

Inadequate and inequitable: water scarcity and displacement in Iraq



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The Norwegian Refugee Council (NRC) is an independent humanitarian organisation helping people forced to flee. In crises across 40 countries, NRC provides emergency and long-term assistance to millions every year. NRC promotes and defends displaced people's rights locally, nationally and on the world stage.

Cover photo: Alone boat rests beside traditional Mudhif houses in the marshes of Mesopotamia. Fareed Baram/NRC



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Acronyms

EU	European Union
IDP	Internally Displaced People
IOM	International Organisation for Migration
GoI	Government of Iraq
KfW	Kreditanstalt für Wiederaufbau
KRG	Kurdistan Regional Government
MoWR	Ministry of Water Resources
NGO	Non-Governmental Organisation
NMFA	Norwegian Ministry of Foreign Affairs
NRC	Norwegian Refugee Council
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees


Introduction

Iraq's climate is changing faster than people can adapt. With each passing summer, new records are logged: record high temperatures, record low water levels. Between May and October, the heat scorches all that is dead and sears everything that lives. During the day, the sun forces people inside; in the evening, the heat lingers in cities that feel like the inside of a hair dryer.

All this is happening in a country rebuilding from 20 years of conflict; to 45 million people looking to find a way to move forward with their lives. While all in Iraq are affected, some face the summer with much less support than others. An estimated 1.2 million Iraqis are still displaced, in addition to the almost 300,000 Syrian refugees hosted in Federal and Kurdistan Region of Iraq.¹ While some internally displaced people live in homes, most live in makeshift shelters, often in airless tents at the mercy of the extreme weather. Across the country, year after year, the heat compounds their suffering, threatens to undo painstaking gains in livelihoods and food security, and makes climate change impossible to ignore in policy and action around displacement.

Despite the scale and speed of climate change across the country, and the impact it is already having on millions, international attention and support has been slow to mobilise. Humanitarian donors have largely deprioritised Iraq as the humanitarian response to the 2014 conflict transitions into development-oriented approaches. On the other hand, development donors have been slow to step forward, often citing Iraq's oil revenue as proof of the country's capacity to solve its own problems.² Combined, this gap in support has meant that communities recovering from conflict and displacement are now at risk of being displaced by impacts of the climate change as systems stretched by years of conflict approach breaking point.

Starting in 2021, the Norwegian Refugee Council (NRC) has issued a yearly report on the impact of drought in Iraq across four broad themes: **water security and governance, income and food insecurity, social tension, and drought and displacement**. Increasingly, our analysis indicates that extreme weather is, among other things, negatively impacting crop yields, access and functionality of market systems, exacerbating social schisms, and precipitating risks of secondary displacement. Analysis by our partners reinforce many of these findings: the United Nations estimates upwards of 130,000 Iraqis have been displaced by effects of climate change; and Mercy Corps estimates up to 40 percent of arable land might be lost in the next few years in the southern parts of the country due to desertification.³



NRC's yearly drought analysis aims to spur the development of policy and practice addressing the interlinkages between the climate crisis and displacement. As an agency focused on supporting people who have been forced to flee, we see an imperative to raise the alarm on a train careening off the tracks.

At the same time, the challenges this report engages do not take away from the gains that have been made. Despite the odds, Iraq has taken laudable strides in putting climate on the national agenda through accession to the Paris Agreement, annual international water conferences, and dedicated ministries that are responsible for climate change, water security and management. Unfortunately, the scale of the issue, and the speed at which the climate is changing means these policy and knowledge activities must lead to concrete action on mitigation and adaptation, and soon.

Lastly, the impacts for the climate crisis threatens not just the stability of Iraq, but the region as a whole. Food systems, water sharing, and climate security in the region are inextricably interlinked; and the impact of ebbs and flows in temperature are being felt across a diverse and complex geography.

Rivers dried by the heat of summer in southern Iraq. Photo: Fareed Baram/NRC

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Methodology

This report relies on three streams of data. First, NRC's 'post-harvest' survey is reviewed, which is conducted at the end of each summer and assesses the impact of climate change on crop yield. Run between July and August across four governorates —Anbar, Kirkuk, Ninewa and Salahaddin— the post-harvest survey is designed to understand the impact of climate change on yield of staple and cash crops. A second survey was conducted in the same governorates to understand the impact of drought conditions at a household level. Both surveys engaged 1,079 individuals, approximately 40 per cent of whom were women. 94 per cent of all respondents lived in rural areas, and 98 per cent had legal tenure to farming land. Approximately 10 per cent of engaged respondents reported disabilities.

Second, to assess whether surveyed trends applied to other regions of Iraq, a series of focus-group discussions (FGD) were conducted in Abu Ghraib in Baghdad, and Al-Zubayr and Al-Fao areas in Basra governorate. Insights from both surveys and FGDs were triangulated through desk research, and consultations with individuals from partner agencies, Iraqi academia, the Ministry of Water Resources, and officials from Directorates of Agriculture.

Third, NRC engaged a wide range of development and humanitarian donors in European capitals in August 2023 to understand donor positions as it related to climate and displacement in Iraq. Insights from consultations are reflected in analysis and recommendations.

Limitations

Notwithstanding the statistical validity of identified trends, there are methodological limitations to extrapolating findings beyond the geographic scope of the study. The bulk of data collected comes from four governorates, each with its unique social, political and environmental context. While strong correlations between climate change and displacement are established and reinforce findings from the last Intergovernmental Panel on Climate Change (IPCC) report, the absence of nationwide longitudinal surveys mean these trends should not be equated with causation.⁴ Furthermore, some questions were designed around individual perceptions, rather than actual quantities, particularly regarding precipitation and surface water availability. However, it should be noted that perceptions, accurate or otherwise, do influence community tensions, coping strategies, and decisions around migration and displacement.

Key findings

- **60 per cent** of surveyed farmers across Anbar, Kirkuk, Ninewa and Salahaddin were forced to cultivate less land or use less water during the 2023 farming season.
- **4 in 5 respondents** in farming communities in Ninewa and Kirkuk **had to reduce food expenditure over the past 12 months.**
- While reported income in farming communities increased in 2023, income security of women declined: **15 per cent of women reported not earning incomes in 2023, compared to 6 per cent in 2022.**
- The Ninewa Plains show signs of an emerging hotspot, with interlinkages between climate, peace and security exacerbating community trust and movement intentions.
 - **1 in 5** respondents in Ba'aj linked climate change to increased social tensions, and **1 in 4 are thinking of moving because of drought.**
 - **1 in 4** small scale farmers in Sinjar and Ba'aj reported **being forced to give up farming in 2023**, and almost **40 per cent had to reduce expenditure on food.**

Background: Climate Change and Iraq

According to the World Bank's last "Country, Climate and Development" report, Iraq remains acutely vulnerable to climate induced shocks, predominantly relating to rising temperature and water scarcity. If things continue as normal, the report warns that widening gap between water supply and demand will increase from around 5 billion to 11 billion cubic meters by 2035.⁵ Concurrently, Iraq's carbon emissions is one of the highest in the region, and despite extensive oil revenues, the country's development indices have not kept pace with growth and demand of its population.

In a country that has experienced large scale conflict and displacement, these trends spell trouble. While causation between climate and conflict are hard to establish, the 2022 IPCC report outlines strong connections between changes in rainfall patterns and existing social tensions in countries like Iraq.⁶

From 2021, NRC findings have consistently indicated intricate relationships between climate, livelihoods, community tensions, and displacement across the country. During years with acute drought, like in 2022, access to freshwater plummets; farming communities tend to go into debt or dip into household savings; and coping strategies spike. There is also a clear upward trend in displacement patterns from 2021 to 2023: as climate change continues to exhaust resources, it is also impacting individual and community resilience and capacity to adapt.



The Mudhif houses of the residents in the marshes of southern Iraq. Ahmed Kaka/NRC

Water security and governance

In early June, as temperatures spiked across Iraq, dead fish floated to the surface of the Euphrates in the south.⁷ In the north, videos showed people walking across ankle high waters of the Tigris. These twin rivers, which originate in Turkey and flow across the heart of Iraq down to the Shatt-al-Arab, are the primary source of fresh water in the country.

By August, the Ministry of Water Resources (MoWR) reported that water reserves were at the “lowest levels in Iraq’s history.”⁸ Previously in 2022, the Ministry had warned that unless urgent action was taken to combat declining water levels, Iraq’s two main rivers would run dry by 2040.

The transboundary nature of Iraq’s water resources means Iraq is largely reliant on cooperation from upstream riparian governments, namely Turkey and Iran, for regular flows from the Tigris and Euphrates. While the lack of regional water sharing agreements continues to be a cause for concern for the country, the governance of water resources within Iraq not only undermines these negotiations, but also poses additional challenges.

Iraq’s water infrastructure has been impacted heavily by two decades of conflict and remains ill-suited for the challenges of the present and future. Much of the ageing network of dams was built to manage flooding when Iraqi rivers had too much water, not when they have too little.⁹ Additionally, limited regulations on distribution, consumption and pollution have contributed to rising inequality between Iraqis with access to water upstream and those with increased scarcity downstream. As early as 2014, the MoWR was seeking 184 billion USD in funding to rehabilitate crumbling water infrastructure and, as of 2023, those plans have largely remained unfunded.¹⁰

Lack of investment coupled with outdated agricultural practices mean Iraq’s farming communities are increasingly impacted. The Iraqi agriculture sector employs roughly 20 percent of the country’s workforce and is the second largest contributor to the economy after the oil sector, accounting for 5 percent of the gross domestic product (GDP).¹¹ Concerningly, according to estimates by the United Nations Development Programme (UNDP), Iraq loses up to 400,000 donums of arable land (approximately 100,000 acres) annually due to drought.¹²

While the protracted Syrian refugee responses has led to a deliberate shift away from aid-dependence toward programming in support of self-reliance, refugees in the KRI have felt the steady withdrawal of aid agencies acutely.



A farmer working on his land in Hor al-Sufn village in Hawija district, Kirkuk. Photo: Ahmed Kaka/NRC

By and large, irrigation accounts for the largest source of water for crop farming in Iraq. **In Kirkuk and Salahaddin governorates, for example, approximately two thirds of all farmers reported relying primarily on irrigation.**

Oftentimes, irrigation practices in Iraq use dwindling water resources inefficiently. **Almost 70 per cent of surveyed farmers reported using flood irrigation, which is widely considered the most water-intensive of all irrigation systems.**¹³ Flood irrigation is best suited for regions with abundant water, not for areas prone to seasonal drought.

Measures taken in response to low water levels often compound problems. In the recent past, the government of Iraq has increased control of available water to regulate use, and in some cases, these measures have inadvertently affected farming. In Salahaddin for instance, the Directorate of Water Resources closed certain canals throughout the summer of 2023, making it impossible for farmers downstream to continue crop production. As Hussein, 56, told NRC, **“We need water for the crops, but it is restricted. The authorities have closed the canals, but people are digging small channels out of necessity. Open or shut, by the time the canal reaches our fields in Anbar, it is dry.”**

Although the government has taken steps to incentivise efficient irrigation practices, subsidies are often only available to farmers who can afford the initial investment. This means poorer farmers without subsidised support are forced to continue to practice flood irrigation methods.

While the importance of water governance is acknowledged by authorities, Iraq’s static legislative structure increasingly hinders the country’s ability to adapt policies in a timely manner. Laws often cannot be changed in time due to bureaucratic impediments, and political will required for legislative changes through Parliament are often slow to mobilise. On the ground, the result of this stagnation means many new farmers are not formally incorporated into irrigation networks and those already registered are unable to renew certification. Governance of resources, too, resorts overwhelmingly to forcible destruction of unregistered irrigation networks rather than reinforcing alternative solutions.

In areas without irrigation networks, such as Sinjar and Ba’aj in Ninewa governorate for example, farmers rely predominantly on rainfall or dig boreholes to access groundwater. In these locations, **1 in 3 surveyed respondents used boreholes**, drilling costs of which range between 25,000 USD to 40,000 USD and cut into estimated profits. For now, farmers like Salah water their crops through sprinklers fitted to wells dug deep under the sun-bleached earth, despite warnings that **Iraq does not have accurate estimates of the country’s groundwater levels, and anecdotal evidence indicating farmers are having to dig deeper each year to access water.** “What can we do,” Salah told NRC, **“the experts tell us when the groundwater is used up, it will not come back, but these experts are not fighting to feed their families.”**

In 2023, water access and governance continued to impact agricultural production in Iraq. In 2023, **60 per cent of respondents reported either reducing land under cultivation or quantity of water used.** Both coping strategies have negative impacts on quantity and quality of agricultural produce, reducing income and livelihood opportunities. As documented by NRC in the past, reduced irrigation water can lead to lower food production, which in turn impacts economic and food security for already vulnerable communities.¹⁴ In Iraq, these communities often include families who were affected or displaced by conflict and are slowly looking to rebuild their lives.



A newly excavated well in Hamdaniyah sub-district, Ninawa, that didn't yield water. Photo: Ahmed Kaka/NRC

Basra: The Creeping Salt

Al-Faw in Basra was once renowned for its agriculture. However, the sub-district was heavily impacted during the Iran-Iraq war in the 1980s and the U.S occupation in the early 2000s. Today, climate and drought continue to affect Al-Faw, and many families have left. The limited flow of the Tigris and Euphrates also means salt water from the Gulf is moving further upstream, and increased water salinity means that the Shatt al-Arab river is not viable for irrigation anymore, rendering vast stretches of fertile land barren.



Al-Faw in the Basra governorate, Iraq.
Photo: Fareed Baram/NRC

Aziz, a 56-year-old father of five, and his wife Haleema, aged 48, are one of many struggling to make ends meet. "Once there were 60,000 families here. Now, only 5,000 remain. Over the past few years alone, I have seen thousands leave. Some, like me, are forced to stay because we cannot afford to leave, but we are all close to giving up farming."

Haleema finds it hard to see a future for her children in Al-Faw. "There is very little for us here but hardship, and with each year, it gets worse. Even the water we drink is not safe. It feels like nobody cares for us anymore."

Unfortunately, Al-Faw is not an anomaly. Across vast swathes of southern Iraq, families are being forced to leave their ancestral lands. Iraq's famous palm industry has suffered, and agricultural production has plummeted. For youth in particular, the lack of a diversified economy means livelihoods opportunities are low. NRC programming with youth in Basra seeks to foster entrepreneurship and job-readiness, but a lot more must be done to strengthen market linkages and expand private investment to the region.



Desiccated date palm orchards in Basra governorate. Photo: Fareed Baram/NRC

Economic and Food Security

Due to higher than estimated rainfall, Iraq's 2023 harvest was the best in years. However, precipitation did not follow the same rainfall pattern as in 2022, with rainfall concentrated more in the centre and south of Iraq compared to northern areas.¹⁵ According to the Ministry of Agriculture, around 4 million tonnes of wheat was produced this year, enough to meet around 80 per cent of domestic demand.¹⁶

For many farming communities, this translated to greater income and, at the household level, only 10 per cent reported having to spend savings to cover basic expenses in 2023 compared to 32 per cent in 2022. Additionally, **51 per cent respondents reported adequate access to water in 2023 compared to 32 per cent in 2022.**

Interestingly, this year's record harvest did not necessarily translate into greater economic and food security for **all** farmers across Iraq. While reported income in farming communities increased from 46 per cent in 2022 to 54 per cent in 2023, **income security of women declined: 15 per cent of women reported not earning incomes in 2023, compared to 6 per cent in 2022.** While the impact of climate change on women requires further study, NRC is aware of broader migration patterns of men moving in search of opportunities, leaving behind women and children to tend to cattle and farmland.

Rate of growth, too, has slowed. On average, household income increased for the third consecutive year, from an average of IQD 250,000 per month in 2021 to IQD 320,000 in 2023. **However, the rate of income increase has dipped from 20 per cent between 2021 and 2022 to only 6.67 per cent between 2022 and 2023.** Slower growth this season can be attributed to multiple stressors, chief among them drought in the second half of 2023 and steep devaluation of the Iraqi dinar against the US dollar. Combined, reduced purchasing power meant that **4 in 5 respondents in farming communities in northern governorates still reported reducing food expenditure over the past 12 months.**

Climate adaptation is a core component of NRC programming in Iraq. In drought-prone regions across the country, our initiatives support vulnerable communities heavily reliant on agriculture for their livelihoods.

NRC programming promotes climate-smart agriculture techniques through introduction of innovative farming methods that are more resilient to droughts and other climate-related challenges. With support from Norway, Germany and the European Union Commission, NRC provides training and resources to help farmers adopt sustainable practices such as crop diversification, water-efficient irrigation systems, and soil conservation measures. Trainings are conducted alongside material support, including the rehabilitation of irrigation canals, and the distribution of solar irrigation pumps, drip irrigation systems and hydroponic greenhouses.

Programming is also designed to support small-scale farmers by enhancing access to market systems and financial services. This includes establishing farmer cooperatives and alliances, facilitating growth of agricultural value chains, and providing financing opportunities.



A cornfield equipped with a sprinkler irrigation system in Hawija, Kirkuk governorate. Photo: Ahmed Kaka/NRC

Meteorological variance affects much of the discrepancy in harvest across Iraq; in 2023, central and southern Iraq received significantly more rain than the north of the country. **In Sinjar in the north, for example, a staggering 83 per cent perceived the rainfall to be poor or very poor.** Although precipitation is monitored globally and at the regional level, Iraq lacks the ability to monitor precipitation at the district and sub-district level. In effect, this means that information often does not get to the right places, at the right time, to inform planning and response.

Compounding vulnerabilities due to lack of precipitation is non-existent or outdated agricultural infrastructure. In the Ninewa Plains, there are already few irrigation networks and poor governance of the Tigris and Euphrates, meaning farmers are forced to rely heavily on rainfall for food and income. When the rains stop, so does life. In communities where conflict has already impacted market systems, **1 in 4 small scale farmers in Sinjar and Ba'aj reported being forced to give up farming in 2023, and almost 40 per cent had to reduce expenditure on food.**

Social tensions

Since the end of active conflict in 2017, more than 4.8 million Iraqis have returned home, predominantly to five governorates: Ninewa, Kirkuk, Anbar, Diyala and Salahaddin.¹⁷ In many cases, people initially returned to bombed out villages and towns lacking in basic services and infrastructure, to communities and neighbourhoods scarred by division and loss.

Over the intervening years, significant collaboration by Iraqi authorities and international agencies have resulted in the rehabilitation of vital infrastructure, ensuring some access to services. In conflict affected Mosul, the rehabilitation of destroyed infrastructure by the United Nations and others has breathed new life into the city and, in Kirkuk, rehabilitation of irrigation canals and grain silos by the NRC has contributed to increased yield across vast hectares of farmland.¹⁸ Increasingly however, climate change is limiting the rate and impact of this progress, and threatening to deepen inequities that exacerbate tensions in three main ways: by impacting livelihoods opportunities; diminishing natural resource base; and reducing water availability.

Between 2021 and 2023, NRC data indicates social tensions –namely distrust and disputes— due to climate change have ebbed and flowed in strong correlation to yearly rainfall. **In 2022, almost 40 per cent of respondents indicated an increase in community tension; in 2023, that number dropped to just 4 per cent across surveyed governorates.**

Interestingly, the highest levels of community tensions were reported in in the Ninewa Plains, with **1 in 5 respondents in Ba'aj linking social cohesion to drought.**

While southern governorates have witnessed the most extreme impacts of climate change, the Ninewa Plains shows signs of an emergent hotspot. With large-scale displacement and return in an under-served region, lacking infrastructure and surface water, Ninewa remains both socially and politically vulnerable to inter-communal conflict.



The remains of a palm orchard in southern Iraq. Photo: Fareed Baram/NRC

Previous research has identified the need to address climate-related challenges as an integral part of post-conflict reconstruction.¹⁹ Additionally, while a nationwide plan for climate mitigation is much needed, it is also important to consider the diversity of needs and vulnerabilities of specific communities in areas such as Ninewa. When climate change policies fail, or central authorities or the international community put policies in place that are not conflict-sensitive, climate factors can contribute to the onset of violence and social unrest.

Drought and displacement

Over time, NRC research has shown that the lived realities of the communities in governorates surveyed has shifted. **In 2022, just under 50 per cent of respondents were still displaced; in 2023, almost 94 per cent of individuals surveyed reported having recently returned.** Motivations for return in Iraq are mixed and follow global trends.²⁰ Many displaced individuals have returned spontaneously, independent of support from governmental or other actors, often for private and individual reasons. Some have returned because conditions have improved, or, conversely, because conditions in places of displacement have deteriorated, economically, socially, politically or environmentally.²¹

Returns in Iraq have generally followed one of two pathways: return due to the closure of IDP camps; or spontaneous returns. In many cases, NRC is aware of families returning not because conditions in areas of origin have improved, but because conditions elsewhere have deteriorated. This includes, but is not limited to, basic access to services, access to livelihoods, and safety and security. As a result, families in informal settlements often move to other informal sites; those who have returned home are forced to move because crops and markets have failed.

While the act of return cannot be considered a durable solution in and of itself, return can be understood as pathway towards sustainable relocation and reintegration. The pure physical movements are not solutions in and of themselves. Self-reliance and durable solutions can only be achieved when a displaced person has been able to reintegrate into society and achieve physical, material, and legal safety, as well as social cohesion.²²

It is in this context of recovery that the impact of climate in Iraq must be understood, not simply as a cause for displacement, but also as a stressor impeding sustainable recovery and, in some cases, precipitating risks of secondary displacement. In other words, people do not leave or consider leaving just because the rains fail, but because of the impact of drought on economic, material and legal safety, and concurrent erosion of social cohesion.

As of October 2023, IOM estimates upwards of 130,000 Iraqis in the South have been displaced due to climate change, jumping from approximately 80,000 as of August 2023.²³ While part of the increase in number is attributable to the climate, the spike in numbers is also due, in part to IOM deploying the survey in previously unassessed locations of displacement. **Interestingly, three fourths of all climate-induced displacements recorded by IOM have occurred within urban areas predominantly in the south of the country.**

In Ninewa, Kirkuk, Salahaddin and Anbar, levels of displacement due to climate change are lower, although this may be due to lack of monitoring in this part of the country. However, there is a clear upward trend. **Between 2021 and 2023, the percentage of respondents reportedly displaced due to drought have increased from 2 per cent to 5 per cent nationwide.**

Similar to reported levels of social tensions, levels of climate induced displacement were highest in the Ninewa Plains.²⁴ **per cent of respondents in Ba'aj are thinking of moving because of drought.**

“All my neighbours have left,” Abu Rashid told NRC. “Only ten years ago, 35 people worked on my farm, this year, I could not even afford to feed my own family. Now, I work as daily labourer to make ends meet. If this continues, soon, I too will have to move to survive. You know what happened here, the world knows what happened here. **Now, the bullets have stopped but we are still scared of losing our home.**”



A farmer and his field in Ba'aj.
Photo: Fareed Baram/NRC

Recommendations

The Government of Iraq

- **Enhance operational ability and capacity to monitor, regulate, and allocate the country's water resources.** Given rainwater harvesting is a strategic objective of the Government of Iraq's National Food Security Strategy for 2023-2030, enhanced real time monitoring of water resources is essential. This includes, but is not limited to, levels of precipitation, monitoring of weather patterns, and geospatial mapping of groundwater levels. For example, the global *El Nino* phenomenon for wet years is predicted to produce greater rainfall in the country. Tracking and disseminating information on anticipated 'wet years' can help farmers make key decisions around cultivation and harvest. Data collected should be available to all stakeholders at all levels, including awareness, which will in turn allow for multi-year decisions to be made. This includes enhancing anticipatory warning systems to predict and mitigate the impacts of drought
- **Improve water governance, climate and displacement frameworks.** Support the Iraqi MoWR in revising and updating its 2014 to 2035 Land and Water Resources National Strategy, which is already outdated due to under-investment in key areas between 2014 to 2020. The seawater intrusion and resultant public health crisis in Basra in 2018 is at risk of replication unless policies are revised and implemented urgently.
- **Accelerate the development of Iraq's 'Green Paper', which seeks to outline Iraq's consolidate the Iraqi government's climate ambition and influence climate action across stakeholders and sectors.** The longer it takes national strategies to be developed, the quicker they become outdated due to the rapidly changing climate and environment context.

Donors and International Financial Institutions

- **Support the Government of Iraq in ensuring transboundary water sharing agreements are adhered to by upstream riparian countries to ensure adequate and clean water flow into Iraq.** A comprehensive regional approach to water sharing is also needed and can be realised in line with the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.²⁵
- **Expand support to climate change programming by humanitarian and development partners.** Continued investment is required to upgrade old, inefficient infrastructure, alongside initiatives that support 'climate-smart' adaptations and farming practices. Importantly, donors and the GoI should continue support

to vulnerable, conflict affected communities to prevent undoing hard won gains in livelihoods and economic security.

- **Fund climate adaptation and stabilisation programming and provide technical support to Government of Iraq terms of building local capacities and developing operational strategies.** The UN estimates 233 billion USD is required in Iraq by 2040 to respond to the most urgent climate investment gaps. Linkages between climate and displacement are imperative to consider, and in line with the humanitarian transition in Iraq, support for government authorities in tackling governance and management issues needs to be expanded.

Humanitarian and development partners

- **Support the development of national and governorate level policies on climate and displacement.** The NRC is currently working with stakeholders in Ninewa governorate to develop locally owned strategies to cope with climate change, which might serve as a replicable model.
- **Continue to advocate to break silos between humanitarian and development funding.** Climate change cuts across vulnerabilities and requires both expertise, and funding, from actors across sectoral areas of specialisation.



Children in the marshes of Nasiriyah Governorate. Photo: Fareed Baram/NRC

Endnotes

- 1 UNHCR, The Operational Data Portal (ODP): Iraq Operation (2023). Available at: <https://data2.unhcr.org/en/country/irq>
- 2 Private consultations with development donors, August 2023
- 3 Cited from Mercy Corp's report "Basra, Water and Social Cohesion". Unavailable online
- 4 IPCC 2022
- 5 "World Bank Group. 2022. Iraq Country Climate and Development Report. CCDR Series; World Bank, Washington, DC. <http://hdl.handle.net/10986/38250>
- 6 IPCC 2022
- 7 Rudaw, 'Countless dead fish in Maysan compound water pollution woes' 6th July 2023). Available at: <https://www.rudaw.net/english/middleeast/iraq/06072023#:~:text=MAYSAN%2C%20Iraq%20%2D%20A%20myriad%20of,sharp%20drop%20in%20water%20levels>
- 8 Middle East Monitor, 'Iraq: Water reserves at 'lowest' in history says ministry' (8th August 2023). Available at: <https://www.middleeastmonitor.com/20230808-iraq-water-reserves-at-lowest-in-history-says-ministry/>
- 9 Natasha Hall and Caleb Harper, 'Local to Global: Tensions Course through Iraq's Waterways' (Center for Strategic and International Studies, 12th May 2022). Available at: <https://www.csis.org/analysis/local-global-tensions-course-through-iraqs-waterwayshttps://www.csis.org/analysis/local-global-tensions-course-through-iraqs-waterwayshttps://www.csis.org/analysis/local-global-tensions-course-through-iraqs-waterways>
- 10 The World Bank, 'Iraq Economic Monitor: The Slippery Road to Economic Recovery' (Fall, 2021). Available at: <https://documents1.worldbank.org/curated/en/981071637593726857/pdf/Iraq-Economic-Monitor-The-Slippery-Road-to-Economic-Recovery.pdf>
- 11 World Food Programme, 'Agricultural value chain study in Iraq – Dates, grapes, tomatoes and wheat' (31st March 2021). Available at: <https://reliefweb.int/report/iraq/agricultural-value-chain-study-iraq-dates-grapes-tomatoes-and-wheat-2021-enarku>
- 12 Rudaw, 'Climate change costs Iraq 400,000 dunums of agricultural land annually: UN' (14th August 2023). Available at: <https://www.rudaw.net/english/middleeast/iraq/140820231>
- 13 Flood irrigation, also called surface irrigation, is any method of irrigation that delivers water to croplands using gravity and is not pressurized. Traditionally, flood irrigation systems are used in regions with abundant access to water.
- 14 NRC, 'A dry horizon: Iraq's interlinked drought and climate crises' (23rd October 2022). Available at: <https://www.nrc.no/resources/reports/a-dry-horizon-iraqs-interlinked-drought-and-climate-crises/>
- 15 <https://www.fao.org/giews/countrybrief/country.jsp?code=IRQ>
- 16 Timour Azhari and Ahmed Saeed, "Desert wells help Iraq harvest bumper wheat crop as rivers dry' (30th May 2023). Available at: <https://www.reuters.com/markets/commodities/desert-wells-help-iraq-harvest-bumper-wheat-crop-rivers-dry-2023-05-29/>
- 17 The Displacement Tracking Matrix (DTM), 'Iraq Mission'. Available at: <https://iraqdtm.iom.int/>
- 18 Paraphrased from previously published NRC analysis on ODI: Imrul Islam, 'Navigating humanitarian principles in the nexus: reflections from Iraq' (30th May 2023). Available at: <https://odihpn.org/publication/navigating-humanitarian-principles-in-the-nexus-reflections-from-iraq/>
- 19 Amal Bourhous, Shivan Fazil and Dylan O'Driscoll, 'Post-conflict Reconstruction in the Nineveh Plains of Iraq: Agriculture, Cultural Practices and Social Cohesion' (SIPRI, November 2022). Available at: <https://www.sipri.org/publications/2022/policy-reports/post-conflict-reconstruction-nineveh-plains-iraq-agriculture-cultural-practices-and-social-cohesion>
- 20 IOM, 'IOM's Policy on the Full Spectrum of Return, Readmission and Reintegration' Available at: <https://www.iom.int/sites/g/files/tmzbd1486/files/documents/ioms-policy-full-spectrum-of-return-readmission-and-reintegration.pdf>
- 21 REACH, 'Informal Sites Profiling & Movement Intentions Survey' (May 2023). Available at: https://repository.impact-initiatives.org/document/reach/5293ddb8/REACH_IRQ_Informal-Settlements-Profiling-Movement-Intentions_April2023_complete_v2.pdf; REACH, 'Multi-Cluster Needs Assessment (MCNA) X Key Findings' (March 2023). Available at: <https://repository.impact-initiatives.org/document/reach/a193d29d/Multi-Cluster-Needs-Assessment-MCNA-X-March.pdf>; The Displacement Tracking Matrix (DTM), Return Index Findings Round Sixteen, Iraq (October 2022). Available at: <https://dtm.iom.int/report-product-series/return-index>
- 22 IASC framework for Durable Solutions; Internal NRC framing paper
- 23 IOM Displacement Tracking Matrix, Climate-Induced Displacement-Southern Iraq' (September 2023). Available at: https://iraqdtm.iom.int/files/Climate/20231015118609_2023_10_15_ET_Climate_Sept_2023.pdf
- 24 ibid
- 25 United Nations Economic Commission for Europe, 'The Water Convention and the Protocol on Water and Health' available at: <https://unece.org/environment-policy/water#:~:text=The%20Convention%20on%20the%20Protection,water%20resources%20by%20facilitating%20cooperation.>



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