



# Urban health: reflections on practice

A report on the overseas practice  
engagement in Marrakech

MSc Health in Urban Development



The Bartlett  
Development Planning Unit

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# Executive summary

Cities are home to over 55% of the world's population (WHO 2021) and are at the forefront of tackling critical global development issues, particularly those in public health. While urbanisation may bring many health and economic benefits, rapid and unplanned urbanisation poses numerous social and environmental health challenges, impacting the population's vulnerable and poorest segments most. Urban residents face rising levels of noncommunicable diseases, the persistent threat of infectious disease outbreaks, and the increasing risk of violence. Wealth and economic opportunities are usually unevenly distributed, contributing to urban health inequities. At the same time, migrants and other disadvantaged groups are frequently clustered in the most deprived and environmentally degraded urban neighbourhoods, often with poor access to health services.

Against this backdrop of inequalities and urban health crisis, the Bartlett Development Planning Unit offers a post-graduate programme on Health in Urban Development (HUD). This year-long intensive programme enables its students to critically engage with urban health processes in the Global South. It starts from the perspective that the issues concerning urban health cannot be fully understood and addressed without engaging with the social, political, cultural, and economic factors underpinning them. The programme offers a core 30-credit module, 'Urban Health: Reflections on Practice', to help students better understand the social determinants of health and enable them to put their learning into practice through an overseas practice engagement (OPE).

The OPE was held in Marrakech in April 2024 in collaboration with the High Atlas Foundation (HAF). HAF has been working in the extended region of Marrakech since 2000 across various aspects of development, including sustainable agriculture, women's and youth empowerment, water and waste management and capacity building. HUD partnered with HAF to address emerging urban health concerns following the 2023 earthquake, leveraging its strong relationships with local communities. Five projects explored 1) post-disaster distribution amongst university students, 2) gender, water, and health politics, 3) transportation and health, 4) sanitation during post-disaster recovery, and 5) women's mental health. This report presents the methodology, findings, and recommendations from each project.

Before the engagement, students were offered opportunities to engage with HAF field coordinators online to understand their projects' contexts and dynamics better. To further support the students' research design, the practice module provided sessions on ethics, pedagogies, and methodologies, including on participatory approaches, maptionaire, designing and conducting surveys, key-informant interviews, desk-based research and focus-group discussions. This enabled the students to carry out their OPE in an informed and ethical manner.

During the fieldwork in Marrakech (23rd to 30th April 2024), HAF remained an essential point of coordination and facilitation for all five projects. HAF ensured that informed consent was sought from all participants and that there was no coercion or incentivisation. Students sought consent when photographing or video recording participants and ensured that no principles of research ethics were breached. HAF coordinators accompanied each group throughout the OPE, providing translation from Moroccan Arabic to English and ensuring that communities' interests were prioritised and sociocultural norms were respected.

This report is not only a compilation of student-led projects but also a showcase of first-hand research on some of the most critical community-level health concerns in Marrakech. It symbolises the value of bridging academic and practice worlds within the discourse of urban health scholarship. This report also contributes to the dearth of literature on urban health in Marrakech. HUD, its students, and everyone are indebted to HAF, its team, and, above all, the people of Marrakech.

A photograph showing a woman in a red dress and headscarf walking through a narrow, rocky alleyway between stone buildings. The scene is filled with large, reddish-brown rocks and debris, suggesting a state of reconstruction or a rugged, traditional environment. The woman is seen from behind, moving away from the camera. The buildings are constructed from rough-hewn stone, and there are some wooden beams and wires visible. The overall atmosphere is one of a challenging, perhaps rural or conflict-affected, setting.

# Overseas practice engagement: reflections and recommendations

# Post-disaster depression among adult students at Cadi Ayyad University

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## Facilitators

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## Research Question

What are the psycho-social dynamics of post-disaster depression among students at Cadi Ayyad University?

## Background

This study explores the impact of the 2023 Marrakech earthquake on the mental health of students at Cadi Ayyad University. The University was established in 1978 by the Ministry of Higher Education and specialises in engineering and scientific research. It is currently one of the largest universities in Morocco. The study examined the effects of the 2023 earthquake on students and explored how these effects cut across various social dimensions, such as gender, religion, and the social stigma surrounding depression. A mixed-methods approach, including a literature review and empirical fieldwork, was employed to identify key factors contributing to students' mental health challenges. Data was gathered through interviews and participatory tools (e.g., question trees and timelines) to comprehensively explore the causes and effects of depression among students.

Hobfoll et al. (2007) emphasized the importance of ongoing mental health support, arguing that sustained interventions are essential for recovery after a disaster. This study explores how religious practices, government responses, and social networks play a role in mitigating mental health problems following a disaster, providing a basis for targeted interventions to support disaster-affected students.

## Research methods

This research employed two primary methods. First, the team conducted an extensive literature review, which included academic articles, journals, and government reports to produce an informed theoretical framework to study relationships between gender, religion, social stigma, government initiatives for post-traumatic stress disorder, social network support, and post-disaster depression among students at Cadi Ayyad University. Second, the team conducted fieldwork involving interviewing earthquake survivors. The interviews focused on participants' experiences and feelings related to the earthquake. These were supplemented with participatory tools such as problem trees, questionnaires, and timelines. Problem trees helped the team identify and structure the leading causes and consequences of post-disaster depression, and the timeline helped track and analyse changes in students' post-disaster depression over time. These tools facilitated an open and relatively stress-free sharing of experiences while providing valuable insights into sensitive topics such as mental health.

## Findings and analysis

### 1. Impact of the earthquake on emotional and mental well-being

Nearly all participants referred to the 2023 earthquake as a major life event. When asked to create a timeline of significant events, every participant included the earthquake. They felt it caused a drastic, largely negative shift in their well-being. One male participant shared:

“There were a lot of problems already in our lives, even before the earthquake, but we were dealing with them. The earthquake surfaced all those problems and reduced our strength to face them.”

Many participants reported physical and mental health issues following the earthquake. Some mentioned a long-term disruption in their sleep patterns. As university students, they found it difficult to manage their academic responsibilities alongside this disruption, leading to decreased concentration and poorer academic performance.

### 2. Resilience and self-reliance

Some participants saw the earthquake as a test of their resilience. One female student stated:

“After the earthquake, I felt that the worst thing had happened in my life. Now, I feel that if I can survive the after-effects of the earthquake, I can deal with any problem in my life.”

This sentiment was shared by several participants, although the nature and degree of their reflections varied.

### 3. Gender

The study found a gendered difference in how men and women responded to the earthquake. Male participants often found it difficult to express their emotions fully, feeling societal pressure to remain ‘strong’ and support their families, primarily through financial means. Female participants agreed, noting that men are often expected to be the breadwinners and are not afforded the opportunity to show vulnerability. Female participants, by contrast, believed they were more ‘biologically fragile’ and felt able to express emotions by crying, something men were discouraged from doing.

These findings reflect entrenched gender stereotypes that discourage men from expressing vulnerability and assume that women are more naturally inclined to emotional expression. Such stereotypes can limit an individual's ability to respond authentically to crises, potentially hindering their resilience and ability to overcome trauma.

### 4. Religion

When asked about strategies to cope with the crisis, many participants referenced their religious beliefs. Practices such as regular prayer and listening to recitations of the Holy Qur'an were common coping mechanisms. One participant shared:

“Listening to the Holy Qur'an reduces depression and anxiety and helps find inner peace.”

Religion played a significant role in providing a framework for making sense of losses and building resilience, serving as a critical coping mechanism for many participants.



## 5. Social stigma

The social stigma surrounding mental health was a key factor in the development and persistence of post-disaster depression. Many students we spoke to hesitated to seek professional help for fear of being labelled weak. This reluctance relates to people's cultural, social, and religious backgrounds. The stigma prevented students from accessing necessary mental health support, exacerbating their psychological problems. Breaking down these stigmas and promoting mental health education is crucial to improving student well-being.

## 6. Governmental support

Participants expressed frustration over the lack of government support for addressing mental health issues. They highlighted the need for institutional policies to create awareness, free psychological support services, and more accurate media reporting. One female participant noted:

"We didn't have an earthquake drill, and we only knew what to do after it happened."

Another participant shared:

"I don't believe all the reports about the earthquake. Some are fake news, like 'Marrakesh has been destroyed.' Seeing that made me feel stressed."

These narratives suggest that the participants felt a lack of support from the government. They felt that the initiatives taken by their government were inadequate in responding to the mental trauma faced by people and resultantly exacerbated their depression.

## 7. Social networks

Participants categorised the sources of social support as support from the community, support from family and friends, and support from their university. Before the earthquake, people tended to 'do their own thing', but after it, many people began helping each other and extending support.

"I think we have a strong sense of community cohesion now," said a male participant, aged 25.

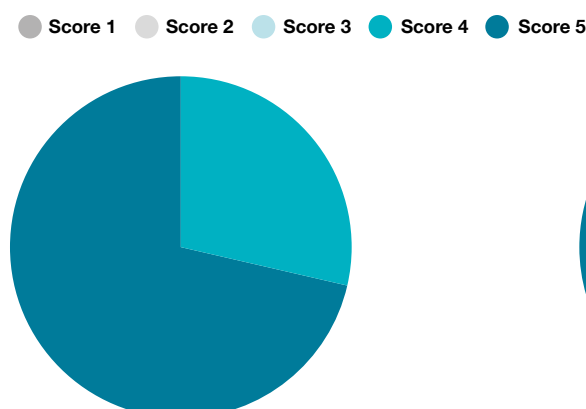
"In the community, there are story-sharing sessions. Some people lost their family members, and others lost their houses. These sessions encourage everyone to move forward. This encouraged me to go back to normal life," shared by a female student, aged 30.

Their narratives show that the earthquake brought the neighbourhood together, helping create a sense of togetherness and solidarity in facing adversity. Similarly, the use of storytelling is a clinically proven tool for depression (CIAR, 2014), and it had a positive impact on the participants. Most mentioned support from family and friends. In our questionnaire, 60%

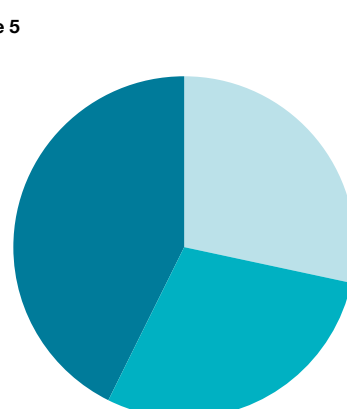
of participants strongly agreed that they received support from family and friends, 20% agreed, and 20% did not feel supported. While social support seems to be characteristic of communities in Marrakech, it varies for individuals, and it cannot be assumed that everyone has access to such support (figures 1 & 2).

In terms of support from the university, most participants reported that it was insufficient. As one female participant noted:

**Figure 01**  
Extent to which participants  
'felt a sense of support from the community.'



**Figure 02**  
Questionnaire results for question  
'I feel supported by my friends and family.'



“The University offered a psychological workshop in the first week. It was very useful and made us feel happy. But after that, the University never offered it again.”

Another female participant added:

“University teachers have received relevant induction training before joining the job, so they know how to deal with students’ mental health problems.”

Participants expressed grievances about not receiving adequate support from their University. While institutions like universities could play a significant role in helping students overcome depression, a lack of consistent psychological support can hinder their recovery and resilience.

## Recommendations

Based on these findings, our team has put forward recommendations for both University and Government levels. We propose extending mental health support to students, faculty, and other staff members on campus. Furthermore, the University could establish professional services, such as counselling services and rooms, to help address mental stress arising from disasters and academic pressures. The University could also organise events, such as entertainment and sports activities, to engage students and staff and help them overcome the trauma of the earthquake more quickly. It is also important for the university to understand that addressing mental health is a continuous process rather than a one-off activity. This requires a long-term strategy and dedicated resources.

The University also has great potential to collaborate with NGOs and other institutions dedicated to mental health resilience projects, such as the High-Atlas Foundation. HAF offers post-earthquake psychological workshops for communities in general, and their empowerment workshops could be particularly useful. For example, empowerment workshops could involve trusted teachers to participate in psychology sessions. Likewise, simulation activities such as the Sadeeqa system (literally meaning Friend) activity can demonstrate feelings of solidarity and connectivity (figure 3). Strings act as ‘psychosocial infrastructure’, allowing participants to build more social connections and share their feelings with others.

At the Government level, there is a dire need to initiate and establish support systems for people to reach out and overcome their mental trauma. This could be achieved through counselling sessions and telehealth communications. Additionally, social media could be utilised to promote self-help interventions and address stigmas around mental health. Finally, efforts could be made to mandate earthquake drills and establish free psychological hotlines as strategies to reduce the mental health impacts of the earthquake

## Conclusion

In conclusion, this report highlights the profound impact of the 2023 earthquake on students at Cadi Ayyad University. The findings suggest that gender roles, religious beliefs, social stigma, and support from government and social networks play a critical role in the mental health outcomes of these students. This report reveals the urgent need for multi-stakeholder collaboration to address mental health issues in the aftermath of disasters and makes recommendations for sustainable and effective mental health interventions.



**Figure 03**  
My Friend Activity (High Atlas Foundation, no date).

# Gender and politics of water and health in Marrakech

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## Research Question

What are the implications of gendered water access on health outcomes in post-earthquake Timichi?

## Background

Timichi village is located on the outskirts of Marrakech and was severely affected by the earthquake in September 2023. The villagers had no access to water or food for four days following the earthquake. The earthquake shifted the geological plate, causing Timichi to move from the right side of the river to the left, while the village of Anfli moved in the opposite direction (figure 4). As a result, water resources such as springs and rivers are now less accessible to the villagers of Timichi and more accessible to the residents of Anfli. Now, the only source of drinking water for people in Timichi is from wells. The demographic structure of this village consists mainly of women and children, and social roles and responsibilities are assigned according to gender. For example, women primarily take on reproductive responsibilities, while men are the breadwinners for the family.

## Research methods

Data was gathered through participant observations, interviews, and focus group discussions. Observations were conducted in the villages of Anfli and Timichi, focusing on how people access water, the quality of water, and the use of water facilities. During the observation period, interviews and focus group discussions were conducted with the informed consent of local villagers, ensuring that their personal information would not be disclosed.

In-depth interviews were also conducted with staff from the High Atlas Foundation (HAF). We asked about the individuals responsible for collecting water, whether they received medical assistance, how they cleaned water, if they had learned about healthy water use, and how they managed waste disposal. This information was then compiled and used to revise questions for subsequent interviews with villagers.

Focus group discussions (FGDs) were conducted with 14 married women from the village of Timichi. Married women were selected based on the gendered social roles assigned after marriage. A HAF coordinator acted as translator to facilitate questions and generate discussion with the participants.

## Findings

### 1. Vulnerable water facilities

The general condition of the water pipes appeared fragile and worn out. The water distribution system seemed vulnerable to damage from earthquakes and other disasters. When an earthquake occurs, the violent movement of the earth's crust causes the ground to shake, slip, and settle. The mountainous area where Timichi is located is susceptible to earthquake-induced landslides and rockfalls, and basic water facilities, such as the water pipes laid by HAF, are prone to fracture or dislodgement in such circumstances (Figure 4).

### 2. Distribution and usage of water for domestic purposes

After the earthquake, bathrooms and washing facilities in every house were demolished. Villagers began using alternative materials, such as plastic sheets, to create makeshift bathing areas (Figure 5). In addition, water-related facilities such as washing machines and toilets were damaged, compromising the villagers' daily needs.

The earthquake also affected the quality of water. Earthquake-induced landslides and rockfalls resulted in the direct contamination of natural water sources. HAF added an extra layer of barbed wire to protect Timichi's water sources after the disaster, but debris still fell through the cracks, leading to increased sediment in the water. The lack of adequate bathrooms and washing facilities forced villagers to defecate and carry out domestic chores, such as washing clothes and dishes and tending to livestock, directly in the natural water sources. The same water was then transported for use in agriculture and crop production, exposing villagers to serious health risks.

**Figure 04 (top)**  
Unprotected water pipes exposed in the ground.

**(below)**  
Buckets used by women to fetch water.



### 3. Gendered social roles and disparities

Through in-depth interviews and participant observations, we found that the transportation and supply of water from sources to houses was inefficient. Although water pipes connect wells to houses, most were in poor condition before the earthquake and have worsened since. In both scenarios, women and girls are primarily responsible for fetching water from wells and transporting it to houses. In some cases, women travelled miles between villages to source water.

It was observed that water-related daily activities such as washing, cooking, and preparing bath water were mainly the responsibility of women. However, when it came to major decisions, such as the construction of water pipes, elderly men were the primary decision-makers. The challenges related to water are not equally distributed across gender lines, and the situation, both before and after the earthquake, remains skewed, with men and women facing very different experiences.

### 4. Physical health concerns

Interviews revealed physical health issues among women related to the transportation of water. Heavy lifting of water buckets and coolers, often across long distances, caused chronic backaches and muscular injuries for almost every woman we interviewed. Many women also complained of persistent lethargy and tiredness caused by long-term, frequent water-fetching activities, which damaged their backs and knees.

Most women in the focus group reported symptoms of diarrhoea. Increased sedimentation in water sources leads to higher heavy metal content, which can cause damage to the human intestinal tract, resulting in diarrhoea and other illnesses (Drew, 2013). In 2024, villagers were still experiencing aftershocks from the earthquake, and landslides frequently send debris sliding into the village. With no strongly built bathrooms, villagers, particularly women and children, live in constant fear that debris or strong winds will sweep away their bathing huts while they are bathing (figure 5). This fear and anxiety not only keeps them from bathing regularly but also causes significant mental stress. In many cases, this constant fear has led to PTSD.

### 5. Inefficient role of government in post-disaster recovery

We learned that most of the recovery work was undertaken by NGOs. The Government was not directly involved in the post-earthquake recovery work. A doctor visited the village only once after the disaster and could not adequately address villagers' health needs. In conversations with HAF, we learned that they regularly offer educational sessions and raise awareness about healthy water use, such as boiling and filtering water or using an appropriate body posture to avoid injury when fetching and transporting water. However, these lessons were not observed or demonstrated during the fieldwork. Many villagers believed underground water was safe and, therefore, drank it without boiling or filtering. While HAF encouraged people to relocate to safer villages, the villagers were understandably unwilling to leave their hometown, even with the problematic water conditions.



**Figure 05**  
Plastic sheet in use as a curtain to designate bathing area.

# Recommendations

Based on the findings gathered during fieldwork, this research proposes recommendations that address three major areas: a) identifying further problems associated with water in Timichi, b) addressing Timichi's current water management challenges, and c) posing further questions to enhance sustainability.

## 1. Advancing understanding of water management in Timichi

By analysing the study's limitations, this report makes two recommendations for enhancing field research. Firstly, increasing the number of survey samples to include more villages and respondents and adjusting the demographic structure of the sample would provide a more comprehensive understanding of relevant issues. Secondly, it is essential to address both individual voices and collective data. For instance, participants in focus group interviews in Timichi were often influenced by the viewpoints of others, sometimes leading them to change their own perspectives. Therefore, interviewers must ensure individuals are given a space to reflect when using the focus group method.

## 2. Establishing coordination among stakeholders

Establishing communication platforms for stakeholders is necessary to facilitate good water management (Langsdale and Cardwell, 2022). However, the current stakeholders involved in water affairs in Timichi lack effective communication and collaboration methods. Additionally, there is insufficient resident engagement in water management. For example, interviews with HAF coordinators revealed that healthcare personnel from health stations regularly visit Timichi to deliver chlorine for clean water. However, responses from participants in focus groups indicated a lack of awareness regarding these regular visits. Likewise, interviews indicated that, constrained by limited funds and resources, HAF prioritises water recovery efforts based on assessments of each village's potential, demands, and engagement. However, this process often leads to misunderstanding among residents of other villages, who perceive it as unfair. These conflicts could significantly reduce residents' enthusiasm for subsequent project implementation and hinder the sustainability of water projects in the area.

Further consideration is required to address these pertinent questions: 'How can a more equitable assessment framework be established?' And 'How can conflicts and disagreements among different villages be effectively minimised?'

These questions reflect the need to form a network of stakeholders and provide mechanisms for smooth coordination (including NGOs, health departments, communities, and villagers) to alleviate the adverse effects of poor information transmission about water (Torello et al., 2023). For example, organising forums periodically to discuss water affairs could improve collaboration and knowledge exchange among stakeholders, increase community trust in water management efforts, more accurately identify community needs, and more effectively allocate resources.

## 3. Promoting engagement of the medical community in water management

Any strategy to ensure water quality and health must involve the medical community as a significant participant (Meinhardt, 2006, p. 27). However, according to our interview findings, post-disaster healthcare personnel visited Timichi for a survey only once and ignored adverse changes in water and health. This situation could likely exacerbate water safety issues and negatively impact long-term health in the community.

Based on interviews, local organisations have conducted health projects to educate people on hygiene. However, villagers have not applied this knowledge of healthy water in practice. Therefore, future research must delve deeper into the fundamental factors driving behavioural changes in water usage among villagers. Sustainable health and water resource management relies on the effective engagement of stakeholders (Langsdale and Cardwell, 2022). Addressing these recommendations and research questions requires collaborative efforts from all stakeholders. Additionally, innovative, collaborative, and continuously improving educational initiatives are necessary to ensure that Timichi remains resilient despite persistent water management challenges.

Subsequently, fostering the involvement of medical and health professionals is crucial, including physicians, healthcare providers, epidemiologists, microbiologists, academic scientists and researchers, health authorities, and environmental health experts (Meinhardt, 2006, p. 27). This should involve regular monitoring of local water quality, conducting further research into the correlation between water and locally prevalent diseases (such as the frequent occurrence of diarrhoea) and exploring potential improvements to local public health.

## Conclusion

Based on our research, interviews, and focus group discussions, we conclude that the current post-disaster water recovery measures in Timichi are temporary and unsustainable. HAF has done its utmost to assist Timichi in its post-disaster recovery, but the Government needs to provide sustainable interventions. Relocating villagers is not a suitable solution, as it would require a new set of resources, challenges, and renegotiation of all water-related recovery measures. Second, insufficient coordination in water management could negatively impact public and institutional health. While most villagers do not mind sharing drinking water, conflicts may well arise over irrigation water.

Furthermore, villagers do not proactively purchase filters or other devices to improve drinking water quality. Instead, they resort to boiling or allowing sedimentation when the water appears visibly dirty. These practices need to be addressed.

Finally, interviews and focus group discussions revealed a gender disparity. In Timichi, water-related activities are gender-biased, disproportionately affecting women's health. However, decision-makers in water management are primarily men. These gender biases must be addressed, and robust community mobilisation is required.

# Impact of transport changes on women's well-being

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## Research Question

How does public transport affect women's health and well-being in Marrakech?

## Background

The relocation of the Bab-Doukkala station in Marrakech presents a unique case study of the impact of transport modal shifts on women's well-being. This report, based on a comprehensive analysis of women's perspectives and data collected from both the old and new stations, explores how changes in transport modes have affected women's accessibility, safety, economic opportunities, and overall quality of life in the region. The study aims to highlight the specific challenges women face and provide recommendations for urban planning that prioritise the construction of female-friendly transport systems.

Opportunities and inequalities are amplified by transportation systems that are intertwined with users' identities and social positions (Elias et al., 2015; Elias, 2022). Women's responsibilities as caregivers are often reflected in their mobility patterns (Sanchez, 2013). Women's trips tend to be more complex than men's in terms of trip chaining, modes of transportation, destinations, distance, duration, and time of day, as they fulfill care obligations (Delatte et al., 2018; Levy, 2013; Montoya-Robledo & Escovar-Álvarez, 2020; Nasrin & Chowdhury, 2024; Sánchez de Madariaga, 2013). Concerns about security and safety during commutes are central for women, often leading to permanent stress and heightened risk (Nasrin & Chowdhury, 2024). Women tend to experience higher levels of violence in the form of verbal abuse, harassment, or robbery while travelling and in public spaces (Delatte et al., 2018).

In addition, the lack of adequate walking infrastructure and unsafe driver behaviour increases women's risk of accidents, especially when they travel with dependents or carry packages (Busco et al., 2022). These security and safety concerns often cause women to self-limit their mobility (Ouahid et al., 2023). The primary health impacts of transport arise through factors such as driver behaviour, air pollution, noise, heat island effects, lack of green space, and transport-related social exclusion (Mindell et al., 2011; Haddad & Aouachria, 2015).



## Research objective

This study investigates how public transport affects women's health and well-being in Marrakech. Drawing from the literature on the interrelated issues of transport, women, and health, the relocation of the inter-city transport terminal from Bab-Doukkala was used as the primary case study. The study also examines whether the new station location improves women's public transport experiences. Based on a thorough analysis of the data, several interventions that could significantly enhance women's transport experiences and overall quality of life are proposed.

## Research methods

The study employed a primarily qualitative research methodology, consisting of observations during fieldwork and semi-structured interviews. The original Bab-Doukkala station is located in the centre of the old town, while the new Azzouzia station is situated 10 kilometres away in the suburbs, requiring about a half-hour drive to reach (figure 8). Observations were conducted at both Bab-Doukkala and Azzouzia stations, including experiences on urban bus rides.

To gather data on female commuters and their perceptions, 16 women using public transport were interviewed. These participants included three commuters travelling on buses, five women waiting at the station, two HAF employees, five students at the HAF office, and one woman from a rural area. The participants were selected through convenience sampling.

The study was conducted with a strong commitment to ethical considerations, ensuring respect and care for the participants. These considerations addressed potential issues such as the interviewer's lack of contextual knowledge, intrusive interview questions, and language barriers. To mitigate these concerns, an anonymised interview format was used, and informed consent for both research information and audio recordings was obtained from all respondents before each interview. Additionally, two HAF coordinators acted as translators to overcome language barriers, ensuring that all participants could fully express their experiences and perspectives.

However, the study does have certain limitations. Firstly, the sample size is relatively small, and the use of convenience sampling may introduce biases in the findings. As convenience sampling captures only a portion of the population of female commuters, this could lead to the underrepresentation or overrepresentation of certain groups, reducing the generalisability of the data. Moreover, since a significant portion of respondents were students, some bias toward student perspectives cannot be entirely avoided.

# Findings

## 1. Perceptions of transport and its relation to women's well-being

The first set of findings concerns how women perceive the relationship between transportation and their well-being in Marrakech. The majority of participants chose public transportation for financial reasons, as bus rides are the most affordable motorised option in the city. Each bus ride costs 4 dirhams, significantly less than shared taxis (5-6 dirhams), private taxis (20 dirhams), and motorcycles (20 dirhams). Additionally, students benefit from a discounted monthly fare of 120 dirhams, while without this discount, transportation costs can amount to one-third of some women's living expenses (excluding rent).

## 2. Commute time and waiting time

The average commute time for most respondents was about one hour, although this varied depending on the waiting times for buses. Typically, women waited around 10 to 15 minutes, but some had to wait over an hour, especially those living in the suburbs or during evening rush hours. Students, in particular, noted that buses were often full after classes, and drivers would bypass busy stops like the University, increasing their waiting and journey times. Many participants also needed to use more than one mode of transportation, such as taxis to and from bus stations and had to walk longer than 30 minutes at times. This not only extended their commute but also raised costs, as there was no fare integration between different modes of transport. Women in more remote areas were disproportionately affected, spending more time and money to travel.

Participants reported feeling exhausted after long walks and using public transportation, a challenge particularly for rural women who had to carry heavy loads for over an hour. Traffic jams further prolonged commuting times, which prompted some women to consider purchasing cars or motorcycles for comfort and time savings.

## 3. Time and resource allocation

To manage transportation-related delays, participants mentioned leaving their homes up to two hours early for appointments or resorting to expensive private taxis or cabs. This increased the time and resources women had to allocate for transportation.

## 4. Overcrowding and comfort issues

Respondents also voiced concerns about overcrowded buses, particularly during rush hours. Overcrowding led to discomfort, especially during summer months when heat and unpleasant odours were exacerbated by poor bus ventilation.

## 5. Safety concerns: harassment and robbery

Safety was another major concern for women. Several respondents reported the risk of physical and sexual harassment, as well as robbery, both in buses and at bus stations. Some women had witnessed or personally experienced these types of violence. These safety concerns significantly influenced mobility patterns, with some respondents avoiding night travel altogether or adopting coping mechanisms like commuting in groups or using taxis instead of buses.



**Figure 06**  
The small green space close to the coach bay



**Figure 07**  
Women with luggage and children in Bab Doukkala station

## 6. Transfers between modes

The need to transfer between buses and other modes of transportation added complexity to women's commutes. This often increases travel costs and extends journey times, particularly for those living farther from city centres.

## 7. Bab Doukkala and Azzouzia stations

### Bab Doukkala station

The station environment is characterised by overcrowding and high passenger flow. Based on observations, women are exposed to various social, mental, and physical health risks.

### **Risk of physical exertion**

As shown in the pictures, many women in the plaza carry heavy items and care for children, which can be physically taxing. The very few rest areas with shade in the outdoor plaza make it challenging for female passengers with children and luggage to find a cool, covered place to rest during the hot summer months while waiting for buses (figure 7). Additionally, seating at bus stops is limited, leaving many passengers standing in the scorching heat. Waiting for buses in open areas exposes pedestrians to pollution, noise, and unpleasant odours, with poor ambient conditions posing

health risks. Inside the station, green spaces are available near the bay, but they are not accessible to the public.

### **Risk of harassment and traffic accidents**

Many males engaged in small businesses are present in the squares. They frequently accost pedestrians to sell their items, impacting women's perception of safety. The square has several bus stops, making it a busy traffic area. During peak hours, the crowded pedestrian flow and intensive vehicle movement increase the likelihood of collisions and accidents.

### **Limited sanitation facilities**

Sanitation is inadequate due to the lack of sufficient toilet facilities. As depicted, there is only one toilet inside the station, and it is not free of charge. Furthermore, the station's toilets lack a baby changing room, which is not accommodating for those travelling with children.

### Azzouzia Station

Azzouzia Station, a newly built facility, employs different mechanisms than other bus stations. It features electronic gates and an electronic ticketing system (figure 8). This new system has improved operational efficiency, reduced costs, enhanced security, and improved passenger experience overall.

Despite these advancements, passengers still prefer Bab-Doukkala Station over Azzouzia for two main reasons. First, Azzouzia Station has reduced connectivity with the city centre compared to Bab-Doukkala Station. Interviewees indicated that Azzouzia's location is too distant and inconvenient. They reported needing to spend an additional half hour to an hour travelling to reach the new Azzouzia Station, whereas Bab-Doukkala Station is centrally located in Marrakech.

Second, the electronic system at Azzouzia Station has resulted in higher taxi fares in the area. This increase in transportation costs makes it challenging for people to afford taxis to commute to and from the station.



**Figure 08**  
The Electronic Gates in Azzouzia Station.

## Recommendations

Based on the findings, this study makes the following recommendations to improve women's health and well-being during commutation within Marrakech:

### 1. Enhance the public transport system

- Introduce staggered schedules to distribute passenger volume more evenly throughout the day.
- Implement dedicated bus lanes during peak hours to reduce delays caused by general traffic.
- Operate bus routes at higher frequencies to ensure shorter waiting times.
- Use spatiotemporal maps to optimise bus operations and improve efficiency.
- Establish express lines connecting major stations, such as a line to Kadi Ayyad University, to accelerate travel for large numbers of passengers.
- Transition to electric buses, which are quieter and produce no emissions.
- Develop comprehensive stations and boarding points to ensure seamless connections between different routes and transportation modes.

### 2. Make transportation affordable

Introduce a fare system with a daily upper limit to reduce commuter costs. An unlimited travel pass within a certain period may encourage more frequent use of public transport, facilitate chained trips, and improve overall accessibility while reducing individual transportation costs.

### 3. Address safety concerns

- Train drivers should be trained to intervene in potentially hazardous situations.
- Establish safe local routes for night travel to minimise the risks of walking alone.
- Use media campaigns to educate the public on safety protocols.
- Empower women through dedicated support systems and implement CCTV systems on buses to enhance overall security.

## Conclusion

This research highlights the significant impact of transportation issues on women's health and well-being in Marrakech. Relocating the intercity terminal from Bab-Doukkala to Azzouzia Station presents challenges and opportunities. While some women have benefited from infrastructure improvements, others face increased costs and travel time. Critical policy interventions, such as staggered bus schedules, dedicated bus lanes, higher frequency routes, integrated fare systems, and enhanced safety measures like CCTV and awareness campaigns, are necessary to significantly improve women's commuting experiences. Additionally, adopting electric buses can help reduce noise and pollution. These strategies are essential for creating a more efficient, safe, and equitable transport system, and enhancing women's access to education, employment, and healthcare in Marrakech.

# Women's health: focusing on shelter and sanitation infrastructure during post- earthquake recovery

## Students

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## Facilitators

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## Research Question

How have the post-earthquake responses to sanitation, shelter, and livelihoods impacted the health of the affected population and exposed women's inequalities in affected communities?

## Background

One year after the earthquake in Morocco, our group conducted a comparative research study in Marrakech and its surrounding towns to explore the earthquake's impact on the health and lifestyles of women in the affected villages. Our investigation focused on four key areas: sanitation, shelter construction, livelihoods, and gender inequality. The study covered four villages: Amizmiz, Anfli, Aguerd Nourtane, and Achbarou. These villages were selected based on their varying geographical locations, extent of damage, and primary issues, allowing for a comprehensive comparative analysis.

Throughout the research, we maintained a solid commitment to ethical standards. We prioritised respecting participants' privacy, avoided photographing children, used pseudonyms in our reports, and refrained from probing sensitive topics unnecessarily. Informed consent was obtained for all activities conducted during the study.



**Figure 09**  
Informal chats with villagers during transect walks



**Figure 10**  
Focus group discussion with villagers

## Research methods

We employed three research methods during our fieldwork, which are discussed below.

### 1. Transect walks and informal chats

We conducted transect walks and engaged in informal conversations in four villages (figure 9). These methods provided us with a broad understanding of community dynamics and the challenges faced by villagers.

### 2. Focus group discussions

We organised two in-person focus groups in two of the villages — one with women and one with men (figure 10). We also facilitated a ‘virtual focus group’ with women via WhatsApp, where participants responded to questions sent to them.

### 3. Participatory workshop

In Aguerd Nourtane village, we held a workshop to collaboratively map out the village’s future. This workshop involved community members in planning and visioning exercises, allowing us to gather diverse perspectives and ideas.

## Findings

Following the earthquake in Morocco, our comparative research study revealed significant impacts on women’s health and lifestyles in the affected villages. The findings are categorised into the following sections: bathing facilities, toilet facilities, shelter conditions, livelihood changes, and gender inequality.

### 1. Bathing facilities

#### Public bathrooms

In Amizmiz village, a government-provided public shower was established by the roadside post-disaster (figure 11). However, women residing in tents opted to bathe inside their tents due to privacy concerns and the lack of hot water at the public shower.

#### Bathing near tent areas

In Anfli and the Setti Fadma municipality, women bathe behind their tents. They heat water in buckets outside and carry it to their bathing area (figure 12). This method is dangerous due to the risk of spilling hot water and can be uncomfortable due to a lack of privacy and proper arrangements.

#### Private hammam

Achbarou village is unique in having a household with a private hammam, providing privacy, warmth, and security. This facility ensured privacy and was equipped with a water heating system and a door, providing warmth and security for women while bathing. However, this facility is only available to one household (figure 13). Additionally, there was insufficient fuel, so the household had to rely on burning flammable waste materials.

Various issues pertaining to physical, mental, and psycho-social health were identified in the four villages concerning bathing and sanitation. Since there were no structural arrangements for bathrooms, many women were forced to bathe in public spaces. This included isolated corners behind the tents or showers in public bathrooms and, at times, washing in public toilets. This lack of privacy and proper bathing facilities was uncomfortable and unsafe, adversely affecting mental health. Furthermore, the earthquake severely damaged many water supply systems, making it difficult for people to access clean bathing water. As a result, women bathed less frequently, leading to skin infections and other health issues. In addition, the mountainous regions affected by the earthquake have cold climates, especially in winter. This makes it very difficult for women to bathe frequently.



**Figure 13**  
A small hammam constructed by villagers. They lit trash and wooden sticks to light a fire.

## 2. Toilets

Three types of toilet facilities were mapped out in all four villages.

### Open defecation

In the village of Anfli, there are no toilet facilities, forcing residents to urinate and defecate in open fields (figure 14). This situation is particularly problematic for women, who are often embarrassed by the lack of privacy and may choose to avoid urinating and defecating for long periods, which significantly increases health risks such as kidney stones or only at night, which can pose safety risks.

### Public toilets

In the villages of Amiz and Aguerd Nourtane, the Government provided public toilets for general use (figure 15). However, since these facilities are built along the main road in public areas with heavy traffic, most women feel uncomfortable using them. This psychological discomfort leads them to wait until the road is less busy or look for times when fewer people are around, again posing safety risks



**Figure 11**  
public shower and tent in the Amizmiz village.

**Figure 12**  
Public shower and tent in the Amizmiz village.





**Figure 14**  
Open defecation environment  
in the Anfli village.



**Figure 15**  
Public toilet in the Amiz and  
Agured Nourtane village.



**Figure 16**  
Household toilet in the Village  
Achbarou.

### Household toilets

In Village Achbarou, residents have access to facilities in or near their homes damaged by the earthquake. Those suffering from post-traumatic stress disorder caused by these earthquakes are fearful about using toilets in their homes. Residents often pray before using unsafe facilities and then quickly complete their needs out of fear that another earthquake might collapse the toilet or cause debris to fall from the ruins of the previous disaster. Based on these temporary, fragile, and highly uncomfortable toilet arrangements, all the villagers, especially women, hope for better toilet facilities from the government (figure 16). Women have requested that gender-segregated toilets be built in a more secluded location rather than on the roadside.

### 3. Shelter

In the aftermath of the earthquake in Morocco, most villagers' houses were damaged to varying degrees, and many had to move into tents or makeshift arrangements (figure 18). Although some houses were only slightly damaged and were still habitable, many residents, especially women, preferred to live in tents or containers out of fear that an earthquake might recur.

#### Psychological security and mental health

Numerous households were provided with tents made of plastic in relocation from their ruined and damaged houses. These tents are uncomfortable, as they are not insulated and are very cold in winter, get overheated during summer, and are prone to catching fire. Moreover, heavy rains may further damage the houses, worsen living conditions and increase fear. Still, villagers, particularly women in Achbarou village, expressed feeling safer in the tents than in damaged houses. Returning to their original houses may bring back memories of their earthquake-related experiences, leading to post-traumatic stress disorder (PTSD) symptoms such as fear and anxiety.



This sense of psychological safety prompted them to choose tents despite the poorer living conditions, but the risks associated with living in tents remain unaddressed.

There are several additional challenges associated with living in tents (figure 18). Firstly, space is limited, and, in the village of Anfli, about seven people share a tent of less than five square meters, leading to overcrowding and health problems. Secondly, stifling heat and contamination from household waste led to illnesses such as eye infections and respiratory problems. For instance, in the village of Achbarou, a 17-year-old boy was hospitalised due to an allergy to the tent's material, preventing him from attending school for a week. His family hopes to move into a shipping container to improve their living conditions. Additionally, extreme heat and extreme cold impact the health of villagers, especially young people, the elderly, and sick individuals. Finally, a lack of privacy and proximity to other families add to the discomfort.

#### 4. Livelihoods

Men and women in these villages have traditionally relied on agriculture and animal husbandry for their livelihoods (figure 19 and 20). On a typical day, women start doing household chores at six o'clock every morning. Most of their activities involve farming, cooking, looking after cattle and family members, and raising children. The difference is that in the village of Achbarou, women have formed a cooperative, enabling them to work making and selling handicrafts. These activities have marked a significant change in their traditional roles.

Earthquakes have a direct impact on the health of women and children. Many women and children suffered physical and mental injuries from the damage to their homes, but they still had to perform all the household chores. At the same time, these events also impact cooperatives, resulting in decreased cooperative productivity.

Due to limited local opportunities, some men choose to travel to Marrakech in search of work in the city, often working in cafes and restaurants to support their families. After the earthquake, more and more men chose to stay home and rely on subsidies rather than continue their traditional roles. Some men also lost their jobs after the earthquake.

At the same time, women in the village are more eager to obtain formal employment opportunities, like those in Achbarou village, such as producing traditional handicrafts and agricultural products and cooking traditional food. These aspirations demonstrate women's desire to reduce the burden on their families and assert their rights within the community. Despite the challenges they faced after the earthquake, men's reluctance to relocate from their villages stems from their deep-rooted connection to the land, fear of starting over in an unfamiliar area, and uncertainty about raising a family.



**Figure 17**  
Make-shift homes constructed from containers.



**Figure 18**  
Tents where villagers are residing after the earthquake.



**Figure 19**  
Partially damaged house.



**Figure 20**  
Cattle rearing and livestock in houses.

## 5. Gender inequalities

The earthquake has worsened many women's situations and exposed or reproduced gender inequalities. For instance, the fragile and vulnerable living conditions have intensified the vigilance required for looking after children. Likewise, routine activities such as cooking, childcare, washing, and cleaning have become even more difficult in temporary accommodation because of a lack of resources (figure 21). These situations, accompanied by frustration, have resulted in increased domestic violence.

A further challenge relates to male dominance over the rights of women. For example, a male village leader prevented HAF volunteers from distributing feminine hygiene products in the villages because men and children were present.

In such scenarios, having a unified social structure, such as Achbarou women's cooperative, seems to offer hope. Women's cooperatives have helped many women in their village earn a livelihood for themselves. By earning money, women feel empowered and can more assertively demand their rights, even if decision-makers and resource allocators are predominantly male.



**Figure 21**  
Female villagers taking care of children.

## Recommendations

There are several recommendations stemming from this study. First, NGOs and other organisations need to acquire an in-depth understanding of the dynamics of earthquake recovery from people's perspectives. Here, the dynamics between men and women, young and old, rich and poor, should also be considered. Secondly, it is necessary to involve multiple stakeholders working together to improve the quality of shelters, provide electric heating and stoves, use cold-resistant materials for tents, distribute medication to prevent urological and digestive diseases, provide separate public toilets for men and women, and ensure that showers provide hot water and have lighting. Third, there is an immediate need to establish communication channels to encourage local women to express their concerns, anxieties, and expectations. Fourth, given the deeply ingrained gender inequality in the culture, it is crucial to foster a more gender-equal environment in post-earthquake communities to encourage men to take on their roles in household chores and to respect women for their contributions. Finally, encouraging and facilitating more women to undertake vocational training and help to organise themselves in mutual aid organisations would provide them with financial independence, greater agency, and enhanced social security.

## Conclusion

In conclusion, residents preferred tents as temporary shelter after the earthquake for psychological and safety reasons. However, the poor living conditions in these temporary shelters, have had a negative impact on their health and quality of life. For those living in tents, there are no immediate suggestions for improvement. The demand is for rehousing in repaired homes or containers which are more secure and are better able to withstand extreme weather. However, the container costs are high, at \$6,000, which limits their use. This situation highlights the trade-offs in disaster recovery, balancing mental health, budgeting, and providing adequate housing conditions.

# Mental health and women's empowerment at the intersectionality of society and culture in Achbarou village

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## Research Question

How do sociocultural factors in Achbarou village influence the relationship between mental health and women's empowerment?

## Background

In recent years, environmental, socioeconomic, and health interconnectedness has garnered significant attention in both academic and development sectors. This growing interest has spurred numerous studies and initiatives to explore and leverage synergies between holistic health approaches and community-based interventions for sustainable development. A case in point is the High Atlas Foundation's (HAF) community-based projects in the village of Achbarou in Marrakech, which promote sustainable development and attempt to improve health outcomes.

In this context, this study delves into the impacts of post-disaster recovery on women's mental health in Marrakech and how sociocultural factors influence the relationship between mental health and women's empowerment.



**Figure 22**  
Objects that brings mental peace as chosen by the participants (From left to right in order).

## Research methods

The findings were gathered through three main research methods: focus group discussions, participatory methods, and transect walks. For the focus group discussions, the team visited a women's cooperative in Achbarou village and talked to nine women in the cooperative. The questions explored these women's understanding of mental health and its relationship to women's empowerment. The participatory activities aimed at engaging the women, helping them feel comfortable with the research team, and encouraging them to share their experiences in a more informal way. These activities included an 'object of significance' and a 'visionary exercise.' Participants were asked to choose an object that brought them joy and mental peace (figure 22). For the 'object of significance' exercise, each participant brought a unique item from their household. For example, a young girl chose the Holy Book of the Quran. A woman showed dresses that she designed and stitched herself. Another lady brought a ceramic bowl set that she had purchased for her wedding from earnings she had saved. She had not opened the bowl set despite seventeen years of marriage. Finally, an older woman showed a photo of her pilgrimage to the Holy site in Mecca.

The 'visionary exercise' activity required participants to imagine and draw a picture of their ideal future (figure 23). This activity aimed to learn about the participants' aspirations and discuss their challenges. Finally, the transect walk helped researchers observe the villagers' living conditions. Some lived in homes that were either partially or slightly impacted by the earthquake, while others lived in tents due to severe damage to their homes (figure 24).

## Findings

This research presents the stories of women with whom the team interacted through participatory approaches. For ethical reasons, all names are pseudonyms. These stories vividly display how sociocultural factors, such as religious beliefs, social institutions, and social connections, influence the relationship between mental health and women's empowerment in Achbarou village. The impact of social institutions includes the influence of schools on girls and cooperatives on adults. Social connections and relationships, both within families and with neighbours and other villagers, also significantly impact individual mental health (figure 25). In Achbarou, where large families often live together, 'the family' acts as a social institution, shaping relationships between husbands and wives, parents and children, and mothers and daughters-in-law.

**Figure 23**  
Women participating in visioning exercise



**Figure 24**  
Residence of villagers. Tents on left and houses affected by the earthquake on right.



**Figure 25**  
Fatima and other women of cooperative designing a carpet.

## 1. Mental health and empowerment

The first story is about Fatima. We were introduced to her as the leader of the cooperative. However, before joining the cooperative, she led a life dictated by social norms and gender roles typical for a rural woman in Achbarou. She did not have a job and managed housework alone every day, needing her husband's permission or company to leave the house.

Now, she leads and manages all the affairs of the cooperative. She has found her passion in running the cooperative, where women weave carpets and cook to make a living (Figure 26). Despite her new responsibilities, Fatima continues to care for her family, managing household tasks like cooking, cleaning, and raising her children. The other women in the cooperative look up to Fatima as a role model, striving to balance their household duties with their careers. Fatima also teaches herself English and French through YouTube videos. She aims to obtain a driving license to transport rugs to Marrakech, connect with clients, and run the cooperative more efficiently.



**Figure 26**  
Rugs and carpets weaved by women of the cooperative and food cooked by the women

Fatima discussed the 'Imagine Workshop' run by HAF as her turning point. The three-day psychosocial training was her first experience of spending a night away from home. Discussions on mental health and empowerment made her realise her dreams and aspirations of becoming financially independent. She discovered that she had the ability to pursue her ambitions. Upon returning home, Fatima shared her dreams with her husband, who supported her in starting the cooperative. These days, Fatima reads Arabic books on empowerment (Figure 27) provided during the workshop, and she continues to foster her aspirations.

During focus-group discussions, Fatima symbolised mental health as a pot that could be filled with either good or bad things, depending on the individual. In the visioning exercise, she drew a picture (Figure 28) of her ideal future home, located near the cooperative she runs. When asked who would enter the house, she responded, "I am the first one, followed by my husband and then my children."

Fatima's drawing, a vision of her ideal life, reveals further aspects of her ambitions. In the top left corner, she drew the cooperative and placed a heart on it to express her love and passion for her work. Many other women shared similar sentiments, saying that working together in the cooperative gave them strength and reduced their stress. Some found joy and enthusiasm in their work, while others took pride in earning their own money and supporting their families.

Fatima drew a car in the bottom left corner, symbolising her resourcefulness and sense of accomplishment. Many women said that their financial contributions had lessened their husbands' burdens and improved their marital relationships, boosting their self-esteem. Although these women yearned for financial independence, their dreams also included the well-being of their families and village. The interconnection between self-esteem and financial independence was also reflected in the 'object of significance' exercise.

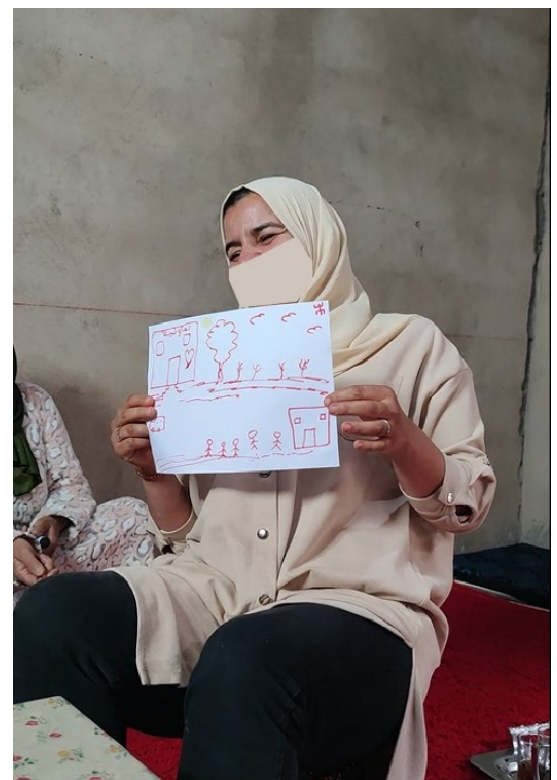
Salma, for example, showed us a set of ceramic bowls she bought 16 years ago. She has worked tirelessly for 23 years, mainly making traditional bread and selling it on the streets to support her family. After saving money, she bought the ceramic bowls, which she has kept packed for 16 years (figure 29). This bowl set is her symbol of success, and she fears that any damage to it would diminish her self-confidence. She added that she would only use the bowls if her husband asked, as she loves him the most.

Family holds significant value for the women we encountered. An elderly woman, Suraiya, expressed that she now feels lonely and isolated because she lives alone. In the 'visioning exercise', Suraiya drew a swimming pool where she imagined her grandchildren playing, reflecting her desire for a large family (figure 30). However, many young women saw large families as an obstacle to their careers due to the extra household chores and the potential of controlling mothers-in-law.

Beyond family, several women highlighted community connections. Amna, for example, drew her ideal house without a door, explaining that she wants a home where everyone in the community is welcome, reflecting the importance of neighbourhood ties. She also depicted a carpet symbolising the cooperative activities in which she weaves and sells handmade carpets (figure 31).



**Figure 27**  
Fatima engaged in self-study on women's empowerment in Arabic.



**Figure 28**  
Fatima showing her vision through drawing.





**Figure 29**  
Selma's precious ceramics.

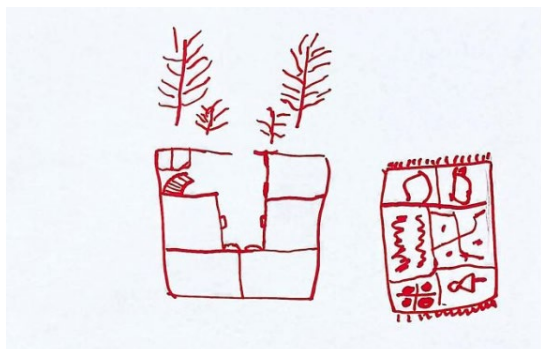


In Achbarou village, most households have received government permission to rebuild, except for Khadija's family. During the transect walk, we visited Khadija, who lives in a tent (figure 33). Khadija shared her feelings of isolation. While she felt stronger when the entire village was struggling, she now feels powerless and frustrated as others prepare to move into new homes.

**Figure 30**  
Suraiyas drawing of her ideal life.



This story illustrates how women's empowerment has transformed their lives, making them not only economically independent but also boosting their self-confidence and self-esteem. Family and village support were crucial to their mental health, especially during the recovery process. Despite the challenges, these women found strength through mutual aid and community connections, demonstrating resilience and solidarity in the face of adversity.



**Figure 31**  
Aamna's drawing of her visioning exercise.

## 2. School and religion

During the transect walk, we passed by a school where children waited for classes to begin. These children walk one and a half hours over hills and valleys to reach school. Despite the distance, they said this was the happiest part of their day, as it allowed them to talk with friends. This observation connects to the importance of solidarity and social connections for the people of Achbarou, regardless of age. However, not everyone has had positive experiences with school. We met Zarina, a 17-year-old who dropped out due to bullying after being diagnosed with a neurological disorder. She became withdrawn and lost touch with friends, resulting in years of depression.

Zarina's mother shared that her daughter enjoys making traditional clothes. In the 'visioning exercise', Zarina drew herself with a sewing machine, expressing her desire to work in textiles like the women in the cooperative (figure 34). In this drawing, Zarine also drew her future self wearing a traditional religious dress known as hijab. When asked why, she said she wanted to be more religious as religion brings her happiness. We learnt from other people that in Achbarou, a religious woman has a greater prospect of getting married.

Due to her neurological problem, Zarina faced social rejection. She used to care a lot about other people's opinions, which made her depressed. Now, she found refuge in religion. She no longer cares what people think.

**Figure 32**  
A courtyard.



Religion also holds significance for Safiyya, whose most cherished possession is a photo of her pilgrimage to Mecca. She finds peace in recalling her trip and performing daily prayers. Several other women, such as Salika, viewed the earthquake as a divine event, with faith in divine intervention helping them cope with disaster aftermaths.

The narratives and stories of Achbarou villagers highlight the role and influence of religion on mental health. It provides strength and resilience, though some may become less rational in confronting their situations due to religious beliefs.

## Recommendations

Based on this research, we offer the following recommendations. First, promoting literacy and awareness of house reconstruction materials, mechanisms, and layouts is essential for post-disaster recovery. Second, HAF could implement school programmes to educate children about the social impacts of bullying. Third, young girls like Safiyya could receive support through cooperatives. Fourth, men and women should support each other's well-being. Fifth, workshops like Imagine should be offered to men, couples, elderly women, and villagers. Clear government communication about registration and other administrative processes would also reduce anxiety. Lastly, incorporating religion into developmental plans could leverage its significant strength in the community.

## Conclusion

In conclusion, this research highlights the powerful role that sociocultural factors, particularly social institutions, family dynamics, and religion, play in shaping mental health and women's empowerment in Achbarou village. Through the participatory narratives of women, it is clear that empowerment—particularly through cooperative work—can have a transformative impact on women's self-esteem, economic independence, and mental well-being. Religion also emerges as a source of strength and resilience, offering solace and a sense of purpose amid challenges. Family support, community connections, and cooperative efforts are crucial in fostering women's empowerment and mental health recovery, especially in post-disaster contexts. These findings underscore the importance of integrating cultural, social, and religious dimensions into community development and mental health interventions to create more effective, holistic support systems for women in rural areas like Achbarou.

**Figure 33**  
Khadija's dwelling.



**Figure 34**  
Zarina's drawing from the  
visioning exercise.

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