

From climate stress to social strain

Migration, governance and local resilience in Iraq

RESEARCH REPORT



TO CITE THIS PAPER

Berghof Foundation. 2026: From climate stress to social strain: Migration, governance and local resilience in Iraq. Berlin: Berghof Foundation.

ACKNOWLEDGEMENTS

This report owes its existence to the dedication and openness of communities across Iraq. The research team – including Mercy Hands – extends heartfelt thanks to farmers, local leaders, women’s groups and youth who contributed their time and insights, often during extreme heat and uncertainty. The research team is grateful to the Berghof Foundation for its vision and partnership under the Infrastructures for Peace (I4P) programme and to the Dutch Ministry of Foreign Affairs for its steadfast support of locally-led peacebuilding. Appreciation also goes to the field researchers, translators and civil-society partners whose commitment ensured this study remained grounded in reality.

This report presents a concise synthesis of key findings and insights from a broader, in-depth research study procured by GIST for the Berghof Foundation.

FUNDED BY



Ministry of Foreign Affairs

COVER: PHOTO © BERGHOF FOUNDATION

PUBLISHED BY

Berghof Foundation

Berghof Foundation Operations gGmbH
Lindenstrasse 34 10969 Berlin Germany
www.berghof-foundation.org

© 2026. All rights reserved.



LIST OF ABBREVIATIONS

KII	Key informant interview
FGD	Focus group discussion
LLM	Large language model
CMIP6	Coupled model intercomparison project phase 6



CONTENTS

1	Introduction	5
2	Methodology	6
3	Climate, environmental and conflict trends	7
3.1	Migration and displacement dynamics	8
3.2	Governance and local institutions	10
4	Key findings	12
5	Implications	15
6	Recommendations	17
7	Conclusion	19
	Endnotes	20
	Bibliography	21

1 Introduction

Iraq's climate emergency has become one of the most pressing threats to human security and social stability in the region. Rising temperatures, shrinking rivers and recurring droughts are reshaping both the physical environment and the political landscape. For communities already weakened by decades of conflict and economic fragility, these environmental stressors are no longer peripheral, but they define daily survival and intensify existing vulnerabilities.

This report presents a concise synthesis of key findings and insights from a broader, in-depth research study. It examines how climate change, migration and social cohesion intersect across four climate-affected governorates: Nineveh, Diyala, Kirkuk and Al-Sulaymaniyah. Using a multi-layered methodology that combines desk reviews, secondary quantitative analysis and field-based insights from key informant interviews (KII) and focus group discussions (FGD), the underlying research captures the lived realities of local communities behind policy debates and provides evidence-based recommendations.

The findings underscore that climate change in Iraq is not merely an environmental or technical challenge but is fundamentally a question of governance, trust and the social contract. Environmental pressures such as drought and desertification act as “threat multipliers,” exacerbating socio-economic fragility and influencing migration patterns, but they do not operate in isolation. How these challenges are managed – whether through inclusive governance or exclusionary practices – can either erode institutions and fuel tensions or strengthen cooperation and peace (Mamshai, 2025).

Hence, this research seeks to understand the interlinkages between climate change, migration and social cohesion in Iraq. It analyses how increasing environmental stress has intensified socio-economic vulnerabilities and displacement and how governance systems, traditional authorities and existing power relations shape the effects of climate-induced migration on community relations and stability. The findings are intended to inform policies and programmes aimed at enhancing community resilience, supporting fair and inclusive resource management, and integrating peacebuilding considerations into climate adaptation efforts. With a strong focus on gender, governance and locally driven solutions, the research adopts a comprehensive approach to addressing the combined challenges of environmental stress and migration in Iraq's fragile political context.

2 Methodology

The in-depth research study began with an extensive desk review of climate and migration datasets, which informed the identification of priority regions and thematic areas for deeper inquiry. Primary data collection was participatory and locally grounded, ensuring contextual relevance and inclusivity. It involved 81 KIIs and eight FGDs across the governorates of Nineveh, Diyala, Kirkuk and Al-Sulaymaniyah, supplemented by interviews in Baghdad and Erbil conducted by local researchers. Respondents included community members (among them host communities and internally displaced persons), local authorities, civil society organisations and government officials, providing diverse perspectives on climate-induced migration and its social implications.

MAP OF IRAQ HIGHLIGHTING RESEARCH LOCATIONS BY GOVERNORATE



SOURCE: PHOTO © BERGHOF FOUNDATION, 2026.

Secondary quantitative data was also analysed to provide further evidence for triangulation on migration and climate trends.¹ The data analysis combined computational and qualitative techniques. Documents were reviewed using a closed large language model (LLM) for initial theme extraction, followed by manual coding and synthesis to ensure rigour. KII and FGD transcripts were anonymised, translated into English and coded for thematic analysis. Ethical standards were strictly observed, including informed consent, confidentiality and cultural sensitivity. Despite limitations such as restricted gender representation in some areas, time constraints and gaps in official climate data, the methodology provided robust, field-grounded insights into the complex dynamics of climate change, migration and governance in Iraq.

3 Climate, environmental and conflict trends

Iraq faces an escalating climate emergency that is reshaping its physical and social landscape. Rising temperatures, prolonged droughts, water scarcity and desertification have severely impacted agriculture and livelihoods, particularly in rural areas. These environmental stressors act as “threat multipliers,” compounding existing socio-economic fragility and governance challenges. While climate change does not directly cause conflict or displacement, it amplifies vulnerabilities and interacts with security and economic pressures, creating conditions for migration and localised tensions. Migration often emerges as a strategic adaptation rather than a purely crisis-driven response, though persistent insecurity and weak governance structures complicate reintegration and resource-sharing.

Environmental trends vary across the four governorates studied. Diyala and Kirkuk, located in northern Iraq, experience some of the most severe drought stress and water deficits, with Diyala recording the highest number of climate-related conflict events in Iraq, often linked to irrigation disputes and service outages.² Nineveh, also located in northern Iraq, faces recurrent droughts, declining vegetation cover and frequent dust storms, which have devastated agriculture and heightened desertification risks. Al-Sulaymaniyah, while relatively cooler and wetter, still suffers from water shortages, rapid urbanisation and periodic flooding, which disrupt infrastructure and livelihoods. Across all governorates, rainfall variability and water use continues to exceed natural replenishment,³ with no surplus years recorded between 2014 and 2024, underscoring chronic water scarcity.

Iraq is expected to experience above-average warming in the coming decades, increasing climate-related stress in an already fragile environmental context. According to global climate models, Iraq is predicted to warm faster than the global mean, although there is substantial uncertainty range across climate models. As shown in figure 2 below, CMIP6 ensemble projections from the World Bank Climate Change Knowledge Portal indicate that Iraq is expected to warm by about +1.1 °C by the 2030s and +1.9 °C by the 2050s.

In addition, upstream water control by neighbouring states is intensifying Iraq’s structural water scarcity and compounding climate-related pressures, fuelling grievances over resource allocation (SIPRI, 2023). Furthermore, dust storms and industrial pollution compound health risks and strain essential services, particularly in Nineveh and Kirkuk, where damaged infrastructure and oil-related emissions worsen air quality. These environmental pressures have already triggered localised

protests over water and electricity shortages, highlighting the fragility of service provision under climate stress (OCHA, 2022).

Conflict dynamics increasingly reflect these environmental challenges. While overall conflict events have declined since the peak of the ISIL insurgency period in 2014-2017, climate-related disputes – such as protests over water and power outages – have spiked during drought years, notably in Diyala (2020) and Kirkuk (2022-2023). Nineveh and Al-Sulaymaniyah show lower levels of climate-related conflict but remain vulnerable to localised unrest. These incidents are rarely violent but signal growing contention over essential resources.

3.1 Migration and displacement dynamics

Environmental stress, particularly drought, water scarcity and desertification, has become a major driver of migration in Iraq, intersecting with economic hardship and security concerns (IOM, 2025). Migration is often an adaptive strategy rather than a sudden crisis response, but prolonged environmental decline is turning temporary moves into permanent relocation. Farmers and herders are the most affected according to the interviews and focus group discussions, as collapsing agriculture and livestock sectors undermine rural livelihoods. Women and youth face heightened vulnerability, with increased child labour, early marriage and school dropouts reported. While large-scale tribal violence linked to water disputes was not observed or reported in the northern governorates studied, interviewees warned that – with current conditions persisting – Diyala, Kirkuk and Nineveh could begin to mirror patterns of resource-related clashes already seen in southern Iraq (BasNews, 2025). The following section provides brief snapshots of the climate-related migration and displacement dynamics in each of the four governorates studied.

Diyala

Diyala faces one of the most severe water crises. Lake Hamrin, a human-made lake approximately 50 km north-east of Baqubah, has lost almost all of its storage capacity and upstream water cuts by Iran have devastated irrigation systems, leaving thousands of acres of land barren (ShafaqNews, 2025). Villages such as Mandali and Qazaniya are showing signs of desertification, with farmers increasingly relying on costly deep-well drilling to access water. In Barwana, crop failures have led families to abandon agriculture entirely, while Al-Hakim village saw its buffalo population collapse, destroying a once-thriving dairy economy (Jadeed, 2025). Migration from rural Diyala to urban centres like Baqubah is accelerating, initially as seasonal movement but increasingly permanent. Interviewees, including local residents and community representatives, reported women and children bear the brunt of this crisis, with rising child labour and early marriages.

Kirkuk

Kirkuk’s agricultural heartland is crumbling under drought and water scarcity. The drying of the Palkana Dam and reduced flows in Al-Zab river have crippled irrigation projects, leaving villages like Al-Garhat without water for crops or livestock. Farmers in Al-Abbasi and Dibis report wheat yields cut by half, while herders struggle with the cost of fodder as natural pastures vanish. Farmers describe losing large green spaces due to the lack of irrigation, a stark indicator of desertification. Service failures compound the crisis: saline water and frequent power outages have triggered protests, such as the June 2024 demonstration in Bajwan over 12-day water cuts. These pressures are pushing rural families towards Kirkuk city and beyond, with youth unemployment and debt accelerating the shift away from traditional livelihoods.

Nineveh

Once Iraq’s “breadbasket,” Nineveh is experiencing significant agricultural decline (ACAPS, 2018). Rain-fed farming is no longer viable and groundwater levels in Sinjar and Makhmour have dropped by up to 40 meters (World Bank, 2022). Farmers in Makhmour report devastating losses: one interviewee harvested 60 tons of wheat but could sell only 15 tons to government silos. He thus had to sell the rest in other

“ This year I harvested 60 tonnes of wheat, but the government accepted only 15 tonnes. [...] We all lost this year. It’s not just about numbers – it’s about our main source of life, and whether we can even stay in this region.

FARMER FROM MAKHMOUR

”

markets at prices that are less than the expenses incurred to produce the wheat. This forced him to migrate after years of mounting debt. Villages like Kokjli and Abu Jarboua have seen livestock herds nearly disappear, while dust storms and rising salinity are worsening living conditions.

Migration from rural Nineveh plains is surging, with many

people moving to cities such as Mosul, Erbil and Duhok, while others – particularly ethnic and religious minorities like Yazidis and Christians – are increasingly also seeking opportunities abroad. This shift signals a permanent break from farming traditions and a demographic reshaping of the governorate (Save the Tigris, 2021).

Al-Sulaymaniyah

Al-Sulaymaniyah faces acute water shortages and desertification. According to interviews and local reporting, around 80 per cent of wells are depleted and half of the villages rely on tanker-supplied water. In Chamchamal district alone, over 300

villages lack adequate water, prompting emergency deliveries of 1.5 million litres per day to underserved areas (RUDAW, 2025). Agricultural livelihoods have been severely affected: farmers report wheat yields slashed by two-thirds, leaving many households trapped in debt cycles, while livestock herds have also collapsed. These pressures are reshaping migration patterns. Seasonal movement within the governorate is increasingly giving way to permanent relocation to urban centres like Kalar and Chamchamal, while younger people are increasingly seeking education or jobs abroad. This trend signals a generational exit from agriculture. The growing influx of migrants into cities is straining services around housing and water, creating new social tensions, as reported by interviewees.

3.2 Governance and local institutions

Iraq's formal adaptation efforts – led by the ministries of environment, water resources and agriculture – remain largely policy-driven and under-resourced. While communities typically expect local authorities and governorates to respond to water shortages and climate-related service failures, governorates have limited discretionary budgets and authority to act, constraining their ability to deliver timely or effective responses.

In this vacuum, informal governance systems have become crucial. Tribal mediators, religious authorities and community committees manage water rotation,⁴ grazing rights and dispute resolution. In Diyala, canal usage is negotiated weekly among tribal representatives. In Chamchamal, according to a local government official, 300 of the 440 villages have been affected by drought and water scarcity, with no



PHOTO © BERGHOF FOUNDATION, 2026.

dedicated budget allocations to respond to their needs.

Neighbourhood committees have taken on the coordination of truck-based deliveries of drinking water. The efforts are supported by the Kurdistan Regional Government's ministry of natural resources currently providing approximately 1.5 million litres per day. According to interviews, these arrangements help prevent escalation in the short term but remain fragile, uneven and dependent on local power dynamics.

The most stable outcomes appear where formal and informal actors cooperate. In Kirkuk (2024) for example, joint mediation between a local sheikh and the district

agriculture office helped resolve a months-long irrigation dispute without violence, according to interviewees. Such cases suggest that strengthening coordination between state institutions and locally legitimate actors may be critical to managing climate-related pressures and preventing conflict as environmental stress intensifies.

4 Key findings

1 Environmental stress creates both conflict and cooperation

The research points to a central paradox: identical environmental pressures produce contradictory social outcomes. Water scarcity has simultaneously produced different outcomes, depending on how water access is governed. In Kirkuk, particularly in Al-Hawija, farmers long relied on state managed canal systems fed by Al-Zab river, many of which were damaged in former conflicts. In response, water user's associations have been formalising fair water-distribution rules and, in some locations, farmers take turns to irrigate according to a schedule. Where wells and communal pumps are used (including newer solar-powered units), communities report coordinated usage to reduce conflict. Elsewhere, however, constrained supply and restrictions have fuelled local tensions over canal and well access. Examples include canal closures that affected downstream farmers in parts of Salahaddin during the summer of 2023, as well as recurring tribal disputes in the southern governorates during periods of acute water shortages (NRC, 2023).

2 Traditional governance outperforms formal institutions

Informal local governance institutions currently play a central role in managing resource-related disputes at the community level. These councils or customary dispute-resolution bodies include tribal sulh (reconciliation) councils led by sheikhs or aghawat (local notables), mukhtar-led village committees and elders' assemblies. These traditional governance systems tend to resolve disputes more quickly – often within days rather than months – while remaining culturally attuned and fostering strong community compliance. Their processes address not only the practical aspects of resource allocation but also the relationship dynamics that shape long-term cooperation. These bodies mediate day-to-day disputes over water turns, grazing and access to shared infrastructure, offering fast, culturally appropriate remedies and low transaction costs for residents.

Across the governorates studied, such mechanisms have proven effective in containing low-level disputes but remain limited in scale. In Nineveh (Zummar sub-district), weekly committees of customary leaders (sheikh/aghā, mullah and wujāha) act as the first stop for housing, land and property cases and related resource-access issues; in Girvir village, the mukhtar and elders verify ownership and broker sulh before cases reach the courts. In Al-Hawija (Kirkuk), climate-linked water stress has been addressed through locally-led mediation platforms where community leaders worked with the water directorate to keep pumps operating and agree on water-sharing across villages. In Al-Sulaymaniyah districts, community institutions (e.g. the so-called “anjomann” which translate to “council” in English)

have long managed land and water allocation through localised decision-making and negotiated rules (Berghof Foundation, 2023).

At present, such mechanisms are appropriate to the scale and nature of conflicts observed. However, they are not a substitute for formal governance. Should climate change and environmental degradation – including water scarcity and prolonged droughts – continue to intensify, the scope and complexity of resulting disputes are likely to exceed the capacity of traditional systems (SIPRI, 2023). Under these circumstances, robust and sustained intervention by formal governmental institutions will be required to ensure effective conflict resolution and resource management.

3 Migration is strategic adaptation, not crisis displacement

Environmental migration follows specific demographic patterns rather than random displacement. Available data and field interviews indicate that farmers and herders are the most likely to move, with mobility typically flowing from rural areas to nearby towns and cities within the same governorate. In many cases, this movement is adaptive and temporary: families relocate to cope with environmental stressors, maintain close ties with their origin communities and return when conditions improve (Berghof Foundation, 2023).

However, where environmental decline is prolonged or compounded by insecurity and service collapse – particularly sustained water shortages, electricity failures or damaged irrigation – temporary mobility increasingly hardens into permanent relocation. In many cases, initial movement serves as an adaptive strategy, enabling households to cope with environmental stress by diversifying livelihoods while maintaining social and economic ties to their rural communities. When environmental pressures persist and service provision does not recover, however, these coping strategies become harder to sustain, and migration increasingly takes on a more permanent character.

4 Women demonstrate leadership while facing systematic exclusion

The research found that women play a significant but largely informal role in managing climate-related stressors, particularly in contexts of water scarcity and displacement. Interviews and focus group discussions indicate that women are often central to day-to-day conflict prevention, including negotiating water use within extended families, coordinating access to shared wells or tanker deliveries, and mediating tensions arising from household relocation following well failures or irrigation cut-offs. In rural areas experiencing climate displacement (e.g. households compelled to relocate after well failures or irrigation cut-offs) and climate migration (e.g. seasonal labour/herding moves to manage water scarcity), women shoulder water collection and household resource management but are routinely left out of formal meetings on water allocation and rangeland use, despite being among those most affected by the outcomes.

There are, however, notable exceptions. While focus group discussions indicated that in some villages women are “never” invited to such meetings, experiences vary in parts of Al-Sulaymaniyah and Kirkuk, where NGO-led initiatives have facilitated women’s participation in these processes, demonstrating that inclusion is possible where targeted support is provided.

5 Perceptions of preparedness exceed actual readiness

Across the governorates studied, communities often express confidence in their ability to cope with environmental stress, yet this perceived preparedness is not matched by effective institutional support. Interviews point to a persistent gap between local coping strategies and the capacity of state systems to anticipate, manage and respond to climate-related shocks. This disconnect is closely linked to weak coordination between federal and local authorities on water and climate services.

The constraints occur at multiple levels. First, technical gaps limit effective preparedness,⁵ including weak hydrometeorological monitoring, insufficient forecasting and service-delivery skills as well as underuse of available early-warning products (UNDP, 2022). Second, governance and coordination constrain timely responses, with centralised, top-down decision-making that requires governorates to seek funding and authorisation from Baghdad or Erbil, while responsibilities for climate and water are split across several ministries and directorates, slowing action and blurring accountability. Third, financing constraints leave local directorates with insufficient resources to translate plans into operational responses (World Bank, 2022).

Together, these factors produce a perception-preparedness gap: communities lack practical early warning, contingency planning and timely assistance when environmental stressors exceed local adaptive capacity, leading to frequent critiques of local support as ineffective or under-resourced.

6 Intersectional vulnerabilities amplify environmental impacts

Environmental stressors do not affect all groups equally. In the four governorates, climate hazards reduce yields, raise input and water costs, and disrupt pasture and seasonal work, triggering sharp income shocks. These shocks fall hardest on agricultural households – especially rain-fed smallholders, tenant/sharecrop farmers and pastoralists – that may be driven to sell land or livestock and abandon livelihoods.

Vulnerability is compounded for groups already facing structural disadvantages. Minority communities in Nineveh (e.g. Yazidis and Christians) experience layered risks from past displacement, combined with current environmental stress. Women and girls take on more unpaid labour such as water collection or care work, while being excluded from resource-allocation fora. This often increases the risk of early marriage as a negative coping strategy. Youth see opportunities contract as climate-related mobility (both climate migration and climate displacement) increases, and those who move often miss schooling and face tight labour markets. Displaced/returnee and female-headed households are further exposed by insecure tenure, debt and limited access to credit and assistance. As a result, the same climate shock produces harsher coping (asset sales, school dropout, early marriage, permanent moves), thinning community cohesion and amplifying the social impacts of environmental change.

5 Implications

Climate-induced migration does not create new conflicts from scratch but amplifies existing governance gaps and social vulnerabilities. Where trust in institutions is low, drought accelerates fragmentation and erodes social cohesion. Conversely, where dialogue platforms and inclusive mechanisms exist, resource scarcity can reinforce cooperation rather than fuel discord. This dynamic underscores that climate adaptation must be treated as peace infrastructure, not merely an environmental policy, because governance and social cohesion are central to resilience.

Formal government institutions often struggle with slow implementation, weak enforcement and chronic underfunding. In Diyala and Kirkuk, policies on water management and agriculture remain largely aspirational, while infrastructure projects such as the Goptapa-Chamchamal strategic water project highlight the persistent gap between planning and delivery: despite a government allocation of approximately USD 87 million and its launch in August 2024, the project remains only around seven per cent complete, even as Chamchamal receives less than half of its required daily water supply and relies on emergency tanker deliveries. Bureaucratic delays and limited transparency further erode trust, leaving communities increasingly dependent on informal coping systems. Without stronger governance capacity, climate stress risks deepening institutional fragility and accelerating migration. Bureaucratic delays and limited transparency further undermine trust, leaving communities reliant on informal systems. Without stronger governance, climate stress risks deepening institutional fragility and accelerating migration.

Civil society organisations and international actors play a critical role in bridging governance gaps, providing practical tools such as drip irrigation systems, wells and training programmes. However, their efforts are often short-term and constrained by funding. The findings call for a strategic shift: international assistance should move beyond emergency relief toward governance-based resilience, thereby strengthening transparency, participation and local ownership in resource decisions. This approach would empower communities to manage scarcity collaboratively and sustainably.

Tribal elders, mukhtars and religious figures remain the most trusted mediators of resource disputes, offering rapid and culturally embedded solutions. Examples include rotational water-sharing systems in Kirkuk and farmer-herder conflict resolution in Nineveh. Women's committees and early-warning groups also emerge as vital actors, yet they are often excluded from formal decision-making. Investing in

these local negotiation platforms is essential, as they represent Iraq's primary safeguard against both drought and discord.

Climate migration and governance are inseparable. Strengthening local institutions, integrating civil society organisations into formal planning and leveraging traditional mechanisms can transform climate stress from a driver of fragmentation into an opportunity for cooperation. Treating adaptation as peacebuilding – through inclusive governance, early-warning systems and participatory resource management – offers the most sustainable path to resilience in Iraq's fragile context.



DIALOGUE SESSION AND TRAININGS CONDUCTED IN BASRA GOVERNORATE. PHOTO © PEACE PARADIGMS ORGANISATION & BERGHOF FOUNDATION, 2026

6 Recommendations

For international partners

- Support and adapt locally proven approaches. Back the expansion of community-based water management practices, such as the water-rotational irrigation and use of solar-powered pumps in Kirkuk and Nineveh, while ensuring safeguards against groundwater depletion.
- Support initiatives that enable meaningful involvement of women in mediation and water management.
- Provide targeted funding of local mediation and adaptation projects run by women's networks with direct control over funds which allow them to design and implement initiatives, not just participate.
- Invest in linking local rainfall and water monitoring to national drought early warning and support practical dissemination of alerts to communities and local authorities.
- Ensure climate and development funding considers conflict-sensitive and socially inclusive approaches, with attention to differential impacts on women, youth, minorities and displaced populations.
- Use neutral, technical platforms to facilitate data sharing and coordination between federal and Kurdistan Regional Government authorities on water management and climate risk.

For the federal and Kurdistan regional governments

- Institutionalise coordination and establish a permanent climate and water coordination mechanism with joint budgeting powers to improve planning, information-sharing and crisis response, with scope to deepen cooperation over time.
- Prioritise rehabilitation of critical water infrastructure. Focus on restoring key systems damaged by war or neglect, including the Goptapa-Chamchamal system and repair feeder canals in Diyala and Nineveh.

- Formally recognise and work with tribal, religious and community mediation structures that are already managing resource-related disputes, while clarifying their linkages with formal legal and administrative systems.
- Decentralise budgets and provide governorates with flexible funding windows to respond to drought and water shortages, reducing delays caused by centralised approval processes.
- Mainstream social inclusion and integrate gender, youth and minority priorities into all climate strategies.

For local communities and civil society

- Document customary water-rotation schedules, grazing arrangements and mediation practices to preserve institutional memory and reduce disputes during leadership transitions.
- Encourage the participation of women and youth in community water and peace committees, building on examples where inclusion has improved communication and reduced tensions.
- Link water and land management initiatives with context-appropriate livelihood options, such as drought-resilient crops or small-scale off-farm activities, to reduce pressure on scarce resources.
- Combine traditional environmental indicators like bird migration with meteorological data to improve local preparedness and response to drought and water scarcity.
- Strengthen inter-tribal cooperation and convene regular cross-community fora on shared resource management.

7 Conclusion

Iraq's climate crisis is advancing faster than institutional reforms, exposing deep governance gaps while amplifying social vulnerabilities. Climate stress acts as a threat multiplier – it does not create new conflicts in isolation but intensifies existing weaknesses in resource management and service delivery. Formal institutions remain slow, underfunded and fragmented, leaving communities to rely on informal mechanisms and civil society actors. Tribal councils, mukhtars and elders provide rapid, culturally embedded solutions to water and land disputes, while women play critical roles in household resource management and informal mediation despite being excluded from formal decision-making. Migration patterns reflect this fragility: initially adaptive and temporary, rural-to-urban movement increasingly becomes permanent as drought, insecurity and service failures persist.

Yet across all four governorates, ordinary Iraqis demonstrate remarkable resilience and solidarity. Communities are innovating through water-sharing agreements, rotational irrigation schedules and solar-powered pumps, while local councils and women's networks prevent disputes from escalating. These practices represent functional governance from below – a grassroots capacity that national actors could harness and scale. If supported through inclusive governance, early-warning systems and targeted investment, Iraq can transform climate vulnerability into a platform for renewed legitimacy and peace. Failure to act, however, will deepen displacement, erode confidence in the state and fracture social cohesion.



ENDNOTES

¹ In terms of the quantitative data used, data availability, measurement limitations and regional disparities constrain the findings. First, ACLED conflict data includes both lethal and non-lethal events, which may lead to an overestimation of conflict activity compared to datasets that only track armed fatalities (e.g. UCDP). Second, climate data availability is limited, particularly for drought indicators. The SPEI dataset only extends to 2022, meaning that more recent drought trends (2023-2024) could not be fully analysed. Additionally, rainfall and temperature data were averaged annually and may have overlooked short-term anomalies, which can obscure the role of extreme weather events. Finally, displacement data reflects broad migration patterns but does not differentiate between conflict-driven and climate-induced mobility.

² These are ACLED-flagged incidents containing terms linked to land, water or livelihoods (e.g. farm, crop, drought, agriculture, etc.). This keyword-based approach is a proxy, not proof of causation. Some flagged events may simply be ordinary political or criminal disputes happening on farmland or during service protests. They should therefore be read as an upper bound of potential climate-related tensions.

³ The annual water-balance (precipitation minus evapotranspiration) remains negative throughout 2014-2024, meaning evaporation consistently exceeds rainfall.

⁴ Water rotation is a system where farmers organise themselves into groups and take turns accessing irrigation water from a shared channel, ensuring fair and orderly distribution of water among users.

⁵ Hydrometeorological monitoring is the systematic observation and measurement of weather and water-related variables, such as rainfall, temperature, river flow and groundwater levels, to understand, manage and predict water and climate-related conditions and risks.



BIBLIOGRAPHY

ACAPS (2018, December 7). *Iraq Floods in Ninewa and Salah al-Din*. Retrieved from https://www.acaps.org/fileadmin/Dat a Product/Main media/20181207_a caps_briefing_note_floods_in_iraq.pdf

BasNews (2025). *Environmental experts: Water scarcity worsening drought is a new cause of tribal conflicts in southern Iraq*. Retrieved from <https://www.basnews.com/ar/babat/888194>

Berghof Foundation (2023). *Climate Change Effects on Conflict Dynamics in Iraq*. Berlin. Retrieved from <https://berghof-foundation.org/library/climate-change-effects-on-conflict-dynamics-in-iraq>

IOM (2025). *Understanding the needs and vulnerabilities of climate-induced migration in Iraq*. Retrieved from https://iraqdtm.iom.int/files/Climate/2025619044711_IOM_DTM_CVA_June-2025.pdf

Jadeed, A.-A. A. (2025, May 31). *Al-Sudani directs solutions to Diyala's agricultural problems*.

Mamshai, F. (2025). *Environmental Security and Communal Conflict in Iraq*. Virginia: Arlington.

NRC (2023). *Inadequate and Inequitable: Water Scarcity and Displacement in Iraq*. Retrieved from: <https://www.nrc.no/resources/reports/inadequate-and-inequitable-water-scarcity-and-displacement-in-iraq>

OCHA (2022, March). *Iraq: Humanitarian Needs Overview*. Retrieved from <https://www.unocha.org/publications/report/iraq/iraq-humanitarian-needs-overview-2022-march-2022>

RUDAW (2025, August 5). *Farmers Union: 50% of Sulaimani villages are supplied with water by tankers*. Retrieved from: <https://www.rudaw.net/sorani/kurdistan/0508202518>

Save the Tigris (2021, March 5). *Water transfer projects threaten the lesser Zab*. Retrieved from <https://savethetigris.org/water-transfer-projects-threaten-the-lesser-zab>

ShafaqNews (2025, April 05). *The drought of the Diyala lifeline threatens desertification and the displacement of dozens of farming villages*. Retrieved from <https://shafaq.com/ar>

SIPRI (2023). *Climate, Peace and Security Fact Sheet: Iraq*. Stockholm.






UNDP (2022). *Report on Drought. Early Warning System in Iraq*. Retrieved from https://www.undp.org/sites/g/files/zskgke326/files/2024-06/institutional_survey_assessment_report_on_drought_early_warning_system_in_iraq.pdf

World Bank (2022). *Addressing Water Scarcity and Climate Change*.

World Bank (2022). *Environmental and Social Review Summary: Iraq Emergency Operation for Development Project*.

**BERGHOF FOUNDATION
OPERATIONS GGMBH**
Lindenstraße 34
10969 Berlin
Germany

www.berghof-foundation.org
info@berghof-foundation.org

 [@berghoffnd.bsky.social](https://twitter.com/BerghofFnd)
 [@BerghofFnd](https://twitter.com/BerghofFnd)
 [/BerghofFoundation](https://www.facebook.com/BerghofFoundation)
 [/berghof-foundation](https://www.linkedin.com/company/berghof-foundation)
 [@berghoffnd](https://www.instagram.com/berghoffnd)