

Al-Hasakeh, Northeast Syria



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Satellite image of
Al-Hasakeh Governorate,
Syria.



Key findings

- Respondents were relatively evenly split between those considering moving and those choosing to stay. However, almost none of those wishing to move had the resources to do so, indicating high levels of involuntary immobility.
- Among respondents considering mobility, the vast majority preferred to migrate abroad rather than move internally, and most expressed a desire to relocate permanently rather than temporarily.
- Economic factors were the most frequently reported drivers of mobility, but conflict and climate-related challenges were also prominent. Given the impact of conflict and climate hazards on economic outcomes, all three factors appear deeply interconnected.
- The desire to move appeared to be shaped not only by the frequency of climate hazards but also by their increasing severity. Conflict has further exacerbated these impacts by disrupting essential infrastructure, particularly water systems.
- High vulnerability to climate hazards was linked to the reliance on agriculture and livestock-based livelihoods, which are highly climate-sensitive. Conflict has limited the ability of communities to implement effective adaptation and mitigation strategies.
- Respondents expressed considerable pessimism about the future. Climate hazards were widely perceived as worsening, and many respondents reported growing concerns about their households' long-term financial viability.
- Qualitative findings highlighted that progress in addressing climate risks will be difficult without resolving broader issues of conflict and governance, which remain critical barriers to building resilience.

Note on data collection

Data collection was conducted between 24 November 2024 and 2 February 2025. A total of 220 household surveys were conducted with 114 men and 106 women originating from the governorate. ([Map](#))

Six focus group discussions were held with participants from households in the sample area, with two groups of men and two groups of women from the community of origin (divided by age: 18-25 and over 25), as well as two groups of internally displaced persons (IDPs).¹

In addition, 17 in-depth interviews were conducted. This included eight interviews with individuals from the governorate, specifically targeting the four defined mobility outcomes (involuntary mobility, involuntary immobility, voluntary mobility, and voluntary immobility), with two interviews per outcome. Additionally, four interviews were conducted with internally displaced persons (IDPs) to understand their unique experiences. To gain broader contextual insights, six key informant interviews were also carried out with policymakers, local authorities, community leaders, INGO representatives, and climate change experts.

About this project

This case study forms part of a wider piece of research examining how climate-related factors influence mobility aspirations, capabilities, and outcomes in four different locations in the Middle East. It examines decision-making at the individual and household levels, drawing insights into how people process and respond to climate challenges through (im)mobility. The research draws on a framework conceived by the Mixed Migration Centre (MMC) to explore the idea of mobility in the context of climate change impacts. The framework delineates mobility outcomes into four categories: involuntary mobility, voluntary mobility, involuntary immobility and voluntary immobility.² It illustrates how climate-related environmental stressors affect mobility outcomes and how they directly and indirectly impact the aspiration and capability to move. While recognising that these categories are often overlapping and are rarely tidy, it provides a framing for considering the multiple and shifting forms of movement that characterise the region.

The research focused on Aden and Al Maharah governorates in Yemen, Al-Qadissiya governorate in Iraq, and Al-Hasakeh governorate in Syria. These are all areas particularly vulnerable to climate-related stressors and represent a diversity of socioeconomic contexts. One case study was developed for each location, and a synthesis report was produced integrating analysis from the four case studies and highlighting key insights gleaned from the research. Data collection for this research included household surveys, focus group discussions and individual in-depth interviews to shed light on experiences of (im)mobility, connections to climate-related hazards, and the perceived outcomes of mobility. Additional expert interviews were used to address any evidence gaps. See the [synthesis report](#) for a more comprehensive overview of the analytical framework and methodology.

MMC carried out this project with funding received from the Foreign, Commonwealth and Development Office (FCDO). It builds on prior research to assess the state of knowledge on climate change impacts on mobility and migration dynamics in the Middle East.³

¹ For the purposes of this research, we defined internal mobility as those coming from outside the governorate, excluding movement within it.

² MMC (2024) [Climate Change Impacts and Mobility in the Middle East What do we know?](#)

³ MMC (2024) [Climate Change Impacts and Mobility in the Middle East What do we know?](#)

A note on terminology

MMC developed a list of key terms used throughout this project, including:

- **Climate change:** A change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer ([IPCC \(Undated\) IPCC — Intergovernmental Panel on Climate Change](#)).
- **Climate-related environmental stressors:** Perceived and experienced long-term meteorological impacts on the ecosystem that may affect the functioning of the biological system (e.g. NCBI (2016) [National Center for Biotechnology Information](#)).
- **Climate-related hazards:** Natural meteorological events that pose danger to humans and the environment. These events occur due to deficiencies or excess of precipitation, destructive winds and anomalous temperatures (based on WMO and UNFCCC terminology around climate-related risks / hazards and extreme events).
- **Resilience:** The ability of individuals, households, communities, cities, institutions, systems, and societies to prevent, resist, absorb, adapt, respond and recover positively, efficiently, and effectively when faced with a wide range of risks, while maintaining an acceptable level of functioning and without compromising long-term prospects for sustainable development, peace and security, human rights and well-being for all (IOM (2019) [Glossary on Migration](#)).
- **Vulnerability:** The limited capacity to avoid, resist, cope with, or recover from harm. This limited capacity is the result of the unique interaction of individual, household, community, and structural characteristics and conditions (IOM (2019) [Glossary on Migration](#)).

A note on limitations

This is a comparative project looking in-depth into people's perceptions across a range of locations. However, the scope and timeframe were limited to specific areas within the case study governorates at a particular moment in time. As a result, the findings from these areas may not reflect the full range of experiences and responses to climate change and mobility across the governorate, 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, the research represents a snapshot in time, and so provides limited insights into how feelings and perceptions develop over time. Finally, given the adoption of non-probabilistic sampling, the findings should be considered indicative.

Al-Hasakeh and climate risks

Geographic and demographic context

Al-Hasakeh is a province in northeastern Syria centred around the Khabur River basin. Traditionally known as the country's primary wheat- and rice-producing region, Al-Hasakeh forms part of Syria's agricultural heartland, where farming has historically accounted for 25–30% of gross domestic product (GDP) and provided the main source of income for rural communities.⁴ Most families in the governorate have traditionally relied on agriculture and livestock farming for their livelihoods.⁵ The fertile area along the Turkish border, known as the "Line Ten," remains highly productive, whereas land further south is less fertile, with some areas rendered unsuitable for farming due to saline groundwater and declining rainfall.⁶ Oil was discovered in the region in the 1950s.⁷

The region is ethnically and religiously diverse and has been significantly impacted by the Syrian civil war. In 2015, the area was subject to attack by Islamic State fighters, who attacked the capital of the governorate and attempted to stage a prison break there in 2022. As of 2023, Al-Hasakeh was primarily controlled by the Kurdish People's Protection Units and the Syrian Democratic Forces (SDF), although some areas were under Turkish Armed Forces control.⁸ In March 2025, the SDF signed an agreement with the post-Assad government in Damascus to integrate into new national institutions,⁹ though debates over federalism and local autonomy remain ongoing.¹⁰

This research was conducted prior to these political developments, and it remains unclear how recent changes may influence mobility dynamics in the region.

Climate hazards in Al-Hasakeh

Northeastern Syria in general, and Al-Hasakeh specifically, is increasingly affected by a range of climate hazards, including extreme temperatures, drought, unpredictable rainfall, crop and livestock diseases, and sand and dust storms. These climate-related impacts are compounded by the environmental effects of the ongoing conflict since 2011, which has damaged water infrastructure, agricultural systems, and local ecosystems.

- **Extreme heat:** Rising temperatures are exacerbating drought conditions and contributing to desertification in the area. Extreme heat also poses significant health risks, particularly for vulnerable populations and those working outdoors in agriculture.¹¹
- **Drought:** Al-Hasakeh has experienced a series of severe droughts in recent years, intensifying water stress, leading to the loss of arable land, and accelerating desertification.¹² Drought conditions compounded by rising temperatures¹³ and upstream damming in Türkiye has caused the Khabur River, once the largest tributary of the Euphrates in Syria and a major water source for Al-Hasakeh city, to run dry.¹⁴ As a result, families increasingly depend on groundwater for irrigation, further depleting local aquifers. Armed actors have also disrupted critical water infrastructure, most notably the Alouk water station, which provides water to approximately one million people and has been repeatedly targeted.¹⁵

4 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.

5 Daniela Sala, Bartholomäus von Laffert, and Shaveen Mohammad (2021) [Killing us slowly': dams and drought choke Syria's water supply](#). The Guardian.

6 ASO Studies (2021) [What's the Story Behind the Arab Belt in Al-Jazeera \(Al-Hasakeh governorate\)?](#) | Reliefweb (2021) [Syria: Alouk Water Station - Flash Update: Disruption to Alouk Water Station](#).

7 Encyclopedia Britannica (2021- present) [Syrian Civil War](#).

8 UN Geospatial (2023) [Approximate areas of influence as of June](#).

9 Jaidaa Ahmad and Menna AlaaEldin, "Syria's interim president signs deal with Kurdish-led SDF to merge forces," Reuters, March 11, 2025.

10 Orhan Qereman, "Kurds say they will push for federal system in post-Assad Syria," Reuters, April 10, 2025.

11 RCRC (2022) Syria climate factsheet; Mixed Migration Research Centre (2024) [Climate Change Impacts and Mobility in the Middle East: What do we know?](#)

12 EUISS (2021). [Arab climate futures](#).

13 Alaaldin, R (2022). [Climate change may devastate the Middle East. Here's how governments should tackle it](#). Brookings Institution.

14 Daniela Sala, Bartholomäus von Laffert, and Shaveen Mohammad (2021) [Killing us slowly': dams and drought choke Syria's water supply](#). The Guardian.

15 OCHA (2021) [Syria: Alouk Water Station - Flash Update: Disruption to Alouk Water Station Format Situation Report](#).

- **Unpredictable rainfall:** Irregular rainfall patterns have contributed both to prolonged droughts and to occasional flash flooding.¹⁶ In particular, sudden heavy rains can cause the Khabur River to overflow, especially when upstream water release from dams constructed by Turkish-backed rebels coincides with local storms.¹⁷ This has led to the submergence of nearby homes and agricultural fields. Unpredictable rainfall can be linked to both drought conditions and periodic flooding.
- **Sand and dust storms:** Increased drought, desertification, and land degradation have contributed to more frequent and intense sand and dust storms in Al-Hasakeh. These storms pose serious respiratory health risks, disrupt daily life, and further damage already vulnerable agricultural land.¹⁸

Population profile and perceptions

Profile of survey respondents

220 individuals interviewed

Gender:

52% men and 48% women

Age:

18-25: 2%;
26-65: 91%;
Over 66: 7%

Average household composition:

5.5 persons, 2 children, 1.5 financial contributors

Education completed:

7% university or higher;
3% vocational;
13% secondary education;
42% primary education;
35% none

Remittances:

23% received remittances

Economic activities and livelihoods

Agriculture, a highly climate-sensitive sector, was the dominant source of livelihoods among respondents in Al-Hasakeh. Of those who reported working at the time of data collection (n=111), 49% worked in agriculture, followed by 11% in wholesale and retail trade, 9% in education, 6% in administrative support services, and 5% in pastoralism. In terms of work status, 29% of respondents described themselves as self-employed, likely reflecting independent farmers, while 23% were unemployed and reportedly engaged in household and caregiving responsibilities.

Access to livelihoods, however, remains highly constrained, with a substantial minority of respondents (23%) reporting having no livelihood at all. Qualitative interviews confirmed that agriculture and husbandry dominate the local economy, particularly the cultivation of wheat, barley, vegetables, and fodder. Other reported sources of income included construction, employment in civil and military institutions, selling humanitarian aid (food and non-food items), access to credit or loans from traders and relatives, garbage collection, begging, and daily wage labour.¹⁹ Yet interviewees repeatedly emphasised that all livelihood options are limited: agriculture has declined due to drought; livestock numbers have fallen due to limited pasture and water; trade requires capital that few possess; and formal employment opportunities are scarce and poorly paid.²⁰

The conflict and instability have further reshaped economic dynamics in the governorate. Interviewees pointed to three major economic shifts in this regard:

- Decline of agriculture and husbandry as a result of conflict, climate hazards, and reduced government support.
- Enlistment of young men, voluntarily or forcibly, by various armed factions, reducing the available agricultural workforce.²¹
- Growth in smuggling, which had become a major economic activity, particularly near the Iraqi and Turkish borders. As one focus group participant explained: "In towns and villages near the Iraqi and Turkish borders, people smuggled individuals from various Syrian cities and governorates for amounts reaching 3,000 USD per person. They also smuggled food and non-food items. However, this source has almost disappeared now due to Türkiye and Iraq tightening border controls."²²

16 Floodlist, (2018) <https://floodlist.com/asia/syria-iran-jordan-floods-october-2018>.

17 The Water Diplomat, "Turkey Blocks Khabur River: Millions Affected, 21 Nov 2021 <https://www.waterdiplomat.org/story/2021/11/turkey-blocks-khabur-river-millions-affected>.

18 Ibid; Wladimir van Wilgenburg (2022) Heavy dust storm kills 7 in eastern Syria: SOHR, Kurdistan24.

19 Key informant interviews.

20 Key informant interviews.

21 Focus group discussion, Syrian men, 18 - 25.

22 Focus group discussion, Syrian men, 18 - 25.

Amid these financial challenges, remittances have become a critical support mechanism. Nearly a quarter of respondents reported receiving remittances, which help mitigate the effects of local economic decline. As one focus group participant put it: “Without [remittances], the situation of many families would be dire. The advantage is that remittances are sent in dollars and are not affected by the depreciation of the Syrian Pound, unlike other income sources like farming and employment.”²³

Security conditions, while not seen as prominent, remain a factor in mobility decisions. Despite the broader conflict in Syria, 93% of respondents said they had not been concerned about violent conflict in their community or neighbouring communities in the three months prior to data collection, with an additional 6% reporting concerns only once or twice.²⁴ Nevertheless, violence was still cited as a key driver of mobility, indicating that even relative calm did not fully erase perceptions of risk.

Basic needs, access to services, and future outlook

Meeting basic needs and accessing services remains a challenge for many in Al-Hasakeh. While a majority of respondents (62%) reported that their household was able to meet their basic needs, a significant minority (38%) said they could not. Interviewees and focus group participants noted that poverty predated the conflict in the region, as one participant recalled, “There were no job opportunities or decent wages to support a dignified life.”²⁵

Service access was similarly constrained. Although most respondents (64%) said that basic services were at least somewhat accessible, more than a third (36%) described services as difficult or impossible to access. Focus group participants²⁶ and key informants stressed that services are severely limited across the governorate, with an interviewed local official observing: “General public services in the governorate face significant issues.”

Housing and water access also presented specific challenges. Around one in ten respondents (10%) reported living in damaged or inadequate housing. While most respondents did not have to fetch water frequently (only 37% reported doing so), which can result in several vulnerabilities, many focus group participants expressed concern over the high costs of purchasing water from private vendors.²⁷

The displaced population faces particularly acute difficulties. Many displaced households were reportedly unable to afford rent and were living in informal shelters or what some participants described as camps. Education was also cited as a major issue by key informants and focus group participants who explained that many displaced families are often unable to afford schooling costs, resulting in children being kept out of school.²⁸

Looking ahead, respondents expressed widespread pessimism about their future prospects. Only 10% of all respondents believed that their household would be better able to support their household members in five years, while 27% believed their situation would remain the same, and 61% anticipated that conditions would deteriorate.

23 Focus group discussion, Syrian women, 25+.

24 Numbers don't add to 100 due to rounding.

25 Focus group discussion, Syrian women 25+.

26 Focus group discussion, Syrian women 25+.

27 Focus group discussion, Syrian men 25+.

28 Focus group discussion, IDP women.

Impacts of climate-related events



Widespread destruction in Al-Hasakeh Governorate. The collapse of infrastructure and services has left communities deeply vulnerable—not only to renewed violence but also to the growing impacts of climate change, including drought, water scarcity, and food insecurity. These overlapping challenges have compounded displacement risks and limited prospects for safe return and recovery.

Photo credit: © Albald Alyoum/ Flickr (2015)

Climate hazards such as extreme heat, drought, and unpredictable rainfall are growing more common and severe in Al-Hasakeh. All respondents reported experiencing at least one climate hazard (see Figure 1). Both quantitative and qualitative data show that extreme heat, drought, and unpredictable rainfall were perceived as the most damaging events, although respondents also noted the environmental impacts of conflict.

Drought affecting livestock emerged as the most severely felt hazard. Among respondents who reported that their household had experienced this hazard (n=134), 59% reported being severely or very severely affected, compared to 32% who described moderate or slight impacts, and 9% who said they were not affected at all. By comparison, among those impacted by extreme heat (n=162), 27% reported severe or very severe effects, while 62% experienced moderate or slight impacts, and 10% said they were only slightly or not at all affected.

Conflict has further exacerbated environmental degradation. Key informants highlighted widespread deforestation²⁹ caused by unregulated tree-cutting during the conflict,³⁰ which has increased land degradation and made the region more vulnerable to climate hazards. They also described the pollution of agricultural land, stemming from oil well leaks, untreated sewage discharge, and emissions from vehicles and generators. Some of these issues were attributed to Türkiye's repeated bombing of infrastructure,³¹ including oil wells, which reportedly led to significant oil spills into the Wadi al-Radd stream and, eventually, the Khabur River, causing further damage to agricultural lands.³²

The impacts of climate hazards are perceived to be worsening over time. Among respondents who reported impacts of drought in their household (n=122), 98% reported that its effects had become either much more severe or a bit more severe over the five years prior to data collection. Key informants attributed this deterioration not only to climate change but also to overexploitation of natural resources (such as uncontrolled well-digging), lack of environmental protection enforcement, and broader governance failures over the past decade.³³

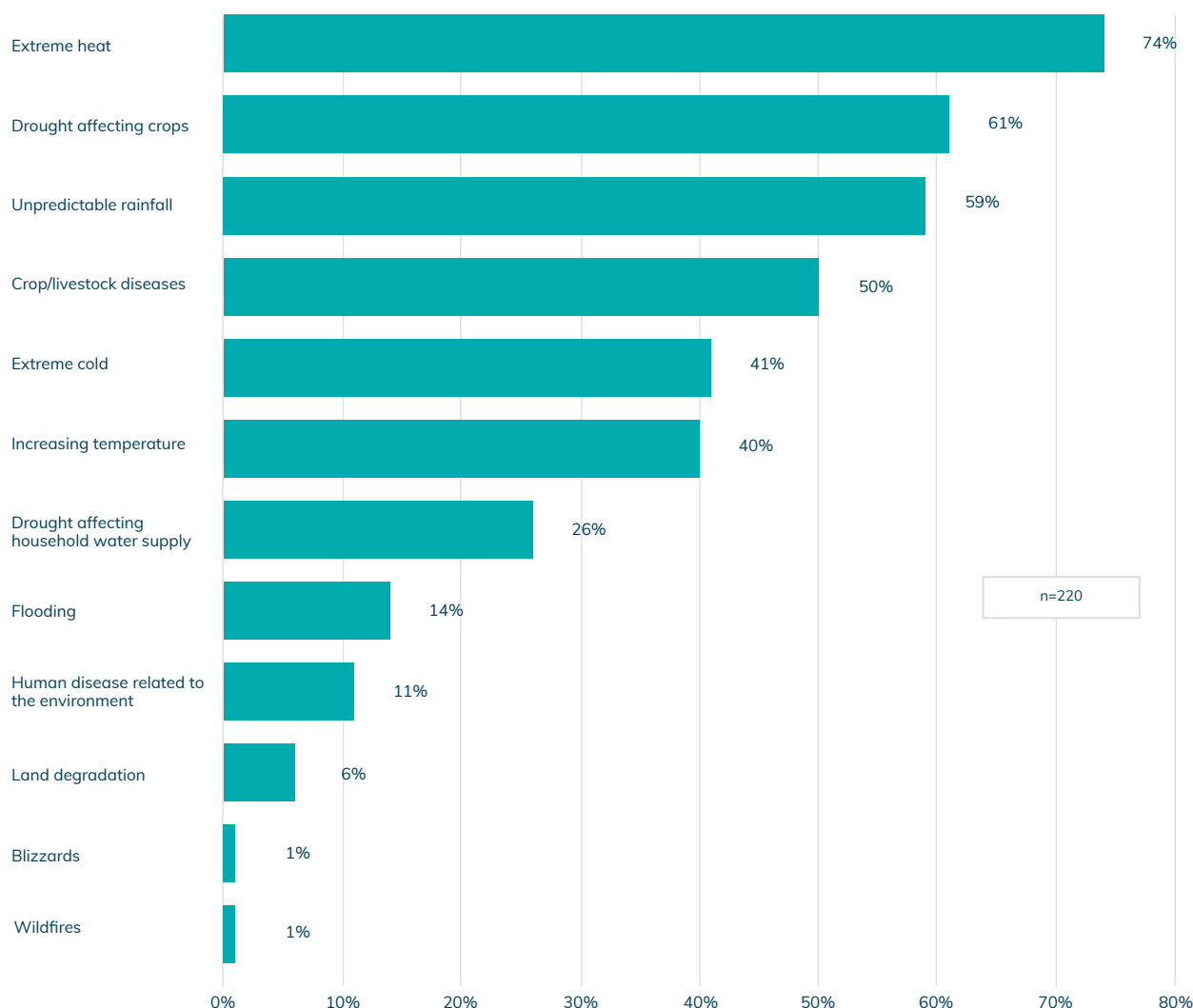
²⁹ Key informant interview, Policy maker, Al-Jazira region.

³⁰ Key informant interview, Community leader.

³¹ Focus group discussion, Syrian men 25+.

³² Key informant interview, Local Authority.

³³ Multiple Key informant interviews.

Figure 1. Reported climate-related hazards experienced in the five years prior to data collection³⁴

Climate hazards are contributing to multiple negative impacts in Al-Hasakeh, including disruption of livelihoods, health issues, reduced access to drinking water, utility disruptions, and displacement. Respondents who reported that hazards had affected their household (n=217) were asked about the types of impacts they experienced.³⁵ Figure 2 below presents the most commonly reported consequences of extreme heat.

Disruption of livelihoods was the most commonly reported consequence, with livelihood asset loss mentioned by 75% of respondents (n=217). Qualitative findings highlight how drought, floods, and rising temperatures have significantly damaged agricultural and livestock production.

Substantial areas of arable land have reportedly been lost to drought and desertification, with some areas no longer viable for planting. As an interviewed climate expert explained, “Cultivated land area has decreased due to the rising costs of inputs such as fuel, seeds, fertilisers, and water shortages. Strategic crops like cotton have diminished because they require more water.” Flooding has also caused major crop losses, with crops sometimes submerged for prolonged periods.³⁶ According to focus group participants, high temperatures have further harmed livestock, while some herders reportedly lost entire herds to flooding, and others were forced to sell animals at low prices because they cannot afford to feed them.³⁷ Extreme heat has also disrupted beekeeping, reducing honey production by preventing bees from leaving their hives.³⁸

³⁴ Respondents could choose multiple options.

³⁵ Multiple consequences could be associated with each reported hazard.

³⁶ Focus group discussion, IDP women.

³⁷ Key informant interview, Climate change expert.

³⁸ Focus group discussion, Syrian women 25+.

These shocks have compounded food insecurity in the governorate. Although farmers and herders bear the brunt of these losses, the impacts ripple out to the broader community through rising food prices. As a man focus group participant observed: “When the tomato season recently failed, the price per kilogram rose from 8,000 to 12,000 Syrian pounds.”

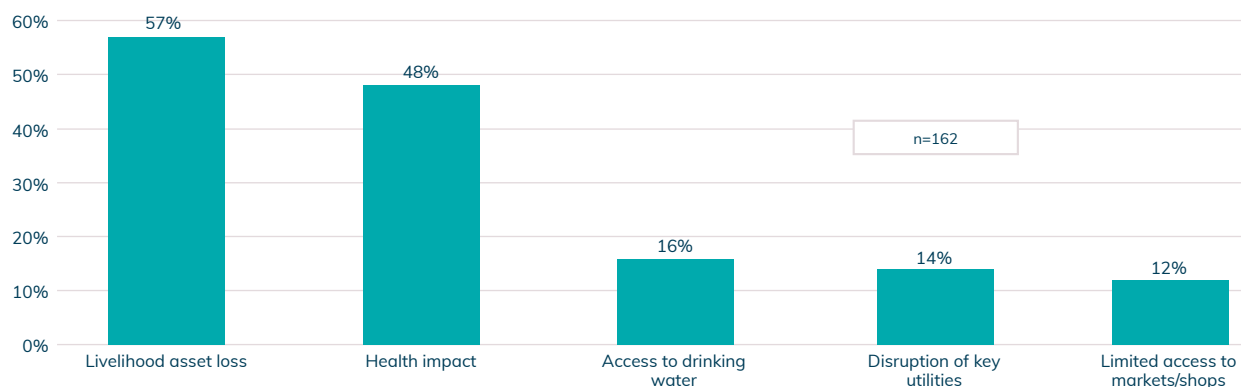
Insecurity linked to conflict has further undermined livelihoods. During Operation Peace Spring in 2019,³⁹ Turkish forces and affiliated groups seized agricultural land along the Line Ten area, displacing original landowners and depriving them of income.⁴⁰ More broadly, Syria is estimated to have lost nearly 50% of its rural population between 2011 and 2016, with conflict-related damage to the agricultural sector estimated at USD 16 billion.⁴¹

Health impacts were the second most frequently reported impact, cited by 65% of respondents. Extreme heat, sandstorms, and waterborne diseases posed serious health risks, particularly among displaced populations and communities with limited healthcare access.⁴² Health consequences were strongly associated with temperature extremes: 48% of those who were impacted by extreme high temperatures (n=162) and 90% of those affected by extreme low temperatures (n=90) linked these hazards to health problems.

Reduced access to drinking water was also a major concern, reported by 39% of respondents. Drought was the primary driver, although extreme temperatures were also cited as a contributing factor. In addition, **19% of respondents reported experiencing disruptions to basic utilities** such as electricity and heating, further compounding household vulnerabilities linked to climate hazards.

Displacement was mentioned less frequently, affecting a smaller share of respondents. Only 6% of respondents reported that they and/or members of their household were forced to move due to climate-related events. Historically, Al-Hasakeh has long faced patterns of climate-related displacement. In the 1970s, communities were displaced when their lands were flooded as part of a government irrigation programme.⁴³ Later, between 2006 and 2010, a severe drought forced an estimated 370,000 to 460,000 people to leave northeastern Syria.⁴⁴ These movements included significant rural-to-urban migration. Although some analysts believe that drought-induced displacement contributed to urban unrest in Syria,⁴⁵ others caution that the relationship between climate change, mobility, and conflict remains complex and requires careful re-examination, arguing that “the influential drought-migration-conflict narrative for Syria needs to be re-examined,⁴⁶ with implications for wider discussions of how climate change might alter conflict risk.”⁴⁷

Figure 2. Most commonly mentioned consequences of extreme heat, as indicated by respondents who reported the occurrence of this hazard⁴⁸



39 Branislav Stanicek (2019) [Turkey's military operation in Syria and its impact on relations with the EU](#) European Parliamentary Research Service.

40 Key informant interview, Local Authority.

41 Jalal Al-Attar (2024) [Syria's Agricultural Crisis](#) Sada.

42 North Press Agency Syria (2023) Hasakah water crisis aggravates health situation amid searing summer; Wladimir van Wilgenburg (2022) Heavy dust storm kills 7 in eastern Syria: SOHR, Kurdistan24.

43 Key informant interview, Climate change expert.

44 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.

45 Mann, Y (2023). [Another looming crisis in the Middle East: Climate change.](#) Observer Research Foundation.

46 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.

47 Eklund, L (2022). [Societal drought vulnerability and the Syrian climate-conflict nexus are better explained by agriculture than meteorology.](#) *Communications Earth & Environment* 3: 85. DOI.

48 Respondents were asked to associate consequences with each climate hazard they reported occurring in the 5 years prior to the survey, and multiple options could be selected. In addition to the main reported impacts shown in the graph, respondents also cited the following consequences of unpredictable rainfall: Access to healthcare facilities (5%); destruction or damage of owned environmental assets (forest, water bodies, soil, etc) (2%); destruction or damage to essential household and personal items (1%); access to education facilities (1%); displacement/evacuation/relocation (1%); and access to sanitation facilities (1%).

Responses to climate-related impacts



Residents in Al-Hasakeh Governorate shelter from heavy rain while standing in flood-affected streets. Increasingly unpredictable rainfall and poor drainage infrastructure have led to more frequent localised flooding, compounding hardships for communities already affected by conflict and displacement.

Photo credit: © Shaam/Flickr (2012)

Respondents and other interviewees were undertaking a variety of measures to cope with climate hazards, from working harder to shifting crops. Few received outside assistance or support, and the government's struggle to address challenges relating to ongoing insecurity has left few resources for addressing climate hazards.

Community resilience and adaptation

Focus group participants and key informants described both the strengths and severe limitations in communities' ability to cope with climate hazards in Al-Hasakeh.

Strong social bonds, particularly among relatives and neighbours, were often cited as key sources of resilience. Households frequently relied on informal support networks to share resources and provide assistance during times of hardship, especially during environmental shocks.

Coping strategies were largely based on necessity and local knowledge. Some farmers have reportedly responded to water scarcity by installing solar panels to extract groundwater.⁴⁹ Although positive in the short term, this move, without regulation, has further depleted groundwater resources. Others reportedly shifted to cultivating less water-intensive crops such as barley, thyme, and mint. However, participants emphasised that widespread drought, land degradation, and economic collapse had sharply limited the effectiveness of these strategies. Many families lacked the resources to invest in meaningful adaptation and were increasingly forced to rely on debt, remittances, or precarious work.⁵⁰ As stated by a participant in a group discussion with women, "Those who have money can install wells and irrigation. Those who don't, they can only watch their lands die."

Vulnerability was seen to be particularly acute among displaced families. IDP participants described living in inadequate shelters and facing frequent exposure to floods and extreme heat without sufficient protection. As one displaced woman explained, "We live in shelters that don't protect us from anything. Floods, heat — everything affects us more." Many displaced households relied heavily on informal labour and community support to survive, with little capacity to invest in more sustainable adaptation measures.

Despite strong community ties, overall resilience was perceived to be weakening. Participants warned that the cumulative impacts of conflict, climate hazards, and economic hardship were outpacing communities' ability to adapt sustainably. Vulnerable groups, including displaced families, female-headed households, and persons with disabilities, were seen as particularly at risk of falling deeper into vulnerability if conditions continued to deteriorate. Key informants mentioned that contestation over limited resources can cause tensions within communities. Some are adopting negative coping strategies such as child marriage and child labour.⁵¹ For instance, one local authority representative described how some families have taken to having their children sell fuel on major roads.⁵²

⁴⁹ Key informant interview, INGO worker.

⁵⁰ Key informant interview, Community leader.

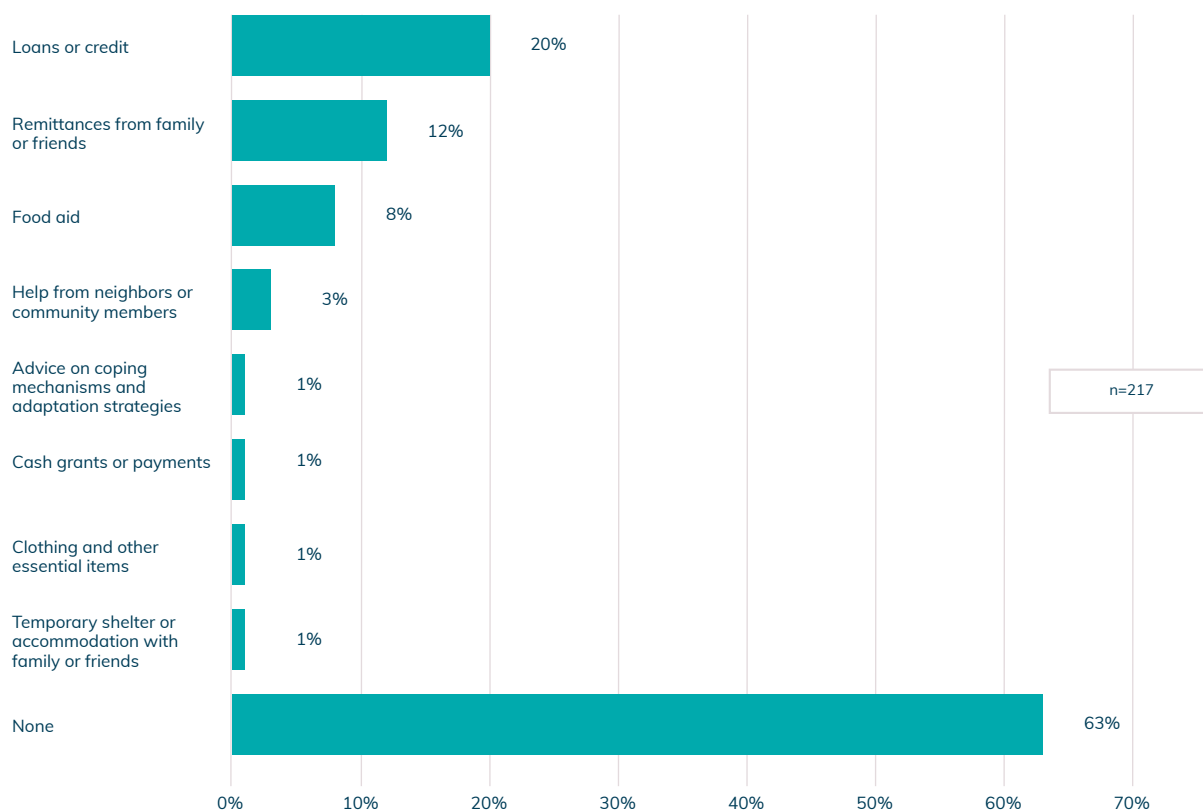
⁵¹ Key informant interview, INGO worker.

⁵² Key informant interview, Local Authority.

External support for responding to climate hazards

Most respondents who were impacted by climate hazards (n=217) reported not receiving any support or assistance to adapt or respond to climate shocks. As shown in Figure 3, the vast majority (63%) said they or their household members had received no support at all.

Figure 3. Assistance/support received when faced with or in preparation for climate shocks, as mentioned by respondents who reported experiencing climate hazards⁵³



Among the small proportion who did receive assistance (n=83), support overwhelmingly came from informal sources. Seventy-eight respondents cited family or friends as their main source of help, while nineteen respondents reported receiving support from international organisations. Only one respondent mentioned receiving assistance from government or community-based institutions. A local authority interviewee also noted that international NGOs had occasionally provided support for displaced individuals seeking to return home.⁵⁴

⁵³ Respondents could select multiple answers.

⁵⁴ Key informant interview, Local Authority.

Government perspectives and responses

Government officials acknowledged the need to address the impacts of climate change but emphasised that insecurity remained their primary concern. As one interviewee explained, “Unfortunately, addressing climate change becomes a secondary matter.”⁵⁵ While some local government structures have been established to respond to climate-related impacts, they operate with extremely limited resources.⁵⁶

Efforts to improve access to water were highlighted as a particular focus. These included supplying water from the Euphrates River (a measure that has seen some limited success),⁵⁷ drilling wells, and exerting pressure on Türkiye to resume water pumping from the Alouk station. However, the extent of the Syrian government’s influence over Turkish actions was reported to be limited, and several interviewees stressed the need for greater engagement from international actors. Reforestation programmes have also been launched, and officials discussed the need to expand the use of solar energy and to regulate what they described as the “reckless use of groundwater and tree cutting for heating and cooking.”⁵⁸



The Hasakah Canal in northeastern Syria. Once a key source of irrigation in Al-Hasakeh Governorate, the canal now faces reduced flow due to upstream shortages and shifting climate patterns, threatening agricultural productivity and water security in the region.

Photo credit: © Aram33/)

⁵⁵ Key informant interview, Climate change expert.

⁵⁶ Key informant interview, policy maker.

⁵⁷ Focus group discussion, Syrian men 25+.

⁵⁸ Focus group discussion, Syrian men 25+.

Mobility patterns



Displaced people fleeing Al-Hasakeh Governorate, northeastern Syria. In 2015, an offensive by the Islamic State (ISIS) triggered the displacement of at least 60,000 people. Most of those displaced were women, children, and the elderly, forced to flee their homes under heavy bombardment. Al-Hasakeh has since remained a flashpoint for conflict- and climate-related displacement in the region.

Photo credit: © Albald Alyoum/ Flickr (2015)

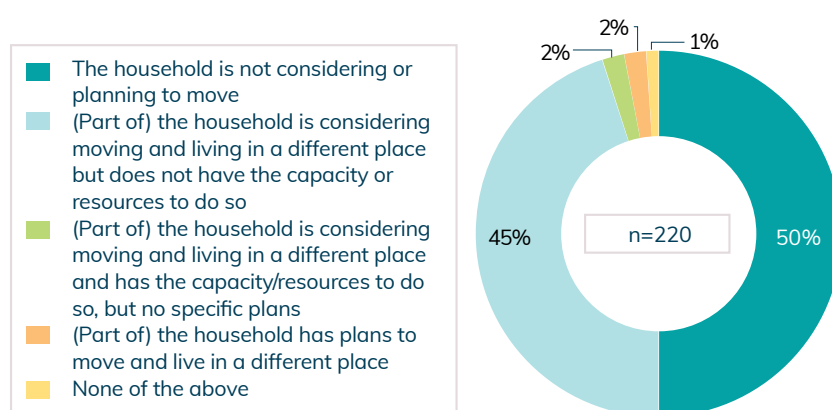
Mobility has historically been widespread in Al-Hasakeh, with the region experiencing high levels of internal displacement both within and into the area. Although many respondents wished to move, few had the financial resources to do so.

Al-Hasakeh has received successive waves of displaced populations over the past decades. In the 1970s, some IDPs were resettled from areas outside Raqqa after a government development scheme flooded their original homes.⁵⁹ They were relocated onto land confiscated from other communities as part of agricultural reforms, generating tensions between resettled and original residents. Other waves of displacement occurred when communities around the Euphrates moved to Al-Hasakeh in search of better grazing conditions after river levels began to decline.⁶⁰ More recently, civilians from Ras al-Ayn fled to Al-Hasakeh following Turkish military operations in the area.⁶¹

Mobility remains a common feature of the local context. Around one in three respondents (35%) reported that a household member had moved in the past ten years, while 65% had not. When asked whether mobility was common within the community as a whole, 63% said it was common or very common, compared to 27% who considered it neither common nor uncommon, and 10% who said it was uncommon or very uncommon.

Respondents were almost evenly split between those considering/ planning to move and those intending to remain in place, indicating a high level of interest in mobility. When asked whether all or part of their household was considering moving at the time of data collection, 50% of respondents said they were not, while 49% said they were considering it. However, the vast majority of those considering or planning to move (n=59) reported lacking the resources to do so, highlighting a very high level of involuntary immobility in the population. (See Figure 4)

Figure 4: Reported mobility intentions and availability of resources/capacity to do so

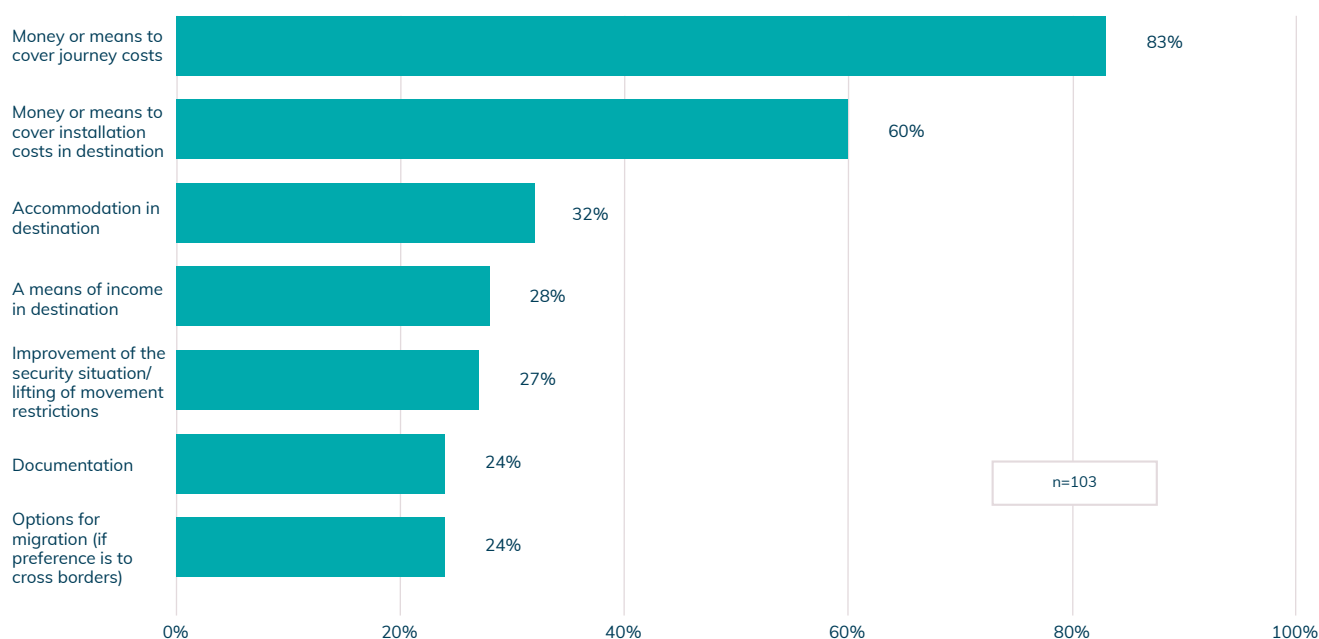


Respondents who indicated clear plans for mobility within their household (n=103) were asked about the resources or assistance required to facilitate the move as desired. The most frequently provided answers are presented in Figure 5.

⁵⁹ Focus group discussion, IDP men.

⁶⁰ Interview with Syrian IDP man.

⁶¹ Focus group discussion, IDP men.

Figure 5. Most frequently reported needs to move as desired⁶²

The prevalence of involuntary immobility was reflected in the qualitative interviews. As one focus group participant said, “Migration is an escape for everyone, but not everyone who wants to migrate can do so because there are circumstances that control and sometimes prevent them. The main reason for migration is the economic situation, so how can someone who suffers from a lack of income source and spends a lot of money even reach Europe?”⁶³ As another stated, “People have no choice but to be resilient because they are forced to stay here. They have no alternative.”⁶⁴

At the same time, the fact that 50% of respondents indicated that they were not considering moving suggests that there were also strong reasons to stay. As a community leader put it, “Some people are deeply connected to their place of residence and find it hard to relocate. Others cannot leave behind family members who are elderly or unwell.”⁶⁵ Others reportedly stay because they have connections to the current administration.⁶⁶

Respondents who reported that (part of) their household was considering or had already made plans to move (n=107) were asked to reflect on the urgency of mobility on a scale of 1 to 10, where 1 is “there is no pressure to move and it is a free choice” and 10 is “it is no choice at all and there is an urgent need to move”. The most common answers were 4 (22%) and 5 (21%), indicating a relatively low level of pressure in the decision-making process.

Survey findings showed that international mobility aspirations were prevalent. Of the 78 respondents whose household members had moved in the ten years prior to data collection, roughly half (39) reported that the move was abroad. Among those who were considering moving at the time of data collection (n=103), the vast majority (93%) said they would move to another country rather than within Syria. When asked about their preferred destinations, 68% of those considering migration abroad (n=96) said Germany, followed by Türkiye (8%), Iraq (7%), Lebanon (7%), Austria (4%), the Netherlands (2%), Sweden (2%), and Bulgaria (1%). Key informants also confirmed that Europe, particularly Germany, was the most common destination for those leaving Al-Hasakeh.⁶⁷

Nonetheless, qualitative research revealed a more nuanced picture of internal mobility. Echoing what many other participants mentioned, one woman stated, “climate-related mobility is mostly internal, from rural areas to cities... Some people move to cities and settle there while continuing to farm their land, visiting it periodically.”⁶⁸ Focus

62 Respondents could select more than one answer. The graph displays the most common responses. Remaining answers included: A route or plan for the journey (13%), Access to transportation (10%), Social support - family/friends - in destination (7%), Permission from a family member or guardian (3%), Care for dependents (children/ people with sickness or disabilities) as individual settles in place of destination (2%), Trusted connections to assist with the journey (2%), and Someone to look after business or farming activities here in my absence (1%).

63 Focus group discussion, Syrian women 25+.

64 Focus group discussion, Syrian women 25+.

65 Key informant interview, Community leader.

66 Focus group discussion, Syrian men 25+.

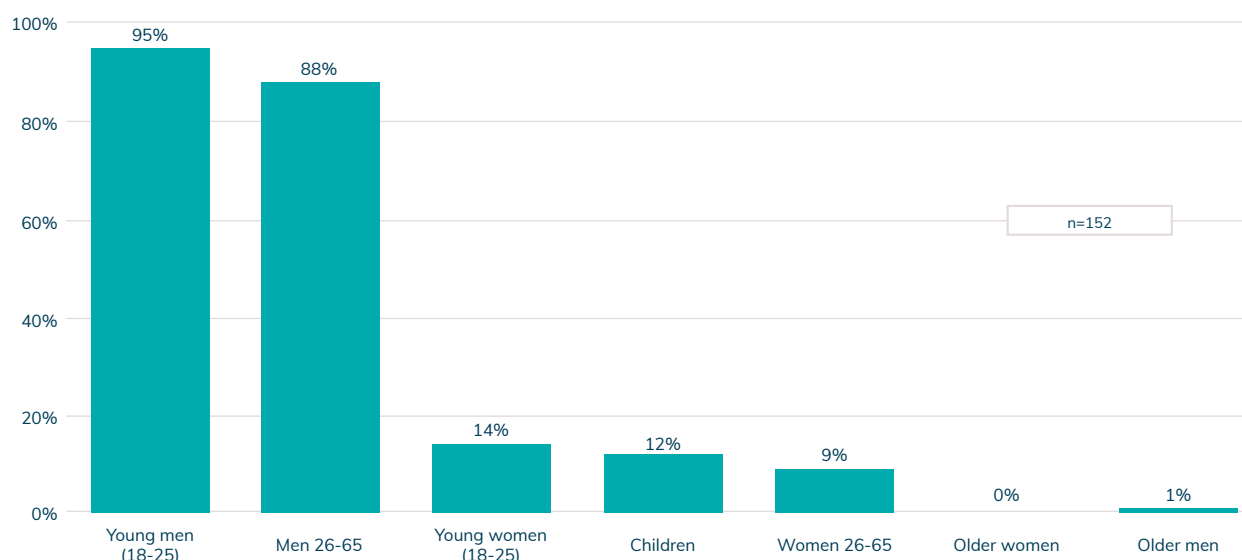
67 Key informant interview, Climate change expert.

68 Focus group discussion, Syrian women 25+.

group participants also indicated that communities from the southern countryside of Al-Hasakeh were increasingly moving to major cities in search of income sources due to the collapse of agricultural and pastoral livelihoods linked to insufficient rainfall and drought.⁶⁹

Finally, **respondents highlighted that mobility patterns have led to family separation.** Among respondents who indicated that movement occurred regularly within their community (n=211), 72% said that when households moved, only part of the household typically relocated, while 28% said the entire household moved together. As shown in Figure 6, young men (aged 18–25) and adult men (aged 26–65) were reported to be the most likely to move.

Figure 6. Groups within the community who are more likely to move, as reported by respondents who mentioned only part of the household typically relocates⁷⁰



Some participants reflected on factors that mitigated the desire for mobility. **Many expressed a sense of loss associated with leaving their communities.** As one participant explained, “Many people did not initially want to move, as they were accustomed to their lives in their region and wanted to keep their communities together. However, climate risks became too significant to ignore.”⁷¹

Mobility was also linked to wider social changes. Interviewees noted that the war and movement abroad have contributed to an increase in the number of female-headed households: “Many families are now supported by women for various reasons, including the martyrdom of men during armed conflicts in the region, migration abroad (to Europe), and the arrest or disappearance of men, leaving their families without any information about them.”⁷² A representative from the local authorities further reflected that migration has “weakened familial and tribal connections, increased rates of early marriage, and led to a shift toward smaller family units striving to manage their affairs independently.”

There was a clear tendency towards permanent rather than seasonal or short-term mobility. Among respondents who said that people were moving within their community (n=211), 52% said that those who moved never returned, 42% said they rarely returned, and 6% said they sometimes returned; none said they returned often. Similarly, when asked about the type of mobility they would engage in, 61% of respondents who reported that (part of) their household was considering or has plans to move (n=107) said they would leave permanently, 20% were unsure, 17% stated that they would go for a few years, and no plans for seasonal mobility were reported. Interviewees also confirmed that those who move to cities typically intend to remain permanently.⁷³

Overall, household respondents reflected a fairly positive view of mobility outcomes. Among those who reported that at least one member of their household had moved (n=78), nearly twice as many said that migration improved their situation (51 respondents) compared to those who said it had not (27 respondents). Specifically, 28 said that moving had somewhat improved their situation, and 23 said they had achieved what they wanted through migration.

69 Key informant interview, Climate change expert.

70 Respondents could select more than one option.

71 Focus group discussion, Syrian women 25+.

72 Key informant interview, Local authority.

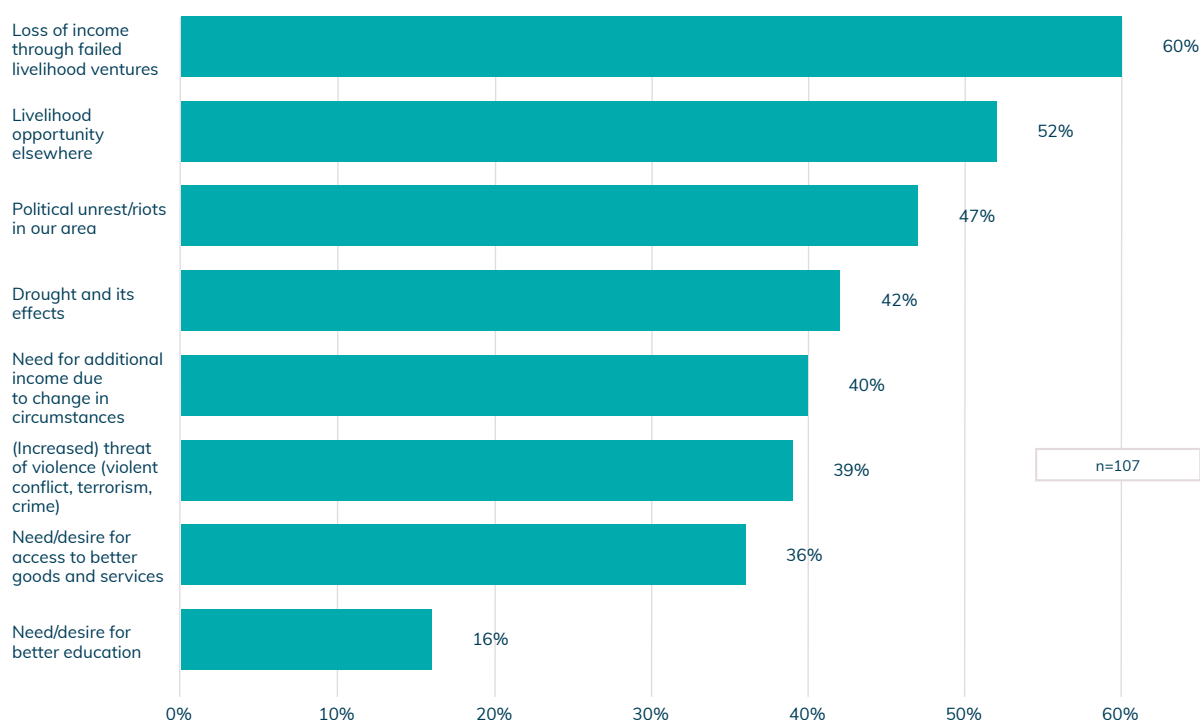
73 Focus group discussion, Syrian women 25+.

Impact of climate-related events on mobility

Climate hazards are playing an increasingly important role in shaping mobility dynamics in Al-Hasakeh, although economic factors remain the most commonly cited reasons for moving.

Conflict and climate-related challenges are deeply intertwined with economic decline, making it difficult to separate immediate economic pressures from their underlying drivers. Across both household and community levels, and spanning past experiences, current patterns, and future intentions, economic, climate-related, and conflict-related drivers consistently emerged as key influences, highlighting the persistent and structural nature of the pressures shaping mobility decisions.

Figure 7: Most reported drivers of mobility among community members⁷⁴



Several interconnected factors driving migration were cited:

- Economic factors were the most frequently cited drivers of mobility.⁷⁵** Among respondents who reported that (part of) their household was considering/planning to move, loss of income and seeking livelihood opportunities elsewhere were the most commonly reported reasons (see Figure 7). These economic drivers are closely linked to both climate hazards and conflict. As previously elucidated, income loss in Al-Hasakeh is often associated with agricultural failure resulting from drought or other climate-related stressors and the broader economic consequences of conflict. The observed patterns were consistent across other dimensions as well: economic drivers were also among the most frequently cited reasons when respondents reflected on past household movements⁷⁶ and broader community mobility.⁷⁷

⁷⁴ The subset represents those who did not say that mobility within their community is very uncommon or declined to answer that question. Respondents could select up to five answers. Other responses reported less frequently included: Water shortages (11%); Windfall or increase in income enabling migration (9%); Pests and diseases affecting crops/livestock (9%); Desire for new experiences (7%); Unpredictable rains (6%); Need/desire for better health facilities (5%); Marriage/ family reunification elsewhere (3%); Pollution (3%); Easing of restrictions on movement (2%); Extreme temperatures and their effects (2%); Loss of income/support due to death/illness of loved ones (1%); Sexual and gender-based violence (1%); Discrimination (religious, sexual, other) (1%); and Everyone else was moving (1%).

⁷⁵ Loss of income and livelihood opportunities were grouped together as economic factors.

⁷⁶ Among those who reported that at least one member of their household had moved in the 10 years prior to data collection (78), 28 cited the need for additional income due to a change in circumstances, and 26 cited a livelihood opportunity elsewhere.

⁷⁷ Respondents were asked to assess how common it was for people in their community to move out of Al-Hasakeh, using a scale from 1 (very common) to 5 (very uncommon). The figure (n=147) refers to those who did not select "very uncommon" or decline to answer. These respondents were then asked to identify the main reasons why members of their community had moved. Overall, 88% of respondents cited loss of income, 62% cited livelihood opportunities elsewhere, and 50% cited a need for additional income because of a change in circumstances.

- **Violence and insecurity also play an important role in driving mobility.** Among those whose household members had moved in the 10 years prior to data collection (n=78), 37 respondents cited threats of violence and conflict as a reason. Concerns around security appear to be growing: among those not currently considering moving (n=111), 66% said that increased violence would be a factor that might push them to leave in the future. Forced conscription was also cited in interviews as a key driver, particularly among young men: “The most migrating category is youth, mainly due to the compulsory recruitment imposed by the Autonomous Administration on young men aged 18 to 26.”⁷⁸
- **Climate hazards were less frequently cited but remained significant.** Among respondents whose household members had moved (n=78), 12 cited flood damage and 9 mentioned drought as reasons. Looking at broader community trends, 46% of respondents who reported that mobility was occurring (n=211) pointed to drought, 6% to extreme temperatures, and 2% to flood damage as key factors. Similarly, among those considering/planning to move (n=107), 42% identified drought and 11% mentioned water shortages as influencing their decision-making, while 1% pointed to flooding.

Education factors also influenced mobility decision-making. Although cited less frequently, 16% of those considering/planning to move (n=107) identified access to better education as a main reason. Key informant interviews highlighted that the existence of two competing curricula, one from the Syrian government and another from the Autonomous Administration, has led some families to move internally to areas where a preferred curriculum is available.

Despite the context of conflict and worsening climate conditions, economic factors remained the most commonly cited proximate causes of mobility. As one community leader summarised, “Mobility depends on your livelihood.” **However, both climate hazards and conflict clearly underpin much of the financial distress that emerged from the surveys, often seen as the drivers of economic decline.** As one focus group participant reflected, “What happened in terms of climatic changes in recent years is the straw that broke the camel’s back regarding migration because it prompted many people to resolve the matter and to move.”⁷⁹

In another example of the interconnectedness of factors, key informants also noted that international sanctions resulting from the conflict had deepened the country’s economic collapse, further contributing to migration pressures. Meanwhile, climate factors appear to be gaining in importance. Drought was more frequently cited as a current reason to consider moving than as a past cause of mobility. Nearly all (98%) respondents who reported that their household was impacted by drought (n=122) said that drought conditions had worsened over the five years prior to data collection.

Finally, findings highlighted thresholds beyond which households would reconsider their current decision to stay. Among respondents who reported that no one in their household is considering moving (n=111), 49% said that a direct threat to their survival would be required to prompt them to move, while 23% said that an irreparable loss would trigger such a decision. Among those who already cited drought as a reason for potential mobility (n=45), 41 respondents said that drought would affect their decision-making “a lot,” further reinforcing the growing impact of climate hazards on mobility dynamics in the governorate.

Summary

Climate hazards have had a significant impact on those living in Al-Hasakeh governorate. Respondents reported experiencing, and in many cases being heavily affected by, a range of climate hazards. These environmental pressures have interacted with conflict, poverty, and political instability to drive interest in mobility. The compounded vulnerabilities weakened the resilience of the community, further undermining confidence in the possibility of successful adaptation.

Despite widespread interest in moving, few appeared to have the resources to do so in the short term. This may be partly due to the fact that mobility strategies in the region tend to focus on longer-distance moves abroad, which require significant financial resources, rather than on shorter-term or rural-urban mobility. It is also likely that many of those with sufficient means have already left.

While it remains unclear how the recent fall of the Assad regime (which occurred after the field data collection) will affect the semi-autonomous status of Al-Hasakeh, the formation of a functional political system capable of effectively addressing climate hazards seems distant. In this context, **involuntary immobility is likely to grow. If conditions on the ground continue to deteriorate, there may also be a shift toward less costly internal movement strategies within Syria.**

⁷⁸ Focus group discussion, Syrian men 25+.

⁷⁹ Key informant interview, Community leader.

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