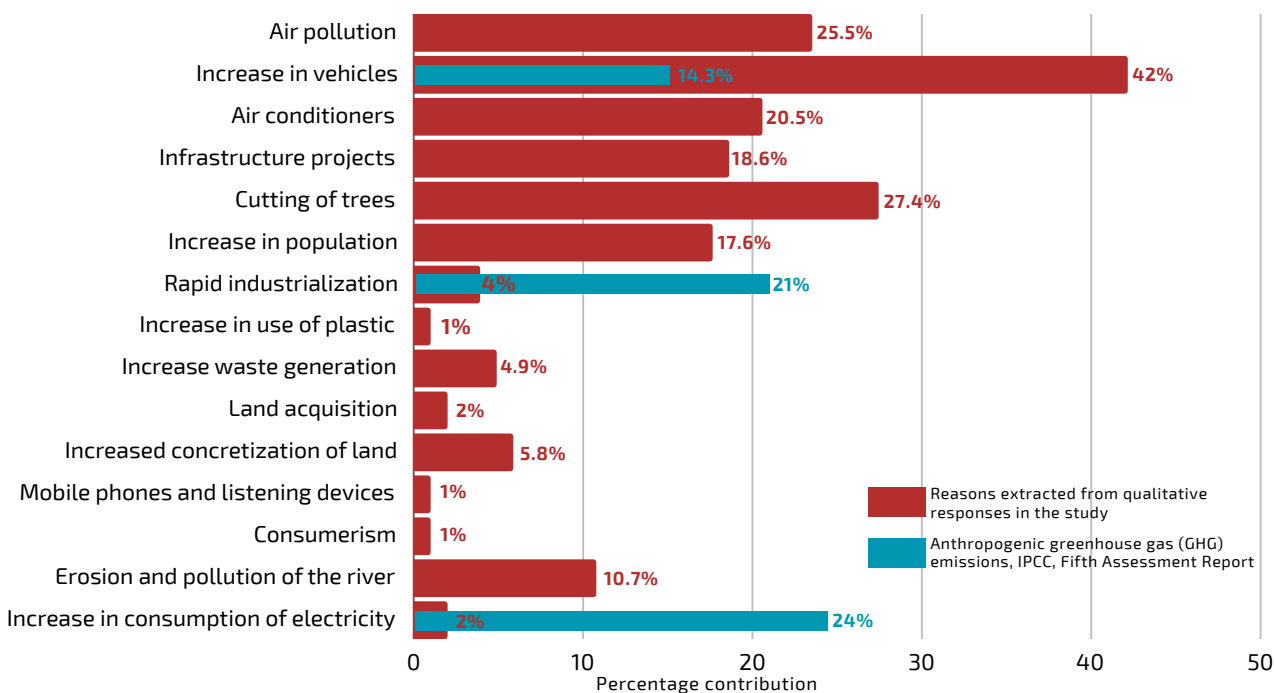
**Have you felt an increase in heat over the years?**



**80%**

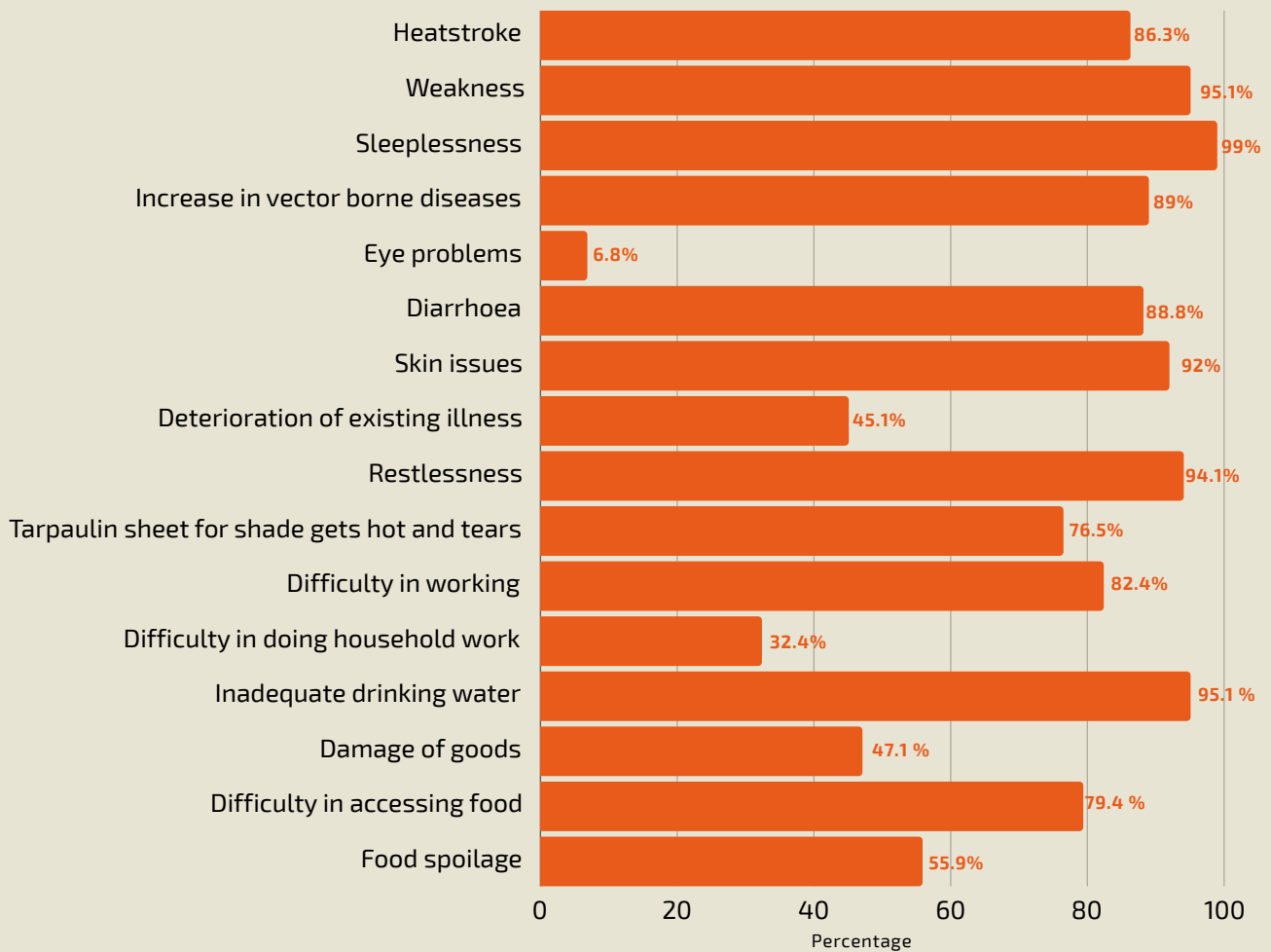
people reported an increase in the challenges due to heat over the last 10 years

**What do you think is the reason?**





# Impacts of Extreme Heat on Homeless Persons



Apart from the impacts listed above, the respondents also mentioned the following issues due to extreme heat, some of which are specific to homeless persons.

## Health

- Difficulty in breathing
- Nausea, dizziness, vomiting
- Dehydration
- Feeling thirsty more frequently
- Increase in blood pressure
- Headache
- Fever, Coughing
- Diarrhoea
- Cholera
- Frequent nosebleeds
- Loss of appetite
- Stomach ache and infection/ indigestion
- Jaundice

## Services and Infrastructure

- Have to sit on the footpath and spend the night because of the excessive heat inside the shelter
- Fans blow warm air, causing sleeplessness even in shelters
- Issue with lying down on the ground as it gets very hot during the day and radiates heat during the night
- Tarpaulin sheet for shade gets hot and tears
- Drinking water gets hot
- Inadequate drinking water supply
- Difficulty in accessing food

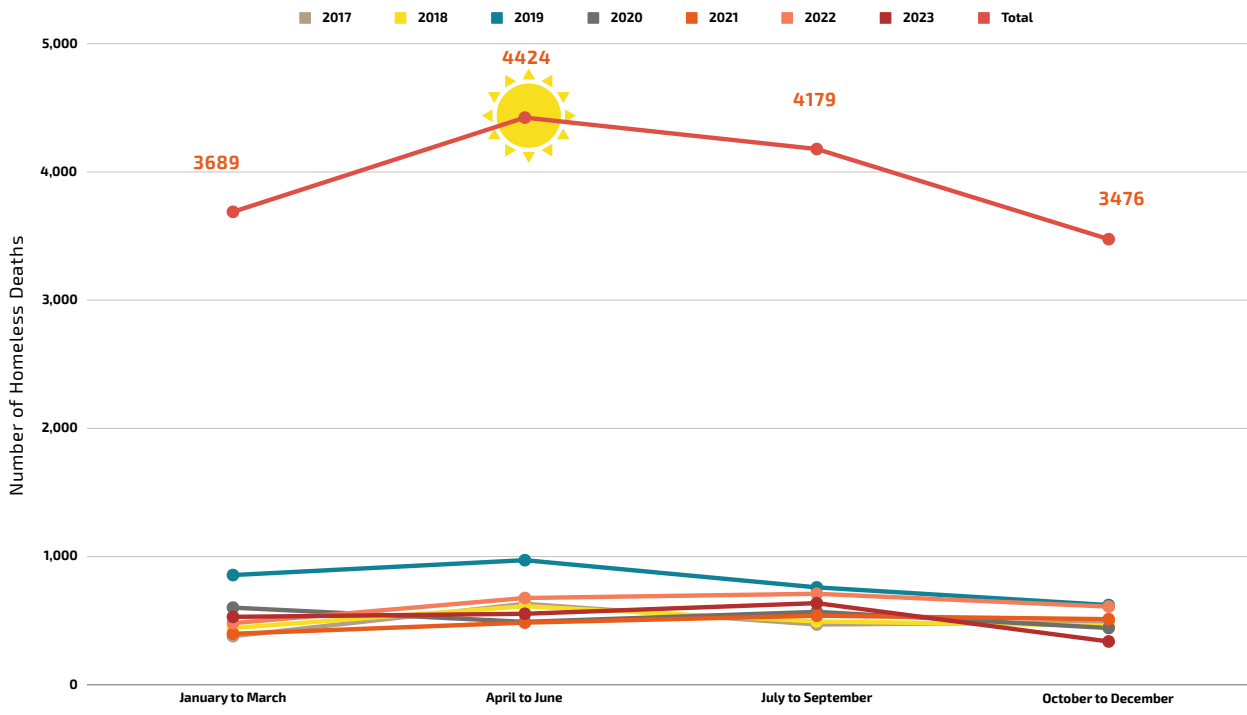
## Livelihood and Expenditure

- Difficulty in working and loss of productivity
- Decrease in customers due to the heat
- Increased expenditure on water
- Damage of goods (for example: Perishable goods like fruits and vegetables, balloons, flowers, etc.)
- Increased expenditure on Repair (for ex: Rickshaw tires)
- Increased expenditure on medicines
- Difficulty in accessing food
- Increased dependency on drugs/intoxicants

# 47%

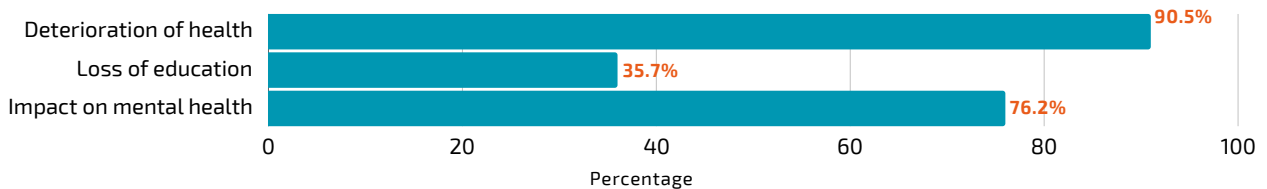
of homeless persons surveyed highlighted that they had suffered **loss and damage** because of increasing heat, including from damage to goods and wares and increasing cost of repair.

**Contrary to popular belief, more homeless persons die in the summer and monsoon seasons than in the winter.** While the Government of Delhi takes special steps to respond during the winter months, it does not have any summer/heat action plan or monsoon plan specifically for homeless persons. This results in homeless persons having to fend for themselves during these equally harsh seasons and deal with extreme temperatures, heat waves, infectious diseases, and lack of access to adequate and affordable healthcare. While there is no official figure on the number of deaths of homeless persons in the country, independent experts estimate that around 60% of 'Unidentified Dead Bodies' found by the Police and other agencies are of homeless persons as is evident from the graph below, a majority of these deaths occurred during the summer months in the last 5 years.



**Estimated Homeless Deaths in Delhi: 2017–2023**  
Source: Zonal Integrated Police Network (ZIPNET)

### Impact on Children



### Responses from the Community

*"Working in the heat is difficult, so I go to work at 6:00 a.m. and return at 10:00 a.m. Then, I go back at 3:00 p.m. and return at 6:00 p.m. This is necessary because it is very hot".*  
-25 year old woman, farm labourer, living on the street in Yamuna Khadar

*"Earlier, we would find drinking water easily in the city, now we have to purchase it. Earlier, we would find work readily, now we have to keep looking. Earlier, it was easier to find a place to bathe, now we have to pay to use a public toilet".*  
-35 year old man, living on the street in Delhi

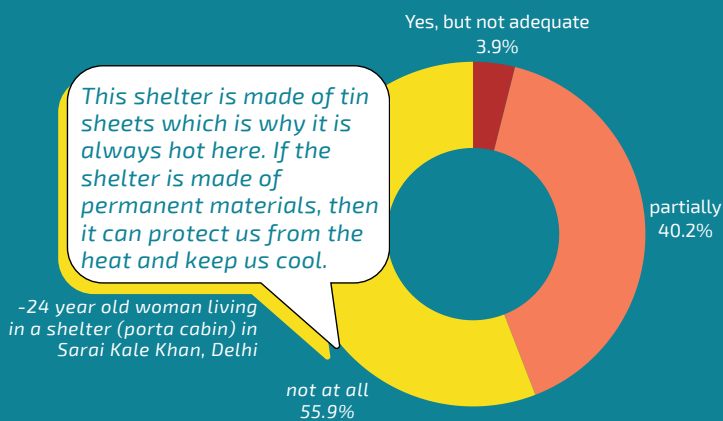
*"As the day progresses, the shelter gets very hot and it is not possible to stay inside. We have to sit in a nearby park under the tree during the day. Nowadays, even the trees do not provide relief as hot air circulates even in parks and gardens".*  
-50 year old man living in a shelter (porta cabin) in Mayur Vihar, Delhi

*"Earlier, the temperatures used to be manageable but now, there is extreme heat. Hot air blows the entire day. Due to the heat, we find it difficult to work. Sometimes, there is sudden and unexpected rainfall. When the weather changes, our children keep falling ill".*  
-45 year old woman living on the street in Anand Vihar, Delhi



# Climate Adaptation

## Does your place of stay provide adequate protection from extreme heat and weather?

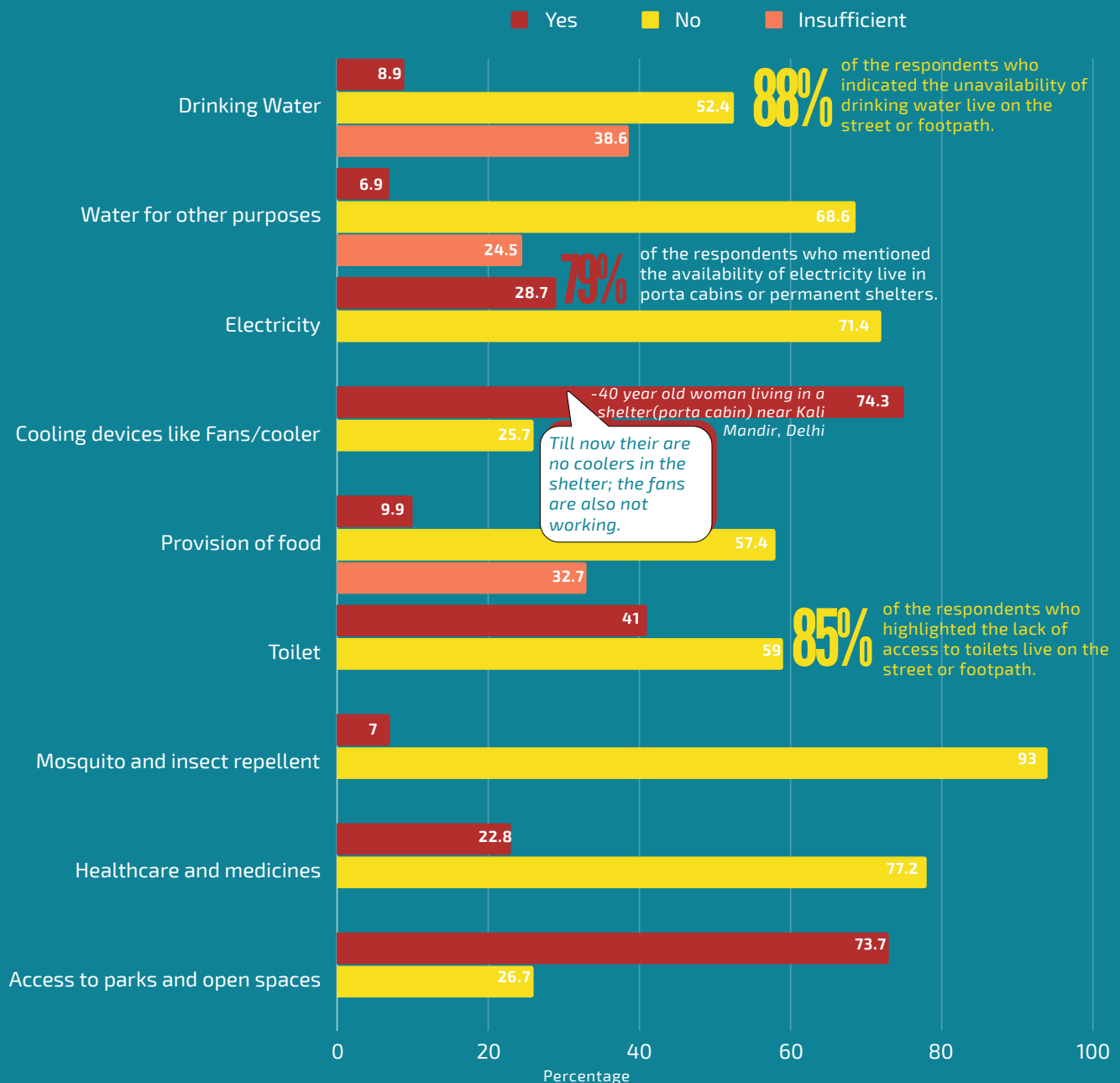


**0%** of the people surveyed stated that they their place of stay was adequate enough to protect from the heat and weather.

*"We do not have any provisions to deal with the heat. It's easier to survive the winter, but it is a struggle to bear the heat".*  
*-24 year old woman living in a shelter (porta cabin) in Sarai Kale Khan, Delhi*

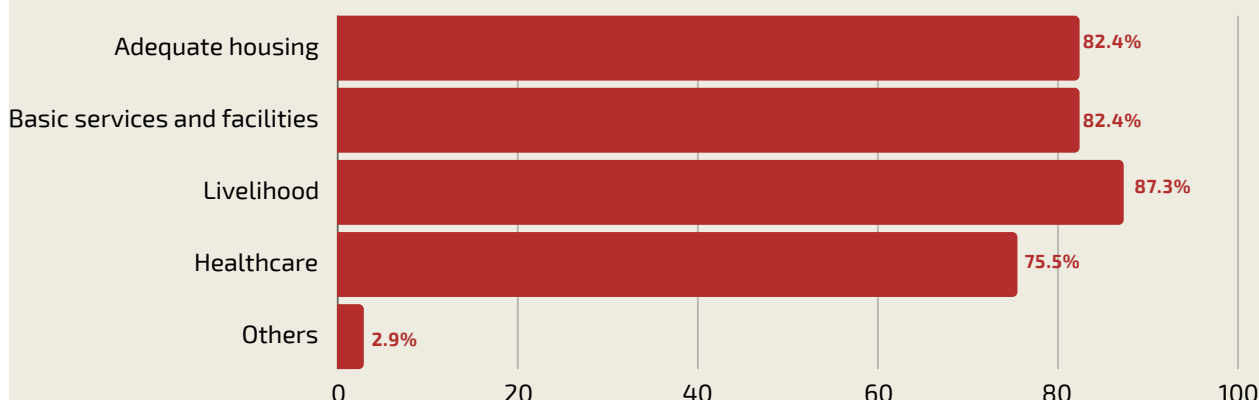
**35%** of homeless people surveyed do not have access to either drinking water, electricity, food, toilet and cooling devices.

## Access to services necessary to mitigate the effects of heat



# Recommendations

## What do you need to protect yourself from extreme heat?



*"The shelter should be permanent or the government should provide us access to rental housing so that we can live comfortably and protect ourselves from extreme weather".*

**-58 year old man living in a shelter (porta cabin) in Chilla Khadar, Mayur Vihar, Delhi**

*"The government should provide us with livelihood and a house so that our families can survive and we are able to protect ourselves from heat and rain".*

**-35 year old man, living on the street in Delhi.**

*"Porta cabins should be converted to permanent buildings with cooling facilities, such as coolers and fans, and a fridge to store food and water. This would help in protecting us from the heat".*

**-50 year old man with a disability living in a shelter (porta cabin) in Yamuna Bazaar, Delhi**

*"We need a home to stay in, where we can bring our family from the village so that we can live in Delhi city. Delhi offers employment opportunities, and having a roof over one's head will take care of the rest".*

**-35 year old man living under the IIT flyover, Delhi**

**"Persons at risk of marginalization can play an important role in promoting climate justice, and their perspectives, knowledge and lived experience need to inform climate and housing policymaking. Homelessness should be taken into consideration, and housing rights groups should be included, in the development of decarbonization strategies".**

**UN Special Rapporteur on Adequate Housing, Towards a just transition: the climate crisis and the right to adequate housing (2022)**

*A year ago, we used to live in a hut that had electricity and a fan. It provided some relief from the heat. Since the government demolished the hut, we have been compelled to endure the scorching heat under the open sky.*

*-70 year old man living on the street near Shyam Lal College, Delhi*

