Mixed Migration Centre

Climate and mobility in the Middle East case study

June 2025

Perceptions, attitudes, and decision-making

Synthesis of field research findings

Summary of key findings

- Across all four research locations, most respondents reported that no members of their household had moved in the ten years preceding data collection. However, when asked about current mobility intentions, many expressed a strong interest in moving, which was frequently outweighed by a lack of resources to do so, and many were remaining in place involuntarily as a result.
- Mobility had served as a successful coping strategy for some, but its effectiveness was limited. Respondents pointed to both the cost of moving and the challenges of sustaining themselves or sending remittances after relocation.
- Among those who had moved in the ten years preceding data collection, as reported by household members who remained, most had stayed within the same country. In contrast, respondents expressing mobility intentions within their households often reported a preference for moving abroad.
- Respondents across all sites viewed climate hazards as a serious and worsening threat. Many expressed pessimism or uncertainty about the coming years, with widespread concerns that climate hazards would further undermine households' ability to meet their basic needs.
- Economic reasons were cited as the most common reason for moving, but a substantial number also cited climate hazards. It was clear that climate, conflict and economics all interact to drive interest in migration, and that the role of climate is growing.
- While economic reasons were the most frequently cited drivers of mobility, a substantial share of respondents also identified climate hazards. The findings indicate that economic hardship, climate-related threats, and, in some cases, conflict were overlapping and mutually reinforcing factors shaping interest in mobility. Many respondents suggested that the role of climate in this dynamic had grown over recent years
- In all study locations, those who experienced the most severe impacts of climate hazards were often individuals or households already facing other vulnerabilities, including older adults, children, people living in poverty, internally displaced people, and migrants.
- In locations where climate hazards were perceived as more severe at the time of data collection, respondents were more likely to report a desire to move compared to those in areas with less severe perceived impacts.
- Communities in all four locations were reportedly taking steps to mitigate and adapt to climate hazards. However, many of the actions and strategies that they employed were unsustainable, and alternatives were undermined by a lack of resources and leadership. There was a strong desire for governments to take more comprehensive and sustained action to support communities in both mitigating and adapting to future climate risks.

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Table of Contents

Acknowledgments

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1. Introduction and Background

Context of climate-induced mobility in the Middle East

The Middle East, characterised by its arid and semi-arid landscapes, has long faced climate-related stressors and hazards, including droughts, high temperatures, cyclones and tropical storms. In recent years, the impact of climate change has intensified these challenges, exposing the region to soaring temperatures, rapidly depleting freshwater resources, increasingly erratic rainfall patterns, protracted droughts, devastating dust storms, and unpredictable floods.[1] These hazards disproportionately impact communities engaged in climate-sensitive livelihoods, such as agriculture and pastoralism, whose lives hinge on increasingly volatile weather patterns and dwindling natural resources.[2]

The Middle East is also a region marked by patterns of large-scale internal, intra-regional, and inter-regional mobility. These patterns are primarily driven by economic hardship and conflict, which continue to deepen vulnerabilities and push communities to seek safer or more sustainable living conditions.[3] Climate hazards can further erode livelihoods, impoverish communities, and heighten competition over increasingly scarce resources. At the same time, poverty and conflict can exacerbate the impact of climate change by undermining the capacity to engage in preventative and responsive actions. Conflict often diverts available resources away from climate adaptation and response efforts.[4] As a result, those who are already most vulnerable are often disproportionately affected.

Within this context, mobility - whether forced, voluntary or shaped by a combination of factors - interacts with the impacts of climate change in complex ways. First, many in the region have been forcibly displaced. Additionally, the Middle East hosts over 11 million registered refugees and more than 12 million internally displaced persons (IDPs), largely due to protracted and ongoing conflicts in Palestine, Iraq, Syria, and Yemen. Climatic factors exacerbate both the drivers and consequences of displacement,[5] with conflict-affected countries caught in a vicious cycle in which conflict damages infrastructure, takes a heavy toll on national budgets, and forces climate adaptation down the list of policy priorities.[6]

Second, others move voluntarily — including rural-to-urban mobility and international migration within and beyond the region — driven, at least in part, by the pursuit of livelihoods less dependent on climatic and environmental factors. Third, many people across the region may wish to move but are unable to do so, even in contexts where temporary or permanent mobility could serve as a vital coping strategy. This includes populations still residing in their communities of origin despite growing exposure to climate and environmental stressors, as well as those who have been previously displaced and have since become effectively immobile. Finally, evidence suggests that there are strong drivers for people to remain in place by choice. Despite the hardships some are facing, many do not consider mobility and view it only as a last resort.[7]

Policy and governance frameworks

Opportunities for choice in mobility are increasingly constrained by a persistent governance gap in the face of acute climate vulnerabilities. While the specific challenges vary across the countries covered in this research, common issues across much of the region include limited institutional capacity for climate adaptation and mitigation, underinvestment in climate-resilient infrastructure, and inadequate social protection systems for those most affected.[8] Addressing this governance gap is further complicated by entrenched socio-economic and political challenges in the region, which continue to amplify the impacts of climate change on vulnerable populations.[9]

1 Zittis, G., Almazroui, M., Alpert, P.,Ciais, P., Cramer, W., Dahdal, Y., et al. (2022). Climate change and weather extremes in the Eastern Mediterranean and Middle East. Reviews of Geophysics,60, e2021RG000762, https://doi.org/10.1029/2021RG000762.
2 MMC (2024) Climate Change Impacts and Mobility in the Middle East What do we know?
3 ESCWA (2024). Migration and climate change in the Arab region.
4 MMC (2024) Climate Change Impacts and Mobility in the Middle East What do we know?
5 UNHCR (2022). Strategic Framework for Climate Action.
6 EUISS (2021). Arab climate futures.
7 Key informant interviews.
8 Carnegie endowment for international peace (2023) Climate Change and Vulnerability in the Middle East.
9 Ibid.

These governance challenges also reflect a broader global context in which policy frameworks to address climate-related mobility remain underdeveloped. While some emerging mechanisms acknowledge the links between climate change and mobility, comprehensive approaches are still lacking. The Sustainable Development Goals highlight the urgency of climate action and call for the integration of climate considerations into national policy, along with efforts to strengthen resilience and adaptive capacity.[10] The Global Compact for Migration, a non-binding migration governance framework, also recognises the nexus between climate change and mobility, and emphasises the importance of multi-faceted responses. These include both adaptation in countries of origin and coordinated action to support individuals and communities where adaptation or return is no longer viable.[11]

Despite the urgent need, establishing strong national adaptation policy frameworks has proved challenging across the Middle East. Progress has been hampered by the prevalent insular and autocratic nature of many governments in the region—characterised by "a reluctance to permit or encourage the sort of grassroots, bottom-up activism that is necessary to build effective climate resilience"[12]—as well as by the fact that many states are experiencing ongoing or post-conflict conditions, which further limit state capacity and divert attention from climate action. Therefore, a systematic revision of climate governance structures is essential. This must ensure the presence of clear legal mandates, robust enforcement mechanisms, and adequate funding, while simultaneously empowering the environmental community within each country to have a voice and take action. Building a sufficient empirical base is therefore critical to inform and support such efforts.[13]

Background to the research

In light of this context, between December 2023 and April 2024, the Mixed Migration Centre (MMC), with funding from the Foreign, Commonwealth and Development Office (FCDO), conducted an initial study to assess the state of knowledge on climate change impacts on mobility in the Middle East.[14] This phase, based on a literature review and key informant interviews, aimed to provide a foundation for further research to fill evidence gaps for policy and programming. It culminated in a workshop to validate the findings and engage in discussions with regional and national experts and practitioners about critical areas requiring further research.

The literature review and workshop discussions pointed to significant information gaps that continue to hinder a comprehensive understanding of the relationship between climate change and mobility in the region. The research also recognised the significant diversity of experiences across different local contexts and underscored the need for more detailed, area-specific evidence to capture localised patterns.

This research responds to that call by conducting field research in four distinct locations across the region, each facing different climate hazards, socio-economic conditions, and patterns of mobility. The aim is to generate grounded insights that can inform more context-specific and actionable responses.

10 United Nations, Sustainable Development Goals, "Goal 13: Take urgent action to combat climate change and its impacts."
11 Kenya United Nations Network on Migration, "Environment and Climate Change in the Global Compact on Migration," https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/inline-files/mdcc_gcm-mecc.pdf
12 Wehrey, F. (2023). Introduction to Climate Change and Vulnerability in the Middle East. Carnegie Endowment for International Peace.
13 MMC (2024) Climate Change Impacts and Mobility in the Middle East What do we know?
14 MMC (2024) Climate Change Impacts and Mobility in the Middle East What do we know?

2. Methodology

Between 24 November 2024 and 31 January 2025, MMC carried out primary data collection to assess the impacts of climate change on mobility in four locations in the Middle East: Aden and Al Maharah (Yemen), Al-Hasakah (Syria), and Al-Qadisiyah (Iraq). The research used a mixed-methods approach, including household surveys, focus group discussions, in-depth individual interviews, and key informant interviews. It aimed to analyse mobility patterns and aspirations in relation to climate-related factors, assess the effectiveness of adaptation strategies, and generate area-based evidence on how affected populations are experiencing and responding to these challenges. The findings are presented in four case study reports, one per location, and synthesised in this report to highlight commonalities and variations across the four sites. All case study reports are accessible here.

In addition, a fifth case study was conducted focusing on migrant workers and the ways in which they are affected by climate and environmental stressors in a major destination country in the region: the Kingdom of Saudi Arabia. Given its distinct thematic focus, this case study is summarised separately in Annexe 1.

Research objectives

This research and analysis were designed to shape inclusive recommendations and evidence-based policies to support communities affected by climate-related (im)mobility. The study's objectives were to:

- Deepen the understanding of perceptions, behaviours, aspirations, and mobility outcomes among Middle Eastern populations grappling with the effects of climate change.
- Amplify the voices of those directly affected by climate change in the Middle East, ensuring their perspectives inform policy discussions and interventions and promote accountability to them.
- Generate knowledge on the scope and nature of mobility from climate-affected areas in the Middle East, examining voluntary and involuntary mobility patterns, and the implications for both origin and destination communities.
- Inform evidence-based policy measures and programmes that can effectively address the challenges of climate-induced mobility in the Middle East, promote resilience among vulnerable populations, and protect the rights and well-being of those on the move. This research aims to contribute to the development of sustainable and equitable solutions and effective governance that address the root causes of forced displacement and facilitate safe and orderly migration pathways.

Key research questions

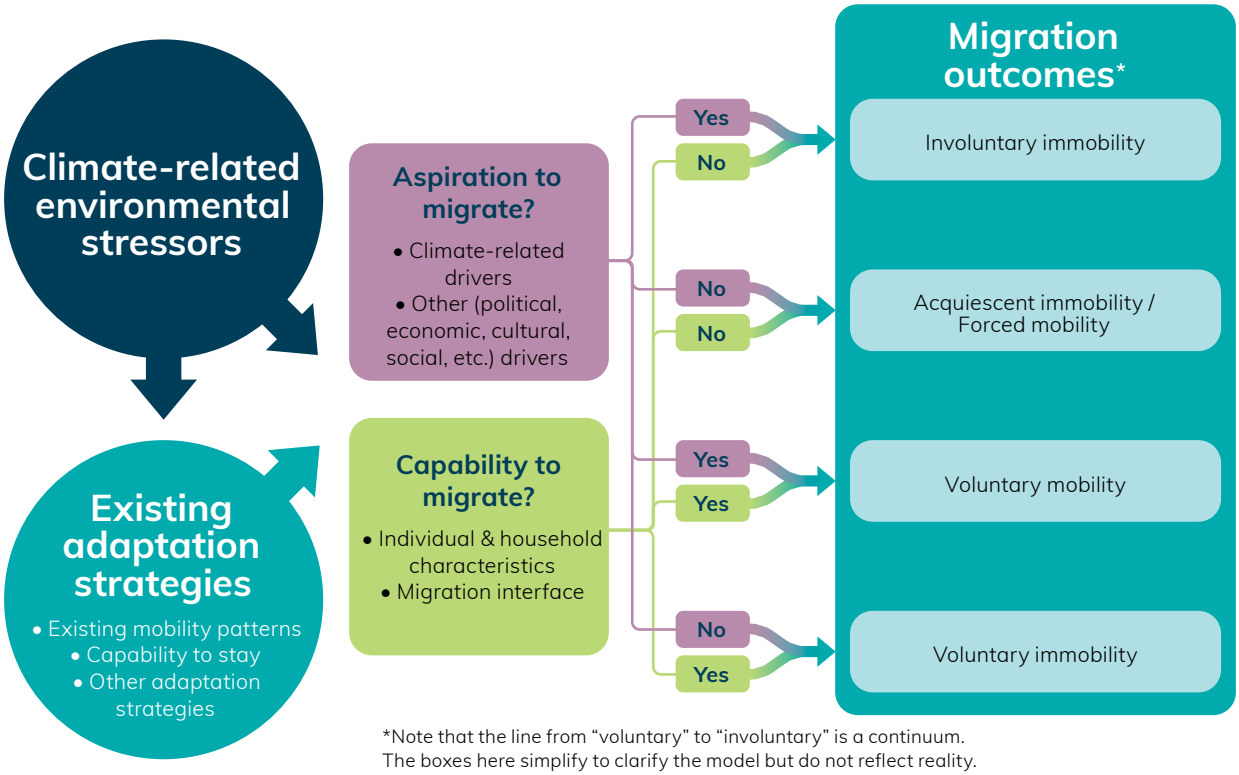
In response to identified evidence gaps, this research sought to answer the following core questions:

- Within the broader landscape of coping and adaptation strategies to climate variability and extremes in the Middle East, where does (im)mobility fit, and how do these choices intersect with other responses?
- What are the primary drivers of migration and displacement from areas in the Middle East affected by climate change, and how do these drivers vary across different social, economic, and environmental contexts?
- How do climate variability and extremes interact with other factors, such as economic opportunities, social networks, local governance and policy, and political conditions, to shape or influence migration decisions among individuals and households in the Middle East?
- To what extent is climate variability or extremes a direct or indirect factor in the decision to move, and how does this vary across different types of mobility (i.e., voluntary vs. involuntary)?
- How is movement from places affected by climate variability or extremes characterised in the Middle East? What are the typical destinations, pathways, and durations of these movements, and how do they differ across population groups?
- For those who have migrated, how have their circumstances and aspirations changed? Has migration proven to be a successful adaptation strategy, and what are their current needs, challenges, and future aspirations, including the possibility of return or onward movement?

Conceptual framework (adaptation, resilience, mobility decision-making)

The research draws on a conceptual framework developed by MMC to examine mobility in the context of climate change and its impacts. The framework categorises mobility outcomes into four types: forced mobility, voluntary mobility, forced immobility, and voluntary immobility. It illustrates how climate-related environmental stressors and the adaptive capacity of the population affect mobility outcomes, and how they directly and indirectly impact the aspiration and capability to migrate. While recognising that these categories are not always clear-cut and often overlap, the framework offers a useful lens for interpreting the multiple and shifting forms of mobility observed across the region.

Figure 1. Conceptual framework for climate-induced mobility



*Note that the line from "voluntary" to "involuntary" is a continuum.
The boxes here simplify to clarify the model but do not reflect reality.

Although the framework places particular emphasis on the role of climate and environmental stressors, it also recognises the influence of a broader set of factors, including economic conditions, conflict, and governance. At the same time, it situates mobility within a wider spectrum of potential outcomes, including the risk of involuntary immobility.

The framework further considers how changing environmental conditions affect household adaptation strategies, which in turn shape their ability to remain in place or to move. However, it also recognises that adaptive capacity alone is not sufficient to determine mobility outcomes; the capability to move must also be assessed in parallel to fully understand how and why people stay or go.

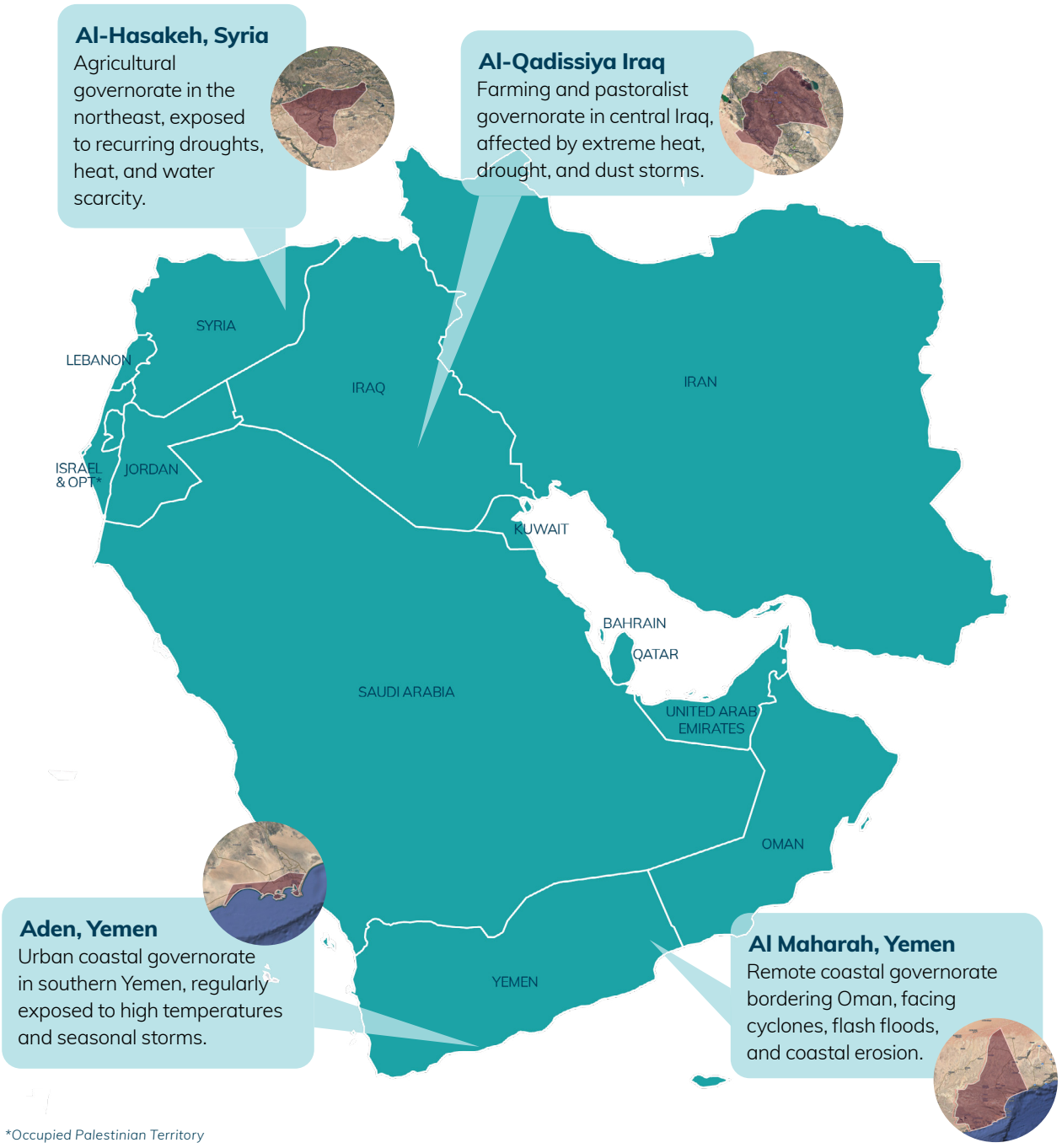
Field research locations and site selection criteria

To gain a nuanced understanding of the diverse climate-mobility dynamics across the Middle East, the research focused on specific locations within three selected countries. These were chosen in line with the literature review, and in consultation with country experts. Locations were also chosen with a view to including both urban and rural dynamics, but balanced against safety and security concerns, which limited the ability of the field research teams to access certain locations.

In light of these different factors, the geographical coverage for the research included locations the following governorates:

- Al Maharah, Yemen
- Aden, Yemen
- Al-Hasakeh, Syria; and
- Al-Qadissiya, Iraq.

Map 1. Field research locations



*Occupied Palestinian Territory

Data collection methods

The research employed a combination of quantitative and qualitative methods. Within each site, survey respondents were identified using a purposive sampling strategy. This involved selecting participants from households with long-standing ties to the area, defined as having lived in the location for at least 10 years. This ensured that participants and their households had sufficient exposure to local climatic and environmental conditions over time, allowing for more meaningful insights into how long-term climate impacts influence adaptation strategies and mobility outcomes. Additionally, selection also considered vulnerability factors such as reliance on climate-sensitive livelihoods or residence in hazard-prone areas, as well as diversity in socio-economic background.

A structured quantitative survey, consisting of closed questions, was conducted in each location, with 220 respondents interviewed per site (880 in all). The survey gathered information on respondents' personal and household characteristics, their level of satisfaction with living conditions, experiences and aspirations related to mobility, key factors influencing mobility decisions, perceptions of and responses to climate-related hazards, adaptation and coping strategies, potential connections between climate impacts and mobility, and future expectations. This quantitative

component allowed for engagement with a relatively large sample, facilitating some level of comparison across different cases.

In each location, four discussions were conducted with members of the community of origin, divided by age and gender (men-only, women-only, youth aged 18–25, and adults aged 25 and above). In addition, two focus group discussions were conducted with internally displaced persons (IDPs),[15] with men and women participating separately. In the Yemen locations, where migrant populations are larger in number and face acute vulnerabilities, two additional focus group discussions were held with migrants. Participants were drawn from the survey pool or identified through referrals. The qualitative data collected provided deeper insights into the local context and enabled a more nuanced interpretation of the survey findings.

Additionally, between 12 and 18 in-depth individual interviews were conducted in each of the four study locations. These interviews were conducted with individuals who have experienced different mobility outcomes (including those who have been moved, those who have remained in their place of origin despite a desire to relocate, those who moved willingly and those who have deliberately chosen to stay), including two with IDPs, and in the Yemen locations, two with migrants. Key informant interviews were also conducted with policymakers, local authorities, community leaders, NGO and INGO representatives, and a climate change expert, focusing on patterns of climate risk, adaptation, and mobility in the local context.

Ethical considerations and research limitations

The cornerstone of MMC's ethical practice is the principle of "do no harm". Field research teams received training on both the conceptual foundations of research ethics and practical guidance on engaging participants, securing informed consent, and approaching sensitive questions in the tools. All individuals involved in data collection for MMC are required to adhere to the Danish Refugee Council (DRC) Code of Conduct.

The following ethical principles are central to MMC's research practice:

- Anonymity and non-identification: All interviews were recorded anonymously, and datasets and transcripts do not include any identifying characteristics of the participants.
- Respect for autonomy, decision-making, and dignity: Data collection was only conducted with fully informed consent, and participants always retained the right to withdraw or refuse participation. In this specific context, oral consent was recorded to further guarantee anonymity.
- Beneficence: Minimising risks and maximising benefits to participants was paramount. Protection, safety, and security were consistently considered in data collection decisions and closely monitored throughout the process.
- Justice: Participants were selected from groups of people whom the research may benefit.
- Respect for communities: The research is designed to respect and safeguard the values and interests of the communities involved.

The research faced a number of limitations. First, the scope and timeframe were limited by the fact that data collection occurred in specific areas within the case study sites at a specific moment in time. As a result, the findings from these specific areas may not reflect the full range of experiences and responses to climate change and mobility across the case study site, and conditions and responses could vary in other areas. In addition, while the findings offer insights into perceptions of climate-related environmental stressors and adaptation, they represent a snapshot in time and so provide limited insights into how feelings and attitudes develop over time.

Second, while the research aimed to include a balanced number of female- and male-headed households to explore gendered differences in climate impacts and coping mechanisms, it proved challenging to identify a sufficient number of female-headed households. As a result, disaggregated analysis by head of household gender was not possible.

Third, the security situation in the case study sites imposed a significant constraint. Despite the initial research design aiming to compare urban and rural locations, security-related movement restrictions prevented sufficient geographical spread within each case study, making this comparison unfeasible.

15 For the purposes of this research, we defined internally displaced persons as those coming from outside the governorate, excluding movement within it.

3. Summary of Case Studies

Table 1. Overview of the four study locations

Case study location and community	Setting	Main livelihoods	Main climate-related hazards	Perceived impacts of climate-related stressors	Main responses to impacts of climate-related hazards or processes	Mobility linked to climate-related events	Mobility status
 **Yemen** Al Maharah	Coastal area bordering Oman	Regular employment, fishing, education	**Moderate** Cyclones and tropical storms, flooding	Health impacts. Disruption of utilities	Ad hoc household-level coping, reliance on family networks, temporary relocation when possible	**Moderate** Economic factors were the most widely cited reasons for mobility	Mobility is quite common. About a third were interested in moving, but only about a quarter of those had the resources to do so
 **Yemen** Aden	Urban coastal areas, vulnerable to sea level rise	Regular employment, administrative and support services, education	**Moderate** Unpredictable rainfall, extreme heat	Health impacts. Disruption of utilities	Reliance on social ties, improvised coping with limited formal support	**Moderate** Economic factors were the most widely cited reasons for mobility	Mobility was common. About a third (35%) were interested in moving, but few had the resources to do so
 **Iraq** Al-Qadissiya	Euphrates floodplain, includes significant agricultural areas	Self employment, agriculture, pastoralism	**Severe** Drought, extreme high temperatures	Livelihood asset loss, health impacts	Informal coping through community ties and local knowledge, but rising reliance on debt and unsustainable strategies	**High** Climate hazards were the most commonly reported drivers of mobility	Mobilitywas relatively uncommon. Interest in mobility was high (more (47%) were considering moving than planning to stay (37%), but few had the resources to move
 **Syria** Al Hasakeh	River plain with agricultural areas	Self employment, agriculture, wholesale and retail trades	**Severe** Extreme heat, drought	Livelihood asset loss, health impactst	Collective coping, crop and irrigation adaptation, shift in work hours to manage heat	**High** While economic reasons were most common, climate and conflict were also among the top five drivers.	Mobility was relatively uncommon, but many were interested (almost as many were considering mobility (49%) as were not (50%)),[16] but few had the resources to move

16 The remaining 1% selected "none of the above".

4. Findings and Discussion

This section presents an overview of the key findings. It outlines the key characteristics of the research sample, their exposure to climate hazards, efforts to adapt, and their mobility intentions.

• 4.1 Climate hazards were viewed as serious and worsening

Almost all survey respondents reported experiencing climate-related challenges, although the type and perceived severity of hazards varied across the case study locations.
The vast majority of respondents (99%) across all case study sites said that they had been affected by at least one climate hazard in the five years preceding data collection. These figures were relatively consistent across locations: 100% in Al-Hasakeh and Al-Qadissiya, 98% in Aden, and 96% in Al Maharah.

In Al-Hasakeh, the most commonly reported hazard was extreme heat (74%), followed by drought affecting crops or livestock (61%). In Al-Qadissiya, the top hazards were similarly extreme heat (76%) and drought (71%). In Al Maharah, 75% of respondents cited cyclones as the main hazard, followed by flooding (18%). In Aden, 71% reported unexpected rainfall, while 41% cited extreme heat.

However, perceptions of severity differed significantly. In Al-Qadissiya and Al-Hasakeh, a majority of those affected by drought described the impact as severe or very severe (80% in Al-Qadissiya, n=156;[17] 59% in Al-Hasakeh, n=134).[18] By contrast, in Aden and Al Maharah, where unpredictable rainfall and cyclones were most frequently reported, severity ratings were lower. Among those who had experienced unpredictable rainfall in Aden, only 8% characterised the impact as severe.[19] In Al Maharah, 30% of those who reported experiencing storms said the impact was severe or very severe.[20]

The nature of the hazards may contribute to these perceptions. While cyclones and unpredictable rainfall are often quick-onset events of limited duration, droughts are typically long-term and progressively erosive. Perhaps unsurprisingly, as explored further below, interest in mobility was notably higher in Al-Qadissiya and Al-Hasakeh, where hazards were perceived as more severe.

Respondents in all four case study locations viewed climate change as worsening and expressed pessimism about the future.
Across all sites, the majority of respondents perceived a deterioration in climate conditions. Eighty-seven percent indicated that the hazards they faced in the five years prior to data collection were worse than in the previous five-year period. Of these, 46% said hazards had become much more severe, and 40% said they were a bit more severe. Only 5% said conditions had stayed the same, 7% believed they had improved, and 1% did not know.

Across all locations, a large majority of responses (87%) indicated that the climate hazards faced in the last five years were worse than the five years prior, with 46% of responses saying that the climate hazard in question had become much more severe and 40% said it was a bit more severe.[21] By way of comparison, only 5% said that the hazards stayed the same, 7% said that they improved and 1% did not know.[22]

In terms of future outlook, respondents reported a high level of uncertainty and pessimism. When asked how their household's ability to provide for itself would change over the next five years, respondents were nearly twice as likely to think they would be worse off (29%) than better off (15%). Twenty-eight percent believed their situation would remain the same, and another 28% said they did not know. The high proportion of respondents expressing uncertainty reflects widespread anxiety about the future, likely exacerbated by the unpredictability of climate impacts.

Levels of optimism and pessimism varied significantly across research locations. The most negative was Al-Hasakeh, where 61% of respondents, when asked about the ability of their household to provide for its members over the next

17 By way of comparison, 17% said that they were moderately affected, and 3% slightly or not at all.
18 By way of comparison, 25% of household survey respondents reported being moderately impacted and 16% slightly or not at all.
19 By way of comparison, 26% said that the impact was moderate and 56% said that they were slightly or not at all affected.
20 By way of comparison, 32% said that the impact was moderate and 37% said slightly or not at all.
21 The totals don't add to the total due to rounding.
22 N= 1844 (participants rated the severity of each hazard and could name more than one hazard).

five years, believed that they would be less able to than now (as compared to 27% who thought that the situation would be the same, 10% who thought that they would do better and 1% who didn't know). In Al Maharah, the most common response was also negative: 34% expected things to get worse, 31% thought they would stay the same, 20% did not know, and 16% expected improvement. In Al-Qadissiya, uncertainty dominated. Thirty-eight percent said they did not know, 37% thought the situation would remain the same, 16% believed it would worsen, and 9% thought it would improve. Respondents in Aden were the most optimistic. While 51% said they did not know, 26% thought things would improve, compared to 15% who thought conditions would remain the same and 6% who expected them to worsen.

As explored below, there is a degree of correlation between pessimism about the future and interest in mobility: In Al-Hasakeh, where pessimism was high, interest in interest was also high. In contrast, in Aden, where respondents were relatively more optimistic, interest in mobility was lower.

Across all sites, a substantial minority (40%) of respondents said that the continuation of climate hazards would influence their household's thinking about mobility. Twenty-one percent said it would influence them a lot, and 19% a little. Just over half (52%) said it would not affect their thinking, while 8% did not know.[23]

However, it was clear that some hazards, particularly drought, had a much stronger impact than others (e.g. storms and unpredictable rainfall). Sixty-two percent of those who had experienced drought affecting crops and livestock (n=294) stated that it would impact their household's thinking about moving, compared to 24% who said that it would not, and 14% who were unsure. The impact was even higher for drought affecting household water supplies (n=131), with 72% stating that it would influence their household's decision-making. By way of comparison, only 40% of those who listed extreme temperatures (n=451), 32% of those who had experienced cyclones (n=174), and 22% of those who listed unpredictable rainfall (n=316) said that the relevant hazard would impact their mobility decision-making. This may help explain location-specific patterns: Al-Qadissiya and Al-Hasakeh, where drought was a dominant and severe hazard, also had higher interest in mobility. In contrast, in Al Maharah and Aden, where the dominant hazards were storms and unpredictable rainfall, mobility interest was comparatively lower.

Individuals and households with pre-existing vulnerabilities are more vulnerable to climate hazards.
When asked which populations were most vulnerable to specific climate hazards, survey respondents, focus group participants, and key informants identified a number of at-risk profiles.

Older people and children: Eighty-eight percent of survey responses (n=2,161, responses are per hazard and respondents could select more than one hazard) indicated that older women were among the most vulnerable, followed by 87% who said older men and 85% who said children.[24]

Displaced individuals and households: Focus group discussions and key informant interviews emphasised that displaced populations, including IDPs and migrants, are seen as particularly vulnerable. These groups often face obstacles in accessing livelihood opportunities and are more likely to be limited to manual labour in sectors such as washing, cleaning, and construction. These jobs are frequently performed outdoors in unsheltered conditions, increasing exposure to extreme heat and other climate risks.[25]

Those who live in inadequate housing, who, according to focus groups and key informants, are disproportionately migrants, migrants, and IDPs, are also more exposed to environmental hazards. Many participants reported being forced to reside in informal settlements,[26] often located in low-lying areas with poor drainage, making them especially vulnerable to flooding and mosquito infestations. These areas are often overcrowded and lack adequate services, which increases the severity of service disruptions during climate shocks.[27] Additionally, the structural weakness of shelters - often tents or makeshift housing - makes them especially prone to damage from storms or heavy rain.[28] As one migrant in Al Maharah, Yemen explained, "when we have floods and strong rains, they destroy our shelters, which are mostly tents... Everything is destroyed and we have to start again."[29] Other migrants pointed to the lack of fans or other cooling mechanisms, and of being forced to live in areas in where mosquito infestations are particularly intense.[30]

23 N=2113, responses are per hazard and respondents could list more than one hazard.
24 N=2161, responses are per hazard and respondents could select more than one hazard.
25 Focus group discussion young Iraqi men, 18 - 25, Al Maharah, Yemen; Interview with Ethiopian refugee, Aden, Yemen; Key informant interviews.
26 Interview with IDP man, Al-Qadissiy, Iraq.
27 Multiple key informant interviews.
28 Interview with IDP man, Al-Qadissiya, Iraq.
29 Interview with refugee man, Al Maharah, Yemen.
30 Interview with refugee woman, Al Maharah, Yemen.

• 4.2 Conflict exacerbates the impact of climate hazards

The region's ability to adapt to the multiple impacts of climate change is hampered by the fact that the region is facing multiple and ongoing conflicts. While the extent to which climate change impacts are a driver of conflict is much debated,[31] it is clear that negative climatic and environmental factors exacerbate 'fragility' in conflict and post-conflict countries and communities in the region.[32] Furthermore, as discussed below, conflict impedes climate action. The four case studies provide further insight into how conflict increases both vulnerability to, and the impact of, climate hazards.

First, conflict can cause environmental damage, which, in turn, increases exposure to climate hazards and worsens their impacts.[33]
Al-Hasakeh in Syria provides one such example, where key informants described how the war had led to a loss of tree cover. This not only contributed to rising temperatures but also removed shaded areas that had helped people cope with extreme heat.[34] Water sources were also reportedly contaminated during the war, further reducing the availability of safe water and compounding the effects of drought.[35]

Second, conflict causes economic damage and depletes community resources that might otherwise have been used to prepare for or respond to climate-related challenges. This depletion includes both financial and social capital. Financially, conflict can deplete household resources and reduce access to human capital, for example, by forcing young men into armed groups or displacement, as reported in Al-Hasakeh.[36] It can also impoverish populations, leaving them without the financial means to adapt to or move in response to climate stressors.

Third, conflict weakens governance systems and shifts priorities, translating into less capacity and resources for climate preparedness and response. For instance, in Al-Qadissiya in Iraq, years of conflict were reported to have undermined the government's capacity to address climate hazards.[37] Conflict can also strain community cohesion, limiting collective responses to environmental challenges. As one local leader in Al-Qadissiya explained, "Tensions continue to stand in the way of climate risk adaptation efforts in the region and limit their effectiveness."[38] For instance, an IDP man noted growing competition over areas with better water access, such as land along riverbanks.[39]

Fourth, conflict-related displacement can increase vulnerability to climate change impacts. Displaced populations often live in precarious conditions with limited protection from climate hazards and reduced ability to respond effectively. Displacement can also result in population density increases in vulnerable areas, placing further pressure on water, food, and other essential resources.

Finally, conflict can restrict mobility options by leaving individuals without the resources to move or return despite challenging circumstances. As one key informant in Al-Hasakeh said, "while climate change increasingly demands seasonal migration, in Al-Hasakeh migrants are often unable to move."[40] In this way, some individuals are unable to move in the first place, and others become stuck in displacement, with no viable options for onward movement or return.

• 4.3 Resilience efforts exist, but remain fragmented and under-supported

Across the four case study locations, communities employed a variety of coping strategies to deal with climate hazards. However, resilience was generally constrained and highly uneven. While some examples of adaptation and solidarity emerged, many responses were described as reactive, short-term, and unsustainable.
In Al-Qadissiya and Al-Hasakeh, participants described more active efforts to adapt to long-term environmental stressors like drought and extreme heat. In Al-Qadissiya, respondents reported using drought-resistant seeds, drip irrigation, and shifting work hours to avoid the hottest periods of the day. These strategies were often underpinned

31 Marwa Daoudy (2023). Climate Change and Regional Instability in the Middle East. Discussion Paper Series on Managing Global Disorder No. 14. Council on Foreign Relations.
32 Mixed Migration Research Centre (2024) Climate Change Impacts and Mobility in the Middle East: What do we know?
33 Mixed Migration Research Centre (2024) Climate Change Impacts and Mobility in the Middle East: What do we know?
34 Key informant interview, Community leader, Al-Hasaked, Syria.
35 Key informant interview, Climate Expert, Al-Hasaked, Syria.
36 Focus group discussion, Syrian men, 18 - 25, Al-Hasaked, Syria.
37 IOM (2022) Migration, environment, and climate change in Iraq.
38 Key informant interview, Community leader, Al-Qadissiya, Iraq.
39 Interview with IDP man, Al-Qadissiya, Iraq.
40 Key informant interview, policy maker, Al-Hasaked, Syria.

by strong social cohesion: "We are stronger together. When one family struggles, others pitch in, either with water or food, or even labour for farming." In Al-Hasakeh, some farmers had adopted similar approaches, such as cultivating less water-intensive crops or installing solar panels to extract groundwater. However, these efforts were often undermined by deepening economic hardship and worsening environmental conditions. "Those who have money can install wells and irrigation. Those who don't, they can only watch their lands die."

By contrast, in Al Maharah, and to a lesser extent Aden, coping was more limited and often described as purely reactive. In Al Maharah, households across all groups, including migrants and IDPs, described extremely limited resources and few viable strategies to manage climate shocks. Coping often meant relocating temporarily, making do with whatever shelter was available, or relying on family. As one participant stated, "We have no strength or resilience to face climate risks and environmental changes." Migrants reported being excluded from local safety nets: "Every family supports itself; the host community does not support us, and our conditions are very difficult."

In Aden, there were signs of resilience in specific neighbourhoods, particularly those with strong social bonds or youth involvement in flood response. However, these efforts were often described as fragmented or short-lived. IDPs living in tents or informal shelters reported high vulnerability to flooding and heat, echoing experiences shared in Al Maharah. As one participant in Aden put it, "We are trying to adapt until conditions allow for return," reflecting a sense of endurance rather than empowerment.In both Al-Hasakeh and Aden, displacement was frequently cited as a factor that undermined resilience.

Displaced participants described inadequate shelter, overexposure to climate hazards, and exclusion from local services. One woman in Al-Hasakeh explained, "We live in shelters that don't protect us from anything. Floods, heat — everything affects us more." Key informants in the same location reported a rise in negative coping strategies, such as early marriage and child labour, as households struggled to survive.

Although some households across all sites found ways to adapt, whether through changes to farming practices, shifting work routines, or sharing resources, these strategies were often constrained by a lack of financial support, limited infrastructure, and the absence of sustained institutional backing. As one participant in Al-Qadissiya concluded, "We need more than just coping; we need the tools to build long-lasting resilience."

Government leadership on climate adaptation and resilience was seen as largely absent, limiting the effectiveness of action. Another key constraint in the implementation of resilience and response, highlighted in both the qualitative and quantitative research, was the lack of government leadership and action on climate mitigation, let alone adaptation. Across all four case study sites, only 18% of respondents who reported that their household received some kind of assistance to respond to or prepare for climate hazards (n=336) said that this support had come from the government. This pattern was not consistent across locations. Government support was virtually absent in Al-Hasakeh, where only one individual (n=83) reported receiving it, and similarly limited in Aden (n=27, with two individuals reporting it) and Al-Qadissiya (n=104, with just 5% reporting assistance from the government). Al Maharah stood out as an exception: 37% of those who had received assistance (n=122) reported that it came from the government. With the exception of Al Maharah, therefore, governments appeared to be largely absent from local responses to climate hazards.

The perceived weakness of government responses was also emphasised in focus group discussions and key informant interviews, where participants expressed considerable disaffection. As one focus group participant remarked in reference to inadequate preparedness and repeated failures to act, "[They] do not learn, even though these events happen frequently."[41] A range of factors were cited as contributing to weak responses, including limited financial resources and a lack of political will.

Ultimately, in a global context in which countries have generally prioritised mitigation over adaptation,[42] the fact that all of the contexts studied are resource poor limits the ability of governments to provide effective leadership and take effective action to respond adequately to their immediate impact, let alone to adapt to climate change impacts. As one key informant put it, "Response by government and other actors is hampered by lack of resources, lack of coordination and poor implementation capacity (including bureaucracy and lack of qualified human resources)."[43] In conflict-affected areas, these limitations are further compounded. Whatever economic resources or political attention are available are typically directed towards conflict dynamics and their consequences, rather than toward addressing climate risks and supporting adaptation at the community level.

41 Focus group discussion young women, Aden, Yemen.
42 Wehrey, F. (2023). Introduction to Climate Change and Vulnerability in the Middle East. Carnegie Endowment for International Peace.
43 Key informant interview Community leader, Al-Qadissiya, Iraq.

• 4.4 Mobility is a coping strategy, but its impact is limited

As noted above, mobility can serve as an important mechanism for coping with climate hazards. It may provide new livelihood opportunities for those who move and, in some cases, support those who remain behind. Resources gained through mobility, particularly remittances, can contribute to more resilient livelihoods in areas of origin.

Many are interested in moving, but few are able to do so.
Overall, half of all survey respondents reported that they were not considering moving (50%). However, a substantial share (40%) said they were, suggesting significant interest in mobility (The remaining 10% either did not know or preferred not to answer). This interest was primarily driven by economic factors: among those considering mobility (n=355, multiple responses allowed), 58% cited livelihood opportunities elsewhere, 52% reported needing additional income due to changed circumstances, and 43% mentioned loss of income.

However, the same economic pressures that motivate mobility often also act as barriers to it. Eighty-one percent of those considering movement (n=355) said that they did not have the resources to move. In this context, approximately 40% of all survey respondents found themselves involuntarily immobile, wanting to move, but unable to do so.

Survey respondents were more likely to see migration as successful than unsuccessful, but serious risks were acknowledged.
Among respondents whose household members had migrated in the past ten years (n=245), a majority (60%) said that the move had helped those individuals achieve their goals. However, a sizeable minority (38%) said it had no.[44] The significant minority who saw migration as failing to help migrants achieve their goals, alongside the concerns articulated in qualitative interviews, illustrates that mobility can be fraught with uncertainty and risk.

For example, in the qualitative interviews, an Iraqi woman described how her brother attempted to move to a nearby urban area, but after failing to secure work or housing, was forced to return after just three months. A key informant in Al-Qadissiya similarly noted: "[In urban areas] new immigrants face difficulties integrating into urban communities, as they tend to cluster in neighbourhoods that suffer from multiple social and economic problems. This exclusion increases their suffering and hinders their access to public services and basic rights."

While services in urban areas remain a major pull factor, moving in order to access them often comes at a price. One man who had recently moved to Aden described how he now feels stuck: "Living in the city and being close to some services has made coping easier for us. However, dissatisfaction arises due to living in rented housing, rising living costs, and the unavailability of basic services like water and electricity, which complicate life and make it harder to be content."[45] This demonstrates the complex trade-off that many have to make when deciding whether or not, and how, to move.

In addition, interviewees recognised a value in community connections and the and the social costs of leaving one's community. As one Iraqi man explained, "I have chosen to stay here despite the climate and environmental challenges because I feel deeply connected to the land and the community I grew up in. This is my ancestral land."[46] Similarly, a Yemeni man in Al Maharah who described his life as extremely hard said, "I do not think about relocating because I want to stay close to my family. I have no desire to travel anywhere, despite my ability to do so, as I prefer family stability."[47] In this regard, one member of the household moving to get a job in order to improve their own prospects is seen as fundamentally different to the entire family uprooting and relocating. These differences also have implications for those left behind, particularly the elderly, who may lose vital care and support if younger family members move.

Mobility can also be a form of support for households and communities who remain in place, particularly through remittances. However, this only holds true if individuals are able to both move and find work. Overall, 28% of all survey respondents said that someone in their household had moved in the past ten years, and 16% said they were receiving remittances at the time of data collection.

Unsurprisingly, locations with higher reported rates of mobility were also more likely to report receiving remittances. In Al Maharah, 44% of respondents said at least one household member had moved in the ten years prior to data collection, and 20% reported receiving remittances. In Al-Hasakeh, 35% reported previous mobility within their household, with 23% receiving remittances. In contrast, Al-Qadissiya and Aden had lower reported mobility (20% and 12%, respectively), and correspondingly lower remittance rates (11% in each).

44 Two percent didn't know or preferred not to answer.
45 Interview with Yemeni man, Aden, Yemen.
46 Interview with Iraqi man, Al-Qadissiya, Iraq.
47 Yemeni man, Al Mahara, Yemen.

In sum, it was clear that respondents saw the potential benefits of migration, but were also aware of associated risks and dangers: migration carries risk and moving is expensive, so failed migration attempts can be costly.

Past mobility was more often internal, but current intentions point outward.
A majority of respondents whose household members had migrated in the last ten years (n=245) said that they had remained in country (sixty-four percent said that they had stayed in the country, 24% said that they went to the capital, 24% said that they went to another city in the country and 16% said that they went to a rural village). Only thirty six per cent said that their household members had gone abroad.

In contrast, among households who were considering mobility at the time of data collection (n=328, excluding those without specific plans), a majority (60%) reported that they would prefer to move abroad. Just 40% said that their household would stay in the country: 17% to the capital, 13% to a secondary city, and 8% to a rural village. Five percent said they did not know or preferred not to answer.

It is unclear what accounts for this shift. It may be that international movement is generally preferred, but is constrained by cost and feasibility, prompting more internal movement in practice. Alternatively, it may reflect a recent change in preferences, shaped by worsening conditions or diminishing local opportunities.

The interplay of conflict and climatic factors in driving migration is complex and hard to tease apart.
The drivers of mobility are often overlapping and difficult to disentangle. While economic motivations were cited most frequently by survey respondents considering movement (n=355, multiple responses allowed), with 58% pointing to better livelihood prospects elsewhere and 52% citing the need for additional income, climate-related hazards also featured prominently. Thirty-two percent cited drought and its effects, 20% mentioned water shortages, and 14% referred to extreme temperatures. This shows that climate matters are a serious and growing concern, although economic factors remain the primary lens through which migration decisions are made. It is also important to understand that climate hazards are linked to economic factors. Climate hazards can destroy livelihoods, so even as the lack of livelihood might be the proximate cause of movement, climate factors are deeply intertwined.

At the same time, conflict is intimately interconnected with both climate and economic drivers. While climate stressors might not directly cause conflict, conflict significantly constrains communities' ability to cope with climate challenges. As discussed in the previous section, conflict can draw attention and resources away from climate adaptation, disrupts livelihoods, and weakens governance structures. In this way, it indirectly amplifies both environmental and economic drivers of mobility.

In particular, where communities perceive the impact of climate hazards as being most severe, interest in moving is often highest. For instance, in the study, droughts were seen as more severe than cyclones, perhaps because of the ongoing nature of the hazard (as compared to storms). A displaced woman living in Al-Hasakeh, Syria described the pressures she and others were coming under as a result of climate hazards: "In recent years, drought has emerged as one of the biggest challenges, with water resources becoming extremely scarce, making it difficult to irrigate agricultural lands… Rising temperatures have further exacerbated the situation, with longer and more intense heat waves negatively affecting soil health, rendering it less capable of supporting agriculture… These recurring events pressure families, forcing many to seek alternative income sources or consider relocating to areas with better living conditions."

A small amount of adaptation goes a very long way.
Finally, the findings from the qualitative data demonstrate that only a moderate amount of resources appears to significantly reduce interest in mobility. In contexts where people have strong place attachment and a preference to remain, small improvements in livelihoods or infrastructure may make a considerable difference. One woman from Aden, who described herself as relatively stable, explained: "*I have a job that's sufficient for a living. It's my homeland, and I know how to adapt and live here. I own my home, and there's no war or conflict currently. Climate change doesn't significantly contribute to people's movement here.*"[48] Or, as a key informant in Syria said, "People want to stay in the area and invest in their lands, but their ability to do so depends on the extent of the support and assistance provided to help them invest in their lands and reduce the impacts of climate variability. This desire is considered a source of strength for the community members."[49] Taken together, these insights suggest that in many cases, mobility is not inevitable. With the right support—particularly access to stable livelihoods, land, and essential services, many households would likely prefer to remain. The challenge lies in ensuring that such support reaches those most affected before mobility becomes the only viable option.

48 Interview with Yemeni woman, Aden, Yemen.
49 Key informant interview, Al-Hasakah, Syria.

5. Conclusion

The Middle East is already experiencing significant challenges as a result of climate change and is projected to be one of the regions hardest hit by the impact of climate change in years to come, manifested through declining water availability, increased high-heat days, humidity extremes, dust storms, cyclones and storms, coastal flooding, sea level rise, desertification and loss of biodiversity.[50] In this context, mobility and immobility represent both a symptom and a potential response to this shifting reality. The findings from this research point to a number of conclusions.

Economic factors continue to drive mobility, but climate pressures are increasingly influential.
It was clear that climate change is interacting with other factors to influence decision making on migration, but that it was doing so in concert with other factors, such as economics and conflict. This research showed that **economic considerations were most commonly cited and seemed to have the greatest impact on decision making, but climatic factors have an important impact on livelihoods and, through these impacts, on decision making**. It also seemed that climatic concerns were growing in importance in mobility considerations. Conflict also played a role, interacting with climate factors through impeding adaptation efforts and exacerbating the economic consequences of climate hazards.

Related to this, **in areas where livelihoods were more climate sensitive there seemed to be a greater interest in migration** (e.g. where a greater percentage of the sample was involved in agriculture, pastoralism and/or fishing).

The relationship between **climate hazards and migration varied among the study locations, with those who saw the climate hazards that they face as more serious expressing greater interest in migration**. In particular, those who faced drought were more likely to cite that hazard as influencing their migration decision making.

Despite the extremes of climate challenges faced in the four research sites, the majority of respondents wanted to remain in their communities, but those who were interested in migration were a substantial minority (40%). However, a large majority (81%) of those who were considering moving (n=355) said that they did not have the resources to do so.

There may also be changes in destinations. **Those who had migrated in the past were more likely to have stayed in the country, but those who expressed an interest in migrating now were more likely to express an interest in migrating abroad**, although it is important here to distinguish between people's aspirations, concrete plans and the ability to ultimately realise those aspirations. As a result, more people who move, might stay within their own country despite initial aspirations to move abroad.

There is a critical need for resilience-building and adaptation.
The fact that many are adapting by diversifying their livelihoods and reducing dependence on climate sensitive sources – and that there was more interest in staying, than in migrating despite the serious challenges faced in the research sites – indicates that resilience-building and adaptation can increase individuals' and communities' capability to stay, if they choose to do so. Indeed, individuals were taking action to support their own coping and adaptation, although many of these were not sustainable. In addition, many of those who participated in the research had extensive ideas about projects and actions that could support their ability to adapt. Sadly, however, governments are not stepping up to lead and coordinate these actions and inadequate external support is available.

In this context, there is an urgent need to invest in adaptation strategies in order to allow communities facing extreme climate hazards to either stay voluntarily or migrate voluntarily in conditions of dignity, noting that both can be positive signs of adaptation and coping Ensuring that this is possible and to avoid involuntary immobility and involuntary mobility will require both support for adaptation in-country and the creation of migration management systems that recognise and respond to that migration, whether internal or international, with assistance and legal status.

50 MMC, Climate Change Impacts and Mobility in the Middle East: What do we know? (2022).

Annexe 1: Saudi Arabia case study: Migrant workers, climate stressors, and mobility outcomes in a restrictive labour context

MMC carried out a standalone case study to investigate the experiences of migrant workers in Saudi Arabia in relation to climate-related stressors, labour conditions, and mobility. Unlike the other case studies, which primarily focused on countries of origin, this case captures the realities faced by low-wage migrant workers in a country of destination, where labour protections are limited and living conditions are often harsh.

About the research

Findings presented in this box draw from both the survey data and qualitative insights gathered through individual interviews and focus group discussions. Data collection was carried out in Jeddah and Riyadh between 16 January and 12 February 2025, and included:

- 231 individual surveys with migrant workers representing major regions of origin: East Africa (62 respondents), East Asia (50), North Africa (53), and South Asia (66);
- 9 in-depth interviews with workers across four mobility profiles (voluntary/involuntary mobility and immobility);
- 4 focus group discussions grouped by region of origin;
- 3 key informant interviews with subject-matter experts on migration, labour, and climate governance in the Gulf.

Respondents worked primarily in sectors highly exposed to climate risks, including construction, cleaning, sanitation, and transport.

Key findings

High exposure to climate hazards.
Respondents across all regions of origin reported frequent exposure to extreme heat, sandstorms, and poor air quality. Over half of the respondents said they encountered extreme heat “often” or “very frequently” while working. South Asian workers were the most likely to report frequent or near-constant heat exposure (89%), followed by North Africans (62%), East Asians (43%), and East Africans (28%). Qualitative interviews described symptoms ranging from heatstroke to chronic illness, with some attributing long-term health problems directly to prolonged heat exposure. Yet few reported access to consistent protective measures such as shaded rest areas, hydration, or adjusted work hours.

Climate rarely reported as a driver of mobility.
Despite widespread exposure to climate stressors, very few respondents cited them as a reason for considering onward movement. Among those planning or considering a move, only 3% mentioned climate-related factors such as extreme heat or sandstorms. Instead, most respondents pointed to job loss, declining income, poor living conditions, or restrictive government policies. These trends were consistent across regions of origin. For instance, South Asian and East African respondents more frequently cited income-related drivers, while North African participants highlighted housing-related challenges. Similarly, those not planning to move did not cite climate as a potential future trigger. While climate hazards were rarely framed as a direct reason for moving, they may still contribute to the pressures respondents face by compounding existing vulnerabilities. These findings suggest that although climate does not appear to be a central driver in reported mobility decisions, it may act as an underlying force that reinforces economic hardship and limits individuals’ ability to act on their intentions. Respondents’ long-term goals varied: while many aimed to stay and continue working in Saudi Arabia in the short term, others envisioned returning home or moving onward. However, those in more precarious situations, particularly with high debt or restrictive legal conditions, were often the least mobile, even when they expressed a desire to leave.

Everyday impacts of climate stressors on immobile workers.
Several focus group participants and interviewees expressed a desire to leave Saudi Arabia but were unable to do so due to financial constraints, legal barriers, or employer control. In their cases, climate conditions were described as adding to existing difficulties. Many reported physical exhaustion and chronic health issues related to heat exposure, compounded by limited employer protections. South Asian and East African interviewees in particular expressed frustration over their inability to move, often citing financial constraints or fear of employer retaliation. Immobile workers frequently described feeling stuck in deteriorating conditions, with no viable pathway for safe or voluntary movement.

Labour precarity and limited awareness of protections.
Although the vast majority of respondents held valid legal documentation (e.g., iqama or work visa), a significant share still faced labour-related challenges such as delayed wages, long hours, or lack of access to healthcare. These issues were reported across all regional groups, but wage delays and legal vulnerability were most frequently cited by South Asian and East African respondents. All respondents reported working under the Kafala (sponsorship) system. Reforms introduced in 2021 were intended to ease restrictions on mobility and exit, but awareness of these changes was limited among participants, and very few reported being able to exercise these rights in practice. Many respondents reported incurring significant debt through informal and formal recruitment pathways, contributing to financial stress and increasing dependence on employers. This was particularly pronounced among South Asian respondents.

Despite systemic challenges, many participants and interviewees expressed pride in their ability to support families through remittances, highlighting the coexistence of resilience and vulnerability.

Implications

This case study highlights the need to recognise how climate stressors interact with structural vulnerabilities in shaping mobility outcomes for migrant workers in Saudi Arabia. While environmental risks were rarely cited as direct drivers of mobility, they compounded existing challenges such as debt, legal insecurity, and poor working conditions. Addressing these overlapping pressures requires stronger labour protections, improved climate preparedness in high-risk sectors, and policies that expand migrants' capacity to make voluntary, informed mobility decisions. The full report can be accessed here.

Annexe 2: Summary of the validation workshop

MMC hosted a virtual validation workshop on 25 March 2025 to present and discuss the findings from its four case studies. The workshop brought together national and regional experts specialising in migration, displacement, climate, and development from research, policy and practice, with the aim of validating the findings, identifying information gaps, and reflecting on policy implications. This summary outlines the main points raised during the discussion.

Participants discussed the extent to which observed mobility patterns in the research reflected realities on the ground. It was noted that in many contexts, although climate hazards are widespread, displacement often remains local. In such cases, severely affected communities may not have the financial resources to migrate longer distances, particularly across borders. This underscored how mobility is not just a response to stressors, but also a function of access to resources, with movement often requiring a minimum threshold of means. In this regard, several participants emphasised the importance of recognising involuntary immobility, where people remain in place not by choice but due to financial or logistical constraints, despite facing significant environmental pressures. Other participants described similar dynamics in the case study locations, particularly in Yemen, where individuals displaced from rural areas often shift from agricultural work to informal urban employment such as construction. The discussion highlighted the importance of distinguishing between different types of mobility, including forced and voluntary, and pointed to the role of social connections, anticipated opportunities, and existing networks in shaping movement decisions.

The discussion also turned to key policy priorities in light of the findings. There was consensus on the need to strengthen support for livelihoods, particularly those that are climate-sensitive or informal in nature. Participants called for measures to enhance the resilience of these livelihoods, potentially through formalisation, technical assistance, or financial support. Equally important were investments in basic services, such as water, healthcare, and education, as participants noted that the absence of such services often contributes to displacement in contexts of climate pressure. Others highlighted the role of environmental infrastructure, such as rainwater harvesting systems and improved land management, in reducing exposure to hazards and limiting the need for relocation. One speaker noted that these types of interventions should be aligned with national climate adaptation plans to ensure policy coherence and long-term sustainability.

Finally, participants identified several key information gaps to be addressed in future research. These included a need to better understand how household-level resilience influences mobility decisions and what types of physical or social investments may enable people to remain in place. It was suggested that more research attention be given to locally driven solutions and community-based adaptation practices to explore how local knowledge and lived experience could inform climate risk mitigation strategies. Others proposed further exploration of how perceptions of climate change and mobility are formed, and how these perceptions influence whether people view movement as a viable or desirable outcome.

MMC would like to thank the participants for their active engagement and thoughtful contributions to a lively and fruitful discussion.

MMC is a global network engaged in data collection, research, analysis, and policy and programmatic development on mixed migration, with regional hubs in Africa, Asia and the Pacific, Europe and Latin America, and a global team based across Copenhagen, Geneva and Brussels.

MMC is a leading source for independent and high-quality data, research, analysis and expertise. MMC aims to increase understanding of mixed migration, to positively impact global and regional migration policies, to inform evidence-based mixed migration responses for people on the move and to stimulate forward thinking in public and policy debates on mixed migration. MMC's overarching focus is on human rights and protection for all people on the move.

MMC is part of the Danish Refugee Council (DRC).

While its institutional link to DRC ensures MMC's work is grounded in operational reality, it acts as an independent source of data, research, analysis and policy development on mixed migration for policy makers, practitioners, journalists, and the broader humanitarian sector.

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