

Access to Clean Water for Women in Iraq: Accorded Rights

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KEY WORDS

women, water right, trans-boundary, conflict and cooperation

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ABSTRACT

After the Iraqi government was established in 1921, it had a little problem receiving a sufficient quantity of high-quality water from the Euphrates and Tigris Rivers. However, the upstream countries of Turkey, Syria, and Iran soon built dams and canal on the shared rivers in the latter half of the 20th century. Furthermore, engaged in prolonged military conflicts such as the Iranian-Iraq War of the 1980s, the Gulf War of the 1990s, the US-led invasion of Iraq in 2003, and the ongoing ISIS occupation in the region, Iraq's political, economic, and social infrastructures have been crippled in the wake of hastily set up regimes, leading to the bombing of urban infrastructure. This bombing has devastated Iraq's water system to the point of near destruction. In other words, upstream states' water policies and armed conflicts have led to much of Iraq's water resources and infrastructure either getting distracted or destroyed. As a result, individuals suffer from a lack of access to clean water and sanitation, and this has been made worse for some vulnerable groups such as women to feel the impacts of water scarcity acutely. Regardless, women's access to safe and clean water in Iraq is exponentially becoming a crisis within a crisis. These circumstances have resulted in socio-economic instability, which with many conflicts has disproportionately affected both women and minority groups. As a result, these vulnerable groups face a plethora of human rights abuses, such as attacks on personal security, labour rights, economic rights, access to healthcare, and access to public education.

1 INTRODUCTION

Access to safe drinking water is essential to an individual's survival, making it a fundamental human right. However, modern-day Iraq is struggling to ensure safety, health, and socio-economic stability due to various reasons but mainly due to upstream states' water projects. Besides, Iraq's topography, the effects of changing climates and the inability to

enact a good water strategy have contributed to the worsening country's water shortage.

The water resources in Iraq, are extremely important for the integral stability of the region and the country's economic development and prosperity. Yet, Iraq's severe water crisis is amplified by the decrease in the quantity of fresh water, and the degradation in the quality of the water that enters its borders via the Tigris and Euphrates Rivers. Since these

rivers supply almost all of Iraq's water demands, the degradation of water quality and quantity in these rivers is of special concern.

Iraq's neighbours' water management policies are major factors in the country's water crisis as the greater part of Iraqi water resources come from Turkey, Iran and Syria. In other words, these countries that are upstream, advantaged of Iraq downstream position on a river system, and exploited the shared water resources as economic and political tools. As a result, Iraq's people but mostly women and minority groups prevented accessing to freshwater.

As the country moves from rehabilitation to recovery and development, it will be important to find ways to ensure water security in Iraq better. The purpose of this paper is to explore Iraqi women's access to clean water through a human rights lens, with human rights being defined as the privileges that are supposed to be ensured by the rule of law, civic society, the government, and international organizations. The paper will also argue that focusing on women's and girls' needs will lead to a more egalitarian society, reducing the security risk not just in Iraq but within border countries such as Turkey, Syria, Iran, and Saudi Arabia.

2 WATER IN IRAQ: CURRENT OVERVIEW

A number of cyclical factors come into play when considering the water crisis in Iraq. Some factors are human-made while others are natural, but the ones that have acutely unravelled the threads of water security in Iraq are geopolitical factors. By providing over 98% of the freshwater water to Iraq, the Euphrates and the Tigris Rivers have been the delta's historic health and economic lifelines (Abd-Al-Mooty et al, 2017). The rivers enter Iraq in the north, travel down through the country, merge into the Shatt-Al Arab (Stream of Arabs) near the southern port city of Basra, and finally empty into the salt waters of the Persian Gulf from the south of Iraq. The headwaters of both rivers lie in Turkey, where they enter into neighbouring Syria and then Iraq.

2.1. Water Hoarding

The water flow routes mentioned above have increasingly been the cause of tension and conflict, as Iraq's upstream neighbours have used geopolitical manoeuvres to considerably limit the flow of water into Iraq. Turkey controls 60% of the headwaters of the Tigris and 95% of the headwaters of the Euphrates. Turkey has continuously exerted influence and maintained control of this water at the expense of the health and livelihood of the people of Iraq and Syria (Emirates Policy Center, 2020). Due to its own water shortages, Syria worsens and perpetuates the shortage in Iraq, which lies downstream. According to the European Water Association, it is estimated that Iraq has lost two-thirds of its water to dams built by neighbouring countries (RT, 2019). Furthermore, according to a United Nations estimate, high water sa-

linity levels and a reduction in the flow of the Euphrates may cause Iraq to lose about 40 percent of its agricultural land and lose access to the Tigris and Euphrates Rivers in total by 2040 (Al-Ansari, 2016).



Figure 1.1 The Euphrates and the Tigris River Basins (Corona, 2020).

As part of Great Anatolia Projects GAP, or the South-Eastern Anatolia Project, Turkey has built 22 dams on the rivers since the 90's, including the world's 5th largest dam on the Euphrates (Jongerden, 2021). Due to its size and scale, it is the largest river basin development project globally. The dams fill up annually and provide irrigation and hydropower to Turkey, but this comes at the expense of water, energy, and food security in downstream countries such as Iraq (Walker, 2020). The latest and largest dam, known as the Ilisu Dam, which is 65 km upstream from the border between Iraq and Syria on the Tigris, began operation in 2019. The dam has deprived large swaths of Iraq's agricultural land of freshwater supply and drained most of the previously constructed Mosul Dam's watershed located on the Tigris River (Al-Madhachi, 2020).

On the other hand, new dams and irrigation projects in Iran directly correspond to the falling level of water flow into the rivers as over 200 dams have been built in Iran over the past century. Some of these dams, such as the Daryan and Karkheh Storage Dam in southern Iran, take water bound for Iraq instead of rerouting it to Iran (Corona, 2020). For example, "After rising in the north-western reaches of the Zagros Mountains, the Sirwan and Little Zab Rivers flow into the KRI (Iraqi Kurdistan Region). Yet, depleted these Rivers have notably affected the level of Darbandikhan Dam and the canal system following to Diyala as "around two million people rely on the rivers in the Sulaymaniyah and Diyala governorates" according to the Darbandikhan Dam and Reservoir's director in the KRI".

Year	Tigris	Euphrates	Total
2015	15.919	18.396	34.315
2020	12.905	16.683	29.588
2025	11.588	14.137	25.725
2030	10.703	12.383	23.086
2035	9.822	9.999	19.821

Table 1. The water supply of the Tigris and Euphrates in Iraq from 2015 – 2035 (billion cubic meters (BMC)) (Alwash, et al, 2018).

Table 1 shows the decreasing water flow coming into Iraq due to the structural changes to the rivers, with a total decline of 34.315 to 29.588 BMC from 2015 to 2020, and the projection drop to 19.821 by 2035 (Ibid). Most of the environmental change-taking place on Iraqi land is due to the low flow of these rivers, resulting in their failure to dilute a variety of toxins. These toxins include organic waste such as human sewage and animal waste, soil run-off from farmlands and pesticides. However, it is more worrying that the reduced flow of the Shatt-Al Arab is causing the salty waters of the Persian Gulf to flow upstream, mix with freshwater, and subsequently become useless for both drinking and watering crops. As a result, the city of Basra in Southern Iraq has one of the most polluted water supplies in the country (Gleick et al., 2020).

Once the source of health and income, the impact driver's water quality is now unsafe, unusable, and toxic, breeding harmful algae, carries pathogens, salt, and other harmful compounds to vulnerable communities. According to the latest data, only 58.8% of the Iraqi population uses safely managed drinking water services (UN Women Data hub, 2020). For Iraq, these waters are a means of sustaining health and sanitation and support the livelihoods of about one-third of the population due to agriculture being a significant contributor to Iraq's GDP. However, it should be noted that while agriculture once contributed to about one-third of the country's GDP, decades of water mismanagement has led to soil degradation and desertification. As a result, this is a major reason why agriculture now makes up only 6.07 % of the country's GDP (The World Bank, 2019).

Thus, Turkey is a crucial contributor to the Iraqi water crisis. While Iraq has met its obligations to all agreements made with Turkey regarding the waters of the Euphrates and Tigris Rivers, Turkey has not (Al-Rubaie, 2012). Another major factor in diverting water away from Iraq lies in the water usage of the Iranian agricultural sector, which is changing Iraqi water into Iran to irrigate Iranian crops. Since Iran dumps cheap produce into Iraqi markets at the expense of the Iraqi national crop production (Corona, 2020), this water diversion serves as a double-handed economic blow. In any case, even though they ratified and signed historic treaties, Iran has continued to build new dams on water upstream from Iraq, thereby cutting off more and more tributaries headed towards Iraq (Salameh et al, 2021).

Turkey and Iran's motives go beyond simply damming for hydroelectric purposes, as they are over-damming the shared rivers to control Iraq's economic, environmental and social health, which is in direct violation of the fundamental human rights of Iraqis. The damage caused by Turkey and Iran's dams and irrigation projects has not only reduced water flow in the Tigris and Euphrates rivers. However, it has also spawned a systemic dependence on the riparian states' goodwill for Iraq to have a well-functioning economy upstream states' water policies are serving to perpetuate the status quo. At the same time, Iraq's most vulnerable citizens' (especially its women and girls) are targeted and left behind without proper solutions to improve their situation.

2.2 Climate Change isn't Helping

Over the last 100 years, temperatures in Iraq have increased significantly, and the "highest increase in summer maximum temperature was observed in Basra at a rate of 1.59 °C/ decade" leading to lower precipitation and increased drought"(Salman et. Al, 2017). Rising temperatures could cause up to 30% and 60% of flow of the Euphrates and Tigris by the end of the century (Dennis et. al, 2021). Hotter temperatures are also leading to droughts and reduced rainfall. When rainfall does not occur, water sources remain concentrated with toxins, leading to disease outbreaks during the dryer summer months. Hotter temperatures also lead to an increase in the evaporation of reservoir water, causing it to gradually decline in water quantity across the Tigris and Euphrates rivers. The effects of climate change will likely also be a contributing factor. In fact, in a worrying report by the International Panel for Climate Change (IPCC) for the Eastern Mediterranean and Levant Region, it was noted that if the detailed climate scenarios developed, temperatures will rise to between 3.5° and 7°C by the period between 2070 to 2099, signalling further trouble for the shared river systems in the future (Lelieveld, et. Al, 2012).

2.3 Challenges at the National Scale

A large amount of water is lost regularly in Iraq via human enterprises such as agriculture, industry, and energy production (Al-Ansari, 2011). Iraq's growing population has also led to less water per capita, and in terms of consumption, Iraq's domestic water usage rate of 251.42 liters per person per day is excessiveness, this quantity should be reduced to 150 liters per day in order to make water conservation solutions viable. However, the root cause of Iraq's severely inefficient water usage lies in the country's choice of irrigation and redistribution techniques. Not only is Iraq's agricultural industry responsible for about 62% of water consumption, it has also been estimated that just 32% of treated water reaches consumers while the rest of the water is lost by the system (Gleick et al., 2020). To make matters worse, Iraq's hot, dry summers lead to heavy water loss via evaporation, and a total of more than 10 billion cubic meters of water is lost to evaporation annually (Alwash, 2020).

3 ACCESS TO WATER FOR IRAQI WOMEN

In this section, the paper determines what the water crisis has meant for Iraqi women, how it has impacted them, and why it is vital to promote compliance with international and national human rights laws in Iraq, in riparian states, and across global organizations. In general, water accessibility is intertwined with women's health, safety, and well-being. Other than general water needs, women require clean water at times of menstruation, pregnancy, and post-partum, and without it, women and girls are unable to live healthy life. Young girls and women are also acutely affected by low quantities of water because they are generally responsible for water collection and will often spend large amounts of time making round trips for clean water from communal reservoirs each day. Therefore, if water reservoirs are scarce or low in water quality and quantity, then both their safety when traveling long distances and health when consuming the water are threatened.

3.1 Gender Roles, Economic and Education

In 2011, about 49% of women employed in Iraq worked in the agriculture sector, with most being part of the informal workforce that is often not protected by labour laws (Oxfam, 2021). On the other hand, just 17% of men participated in the agriculture sector (Ibid), with a larger percentage being part of the formal workforce. Unskilled women, a vulnerable minority, make up about 5% of the total labour force employed in the sector. As such, women are more vulnerable to changes in this sector than men (Al-Haboby, 2013). The primary homemakers in Iraq are women, and they are largely exposed to unclean water since it is the domestic water supply and not the industrial water supply that is most contaminated. For example, the majority of the domestic water in Iraq contains TDS (total dissolved solids) of over 1,200 ppm, which violates both the World Health Organization (WHO) and Iraqi national guidelines of what is deemed to be acceptable (Human Right Watch, 2019). Specifically in Iraq, women's vulnerability is even more pronounced since the majority of women require men's permission (support) to access health services: 72.4% in rural and 64.1% in urban areas" (Oxfam, 2021). Amongst women that are not in this predicament, their situation is often dire because of years of war and political instability. Around 10% of households (or about 2 million households in total), are headed by women who are widowed or otherwise left to be the primary income earner, thus increasing their vulnerability (ICRC, 2011).

Therefore, while the primary responsibility for water collection already lies with women, the women heading households alone are also burdened with ensuring a means of income and provision of food for their families. This additional layer of insecurity has deep roots. While water is the health lifeline of women worldwide, it is also the economic lifeline of

Iraqi women, thanks to their general reliance on agriculture, making water a central tenant in poverty faced by many Iraqi women. In addition, due to the unreliable quantity and high salinity of available water, many farmers are abandoning farming altogether (Oxfam, 2017). Since they are assured more mobility and systemic flexibility to adapt to changing socio-economic circumstances when compared to women, men have moved to cities to look for alternate livelihoods. On the other hand, social and cultural barriers have prevented women from doing the same. As a result, many are being left to work in farm fields that are no longer economically productive.

3.2. Social and Cultural Barriers

The right of access to clean water is being overlooked not only with rural, poor women but also with women living in urban areas. For example, it is quite common for women to walk 15 to 20 minutes to access toilet facilities while male colleagues have facilities down the hall, leading to systemic inequality (Iraqi Energy Forum, 2019). To make matters worse, urban water supplies in cities such as Basra have a propensity to become severely contaminated every few seasons, with severe cholera outbreaks being quite common. During these outbreaks, urban women from low-income households are especially at risk from the unsafe tap water, as they tend to live in informal housing with little to no access to clean water. This gendered inequality has prevented women from getting other, equally fundamental human rights such as safety, education, just working conditions, and peace and security, as laid out in the UN Declaration of Human Rights (Declaration of Human Rights, 1948).

However, due to the obstacles presented by both workplace-related barriers and, by extension, unequal access to water, 68% of educated Iraqi women are unemployed (UNDP, 2013). According to a UNDP report, 73% of men work or are looking for work compared to only 14% of women (Kirk, 2018). Prevented from higher education and participating in the economy, women and girls are primarily at home, and typically end up being the designated water collectors, where they spend up to 3 hours per day collecting water from reservoirs (Gleick et Al, 2020).

As a direct result of time spent on water collection, an increasing number of girls are dropping out secondary schools, while by the same token, an increasing number of women are forgoing economic participation. In addition, cultural practices have also led to limited access to birth control and family planning, leading to larger families and a more significant burden on the maternal heads of said families to provide clean and safe water for drinking, cooking, and sanitation.

Due to gender and cultural barriers, women's participation in managing water resources, making decisions about collecting it, and having control over regional and national matters is limited, and therefore, there is a skewed representation of women's solutions and problems in mainstream Iraqi

society. Furthermore, the lack of justice in ensuring clean water access for women has aided a continuous restriction to upward mobility in the labour force. This is unfortunately related to the fact that neighbouring countries have been successful in beginning to combat the socio-economic stigmas around women (Iraqi Energy Forum, 2019).

Beyond household water usage for tasks such as cooking, drinking, and sanitation, women are at a higher risk of exposure to contaminated water at times of menstruation, pregnancy, and post-partum recovery. Since women have this added need for water, they are especially vulnerable to changes in supply, quality, and access. This situation has become exacerbated since the socio-economic status of women in Iraq is poor. Because women face lower education levels, a poor provision of rights, and inadequate systems of economic participation, they are primarily impacted by Iraq's water-related problems.

3.3 Repercussions for the Region

While this paper has primarily focussed on Iraqi women, the repercussions of the infringement of women's rights to water in Iraq are not just contained to the country's national boundaries. That's because the fallout from the worsening of access to water can be felt across countries, socio-economic groups, and genders due to the political instability that it causes.

Since humans need water to survive, when there is a water shortage, it can cause several societal tensions. For example, while the causes and effects are complex, there is no denying that the root cause of Syria's instability, civil war, and mass migration is its lack of access to clean, adequate water (Edward, 2021). As Maslow's Hierarchy of Needs portrays, fulfilling the most fundamental human needs are necessary to allow for any meaningful progress in family, belonging, and work. To quote a destitute buffalo farmer of the dwindling marshes in southern Iraq, "If we have no water, we have nothing, and then 'there's no use for gold or even oil. Water is king'" (RT, 2019). Therefore, this lack of water causes major political instability domestically and leads to crises that can become international. It is essential that global governments and Non-Government Organizations (NGOs) work together to fight water scarcity in places such as Iraq to create a net positive result for all global actors.

The people of Iraq, led by various organizations such as The Iraqi Civil Society Solidarity Initiative (ICSSI) and Nature Kurdistan Organization (K.N.O), have been protesting for the fair use of water. These organizations have also been imploring the governments of Iraq, Iran, and Turkey to revisit their water diversion projects. However, due partly to their intransigence, water shortages will be a significant geopolitical issue for the coming decades. As a result water shortages will contribute to a decrease in the stability in the region as upstream countries use their preferential water access as a political tool. Consequently, displaced farmers and agricultural labourers have begun to flock to big cities and neighbouring countries, leading to a larger strain on municipal re-

sources, which could increase tensions and elevate the risk of civil war (Alwash, 2020).

4 LAYERS OF SOLUTIONS

Treating water as a commodity stands against human rights conventions, and exploiting it for personal and political gain does a great deal of disservice to society in a humanitarian, economic, social, and political sense. As laid out previously, access to clean water is a fundamental right for everyone, yet women often have limited access to clean water. Women's access to water has theoretically been enshrined worldwide, as it is supposed to be protected by international organizations and nation states. Therefore, despite Iraq's poverty, it is vital that water's inherent value as a human right is respected to the same degree as it would be in a more developed country. It is essential that women's rights are institutionalized and supported by law, intergovernmental development organizations, NGOs, and the Iraqi national government following the treaties of which they are a part.

4.1 Iraqi Government

Access to justly distributed clean water as a human right is resolutely enshrined in Article 33 of the Iraqi constitution, which states, "Every individual has the right to live in safe environmental conditions" (Iraqi Constitution, 2005). It has also guaranteed that federal and regional governments will "formulate and regulate the internal water resources policy in a way that guarantees their just distribution, and this shall be regulated by a law" (Ibid, art 114 sec 7), which must be put into action by the government. Iraq, along with Turkey, Iran, and Syria, are members of the UN Committee on Economic, Social and Cultural Rights UNCESCR, and General Comment 15 declares "states parties should ensure that natural water resources are protected from contamination by harmful substances, and pathogenic microbes" (UNCESCR, 2003). Since the treaty binds Iraq, through its ratification the country has a duty to ensure safe water for its people.

Therefore, the government must remove policies preventing access to clean water. This is especially relevant regarding Iraq's agricultural industry. If no solutions are implemented, a deficiency of 11 billion cubic meters of water will occur by 2035, according to an Iraqi study by the Strategy for Water and Land Resources in Iraq (Alwash, 2020). As an agricultural country that largely employs women, Iraq finds that farmers are central to the sustainable usage of water (Oxfam, 2017). As a pertinent suggestion to ensuring the right to safe employment for women, the Iraqi Agriculture Ministry must revamp irrigation and farming methods. More specifically, it should eliminate inefficient flood-irrigation techniques that contaminate downstream water sources with salt-laden fertilizers and pesticide-laden soil runoff (Ibid).

Further safeguards of the Iraqi constitution state that the authorities must "formulate environmental policy to ensure the protection of the environment from pollution and to preserve

its cleanliness, in cooperation with the regions and governorates that are not organized in a region” (Iraqi Constitution, Art. 114, sec 3). The constitution also promises “Every individual has the right to enjoy life, security and liberty” (Ibid, Art. 15). Therefore, women’s access to clean water is not a privilege but a right, and they should have fair water access without discrimination (Oxfam, 2017).

To further ensure equal access to water resources, the Iraqi government needs to urgently tackle the critical problems presented and recommended by scholars and experts. For instance, they should implement suggestions by hydraulics engineers to build a dam at the end of the Shatt-Al-Arab (but north of Basra) in order to separate the salty inflowing waters of the Persian Gulf from the dwindling freshwater streams of the interior (Abd Al-Mooty et. al, 2017). In addition, to save more water for dry season, the Iraqi Federal Government should support building more dams in the KRI era, which receives sufficient amount of rain and snow during winter season. Yet the onus to plan, protect, and safeguard women’s rights to water lies primarily with Iraq, but it cannot act alone. The Iraqi constitution guarantees upright policies “relating to water sources from outside Iraq and guaranteeing the rate of water flow to Iraq and its just distribution inside Iraq in accordance with international laws and conventions” (Iraqi Constitution, Art 110, sec 8). As such, the riparian states of Turkey, Iran, and Syria must be called upon by the Iraqi government and by international women’s rights organizations to end the infringement of human rights to water that occurs in Iraq largely thanks to the continuing upstream water projects.

Restricting women’s access to clean water should be considered a national security issue, as it is evident that the instability it causes has led to broader threats to regional and global peace. This threat should entice nation states and NGOs to act in order to ensure that Iraq’s right to receive equitable amounts of water from the shared rivers is respected. However, the issue with vague and undefined parameters of “just distribution” of water resources has necessitated further precision through international law and human rights principles, such as the Convention on the Law of Non-Navigational Uses of International Watercourses in 1997, is relevant to Iraq as it calls for signatories to take “all appropriate measures to prevent or mitigate conditions related to an international watercourse that may be harmful to other watercourse States, whether resulting from natural causes or human conduct, such as flood or ice conditions, water-borne diseases, siltation, erosion, salt-water intrusion, drought or desertification” (Convention on the Law. 1997, Art. 27). As such, building more dams, reservoirs, and irrigation systems for electricity generation, backup, and crop production on Iraq’s shared waterways is unjust, imbalanced and unsustainable since Iraqi women are already facing extreme restrictions when it comes to collecting reliable and clean water. In short, this means that riparian states must halt these developments in order to respect women’s rights.

4.2 Trans-National Cooperation

It cannot be stressed enough that there is a dire need for strategic cross-border coordination to save shared water resources and keep them out of conflict’s way. As a solution, multinational councils that indicate the set limits of water withdrawal by each riparian state must formulate river-basin agreements. Neighbouring countries must work through disputes and approach these negotiations with an understanding that these agreements would increase regional security and prosperity, lower emigration from Iraq into neighbouring countries, and increase the Middle East’s stability at large. Ongoing talks and negotiations surrounding agreements between Iraq and Turkey are promising, and the momentum needs to continue for any meaningful progress. Additionally, in areas where the livelihoods of many rely on agriculture, it is imperative that we find solutions that address the imminent threats of climate change and environmental degradation that take place largely thanks to unchecked and unjust water diversion projects (Tänzler, 2021).

Turkey has much at stake as it eyes membership into the European Union (EU). First, it must adequately fulfill the guidelines in place, which include the fact that EU environment policy aims to promote sustainable development and protect the environment for present and future generations...” (Van Ooik, 2013). The European community is well aware that “Turkey’s throttling of shared water resources may cause a shortage of hydropower, desertification, dust storms, loss of biodiversity, and a spread of water-borne diseases across Iraq. As such, Turkey must ameliorate this if they hope to be a part of the EU one day (Ibid).

Furthermore, since Turkey has been selected as a Board member of the United Nations Educational, Scientific and Cultural Organization (UNESCO) for the period of 2017-2021 (UNESCO, 2017), it has committed to implementing the Water Convention to realize the economic, social, environmental and political benefits of trans-boundary water cooperation (UNECE, 2018).

4.3 Contextual Review of Water as a Human Right

Access to water is a fundamental right for every human being, and both national and international laws and principles have increasingly protected it. The UN Committee on Economic, Social and Cultural Rights authoritatively clarifies these rights, stating, “States parties have a special obligation to provide those who do not have sufficient means with the necessary water and water facilities” (RIGHTS, 2002). In addition, it highlighted that “States parties should give special attention to those individuals and groups who have traditionally faced difficulties in exercising this right, including women, children, minority groups” (Ibid). The sentiment is also echoed by the UNDP report, which has stated that access to water is an “intrinsically important indicator for human progress” and also further “gives substance to other human rights and is a condition for attaining wider human development goals” (UNDP, 2006). The UNDP and WHO have now placed access to water squarely at the heart of the

rights-based' discourse through momentous work since the mid-1990s. In 2008, the first United Nations Special Rapporteur on the right to safe drinking water and sanitation urged states and councils to approach water from a human rights perspective (Carey, 2020). The human right to water and sanitation HRWS, was officially recognized in 2010 by the United Nations General Assembly through Resolution 64/292, and this applies across national, international, civic, public and private spheres (UNGA, 2010).

In addition, per a new resolution, the UN Human Rights Council "calls on states to ensure enough financing for sustainable delivery of water and sanitation services"(Water for Life, 2015). As such, it is imperative that the international community respects such statements. As the most recent legitimization of water as a human right, all nations pledged to support the Sustainable Development Goals (SDG) set out in 2015, which called for clean water and sanitation for all among the top development objectives. The most relevant of these is SDG 6 which binds states to promise "drinking water from an improved water source that is located on premises, available when needed, and free from fecal and priority chemical contamination"(Sustainable Development Goals, 2015).

This statement should also be applied to all water resources — either trans boundary or those located inside each state — and as such, it would require all countries involved to remove all the barriers preventing people from accessing fresh water and sanitation while "ensuring [the] availability and sustainable management of water and sanitation for all"(Herrera, 2019). These declarations echo the sentiment that 'women's rights are 'human's rights, and thus by failing to provide clean water to women, states are by extension violating basic human rights as well.

4.4 Upholding Women's Right to Safety, Health and Clean Water

Iraq submitted Intended Nationally Determined Contributions ahead of the adoption of the Paris Agreement in 2015. As such, the latter is obligated to ensure women's rights and gender justice within the climate change convention framework, spearheaded by The Women and Gender Constituency (UNFCCC, 2021). Similarly, Iraq, Syria and Turkey have ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) that ensures the social rights of women,

specifically in relation to health of rural women (CEDAW, 2021). Thus, the governments of all riparian states are obligated to step forward to remove barriers to safe water access in order to honour the treaty. The provision of human rights through the Sustainable Development Goals that Turkey, Iraq, Iran, and Syria are a part of cannot be achieved without sweeping changes addressing the large percentage of development targets aimed at 'women's empowerment and equality.

As a signatory to the International Covenant on Civil and Political Rights (ICCPR), Iraq must uphold the civil liberties

of Iraqi women, ensuring and protecting their civil rights. The Covenant grants Iraqi people self-determination, including the right to "freely determine their political status" and pursue their economic, social and cultural goals, while ensuring that women are also afforded these rights (Wille, 2019). Thus, Iraq's national ministries are obligated to better manage water resources by increasing per capita access. The key is to control population growth by granting women the right to make decisions about family planning. When working to increasingly empower women, both Iraq and other stakeholders must remove obstacles to 'women's socio-economic development and recognize their role in society at the community, regional, and national levels. More specifically, by including key stakeholders such as women in the designing of sanitation facilities in areas such as schools and workplaces, the Iraqi government can make a meaningful step on the road to equitable recovery and development in Iraq.

More specifically, women need to be involved in the following roles: as officials in the development process; as key stakeholders in decision making; and as end users in local communities. The entire chain of water needs to adopt a women-centric approach, as water is a personal issue for women. Long-term capacity building will come from 'women's economic empowerment across the public and private sectors. As such, work needs to be done to lift women out of the unregulated informal sectors and into the more secure formal sectors of the economy. Iraq must support grassroots, civic initiatives to improve conditions for rural and urban women by allowing them to voice and stand up for their rights while developing gender-specific policies and programs to address their needs. Allowing the involvement of women as key community members is mandatory in order for these political efforts to take root. It must also be recognized that a higher fertility rate is a burden on any system, let alone on one that has been ravaged by war, conflict, corruption and drought. Without the hurdle of managing daily water use and with the provision of better sanitation facilities with clean water, more women and girls will be able to enrol in secondary education, leading to better education rates, less poverty, and indirectly, a lower fertility rate.

4.5 NGOs and NPOs Civil Society and Women Entrepreneurs

Many mainstream women-focused NGOs agree with the common principles of the human right to water, which include beliefs such as non-discriminatory democratic participation in local water governance (Gerlak et Al, 2018). Amnesty International, Human Right Watch, Oxfam, UNICEF, WaterAid, are just a few of the actors that are already working to improve water access for women in Iraq, and they must continue to implore Turkey, Iran, Syria, and international organisations at large to comply with treaties that have already ratified the fair use of shared water resources and the upholding of 'women's rights. NGOs and NPOs should also create targeted rehabilitative gender-sensitive programs to assist with health, security and economic rights in areas where women are most affected by unclean water (Oxfam). In tandem with the Iraqi government, NGOs and civic society

members must also create family planning and labour participation programs.

Women-centric NGOs must build programs around the following key requirements in order to tackle the water access issues in Iraq in a sustainable way:

Monitor and measure water resources to ensure that there is a continuous level of rainfall, river flow, and groundwater levels. These measurements should be complemented with water quality surveillance. This can be undertaken at local level, but it will also need the support of regional and national governments.

1. Determine the water demands of women as and fairly allocate resources after assessing the needs of 'Iraq's various communities.
2. Actively campaign and raise awareness for robust and fair water policies, while also meeting demands for the fulfillment of existing water laws.
3. Build community trust and involvement at a grassroots level so that water access programs can be maintained long term. These NGOs should also take the lead in creating these programs.
4. Hold institutions involved in water supply accountable for maintaining suitable water infrastructure.
5. Remove barriers to social empowerment and initiate gender-sensitive policies, budgets, and programs so that women's rights to clean water will improve.

5 CONCLUSION

Just like any other group, women should have the right to live in a safe environment and enjoy a high standard of health and wellness. The right that Iraqi women have in regards to access to clean water and sanitation is fundamental per the human rights principles and Iraqi constitution. Internationally ratified treaties on shared water resources need to be devised so that they are adhered to and accounted for by the riparian states of all countries sharing waterways. Since the shared waterways flow from North to South, the issue of shared water resources involves several nation states, and these states must work with international bodies to come to sustainable solutions. International bodies should also mobilize water resources in order to improve women's access to safe water and sanitation facilities in conflict zones, especially through grants for 'women's groups that help in the installation and maintenance of safe water for drinking and sanitation. This is because in a country like Iraq, women are at an even greater risk of being impacted by scarce water resources than their male counterparts, and thus they are the group that is ultimately affected the most by the trans-boundary water conflict.

As the Iraqi economy recovers from decades of conflict, donor countries, development organizations, the World Bank, and the IMF have stepped in to bring about regional stabil-

ity through infrastructure building. The need of the hour is for developmental agencies to support the Iraqi government with aid and expertise so that they can upgrade their water systems and the social policies and make improvements surrounding water infrastructure so that women have better access to clean and safe water resources.

Ambiguous language needs clear definitions so that the officials of involved countries can approach both disputes and joint agreements in good faith. Lessons can be learned from other countries with successful water agreements, and the officials of these foreign countries can even be consulted for guidance. For a conflict-torn country like Iraq, it is the duty of the UN, the World Bank, donor countries, and NGOs to work together on rehabilitative policies and processes. The lack of coordination among the riparian countries that has existed thus far will only increase tensions, and so this must be ameliorated so that the situation faced by Iraqi women can substantially improve.

Turkey, Iraq, Syria, and Iran have more in common than just shared waterways. Due to their cultural and geographic similarities, they have a common way of life, and working collaboratively to solved water related issues is just one of the many ways that these neighbouring countries can be encouraged to move beyond their differences and work together. After all, their commonalities in language and custom allow them to empathize with each other, and so it is quite likely that they can reach common agreements. As a final note, the positive-sum solution of the regional water situation needs to be understood and acknowledged in order to ensure the regions' collective shared sustainable benefit. This should be done in order to prevent a race to the trenches that, while appearing to be a victory, are in reality a one-sided, waterless end result that disproportionately affects women.

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