Water Scarcity and Environmental Peacebuilding: A Lens on Southern Iraq

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The Tigris and Euphrates rivers are Iraq's primary sources of water. However, both rivers originate in Turkey and flow through Syria before passing through Iraq. On average, Turkey and Syria contribute to 90 percent and 10 percent of the Euphrates, while Iraq, Turkey, and Iran contribute 51 percent, 40 percent, and 9 percent to the Tigris, respectively. This makes the rivers vulnerable to various factors, including upstream development projects, inequitable rationing and diversions, and water-quota tensions with neighboring countries. These challenges are compounded by rising demand for water amid Iraq's soaring population, which has put significant pressure on already limited resources.

As Turkey and Syria began developing hydraulic projects on the two rivers in the 1970s, water flow to Iraq began to dwindle, compromising supply for irrigation, drinking, and industrial purposes. Since then, it is estimated that the excessive construction of dams along the twin rivers has reduced inflow by 30-40 percent. At the present rates, experts forecast that by the year 2030, the twin rivers will shrink to 50 percent of their capacity and may even risk running dry by 2040.

Declining water levels have particularly impacted the agriculture sector, which is regarded as the largest consumer of water resources accounting for around 60-80 percent of total water usage despite contributing less than 5 percent of GDP. Consumption rates are particularly high in southern Iraq where farmers strictly rely on river water to meet irrigation needs, whereas farmers in the north depend on a combination of river water and rainfed irrigation. However, inefficient irrigation practices, namely furrow irrigation and flooding, are contributing to high levels of evaporation, runoff, and waste. While more advanced irrigation systems, such as drip and sprinkler irrigation can reduce water waste, high costs and limited access to financing make it difficult for farmers to acquire such technologies.

Iraq's agricultural sector is further weakened by heavy pollution and byproducts of industrial, agricultural, and human activities along transboundary and domestic waterways. The discharge of untreated wastewater and agricultural runoff into rivers and groundwater has contaminated waterways, leading to upticks in the incidence of diseases such as hepatitis, cancer, and recurrent outbreaks of waterborne illnesses like cholera. As recently as 2018, approximately 118,000 people were hospitalized in Basrah due to water contamination and poisoning. The event sparked public outrage and triggered nationwide protests over the lack of safe drinking water.

Depleted water supplies, pollution and increased salinization have also adversely impacted natural ecosystems, resulting in a loss of habitat, biodiversity, and agricultural livelihood in high value cultural areas like Iraq's southern marshes. This has had a cascading effect on eco-tourism, fisheries, and the livestock management industry, which are particularly important to the southern rural economy. Despite being designated a UNESCO heritage site, Iraq's marshlands, covering an area of approximately 3,000 km^2, have been severely compromised by declining water levels and environmental changes.

Throughout Iraq's southern governorates, the abandonment of farmlands has led to an uptick in the number of climate challenges, in particular sandstorms. Iraq's 2020-2021 rainfall season was the second driest in 40 years, causing a reduction of water flow in the Tigris and Euphrates by 29 percent and 73 percent, respectively. In 2022, the

country averaged nine sandstorms every two months with the Iraqi Ministry of Environment warning that Iraq could endure 272 sandstorm days per year over the next two decades, rising to above 300 a year by 2050. These sandstorms routinely result in excess deaths, injuries, respiratory illnesses, hospitalizations, interruptions in logistics, and the deterioration of fragile yet vital infrastructure.

Since the agriculture sector is the second largest contributor to national GDP, employing nearly a third of Iraq's workforce, the continued abandonment of farmlands and subsequent displacement trends are expected to exacerbate social and economic challenges in already overcrowded cities, where climate-induced migrants are forced to seek alternative forms of livelihood – mostly in the form of competition for irregular daily labor. In December 2021, the number of climate-induced displaced individuals (IDPs) in southern Iraq stood at around 20,000, and by December 2022, a total of 68,670 people were displaced. A few months later, in March 2023, the number increased to 73,272. Based on current trends, more than 130,000 people in southern Iraq could be displaced by the end of 2023. As it stands, the top governorates of origin for displaced families are Dhi Qar, Maysan, al-Qadisiya, and al-Muthanna.

In urban centers, displaced rural families face significant integration challenges like finding adequate housing, employment, and accessing basic services such as healthcare and education. This vulnerability is compounded by discrimination and exploitation, particularly among those lacking legal documentation or belonging to minority groups. Many IDPs also lack the skills required to find alternative employment in other sectors. Further, continued northward displacement risks overwhelming upriver host communities, many of which are already challenged by rapidly declining water levels, weak infrastructure, and other climate-induced stressors. Moreover, in southern Iraq, tensions have also emerged in the form of water-induced conflicts and competition over water rights. These include inter-governorate conflicts, conflict between local governments and tribal groups, and inter-tribal conflicts.

The distribution of water resources between Iraq's governorates is meant to follow a needs-based rationing system, but this is not always the case. Some governorates receive a larger share of water resources than others, which often leads to accusations of unfair allocation and claims of disadvantage. This conflict typically manifests as political disputes and legal complaints. For example, in November 2017, authorities in Maysan filed a lawsuit against neighboring governorates, Wasit and Dhi Qar, for exceeding their allocated water quotas. Similarly, in 2018, Maysan governorate was in a state of continuous conflict with authorities in al-Kut, while al-Muthanna governorate was at odds with authorities in al-Qadisiyah and Dhi Qar. As water scarcity worsens, similar inter-governorate hydro-political fallouts are expected to intensify in the coming years.

In recent years, tribal groups have intensified their rhetoric, warning the central and local governments of the possibility of armed conflict if they do not properly regulate water quotas and address the water crisis. Despite water resources being allocated according to the level of need in each governorate, some tribal groups perceive that authorities engage in discriminatory practices by assigning quotas based on factors such as the governorate's socioeconomic weight, history of mobilization and protests, the salience of social formation and the power of tribal groups, as well as local political and security structures.

Although most tribes have traditionally established informal water sharing arrangements among themselves, increased competition and water shortages have nonetheless led to numerous tribal conflicts, exacerbating inter-tribal sensitivities and leading to open confrontation. Upstream diversion tactics by some tribes prevent water from reaching downstream farms, causing almost 10 percent of ongoing tribal disputes in Iraq. For example, tribes in Maysan, particularly those living close to governorate boundaries, accuse their counterparts in Wasit of restricting water flows through temporary diversion methods, while the latter argue that tribes upstream are taking more than their allocated quotas, causing a chain reaction. In the past, these accusations have escalated into violent clashes. Similar conflicts have arisen between tribes in Dhi Qar and al-Muthanna, as well as tribes in al-Muthanna and al-Qadisiya.

Unless more is done to rectify water flows and combat climate change, Iraq's water shortages and droughts can only be expected to increase in severity, with potential implications at the humanitarian, economic, security, and social levels. Greater support from the international community is necessary to assist with the humanitarian and economic

needs of water-induced displacement and vulnerable communities, this is particularly true of durable solutions, social cohesion, and economic empowerment interventions. In southern Iraq, recovery, training and diversification interventions should emphasize capacity building and support for farming communities in the near-medium term, while adapting longer-term climate resilience and sustainable agricultural practices. Programmatic activities supporting farmers' access to livelihoods could inspire sustainable growth in the agricultural sector, help to increase the sector's contribution to GDP and diversify Iraq's oil-dependent economy.

Parallel to this, INGOs should prioritize conducting robust actor mapping activities to identify and support national environmental organizations, empower and train local activists, and inspire cross-governorate activism and coordination. Further, INGOs could also engage and revitalize farmers' associations across Iraq to enable more inclusive representation of farmers and support these vital civil society organizations in their bid to cast a light on and address agricultural needs in the country, encourage cross-community and even cross-governorate knowledge sharing and lay the groundwork for the emergence of nationwide initiatives capable of reinvigorating the agricultural sector by ensuring that farmers' associations play a more effective role in advocating for and responding to needs in legislative decision-making process. Moreover, the international community, through INGOs, could play a more robust role in transboundary mediation efforts to increase Iraq's access to climate resilience funding and ramp up diplomatic efforts to ensure fair regional transboundary water flows to the Euphrates and Tigris rivers.

Though the intensity of water shortages varies across Iraq's 18 governorates, this issue essentially transcends geographical, sectarian, socio-economic lines in ways that few other nationwide concerns do. As the international support framework shifts away from humanitarian aid and transitions to a development context, water shortages may present a unique opportunity for country-wide economic engagement and social cohesion dialogue that can positively contribute to peacebuilding efforts through societal and agricultural resilience programmes, particularly in water stressed communities. This multifaceted approach can help mitigate the impacts of climate change and create a more resilient and sustainable future for the nation and its people.

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