Water Security in Southeast Iraq: The Role of Iran in Environmental Degradation and Subsequent Socio-Economic Consequences on the Marsh Arabs of Southeast Iraq

Daniel Caves-San José
daniel.caves-san-jose@durham.ac.uk

Supervised by Dr Bahar Baser
School of Government and International Affairs
bahar.baser@durham.ac.uk

Introduction

A water security crisis is defined by the UN as when a state is unable to provide adequate quantities of an acceptable quality of water for sustaining human well-being, socio-economic development, and environmental preservation (UN, 2013). The Middle East increasingly faces water crises, both at national and international levels, as states prioritise socio-economic growth through projects manipulating water flow whilst failing to consider the repercussions changes in water levels and properties has on states which share the same waters. This essay will focus on the case of Iraq, as a high proportion (70%) of the country's waters stem from neighbouring Iran, Turkey and Syria (Alaa H. Alshami, 2020), and with whom Iraq is therefore heavily diplomatically dependent on to limit environmentally and socio-economically damaging water management projects developed in those countries.

In particular, Iran plays the largest role in Iraq's water security crisis for several reasons. Diplomatically, communication between Iran and Iraq is the most inconsistent, making bilateral agreements unreliable as the basis for policymaking in regulating water management between the two countries (Keynoush, 2021). Iran also has an aggressive foreign policy and complex domestic context which attempts to use water diplomacy to gain political influence in Iraq (Corona, 2020). The environmental consequences of this are felt all across Iraq, as forty-two of the forty-five tributaries that flow from Iran into Iraq have been dammed or diverted (Keynoush, 2018), therefore changing the quantity and quality of water flowing into Iraq. More specifically, Iraq's waters face increasing salinity and pollution levels (Khalaf, et al., 2023), making it undrinkable, unusable for pastoral and agricultural purposes, and impossible for environment to survive in or around, leading to desertification.

Within Iraq, the southeast is where the environmental consequences of this water security crisis are most severe. In 2022, the Iraqi government said its water reserves, mostly located in the marshlands, in the southeast of the country, had dropped by 60% (Crisp, 2023), emphasising the fact that, since the toppling of Saddam Hussein and subsequent UN attempts at reflooding, the marshes "remain essentially artificial lakes" (Ariel, 2015), dependent on diplomacy with Iran to limit poor water maintenance to protect the quality of the water in the marshes and surrounding region. The socio-economic consequences of the environmental degradation seen in southeast Iraq are catastrophic for the Marsh Arabs, who traditionally live on and around the marshlands, primarily, unsustainable pastoral and agricultural sources of income in the marshes leading to migration to

overcrowded and unsafe urban centres (IOM, 2022). Therefore, diplomacy is crucial in untangling responsibility and accountability in Iraq's water security crisis to ensure clean water is available (and enough of it) to maintain social and environmental stability in southeast Iraq.

Scope of Study & Methodology

This research project endeavours to use an interdisciplinary approach by using politics, international relations, and anthropology to tie together domestic political contexts in Iran and Iraq, diplomacy between the two countries, and research into the socio-economic consequences of this environmental degradation on the Marsh Arabs in southeast Iraq. Therefore, this essay will answer two key research questions:

(1) What are the domestic and diplomatic contexts leading to environmental degradation of the marshlands and water systems in southeast Iraq?
(2) What are the socio-economic consequences of this continued environmental degradation on the Marsh Arab population in southeast Iraq?

In the process of researching for this essay, six themes were identified as possible focuses in answer to the second research question. These were: (1) the changing behaviour of the Marsh Arabs in wealth-creation, (2) the types of housing and concerns with housing security, including debt and eviction, (3) the migration of marsh Arabs to urban centres, (4) broader urban migration patterns and IDPs, (5) Marsh Arab women's employment and domestication, and (6) the role of the international community and conservation in the Marsh Arab area in perpetuating environmental damage and "ecologically induced genocide" (Priestley, 2021) through cultural destruction of Marsh Arab way of life. This essay will focus on the changing behaviour of the Marsh Arabs in wealth-creation, leading to their migration to urban centres and their lives in an urban context. This focus was chosen because it is the most transformative in the lives of the Marsh Arabs (from traditional reed houses to urban slums, from working as fishermen with spears to working as armed militia). This focus also serves as a basis from which more specific thematic research can be built upon in the future, such as the changing role and status of women as a result of urban migration.

The methodology of this project was to screen, collate and analyse qualitative data, including secondary data and reports. This was then organised thematically into a

research table, based on background, core, and theme-specific research. It should be noted that because no primary research was conducted, the statistical evidence used in this essay derives from different reports. The data from these reports are therefore difficult to collate as the definitions of key terms (such as migration caused by environmental degradation) are specific to the methodology of each report. The literature used in this essay include news articles analysing Iran-Iraq relations, articles analysing domestic Iranian and Iraqi political functions, UN documents (and documents from other bodies such as the World Bank and the International Organisation for Migration) responding to water and security crises in Iraq and environmental analyses of changing marshland and water levels and properties (such as pollution and salt levels).

Literature Review

Between 1.1 and 2.6 billion people (depending on the definition based on affordability or access) face various forms of water scarcity (Mishra, et al., 2021) and are therefore the victims of water security crises. Research on water security sometimes use the term 'nexus' (Hameed, et al., 2019), to mean the interlinking of water security with other forms of security (energy, food, climate, and land in particular). In light of this, water security has become increasingly entangled with globalised behaviour as social and economic activity becomes compressed temporally and spatially (Beck, 2002). For example, changes in resource and food supply chains will occur (both within and between countries), as more arid climates limit crop production. This will lead to unemployment as certain sectors (e.g., crop production and cattle) become unsustainable. Civil unrest based on water security concerns will increase, catalysed by the use of social media to organise social movements (as seen in Basra and other Iraqi cities in 2018) (Bank, 2020), and territorial disputes over water rights to sustain a nation's population and industry will be heightened, such as between Bahrain and Qatar over the Hawar island) (Martini, et al., 2016).

However, the specific context of the Middle East complicates water security crises, both because of the greater threat of climate change causing water shortages and desertification, but also because the broader global demographic patterns are more intense in the Middle East. Urbanisation, for example, which occurs more rapidly in certain Middle Eastern cities, means that water security is more precarious as the populations and industrial production that cities have to sustain overwhelm water management and wastewater systems, causing water overuse and sewage discharge into drinking water.

However, the case of Iraq is specifically interesting because of the political context in worsening these environmental consequences, as well as the unique cultural characteristics of the Marsh Arabs in southeast Iraq as the victims of this.

Literature focusing on Iraq's water security crisis, including domestically produced research, fail to explicitly identify, beyond a general acknowledgement, of the several overlapping factors that underpin environmental and socio-economic changes in southeast Iraq (Mason, 2022), including the role of Iran. For example, although there is literature noting recent changes in stated agreements between Iran and Iraq on the dredging of Shatt-al Arab (Zeed, 2019), they fail to note Iran's domestic context in limiting the headline of a bilateral agreement. Similarly, literature on Iran's water mafia is centred upon the domestic consequences on this (and the political control the IRGC has on Iran's government for example) (Keynoush, 2018), rather than exploring the broader consequences of Iran's water mafia outside of the country. Within literature on southeast Iraq, environmental degradation research focuses solely within the sphere of biodiversity and habitat conservation (Jawad, 2021), rather than from a political or anthropological lens. However, this is useful starting point to explore the relationship between environmental and socio-economic changes in the region. The literature used in this essay therefore explores the domestic and diplomatic contexts in Iran and Iraq, as well as reports on recent Marsh Arab socio-economic changes. This essay builds upon the few published and short articles which attempt to bridge the gap between these two themes in more detail, and, as such, the aims of this project are significant in their originality.

Results & Discussion

The Shatt al-Arab is a key river in southeast Iraq – it is the river which flows into Basra (the largest city in the area), stemming from the marshlands above, and of which both Iraq and Iran have official governance over (UNDP, 2020). It therefore provides vital agricultural, pastoral and drinking water for both the city of Basra and the surrounding marshlands.

However, overuse and poor water management between Iran and Iraq (USAID, 2022) has led to pollution and sewage to enter the river, and highly salinated water to enter from the Arabian Gulf into the marshlands due to decreasing water levels (UNDP, 2020). The subsequent environmental effects of lower water levels and unclean water are devastating and widespread (UNDP, 2020):

> …lowering of groundwater levels, drying-up of open shallow surface wells, increasing water salinity and soil salinization, progressing desertification, decrease in agricultural production, growing frequency of dust storm conditions…

Diplomacy between Iran and Iraq is therefore crucial to safeguard against natural and societal harm in southeast Iraq. Despite indications of bilateral agreements between the two countries over dredging the Shatt al-Arab (Zeed, 2019), Iran has no intention of viewing the water crisis as a regional issue, and instead sees is "strictly as a national security issue" (Keynoush, 2018). For example, in 2021, the Iraqi PM called on Iran to uphold the 1975 Algiers Accord, dividing the Shatt al-Arab between the two countries to ensure joint responsibility for its cleanliness. Since then, the two countries have held few meetings and is far from any tangible agreement or long-term plan (Keynoush, 2021). Ultimately, Iran is indifferent to the environmental consequences of its decisions, and as such has no comprehensive water management plan (Keynoush, 2018), including on how to share responsibility of the Shatt al-Arab (Crisp, 2023), and as such, Iran continues to discharge sewage and polluted water into the Shatt al-Arab.

The major domestic factor in Iran limiting water diplomacy with Iraq is the 'water mafia' operating within Iran. Institutionally, this mafia is represented and protected by the Islamic Revolutionary Guard Corps (IRGC), which controls large amounts of project development and political decision-making regarding water management projects in order to increase political influence in Iran and develop lucrative infrastructure projects (Keynoush, 2018) (Corona, 2020) (Kowsar, 2021). By using IRGC-linked construction companies (such as Sepasad) and consulting firms (such as Mahab Ghodss) to lobby the government (Kowsar, 2021), more and larger dam constructions are approved (Keynoush, 2018). The IRGC has been extremely successful in this: in 2019 Iran announced plans to build 109 dams over the next two years, (Keynoush, 2021), and, over the last three decades, Iran has built over 600 dams (Keynoush, 2018). The IRGC and IRGC-linked groups therefore aim to spread wealth among a small group of members to deepen their control over Iranian politics, while completely disregarding the environmental consequences of their actions (Kowsar, 2021).

This represents Iran's broader foreign policy, in manipulating the flow and provision of water for political influence in other states. For example, since 2003, an agreement has believed to have been signed with Kuwait, directing water into the country in exchange for political influence (Corona, 2020). A similar agreement has been alleged to have been reached with Iraq in 2009, though in a more ad hoc way (Keynoush, 2018). By cutting

water flow before local and parliamentary elections in Iraq, Iran can almost guarantee pro-Iranian opposition candidates are elected as voters are dissatisfied with poor water provision which they hold their local politician/party accountable for (Keynoush, 2018). Despite this, as recently as 2022, protestors in Basra, sparked by the lack of clean drinking water, set fire to numerous buildings, including Iranian-linked party offices, signalling anger at Iran's political sway in the region (Mason, 2022). Iran has, in the past, also sent fresh water in trucks to Basra (which the Iranian government denies) (Keynoush, 2021), showing the clear link between Iranian foreign policy and political attitudes in Iraq to ensure Iranian interests are present in Iraqi politics.

Local corruption in southeast Iraq is common, with many local politicians having commercial land investments and ulterior motives for extracting water, especially given that enforcement of the law against the construction of illegal water extraction facilities and polluting buildings is scarce (Mason, 2022). Therefore, it is difficult to say whether Iranian foreign policy in installing corrupt local politicians has been successful, as local corruption could be attributed to individual exploitation of a power vacuum to make more money and increase their authority in their local area, as opposed to necessarily being pawns in Iran's foreign policy. Regardless, Iran and Iraq are at a complete stalemate in the reality of what water diplomacy can be achieved (Corona, 2020). Iran is unwilling, and as shown, unable to develop any comprehensive water diplomacy agreement with Iraq, because of the influence of the IRGC in manipulating water flow for the benefit of their members, and because an ambiguous and flexible foreign policy allows Iran to achieve as much political control in Iraq without explicitly claiming any long-term ulterior plan. Overall, an Iranian water mafia, an ambiguous and manipulative foreign policy and local corruption are the key diplomatic and domestic contexts leading to environment degradation of southeast Iraq.

The socio-economic consequences of this environmental degradation are vast, but the primary socio-economic change for the Marsh Arabs is issues with making enough money to survive from agricultural and pastoral activities that are no longer possible because of high salinity and low water levels from the Shatt-al Arab (and other rivers upstream). Two key quotes from Marsh Arabs represent this concern:

> All we know is raising buffalo. How would we survive? We're looking for mercy from God. Here, water is mercy - and there is less and less of it.
>
> - Ms Nasr, buffalo herder from marshes in 2018 (Priestley, 2021).

No-one over there [in the marshes] is used to city work.

- Adel al-Batat, a former buffalo herder in his sixties in 2023 (Saeed, et al., 2023).

Marsh Arab socio-economic practices (both in terms of wealth-creation and subsistence farming and agriculture) are under threat. The primary sources of food, buffalo (for milk) and wheat have become harder to sustain. In 2015, around a third of buffalo breeders in the marshes lost their livestock because of increasing salinity levels in the water (Priestley, 2021). Similarly, in the summer of 2022, a quarter of respondents in the marshlands reported over 90% crop failure due to lack of suitable water (Crisp, 2023). These statistics have worsened particularly in the last five years (IOM, 2022), as the accumulative effects of unaddressed environmental begin to damage the fundamental survival of the marshes and all life in and around them. Therefore, it is clear that Marsh Arab practices regarding pastoral and agricultural production for food and money is unsustainable, leading to migration to urban centres. Those who remain are no longer able to live on traditional reed houses which normally sit above the water, as open wastewater disposal flows through open sewer pipes, making it unsafe and unappealing to live on top of (Rubenstein & Sathikh, 2021). Local customary authority is also under threat, as village elders, who support and guide Marsh Arabs as a source of authority are now unsure how to advise people as to whether they should migrate away from the marshlands (Solomon, 2018). 25% of respondents to a questionnaire about urban migration from rural areas say that depopulation is a major social concern, leading to a domino effect of migration (IOM, 2022), reflecting the fact that 91% of migrants in Basra are from rural areas (IOM, 2021).

A UN report on Iraq's marshlands (UNDP, 2021) hypothesises that current environmental patterns will lead to men (specifically) leaving the marshes to seek employment in urban centres to return money to their homes in the marshes. However, the reality of migration patterns to Basra show that the decision to migrate is more permanent. Over three-quarters of households said their whole family migrated, and only 3/92 families contacted in Basra said they send money back to their places of origin, reflecting the fact that that only 16% of families still owned farmland or livestock in their place of origin (IOM, 2021).

Most Marsh Arabs (and other families who formally lived in rural, agricultural or pastoral environments) who migrate move to Basra, the largest city in the region, and through which the Shatt al-Arab flows. However, with migrating to a new home and new way of live comes a new set of socio-economic concerns. In terms of financial stability for migrants, almost all (96.4%) of the poorest migrant households expect to take on debt to

meet basic needs (UN, 2021). Despite this, compared with 31% of local households in Basra, over 50% of migrant households say that, in face of a large, unexpected expense (such as a medical one, common in light of unclean drinking water) they would not be being to afford it (IOM, 2021), making the financial precarity they were trying to escape from in rural areas still a present threat to many migrants. In terms of housing, most of the 330,000 citizens in Basra not formally connected to public water networks (Adriansen, 2004) are migrants from rural areas because of massive growth in the city's size (Mason, 2022). This has health and political concerns as it exposes migrants to even poorer untreated water, such as flushing water into unregulated sewage streams which flow into the Shatt al-Arab (IOM, 2022), and allows disenfranchised migrants who essentially live in slums to be influenced by militants (with Iranian links) in blaming local government for the water crisis (Solomon, 2018). This worsens the socio-economic concerns with a black labour market and crime, and continues the cycle of environmental damage as these militia damage water pipelines (Mason, 2022) to blame elected politicians for poor water management (and hence increasing polluted and salinity levels of water).

Conclusion

Without a radical change in diplomatic processes between Iran and Iraq, environmental degradation will continue due to poor forms of accountability and responsibility over the supposed shared governance over the Shatt al-Arab. There are several key diplomatic and domestic factors that have limited water diplomacy between Iraq and Iran to the point of deadlock in developing any long-term water management plan. Firstly, an Iranian 'water mafia' manipulates government funding to build unnecessary and environmentally destructive dams, impacting the salinity levels of the Shatt al-Arab to increase their wealth and domestic political authority. Secondly, Iran's broader foreign policy is controlling and ambiguous in using water management to gain political control in Iraq, linked to and possibly worsening local corruption in southeast Iraq. Therefore, these wilful, political examples of exploitation of the environment entangle attempts at resolving water security crises with complex diplomatic considerations in a context where international law and accountability are weak. The impacts of this diplomatic crisis on the Marsh Arabs are catastrophic, as traditional practices such as buffalo breeding, fishing, and reed housing on top of the marshes are now unsustainable, resulting in the loss of homes, land, livelihoods and cultural practices. The resulting migration leads to rural depopulation, and

poor living conditions in predominant migrant areas in Basra, leading to crime, political instability, and further environmental and security concerns.

Within the limits of this essay, certain areas of relevant research have been omitted, which are hoped to be addressed in a longer article on this theme. These include (1) the lack of regional communication between various regions in Iraq, specifically the Kurdistan region (Liwan, 2021) (UN, 2011) (Walker, 2020), (2) the role of the international community causing and continuing environmental damage to the marshlands, and "ecologically induced genocide" (Priestley, 2021) through cultural destruction of Marsh Arab way of life in conservation and ecotourism industries (Nelson & Tocchetto, 2014) (Razzaq & Valentinovich, 2020), (3) the lack of prioritisation of non-oil related infrastructure projects (AL-Saadi, et al., 22) (OECD, 2010) (UN, 2023), (4) addressing issues with UN reports on possible solutions to Marsh Arab migration and environmental concerns (UNDP, 2021), (5) broader migration patterns away from southeast Iraq (Saeed, et al., 2023) (IOM, 2022), and (6) the changing role of women in employment and the increasing domestication of women (Fawzi, 2016).

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