

ASSESSING THE CHALLENGES AND THE EFFECTS OF CLIMATE CHANGE ON STREET VENDORS IN JAIPUR, RAJASTHAN

Dissertation Submitted to



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Master of Business Administration (MBA)

in

Hospital and Health Management

by

Anupriya Kumari

Under the Supervision and Guidance of

Dr. Sanjay Gupta

2025

CERTIFICATE

This is to certify that Ms. Anupriya Kumari in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her internship at Centre for Behavioural Sciences, IIHMR University, Jaipur during 10/03/2025 to 31/05/2025, under the guidance and supervision of Dr. Mamta Chauhan, Professor and Head, Centre for Behavioural Sciences.

Place: Jaipur

Date: 10/06/25

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Dr. Mamta Chauhan



Professor and Head,
Centre for Behavioural Sciences

CERTIFICATE

This is to certify that the dissertation titled **“Assessing the challenges and the effects of climate change on street vendors in Jaipur, Rajasthan”** is a record of the research work undertaken by Anupriya Kumari in partial fulfillment for the award of the degree of MBA (Hospital and Health Management) from IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere , scientific and an analytical.

A handwritten signature in blue ink, appearing to be 'S. Gupta', written over the printed name.

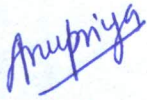
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A handwritten signature in blue ink, appearing to be 'S. Gupta', written over the printed name.

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Date:

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **“Assessing the challenges and the effects of climate change on street vendors in Jaipur, Rajasthan”** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



Signature

Name of Student: *Anupriya Kumari*

Date: *05 June 2025*

Acknowledgement

I want to extend my sincere gratitude to everyone who helped finish this thesis titled Assessing the challenges and the effects of climate change on street vendors in Jaipur, Rajasthan at IIHMR University, Jaipur.

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Abbreviations

Abbreviation	Full Form
WHO	World Health Organization
UNFCCC	United Nations Framework Convention on Climate Change
NAPCC	National Action Plan on Climate Change
RAPCC	Rajasthan Action Plan on Climate Change
ORS	Oral Rehydration Solution
UPHC	Urban Primary Health Centre
PMJAY	Pradhan Mantri Jan Arogya Yojana
MoEFCC	Ministry of Environment, Forest and Climate Change
IIHMR	Indian Institute of Health Management Research

ABSTRACT

Title: Assessing the challenges and the effects of climate change on street vendors in Jaipur, Rajasthan

Author Name: Anupriya kumari

Advisor Name: Dr. Sanjay Gupta

Keywords: Street Vendors, Climate Change, Jaipur, Informal Work, Being Vulnerable

Background:

Climate change is something we're all feeling now—it's not just about the future anymore. In cities like Jaipur, the rising heat, sudden rains, and unpredictable weather are making life harder, especially for people who work outdoors. Street vendors, who set up their stalls in the open, are among the most affected. They don't have the luxury of shade or safety and still have to earn their daily living. Sadly, even though they are a big part of city life, they are mostly left out of climate planning and government support.

Objective:

This study looked into what kind of problems street vendors in Jaipur face due to climate change. It explored how bad weather affects their health and income, how they try to cope, and whether government schemes are helping them or not.

Methodology:

The research was done in April–May 2025 across busy vendor areas in Jaipur. A total of 100 vendors were surveyed using simple Hindi questionnaires, and some were also interviewed to hear their personal stories. We used both numbers (quantitative) and stories (qualitative) to understand their situation better. The data was analyzed in Excel and grouped into themes like health problems, income loss, and coping methods.

Results:

The findings showed that street vendors are struggling a lot due to climate change. Many said they lose work for 4 to 6 days each month because of heatwaves or rain. Earning only ₹200–₹400 a day, even a small health issue becomes a big deal. Vendors reported problems like headaches, dehydration, and fever, but many still continue working while sick. Only 43% use government health schemes like the Chiranjeevi Yojana, while others either don't know how to access them or face issues with documents and hospital procedures. Women and men vendors

handle challenges differently, and education played a big role in climate awareness—those with more schooling were more prepared.

Conclusion:

This study shows that street vendors in Jaipur are directly impacted by climate change but don't get enough help. They are doing their best to manage—using umbrellas, adjusting work hours, or setting up near shade—but it's not enough. What they need is real support from the government in the form of shaded vending spaces, easier access to health schemes, and awareness programs. Including them in city plans isn't just the right thing to do—it's necessary to make our cities safer and stronger for everyone.

Chapter 1: Introduction

Background

Climate change's effects are becoming more obvious all across the planet. It's no longer simply a threat in the future; people are coping with it on a daily basis. Rising temperatures and unpredictable weather occurrences are now having an impact on every corner of the planet. According to international authorities such as the UNFCCC (1992), climate change is caused by both natural changes and human acts, particularly those that modify the Earth's atmosphere.

India, like many other developing countries, bears the weight of the crisis. Cities are heating up, rainfall is getting more unpredictable, and air pollution is increasing. These environmental changes have major ramifications not just for nature, but also for people's health, jobs, and quality of life. According to the World Health Organization (WHO, 2008), climate change is one of the most serious public health threats today because it impacts basic needs such as clean air, safe water, and food availability.

Climate Change and Informal Workers

People working in informal sectors, notably street sellers, are among those most affected by climate-related difficulties. These people frequently operate in tough outdoor circumstances with no sort of safety or social security. In India, many individuals make a living by selling vegetables, snacks, garments, or home products in public locations.

Their work exposes them to extreme temperatures, unexpected downpours, and significant amounts of pollutants. Many vendors describe feeling weary, disoriented, or ill after spending long hours in the sun, particularly during the summer months. According to a UNICEF India study from 2024, many vendors in Rajasthan have faced dehydration, low energy levels, and difficulty continuing to work amid temperature extremes.

In addition to physical suffering, there is a financial cost. When it's hot or wet, fewer people go shopping. This results in fewer sales, decreased income, and, in certain cases, wasted inventory. Many sellers also spend more money on temporary preparations such as tents or water bottles to get through the day (Chakraborty & Joshi, 2023).

Rajasthan and Jaipur's Climate Conditions

Rajasthan is one of the Indian states most affected by climate shifts. With its dry weather, frequent heatwaves, and occasional dust storms, it is particularly vulnerable. Jaipur, the state's capital, has seen noticeable changes in climate patterns over recent years. Vendors working in open markets or on roadside stalls have little protection from these conditions.

As mentioned by Earth Exponential (2023), street vendors in Jaipur often face challenges like standing in the sun for hours, dealing with dusty winds, or saving their products from sudden rainfall. Since most of them work without shade, cooling devices, or clean water, their health is often at risk. And yet, this is their only source of income.

Gaps in Policy and Planning

Although India introduced national and state-level plans like the National Action Plan on Climate Change (NAPCC) and the Rajasthan Action Plan on Climate Change (RAPCC), they rarely focus on the everyday challenges of informal workers. Most of these policies are directed at large-scale sectors like agriculture or industry and overlook urban street vendors.

Even in urban development planning, vendors are not considered while designing vending zones or climate-resilient markets. According to RajRAS (2023), even though Rajasthan created environmental frameworks over a decade ago, many of them remain in draft form or are not fully implemented. This has left street vendors to fend for themselves, relying on temporary fixes like changing their working hours or relocating during extreme weather (Earth Exponential, 2023).

Women vendors face even more hurdles. Without access to public toilets or proper water sources, many women report additional stress and health concerns. They also worry about safety, especially during off-peak or late working hours (Sharma & Patel, 2022).

Why This Study Is Needed

While climate change has been studied in the context of agriculture, infrastructure, and health, the informal urban workforce—especially street vendors—has received far less attention. This group, despite playing a vital role in the urban economy, continues to work in some of the harshest and least-supported environments.

This research is important because it focuses on a vulnerable group in a high-risk area. It aims to bring out their voices and real experiences, which can be used to guide future planning and

policies. By understanding their day-to-day struggles and the ways they adapt, this study hopes to push for better support systems for those most exposed to the climate crisis.

Research Questions

1. What types of climate change-related challenges are faced by street vendors in Jaipur?
2. How do these environmental issues affect their health and income?
3. What strategies or changes are vendors adopting to manage these challenge

Objectives of the Study

1. To identify and understand the climate-related problems experienced by street vendors in Jaipur.
2. To explore how these issues affect their health, safety, and earnings.
3. To find out what actions vendors are taking to cope with or adjust to these environmental challenges.

Chapter 2: Review of Literature

S.no	Author(s) & Year	Research type	Sample size & method	Key findings
1	Agrawal et al. 2019	Survey study	500 households, carefully selected	The study highlighted how climate change leads to unstable incomes and work difficulties for informal workers, as unpredictable weather affects their daily earnings and working conditions.
2	Kumar & Sharma, 2020	Mixed method	150 street vendors, purposive sampling	Found that heatwaves cause serious health issues such as tiredness and dizziness among street vendors, which reduce their ability to work and earn a steady income, especially

				during peak summer months.
3	Chen, 2012	Review & qualitative	Analysis of existing studies	This review pointed out that informal workers worldwide, including street vendors, generally lack job protection or social safety nets, making them highly vulnerable to climate-related disruptions.
4	UNICEF India, 2024	Survey	200 vendors, convenience sampling	The report emphasized that extreme heat often causes dehydration and exhaustion among street vendors in Rajasthan, making it difficult for them to sustain their work and maintain income.

5	Chakraborty & Joshi, 2023	Interviews	40 vendors, network referrals	Interviews revealed that many vendors invest extra money in protective items like tents, umbrellas, and water bottles to protect themselves from sun and rain, which adds to their financial burden.
6	Sridhar & Patnaik, 2021	Interviews	30 vendors, purposive sampling	Vendors cope by shifting their work hours to cooler times or moving their stalls to shaded areas, showing flexibility but also indicating lack of formal support systems.
7	Earth Exponential, 2023	Mixed methods	100 vendors, clustered sampling	The study found that sudden dust storms and unexpected rain damage vendors' goods

				and force them to stop working abruptly, which causes direct income loss and product wastage.
8	RajRAS, 2023	Policy review	Government report analysis	The policy analysis pointed out that climate action plans in Rajasthan rarely consider the challenges faced by informal workers like street vendors, leaving them without protection during climate events.
9	Sharma & Patel, 2022	Interviews	25 women vendors, purposive sampling	Women vendors face additional challenges such as lack of access to clean toilets and concerns about safety during bad weather or late hours,

				increasing their vulnerability compared to male vendors.
10	Gupta et al., 2019	Survey	300 outdoor workers, random sampling	The research showed that pollution exposure worsens respiratory problems for outdoor informal workers, and such health issues often increase with harsh weather conditions like heat and dust.
11	Deshpande & Rao, 2022	Survey	150 vendors, convenience sampling	Sudden changes in weather, like unexpected rains or heatwaves, lead to fewer customers and spoiled goods, which directly lowers vendors' daily income and threatens their livelihood.

12	Raj et al., 2020	Focus group	50 vendors	The study found that when street vendors form supportive communities, they share coping strategies and help each other relocate or adjust work during extreme weather, improving resilience.
13	MoEFCC, 2018	Policy document	Review of climate plans	Government climate plans focus mostly on large sectors such as agriculture and industry, often ignoring informal workers like street vendors, which leaves this vulnerable group unsupported.
14	Kumar et al., 2021	Survey	100 vendors, purposive sampling	Heat stress was found to cause health

				symptoms like headaches, fatigue, and dehydration among street vendors, lowering their ability to work effectively and reduce earnings.
15	Desai & Mehta, 2020	Mixed method	75 women vendors, purposive sampling	The study highlighted the special challenges faced by women vendors regarding safety, hygiene, and weather impacts, and showed that they adopt unique daily strategies to manage these hardships.

Chapter 3: Methodology

Research Design

This study followed a cross-sectional approach, collecting information at one point in time. It used a mixed-methods strategy, meaning both numerical data (quantitative) and personal stories (qualitative) were collected. This approach gave a more complete understanding of how climate change affects street vendors in Jaipur.

The aim was to highlight real experiences—what vendors go through during extreme heat, heavy rains, and how these challenges impact their health and income.

Study Area

The research was conducted in Jaipur city, which faces extreme weather like high temperatures, dust storms, and unpredictable rains. key vending locations chosen for the study:

1. Sanganer thana (Airport area)
2. Sunday market Sanganer
3. Near Subodh college Sanganer
4. Pratap Nagar (near Dmart)
5. Patrika gate
6. Durgapura

These areas were selected because of the large number of outdoor vendors who face regular exposure to weather conditions.

Target Group

The study included male and female street vendors who had been working for at least a year in open or semi-open locations.

Inclusion criteria:

- 18 years or older
- At least one year of vending experience
- Willing to take part in the study
- Regularly exposed to weather while working

Exclusion criteria:

- Shopkeepers operating inside enclosed shops
- New vendors with less than a year of experience
- Those who couldn't or didn't wish to participate

This helped keep the focus on vendors who face climate-related problems directly in their work environment.

Sampling Technique and Sample Size

Purposive sampling was used to choose participants who matched the study criteria. This means selection was based on relevance rather than random choice.

Sample size:

100 vendors filled out the survey

Data Collection Tools

1.Survey Questionnaire:

A structured questionnaire was created in simple Hindi to make it easy for vendors to understand. It had the following parts:

- Personal information: Age, gender, education, work experience
- Exposure to weather: Heat, rain, dust, and more
- Health effects: Fatigue, dehydration, discomfort during work
- Income changes: Drop in customers, product spoilage, income loss
- Coping methods: Use of tents, water bottles, changing work times
- Awareness: Basic knowledge of climate change and support received

Questions were mostly multiple-choice or scaled for ease of answering.

2.Interview Guide:

For the in-depth interviews, open-ended questions were asked to understand the vendors' feelings and challenges in more detail. Main areas included:

- Difficulties during different weather conditions
- Adaptations made to continue working
- Emotional and physical stress
- Special problems faced by women
- Ideas or suggestions for support

These interviews allowed vendors to share their thoughts freely and naturally.

3. Data Collection Process

- Data collection was carried out in April – May 2025.
- Vendors were approached during suitable hours (morning and evening).
- The purpose of the study was explained before starting.
- Verbal consent was taken.
- Each survey took about 15–20 minutes.

4. Data Analysis

Quantitative Data:

- Survey answers were entered in Excel, then analyzed
- Percentages, tables, and graphs were used to show trends.

Qualitative Data:

- Interviews were noted manually and later reviewed to identify key themes for analysis.
- Similar responses were grouped under themes like “health issues,” “income loss,” and “coping practices.”
- This helped identify common struggles and viewpoints.

Both types of data were combined to give a full picture of what vendors go through.

5. Ethical Considerations

- Approval was taken from the institutional ethics committee.
- Participants were informed about the study and their rights.

- All answers were kept confidential, and no names were used.
- Participation was voluntary, and people could stop at any time.
- The information collected will only be used for academic purposes and stored securely.

6.Limitations of the Study

- Study Focused Only on Jaipur City

This research was limited to selected areas within Jaipur. As a result, the findings reflect only the situation of vendors in some part of the city and may not apply to vendors in other towns or rural areas who might face different weather conditions or challenges.

- Relied on Memory-Based Answers

Many of the questions asked vendors to recall their experiences from different seasons. Since people remember things differently, some responses might not be fully accurate or detailed.

- Data Collected During One Season

Although the questionnaire covered all seasons, the actual data was collected in just one season. So, the study could not observe or compare seasonal differences directly at the time of fieldwork.

- Small Sample Size

The study was done with 100 vendors. While this gives useful insights, it may not fully represent all street vendors in Jaipur, especially those in less-visible or scattered areas.

- Some Groups May Be Underrepresented

Since many street vendors are not registered or do not have fixed locations, some of the most vulnerable vendors may not have been included in the study.

Chapter 4: Results

This chapter summarizes the results of a study of data acquired from Jaipur's street sellers. The project investigates how climate change impacts their livelihoods, health, and working circumstances. The information was gathered using standardized questionnaires and thoroughly evaluated to discover major trends and patterns. Visual representations such as bar charts and pie charts have been utilized to clearly and efficiently depict the results.

Weather Changes Noticed by Street Vendors

Most vendors shared that over the past few years, the weather has become increasingly harsh and unpredictable. Summers are now longer and hotter, and unexpected rainfall has become more frequent.

Many remembered how earlier, the weather followed a pattern, but now, they often feel unprepared. One fruit vendor described how his stall, once protected by a simple cloth cover, now gets flooded within minutes of sudden rain.

These changing patterns have made vending in open spaces more difficult and uncertain than ever before.

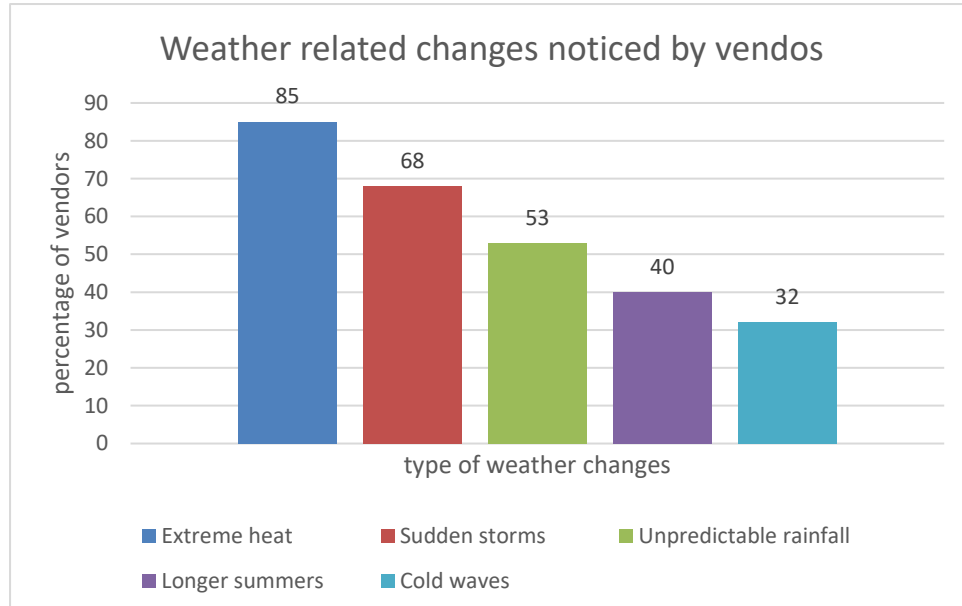


Fig 4.1: Weather related Changes Noticed by Street Vendors

Daily Income of Vendors

For most of the respondents, street vending is their only source of income. On average, vendors earn between ₹200 to ₹400 per day. This money supports not just themselves but often their entire families. However, this income is not stable.

On days with extreme heat, customers avoid coming out. On rainy days, many vendors cannot set up their stalls at all. A woman selling snacks shared that during a heatwave, she sometimes earns nothing for two or three days straight.

Such irregular income creates continuous stress and leaves little room for savings.

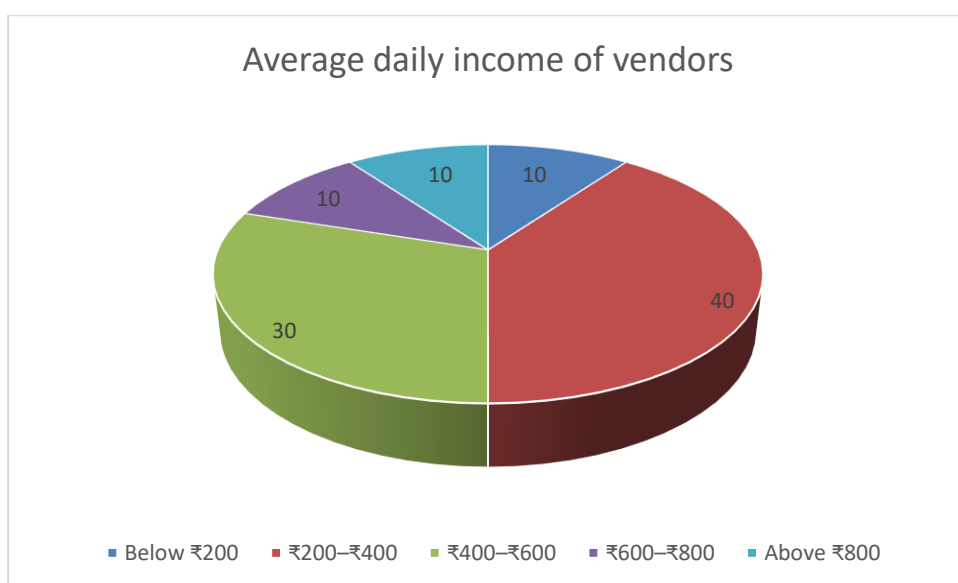


Fig 4.2: Average Daily Income of Vendors

Income Loss During Extreme Weather

Almost every vendor had a story about losing income because of the weather. Some spoke of spoiled vegetables after sudden rain; others described days they had to shut early due to unbearable heat.

On average, vendors reported losing income on 4 to 6 days each month because of weather disruptions. These losses directly affect their ability to buy household items, pay rent, or send children to school.

Over time, these repeated losses add up and push families further into financial insecurity.

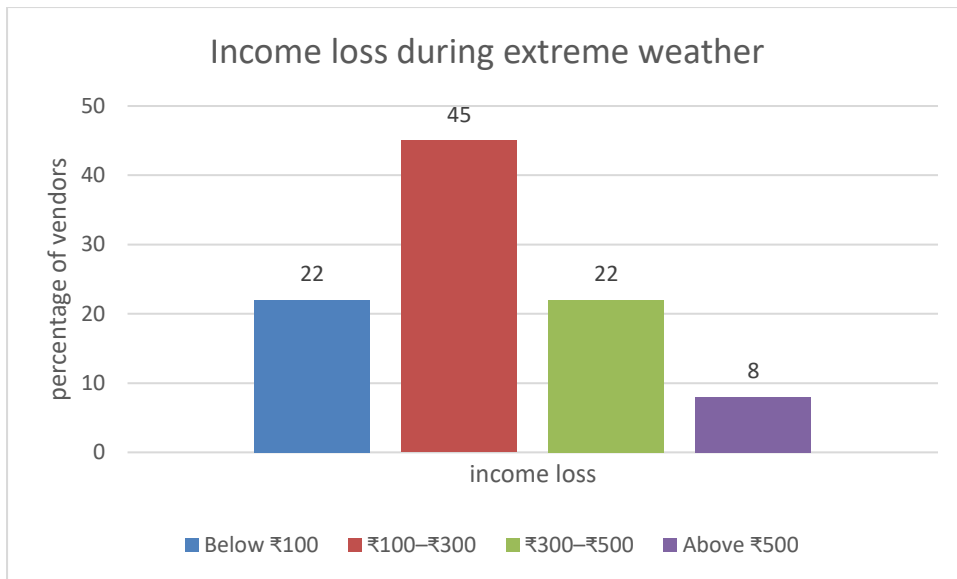


Fig 4.3: Income Loss During Extreme Weather

Health Issues Due to Extreme Weather Exposure

Working outdoors under the open sky exposes street vendors to constant health risks. Many complained of headaches, dehydration, and skin problems during the summer. Others mentioned joint pain, colds, and fevers during the rainy season.

A juice seller revealed how he once fainted from heat exhaustion but didn't go to a doctor due to the cost. Instead, he drank water and rested under a tree. Such stories were common. Vendors often continue working despite being unwell because taking a day off means losing income.

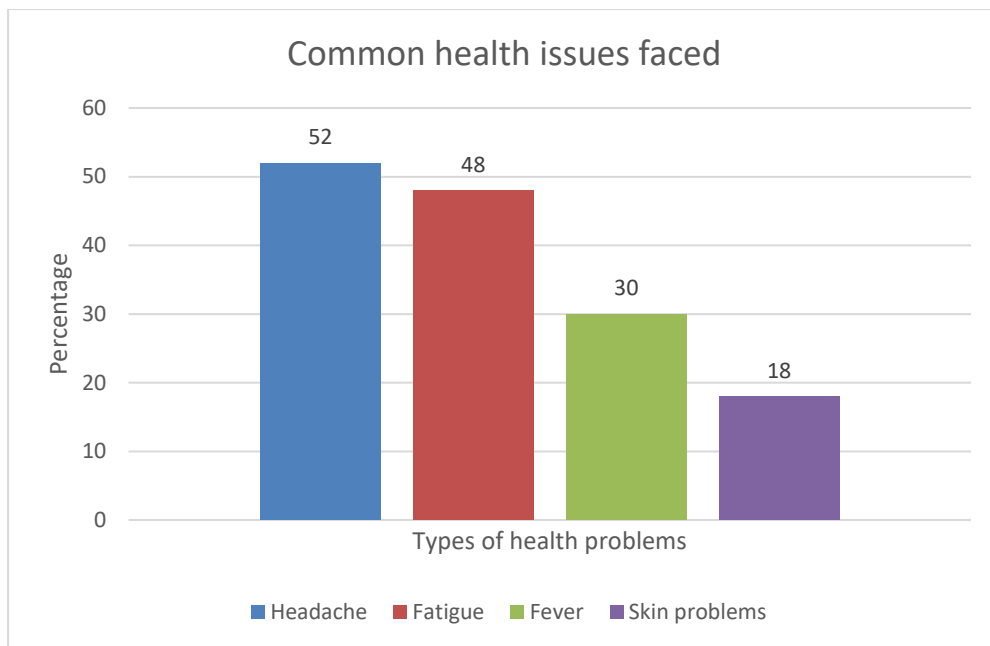


Fig 4.4: Common health issues faced

Coping Methods Used

Despite all these challenges, vendors have not given up. Many have developed ways to adapt. Some carry large umbrellas or cover their stalls with plastic sheets. Others shift their working hours to early mornings or late evenings to avoid the worst heat.

Some try to move their stalls under trees or near buildings that offer some shade. A few even carry packets of ORS (oral rehydration solution) or extra water bottles. These coping methods are simple but show how vendors try to protect themselves.

However, many admitted these methods are not always effective, especially during long heatwaves or heavy rain.

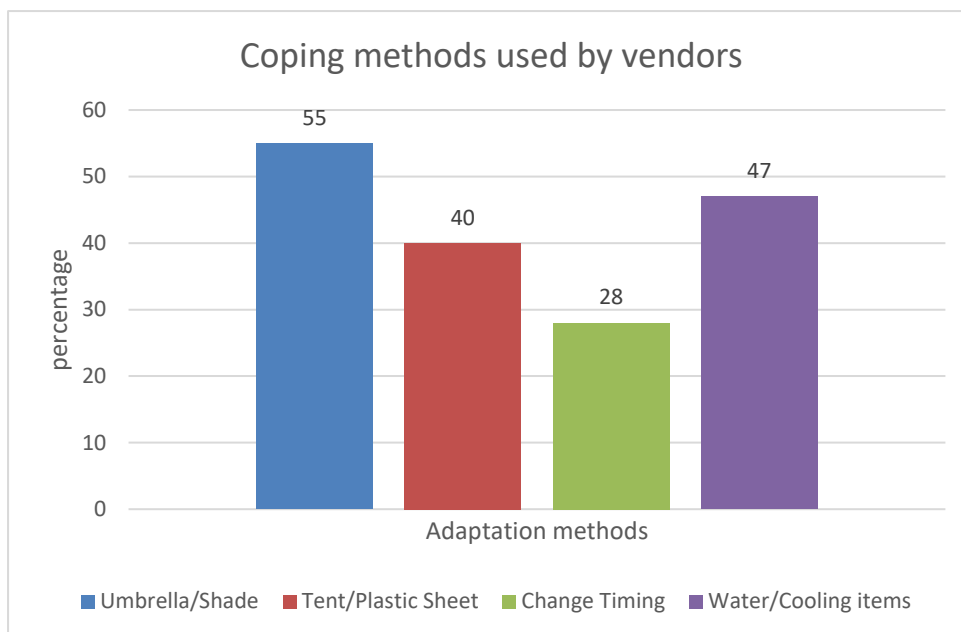


Fig 4.5: Coping methods used by vendors

Out-of-Pocket Expenditure

Out-of-pocket expenditure means the money that street vendors spend from their own pocket to treat health problems caused by extreme weather (like heat, cold, or rain). This includes doctor fees, medicines, tests, or hospital visits.

Since most vendors earn between ₹200–₹400 a day, even a small medical expense becomes a burden.

Spending on Health

Data showed that:

- 32% of vendors spend less than ₹500 a year, relying mostly on home remedies or basic medicines.

Example: For minor headaches, body aches, or coughs, they buy over-the-counter medicines like painkillers, balms, or use home remedies such as ginger tea or turmeric milk.

- 22% spend ₹500 to ₹1000 yearly on general checkups

Example: They visit small private clinics or government dispensaries for fever, weakness, or seasonal cold. Tests may include temperature check, BP monitoring, or basic prescriptions for common infections.

- 23% spend ₹1000 to ₹2000 on regular treatment for common problems.

Example: This includes repeated issues like skin rashes, urine infections, chronic back pain, or digestive problems. They may get blood tests, urine tests, or medicines for longer durations.

- 13% spend ₹2000 to ₹5000 due to more frequent treatments and tests.

Example: Vendors with recurring problems like asthma, heat rashes, low BP, or eye infections may need specialist visits, inhalers, ECG, or vision tests.

- 10% spend more than ₹5000 annually, mostly for serious issues like heat stroke or infections.

Example: They may require hospital admission, IV fluids, injections, x-rays, or treatment for dengue or viral fever. This is often the costliest and pushes them into borrowing or taking loans.

For someone earning ₹300 a day, spending even ₹1000 a year is a big amount. Yet, nearly half the vendors fall into this category. This shows how deeply climate-related health problems affect their finances.

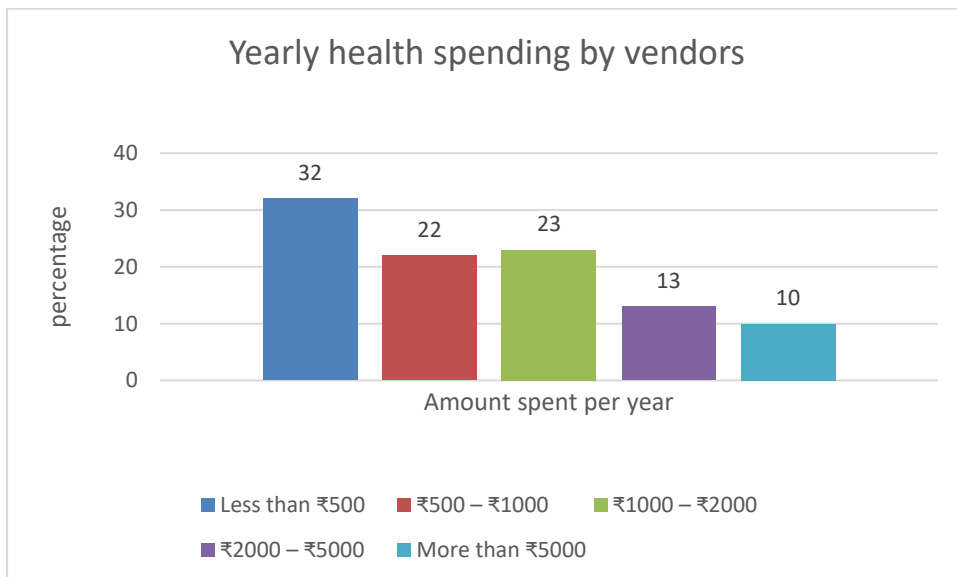


Fig 4.6: Yearly health spending by vendors

How do vendors pay for this treatment?

Payment source	% of vendors
Own savings	22
Borrowing from friends/family	14
Daily income used directly	10
Loans from shopkeepers/lenders	6
Government health schemes	43
Pvt Health insurance (very rare)	5

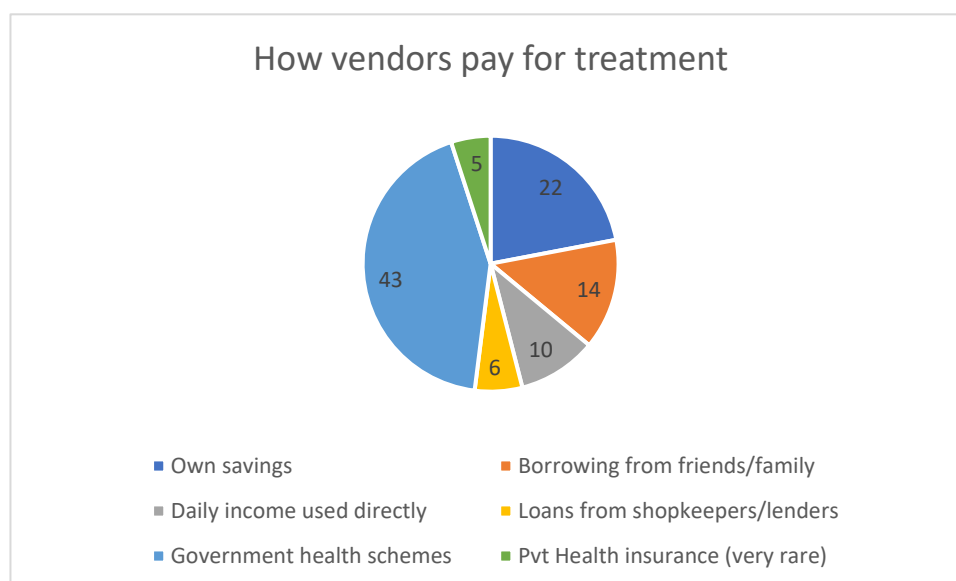


Fig 4.7: How vendors pay for treatment

This shows how street vendors in Jaipur manage their healthcare expenses, especially those caused due to exposure to extreme weather. According to the data, the most common source of payment is government health schemes, used by 43% of the vendors. Many vendors mentioned that they are enrolled under schemes like the Mukhyamantri Chiranjeevi Swasthya Bima Yojana, which covers hospitalization and major treatments. These schemes are especially helpful for people with low or unstable income. However, not all vendors are able to use these schemes effectively. Some said they were unaware of the procedure, faced issues like lack of proper documentation, or had to deal with long waiting times at public hospitals.

22% of the vendors reported using their own savings. These vendors generally go to private clinics for minor illnesses and prefer to pay from their saved money. They mentioned this gives them quicker treatment and allows them to avoid long queues at government hospitals.

About 14% said they borrowed money from friends or family to cover treatment expenses. These are usually vendors who don't have any savings or access to health schemes, and they rely on personal networks during health emergencies.

Another 10% of vendors used their daily income directly, meaning that on the day they got sick or someone in the family needed care, they used that day's earnings. While this helps avoid borrowing, it also leaves them with little to spend on other needs.

6% of vendors had to take loans from shopkeepers or local moneylenders, especially when the illness was severe or involved a family member. This is risky because many vendors fall into debt due to high interest rates or inability to repay on time.

Only 5% of vendors had private health insurance. These vendors either received help from local NGOs or were part of vendor associations that facilitated insurance enrolment. However, private insurance is still very rare among this group due to low awareness, lack of proper documents, or the assumption that insurance is expensive and hard to use.

Overall, this data shows that even though a large number of vendors are covered under government health schemes, awareness, access issues, and trust in the system remain challenges. Private health insurance is still not common, and many vendors continue to rely on personal savings or borrowing, which increases their financial stress during times of illness. There is a clear need for better education and simplified procedures so that more street vendors can make use of the health schemes meant for them.

Income Vs Health spending

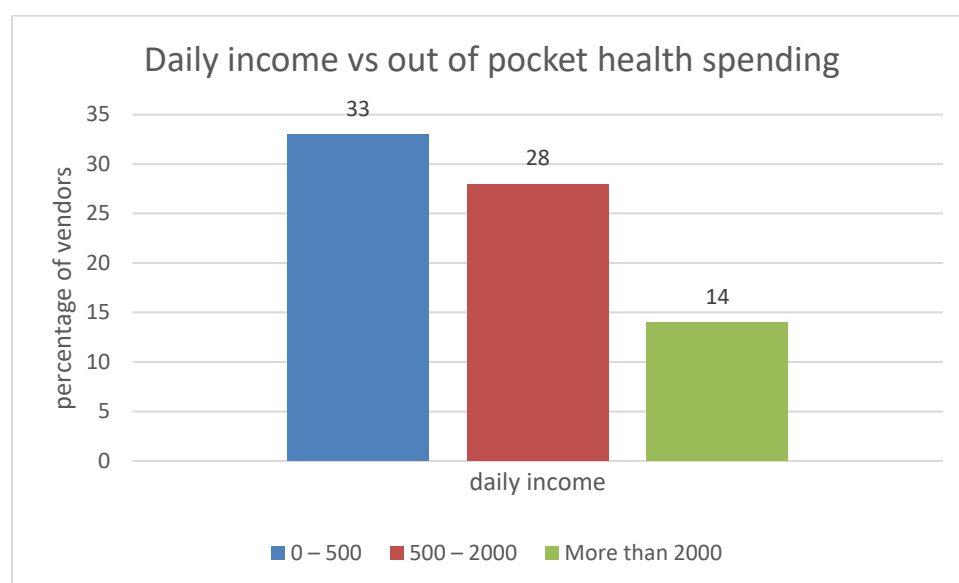


Fig 4.8: Daily income Vs Out of pocket health spending

Street vendors with lower daily incomes tend to spend very little on health problems caused by weather exposure. About **33%** of these vendors spend between ₹0 and ₹500 a year. This suggests that many of them may avoid or delay seeking medical treatment because healthcare costs are too high for their limited earnings.

Vendors with moderate to higher daily incomes spend more on health issues. Around **28%** of these vendors spend between ₹500 and ₹2000 yearly on medical care. Their higher spending may be because they have better financial ability to access healthcare and also because they face more health risks due to longer exposure to extreme weather.

In addition, about **14%** of higher-income vendors spend over ₹2000 annually on health expenses. This group often needs more frequent treatments or tests for serious problems caused by weather conditions.

This pattern shows that low-income vendors face greater financial difficulties when dealing with health problems related to weather exposure. Their limited spending on healthcare puts them at risk of untreated or poorly managed illnesses, which can worsen their health over time. On the other hand, higher-income vendors spend more, reflecting both their ability to pay and the serious impact of climate-related health issues on their lives

Education Vs Awareness

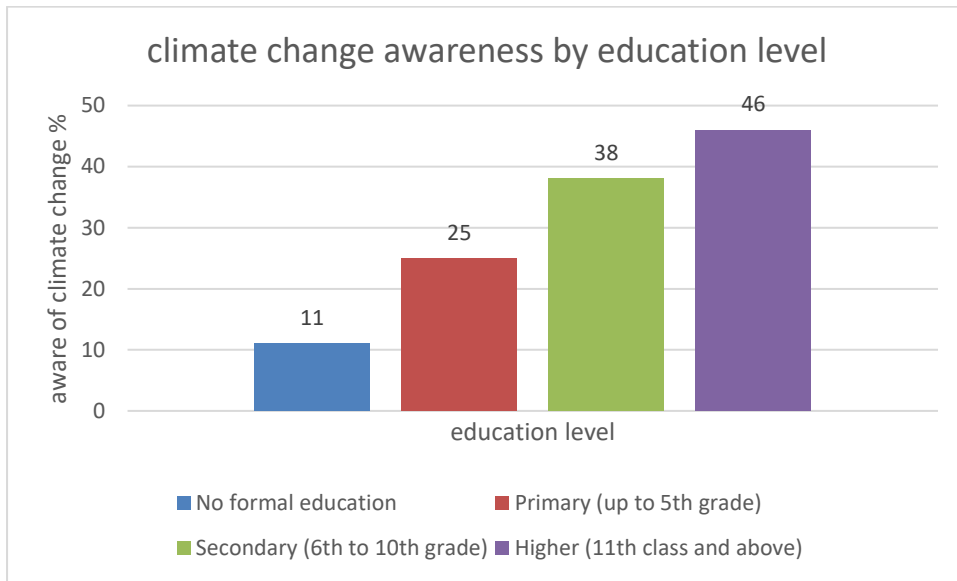


Fig 4.9: Climate change awareness by education level

The data shows that awareness about climate change increases with education level. Among vendors with no formal education, about 11% are aware of climate change risks. This awareness rises to 25% for vendors with primary education (up to 5th grade). For those with secondary education (6th to 10th), awareness is around 38%, and it reaches 46% among vendors with higher education (11th class and above).

This pattern shows that vendors with more education tend to understand climate change better. It highlights the need to focus awareness efforts especially on vendors with lower education levels to help them prepare for climate-related challenges.

Gender based coping strategies

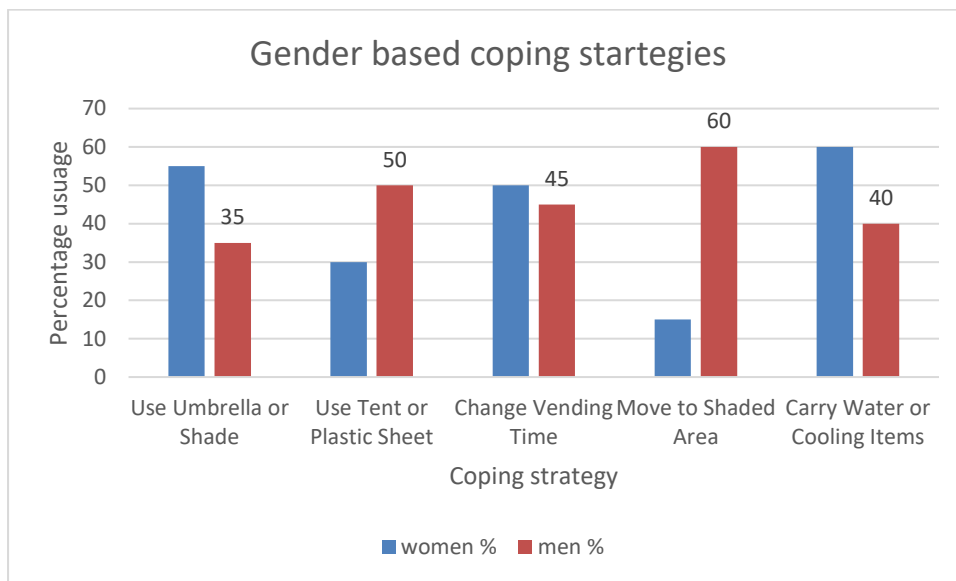


Fig 4.10: Gender based coping strategies

The data shows that coping mechanisms differ between male and female vendors. Women mostly relied on simpler and easily manageable methods like using umbrellas or shade (55%) and carrying water or cooling items (60%). In contrast, men were more likely to use larger setups like tents or plastic sheets (50%) and preferred relocating to shaded areas (60%), a strategy used by only 15% of women.

Both genders adjusted vending times similarly (around 45–50%), indicating it as a common strategy. The lower percentage of women moving stalls suggests possible limitations related to safety, mobility, or fixed vending locations.

These patterns reflect how gender roles and responsibilities influence the choice of coping strategies. Women often choose portable and low-cost methods, while men have more flexibility to change space or setup.

Chapter 5: Discussion

The present study aimed to understand how climate change is affecting the lives of street vendors in Jaipur. The results show that these vendors—whether they sell vegetables, fruits, golgappas, fast food, sugarcane juice, offer ironing/dry-cleaning services, or sell general items like belts and accessories—are significantly impacted by changing weather patterns. The impact is not limited to their health, but also affects their daily income, work conditions, and ability to sustain their livelihood.

During the study, vendors were grouped by occupation. Among the 100 respondents, vegetable vendors (26%) formed the largest group, followed by fruit sellers (19%), Gol Gappa vendors (13%), fast food vendors (11%), sugarcane juice vendors (7%), dry clean and ironing service providers (6%), and others (18%) selling belts, toys, sunglasses, flowers, and general items. Each group has different working patterns, stall types, and levels of exposure to weather, but all share one common challenge—climate vulnerability.

Weather and Work Instability

Most vendors shared that the weather has become more extreme and unpredictable in recent years. They spoke of longer, hotter summers, unseasonal rains, and sudden dust storms. Such conditions have made vending in open spaces more difficult and uncertain. Vendors who work without a permanent structure are the most affected. One fruit vendor recalled how a simple cloth used for covering the stall used to work earlier, but now sudden heavy rain destroys the setup within minutes.

Because their business depends on foot traffic and weather, even one rainy or extremely hot day can lead to **income loss**. Vendors across all categories shared that they often lose 4–6 days of work per month due to weather-related disruptions. For people who earn ₹200–₹400 per day, this is a major setback, especially when they also support families.

Health Challenges Faced by Vendors

Working long hours in open areas exposes vendors to various health issues. The most common complaints were headaches, dehydration, skin problems, joint pain, and fevers. These symptoms were more commonly reported in the summer and rainy seasons. For example, a sugarcane juice vendor said he once fainted due to extreme heat and had to rest under a tree without medical help. In many cases, vendors continue working despite being unwell because they simply cannot afford to take a day off.

The spending on health also varied according to their income. About 32% spent less than ₹500 annually, mainly on home remedies and simple medicines. 22% spent between ₹500–₹1000, while 23% spent ₹1000–₹2000. A smaller number, 13%, spent ₹2000–₹5000, and **10%** spent more than ₹5000, especially when hospitalization or major treatment was needed. These costs are heavy for street vendors and directly affect their ability to save or invest in their business.

How Vendors Pay for Healthcare

According to the study, 43% of street vendors reported that they used government health schemes, mainly the Mukhyamantri Chiranjeevi Swasthya Bima Yojana, for their health-related expenses. This scheme provides financial protection for hospital treatment, including surgeries, medicines, and tests.

Even though this number is encouraging, it also means that 57% of vendors are still not using it, despite being eligible. When asked why they don't use the scheme, many vendors shared the following reasons:

- Lack of awareness: Some vendors simply did not know about the scheme or what benefits it offers. A few said they had heard about “Chiranjeevi,” but didn't know how to apply for it or where to use it.
- Document problems: Some vendors did not have the necessary documents like a Jan Aadhaar card or proof of residence, which made them feel unsure about whether they were eligible or not.
- Fear or confusion: A few vendors said they had tried using the scheme but were turned away from hospitals or asked to bring extra papers. This made them feel confused and discouraged them from trying again.
- Preference for local clinics: Many vendors shared that for minor health issues like fever, pain, or skin problems, they go to local clinics or chemist shops. Since these small expenses do not require hospitalization, they manage without using any scheme.
- Trust issues: Some vendors mentioned that they do not feel confident visiting government hospitals. They fear long waiting times or think that free services may not be good enough.

Because of these reasons, a large number of vendors still depend on their own money or informal support to manage their health needs.

While the Chiranjeevi scheme was the most commonly used, a small number of vendors also mentioned other government health services:

- **Free Medicine Scheme (Mukhyamantri Nishulk Dava Yojana):** Some vendors said they have received free medicines at government hospitals after showing a prescription. This was useful for those who went to public hospitals for treatment.
- **Urban Primary Health Centres (UPHCs):** A few vendors shared that they visit nearby UPHCs for basic checkups, especially when they don't have money to visit a private doctor.
- **Ayushman Bharat (PMJAY):** A very small number of vendors had heard of this scheme. However, many said they were not sure if it applied to them, or whether they were enrolled in it.

There is a strong need to create more awareness, especially through health camps, mobile help desks, and by including vendors in local outreach programs. Only then will these schemes fully reach the people who need them the most.

Income and Health Spending Link

Vendors with lower income—earning less than ₹300 a day—tended to spend the least on healthcare, often avoiding clinics altogether unless absolutely necessary. This shows how income levels influence health decisions. Vendors with moderate or higher income were more likely to visit doctors and spend on treatment. But even they reported feeling the burden of rising healthcare costs, especially with frequent illness caused by heat or dust exposure.

Education and Awareness

Education played a major role in awareness about climate change. Among vendors with no formal education, only 11% were aware of the term "climate change" or its effects. This rose to 25% among those who had studied up to class 5, 38% among those up to class 10, and 46% among those who had studied beyond class 10. Vendors with higher education were able to identify that the weather was changing and causing more illness and income loss. This shows the need for awareness campaigns, especially for low-literate groups.

Gender Differences in Coping

The study also found differences in how male and female vendors coped with climate-related challenges. Women vendors mostly used low-cost and portable methods like carrying water, using dupattas or umbrellas for shade, and adjusting working hours. Men vendors, on the other hand, used more space-based solutions like shifting stalls under trees, setting up plastic tents, or relocating their vending spot. Many women felt less safe to move around, especially in evening hours or unfamiliar areas.

This suggests that coping strategies are not just about affordability, but also about safety, mobility, and social restrictions, especially for women. Despite all these adjustments, vendors admitted that these methods are not always effective during extreme weather events like heatwaves or dust storms.

Policy Gaps and Vendor Exclusion

Even though there are plans like the Rajasthan Action Plan on Climate Change and national schemes related to climate and health, street vendors are hardly ever included in these policies. Most of the time, their needs are not considered in city planning. There are no special arrangements like shade structures, resting spaces, or emergency health kits for them. During the fieldwork, it was observed that most vendors manage everything on their own, using temporary solutions like plastic covers, umbrellas, or water bottles to protect themselves. They depend mainly on personal effort and experience to deal with difficult situations.

Still, it was inspiring to see that vendors are very resilient. Many of them adjust their work hours, set up creative ways to protect their stalls, and continue working even in extreme heat or sudden rain. But while they are doing their best to cope, this kind of resilience should not be seen as enough. Managing on their own doesn't mean they are safe.

If street vendors are not included in proper government support systems and climate response planning, they will continue to face health risks, income loss, and stress. There is a strong need to recognize them in policies, and give them proper support, infrastructure, and protection so that their work and well-being are not at risk every time the weather changes.

Chapter 6: Conclusion

This study was carried out to show how climate change is affecting the lives of street vendors in Jaipur. The aim was to understand the challenges they face due to rising temperatures, irregular rainfall, and extreme weather conditions, and how these factors impact their health, income, and daily work. During the study, I interacted with various types of vendors, including vegetable sellers, fruit vendors, golgappas stall owners, fast food vendors, sugarcane juice sellers, ironing and dry-cleaning vendors, and those selling belts, sunglasses, and other small items. This gave me a real insight into the struggles of a group that is often overlooked when it comes to policy and planning.

One of the key findings of the study was that street vendors are directly exposed to climate-related risks every day. They work in open spaces with little or no shelter, which makes them vulnerable to heatwaves, heavy rain, and dust storms. Many of them shared how their daily earnings are affected when the weather becomes too extreme. For example, during intense heat, people do not come out to shop, and during sudden rains, vendors either shut down their stalls early or don't set up at all. This leads to a loss of income on 4 to 6 days every month, which is a big loss for someone who earns between ₹200–₹400 a day.

Another major area where the impact of climate change was seen is on health. Most vendors complained of problems like headaches, dehydration, body pain, skin infections, and seasonal illnesses. Unfortunately, many of them continue working even when they are sick because they cannot afford to take a day off. Health spending was found to be low, especially among low-income vendors. Around 32% of vendors spent less than ₹500 a year on healthcare, and most of them relied on home remedies or basic medicines from local shops. Very few went to clinics or hospitals unless the illness became serious.

When it came to how vendors paid for their treatment, only 43% of them used government health schemes, mainly the Mukhyamantri Chiranjeevi Swasthya Bima Yojana. Although this scheme provides good coverage, many vendors were not aware of how to use it. Some did not have the necessary documents, while others had faced rejection or confusion at hospitals. This showed me that availability of a scheme does not always mean access—people need guidance and awareness to be able to use such services. The rest of the vendors either used their own

savings, borrowed money from family or friends, used their daily income, or took loans from local shopkeepers.

The study also found that income level played a big role in health-seeking behaviour. Vendors who earned more were able to spend more on treatment, while those with lower income mostly avoided treatment or delayed it. This increases their risk of suffering from untreated illnesses. It also shows how financial vulnerability and health are connected.

One important pattern that came out in the data was the link between education and climate change awareness. Only 11% of vendors with no formal education were aware of how climate change was affecting their health and work. Awareness improved with education. Vendors who had studied till class 10 or above had better understanding of the risks and were able to take small steps to protect themselves. This clearly shows the need for awareness campaigns focused on vendors who are less educated, so that they can better prepare themselves for changing weather patterns.

The vendors also showed a lot of strength and adaptability. They have developed coping strategies like adjusting their vending hours, using plastic covers or tents, carrying extra water or ORS packets, and choosing shady spots to set up their stalls. Women vendors, in particular, used portable and low-cost methods, while men vendors were more likely to move or set up shade structures. However, these coping strategies are personal and temporary. They help for the short term but are not enough in the long run.

One of the most concerning parts of the study was the lack of policy support. Although Rajasthan has an action plan on climate change and there are national schemes too, street vendors are not directly included in these plans. There are no shelters for vendors, no designated resting areas, and no emergency health services provided to them. This makes them even more vulnerable. Most vendors manage on their own without any government or community support.

In conclusion, this study shows that street vendors are among the most affected by climate change, yet they receive the least attention in climate discussions and planning. Their health, income, and livelihood are constantly at risk. While they have shown a lot of resilience and creativity in coping with daily challenges, it is unfair to expect them to handle everything on their own.

There is a strong need to:

- Include vendors in local and city-level climate planning,
- Create more awareness about available health schemes,
- Set up simple help desks or mobile services to register vendors in schemes like Chiranjeevi,
- Provide shaded vending zones, and
- Recognize vendors as important contributors to the urban economy.

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Annexures

Study tool: Questionnaire

A. Basic Information

- Name (Optional): _____
- Age: _____
- Sex:
 - ☐ Male ☐ Female ☐ Other
- Education Level:
 - ☐ No formal education
 - ☐ Primary (up to 5th grade)
 - ☐ Secondary (6th to 10th)
 - ☐ Higher (Class 11th and above)
- Type of items sold: _____
- Average working hours/day: _____ hours
- Number of years in this work: _____ years
- Location of vending (area/locality): _____

B. Climate Change-Related Problems

1. Which weather condition affects your work the most? (Tick all that apply)
 - Extreme/more heat during summer
 - Excessive winter/cold
 - Excessive rainfall
 - Below average rainfall
 - Below average rainfall
 - Sudden storms or strong winds
 - Other (Please specify): _____
2. In which months do you face the most weather-related problems?

3. Do you feel health problems have increased due to extreme weather during work?
- ☐ Yes ☐ No
- If yes, what kind? (Tick all that apply)
- ☐ Headache ☐ Fever ☐ Fatigue ☐ Skin problems ☐ Other:
4. Have you ever had to stop vending due to unfavourable weather conditions?
- ☐ Yes ☐ No
- If yes, how often? _____
5. In the past 12 months, how many days did you not work due to weather-related difficulties/events?
- ☐ 0 days ☐ 1–5 days ☐ 6–10 days ☐ More than 15 days

C. Impact on Livelihood

1. On average, how much do you earn per day?
- ☐ Below ₹200 ☐ ₹200–₹400 ☐ ₹400–₹600 ☐ ₹600–₹800 ☐ Above ₹800
2. Does extreme weather affect your income?
- ☐ Yes ☐ No
3. If yes, how much loss do you face during extreme weather?
- ☐ Below ₹100 ☐ ₹100–₹300 ☐ ₹300–₹500 ☐ Above ₹500
4. What kind of problems do you face during weather? (Tick all that apply)
- ☐ Fewer customers
- ☐ Products get damaged
- ☐ Health problems
- ☐ Have to change location
- ☐ Other: _____
5. During extreme weather, do you:
- ☐ Shift to another area
- ☐ Reduce working hours
- ☐ Stop vending for the day

- ☐ Try to manage without change
- ☐ Other: _____

6. Has your overall monthly income reduced in recent years due to weather?

- ☐ Yes ☐ No ☐ Not sure

D. Healthcare Access and Expenses

1. Have you ever sought medical treatment for health issues related to extreme weather?

- ☐ Yes ☐ No

2. If yes, how much have you spent on healthcare in the past year for climate-related issues?

- ☐ Less than ₹500 ☐ ₹500–₹1000 ☐ ₹1000–₹2000 ☐ ₹2000–₹5000
- ☐ More than ₹5000

3. How do you afford healthcare for these issues?

- ☐ Personal savings ☐ Borrowing from family/friends ☐ Loans
- ☐ Earnings from work ☐ Health insurance ☐ Govt. or community schemes
- ☐ Other: _____

4. Are healthcare services for climate-related health issues affordable for you?

- ☐ Yes ☐ No ☐ Not sure

E. Adaptation Tactics

1. Do you do anything to protect yourself from extreme heat, rain, or cold?

- ☐ Yes ☐ No

2. If yes, what do you use? (Tick all that apply)

- ☐ Umbrella or shade ☐ Tent or plastic sheet
- ☐ Change vending time ☐ Move to shaded/covered area
- ☐ Carry water or cooling items
- ☐ Other: _____

3. Have you changed your working time or place due to weather?
☐ Yes ☐ No
 If yes, how? _____
4. What help do you think can make your work easier during extreme weather?
5. How much do you spend per month to protect your stall or goods from weather?
☐ ₹0 ☐ ₹1–₹100 ☐ ₹101–₹300 ☐ Above ₹300
6. Have you received any information or training on dealing with weather changes?
☐ Yes ☐ No
7. If support (shade, loan, insurance) is provided, will it help you continue vending in all weather?
☐ Yes ☐ Maybe ☐ No

F. Support / Training

1. Do you want any training or support to deal with climate-related problems?
☐ Yes ☐ No
 If yes, what kind of support? _____
2. Do you feel climate change is making your work harder than before?
☐ Yes ☐ No ☐ Not sure
3. What kind of support will help you most during extreme weather? (Tick all that apply)
☐ Shade or cover for stall
☐ Drinking water facility nearby
☐ Financial help during no-work days
☐ Training on climate preparedness
☐ Health check-ups during extreme heat/rain
☐ Other: _____
4. If the government or NGOs offered help related to weather and vending, would you be interested in joining?
☐ Yes ☐ Maybe ☐ No

5. Do you want to share any personal experience of how weather affected your work?
6. Do you have any shelter or shop space provided by the government or municipality?
- ☐ Yes ☐ No
7. Are you a registered street vendor (have an ID or license)?
- ☐ Yes ☐ No ☐ Don't know