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The International Law and Politics of Water Access: Experiences of Displacement, Statelessness, and Armed Conflict

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Abstract: This article analyses international law regarding the human right to water as it impacts people who are stateless, displaced, and/or residents of armed conflict zones in the contemporary Middle East. Deficiencies in international law, including humanitarian, water, human rights, and criminal law, are examined to demonstrate international law's strengths and weaknesses for functioning as a guarantor of essential rights for vulnerable groups already facing challenges resulting from ambiguous legal statuses. What are the political factors causing lack of water access, and what international legal protections exist to protect vulnerable groups when affected by water denial? The analysis is framed by Hannah Arendt's assertion that loss of citizenship in a sovereign state leaves people lacking "the right to have rights", as human rights are inextricably connected to civil rights. This article demonstrates that stateless/displaced persons and armed conflict zone residents are disproportionately impacted by lack of water, yet uniquely vulnerable under international law. This paper offers unprecedented analysis of international criminal law's role in grappling with water access restrictions. I challenge existing "water wars" arguments, instead proposing remedies for international law's struggle to guarantee the human right to water for refugees/internally displaced persons (IDPs). Examples include Israel/Palestine, Syria, Iraq, and Yemen. A key original contribution is the application of Arendt's theory of the totalising impacts of human rights violations to cases of water access denial, arguing that these scenarios are examples of environmental injustice that restrict vulnerable persons' abilities to access their human rights.

Keywords: international law; water law; human right to water; MENA; Middle East; water justice; migration; displacement; armed conflict; statelessness; water governance; Hannah Arendt

1. Introduction

[T]he loss of home and political status become identical with expulsion from humanity altogether.

—Hannah Arendt [1]

Water access is commonly associated with scarcity—and discussion of global water challenges is typically accompanied by dire statistics: an estimated 2.1 billion people lack access to safe water at home worldwide [2–5]. Typically accompanying such statistics are heart-wrenching images: women carrying jugs of unpurified water from rivers miles from their homes; families walking across cracked and barren earth in a drought-stricken area; children collecting brown water in broken plastic bottles as it trickles out from a snapped pipe.

These images and statistics spell out a major crisis, given that it is estimated that the average person can survive no more than several days without drinking water in temperate conditions

and far less in extreme heat [6]. The problem, however, is the extent to which these images are de-politicised—presented as effects without clear causes or means of resolution. Water issues induced by drought, natural disasters, war, occupation, economic blockade, geopolitical conflict, and pollution are collapsed into one monolithic category of ‘global water challenges’. The Middle East in particular hosts some of today’s most devastating water crises—all poised to worsen—but existing analyses regarding lack of water often erroneously point to physical scarcity as the sole cause. This article analyses how international law impacts people affected by water access limitations, restrictions, and denial, focusing on water access issues for groups already facing challenges resulting from ambiguous legal statuses—people who are stateless, displaced, and/or residing in armed conflict zones.

By 2025, half the world’s population of 7.6 billion is expected to live in water-stressed areas [7]. The Middle East “is the most water-stressed region in the world with 7 percent of the world’s population but only 1.5 percent of its renewable freshwater supply”, worsening “as populations grow to more than 430 million individuals in 2025”, compared with 300 million in 2006 and 100 million in 1960, and as “climate change begin[s] to manifest” [8]. In addition to its unique status as the “most water-stressed region”, the Middle East contains several active armed conflicts and top source countries for refugees and internally displaced people (IDPs)—including approximately 12 million displaced Syrians as of December 2018 and more than 5 million Palestinian refugees and their descendants displaced in 1948 and 1967 [9,10]. Some of the most prominent contemporary cases that demonstrate the challenges that arise in instances when statelessness, displacement, and/or armed conflict intersect with water access restrictions include the water crisis in the occupied Palestinian West Bank and blockaded Gaza Strip [11–14]; the ‘weaponisation’ of water in Syria and Iraq—a phenomenon that reached new heights following the rise of the Islamic State (IS) [15]; and water scarcity and an accompanying cholera epidemic plaguing Yemen in the midst of violent conflict [16].

International humanitarian law (IHL) and refugee law established post-World War II were designed to cope with civilian rights during armed conflict, displacement, and statelessness. A substantial body of international water law exists to deal with transboundary water usage. *There is a significant lacuna, however, regarding law regulating water access and for people facing challenges resulting from ambiguous legal statuses because they are stateless or displaced or who are vulnerable as armed conflict zone residents.* This void requires new scholarship to advance the understanding of international law’s role in addressing this phenomenon. In this way, this article makes a novel contribution.

This article does not endeavour to be a strictly legal treatise or a study about the evolution of the human right to water per se. It sets forth a new analytical framework for analysing law’s (in)ability to be a guarantor of essential human rights with respect to water. It analyses gaps between bodies of international law relating to water rights that one would presume interconnected—IHL, international water law, international human rights law, and international criminal law—but that, in reality, are siloed from one another, resulting in grievous disconnects and deficiencies within international law. On the subject of fragmentation in international law [17], Matthew Craven articulates, “with the proliferation of international courts and tribunals and the rapid development of certain ‘spheres’ of international law, the international legal system is poised on the brink of a potentially irreversible process of fragmentation” [18]. Gerry Simpson notes, “it is becoming increasingly difficult to view international law as a coherent set of norms or a single field or, even, a sensibility . . . indeed, there is now a separate subject of international law called ‘fragmentation’” [19]. Additionally, international law, at present, overlooks the critical ways in which “[w]ater access and rights are often linked to contentious politics of struggle”, as described by Nicole J. Wilson, Leila M. Harris, Joanne Nelson, and Sameer H. Shah [20]. The human right to water has progressed from its days as an “emergent right”, but still lacks enforceability [21].

It must also be noted that this article is devoted to consideration of international law as it affects the human right to water in contexts of statelessness and displacement, and an analysis of transboundary groundwater usage, albeit a critical subject, is beyond the scope of this article.

In some cases, water access challenges are a factor *contributing to* displacement, while in others water access limitations *follow* forced migration and armed conflict. At times, water is a factor in both the cause and effects of displacement. How has international law responded to varying scenarios in which political pressures have presented significant threats to the human right to water, and how can international law be expected to respond as these challenges increase? As Anders Jägerskog and Pasquale Steduto note, while water crises in places including Syria and Gaza are not the “direct causes of conflict”, these crises “fuel the frustrations that drive instability . . . The compounding nature of water and fragility gives rise to a vicious cycle . . . with each reinforcing the other in a dangerous spiral” [22]. What role does international law play in contributing to this “vicious cycle”? Can international law ameliorate the challenges associated with this cycle?

To address “global water challenges”, the United Nations (UN) declared 2005–2015 the “International Decade for Action, ‘Water for Life’”. These aspirations were restated in the 2015 Sustainable Development Goals (SDGs), Goal 6—“ensure access to water and sanitation for all” [23]. More concretely, in 2010, the UN General Assembly (UNGA) issued Resolution 64/292: The human right to water and sanitation [24]. Though a significant step, enforceability of the human right to water is severely lacking.

Enforceability, a widespread challenge in international law, is truly a pipe dream for the human right to water. There is no independent treaty explicitly recognising *and* providing guidelines for the protection of a human right to water. Moreover, in 2010, the UN Human Rights Council (UNHRC) issued resolution 15/9, which “affirmed that the right to water and sanitation is derived from the existing right to an adequate standard of living” in the International Covenant on Economic, Social and Cultural Rights (ICESCR) [25]. In reality, however, the ICESCR offers no potential for an *enforceable* human right to water, as implementation guidelines are not established. ‘Binding’ in principle should not be confused with ‘enforceable’ in practice. As Edith Brown Weiss argues, grounding a right to water in the ICESCR is “a somewhat arbitrary choice” [26]. This declaration of an implicit right to water appears to have been more pomp and circumstance than an indication of substantive change. UNHRC Resolution 18/1 promisingly offered a greater degree of specificity but again failed to establish *how* states ought to monitor water access and quality, accountability measures for failing to do so, or the particular needs of stateless people [27].

As Christine Evans notes, “International law is developed between states, based upon the principle of sovereignty, and, as such, has been dictated largely by the interests of states rather than individuals” [28]. It logically follows that those who fall outside the bounds of sovereign states are disadvantaged when it comes to protections afforded by international treaties—protections that are, in principle, universally applicable but are in practice enforced by states upon their citizens. (State reporting mechanisms have been developed and documented, such as by the UN Office of the High Commissioner for Human Rights [29]. The successes and failures of such reporting mechanisms are worthy of further analysis, though beyond the scope of this article. This article is primarily concerned with the human right to water as it concerns those people who are afforded the least protection from state mechanisms, including reporting mechanisms.)

Those without citizenship are without a state to defend their rights as set forth in international treaties. Statelessness is not a clear-cut category, however, and many people who reside in their territories of origin—IDPs and those born in occupied territory—find themselves “effectively stateless” and “resembl[ing] refugees in their relative rightlessness” [30,31]. The legal scholar Antony Anghie asks, “What does it mean to say that ‘international law governs sovereign states’ when certain societies were denied sovereign status? . . . What continuing effects follow from this exclusion?” [32]. This article suggests that contemporary manifestations of water injustice are, in many cases, examples of the “continuing effects” of excluding certain groups from sovereign status—excluding them from citizenship and, by extension, from international law. Water injustice’s dominance in marginalised communities does not appear coincidental.

Rather, it is connected to historical (and legal) patterns. A community need not be legally denied sovereign status, at present, in order to suffer from the types of harms Anghie describes. Legacies of colonialism, slavery, and apartheid persist, even if communities formerly subject to illegality have since been granted legal status. Evidence of legacies of colonialism affecting post-colonial Middle East states and ongoing effects of settler colonialism in the Palestinian Territories support Anghie's claims.

The human right to water is being grossly violated in the aforementioned conflicts in the Middle East, amplified by a pre-existing backdrop of water scarcity. When the statelessness factor is added into the mix, people in conflict zones are left one of the world's most *legally neglected* populations regarding water access. For these reasons, taking a predominantly black-letter law approach to analysing international water law and its impact on this population is not productive. Rather, this article employs political philosophy, including arguments presented by Hannah Arendt and Seyla Benhabib, among others, in combination with legal analysis, to present a novel approach to understanding the function, shortcomings, and potential for reform within the bodies of international law affecting, and often failing to protect, the human right to water for people who are stateless, displaced, and residents of armed conflict zones.

The arguments presented here are informed by fieldwork I conducted regarding the human right to water—including civilian interviews and expert interviews at the UN Relief and Works Agency (UNRWA) and at numerous non-governmental organisations (NGOS)—in the Palestinian West Bank; time spent working as a volunteer in Diavata Refugee Camp in Greece; visits to the International Criminal Court (ICC) in The Hague; and research visits to the World Health Organization (WHO), International Committee of the Red Cross (ICRC), and UN High Commissioner for Refugees (UNHCR) in Geneva. Overall, however, this article establishes a novel analytical framework for determining the ways that international law influences water access for the aforementioned vulnerable groups. It is not a case study-specific analysis based on my empirical research. I have deliberately chosen to devote this article to establishing an analytical framework—addressing my investigations of how international law regarding water access is functioning in particular contexts in other writing—in order to first establish principles about what is needed internationally, across multiple cases, countries, and regions. Particular attention is paid, however, to acute needs in the Middle East and North Africa (MENA) region.

This article is structured as follows: Section 2 examines water access through the lens of Hannah Arendt's assertion that loss of citizenship, or loss of membership in a sovereign state, renders people without the "right to have rights". Section 3 analyses the current terrain of international law pertaining to water access, charting the evolution of the human right to water; the consequences of the absence of normative, enforceable guidelines about how to enforce this right; and the impacts this has on refugees, IDPs, and civilians in armed conflict zones. Section 4 examines the human right to water in the context of international criminal law. Section 5 examines international humanitarian law 'in conversation' with international water law, analysing how disconnects between these bodies of law impact water access. Section 6 addresses reparations for water access denial, Section 7 discusses international law and water in the particular context of armed conflict, Section 8 addresses the human right to water in refugee camps, and Section 9, the Conclusion, considers the future of international law regarding water access.

2. Human Rights, Citizen Rights

A permanent status of man in himself is inconceivable for the law of the nation-state.

—Giorgio Agamben [33]

A key international treaty explicitly addressing shared freshwater resources is the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention/UNWC). The treaty omits consideration of the individual human right to water and is concerned with cooperation between states over transboundary water resources.

The Geneva Conventions, the cornerstone of IHL, address “objects indispensable to the survival of the civilian population”, including “drinking water installations and supplies and irrigation works” in international and non-international armed conflict [34,35]. The Additional Protocols are concerned with destruction of civilian water infrastructure only during violent conflict and do not address procedures for redress once civilian water access has been negatively impacted. As Weiss notes, “There is no clear provision holding States liable for significant harm” to civilian water resources [26]. With the advent of international justice institutions in the past decades, including the International Criminal Tribunal for the former Yugoslavia (ICTY) in 1993 and the International Criminal Court in 2002, transitional justice mechanisms have evolved substantially, but means for protecting rights of stateless and displaced individuals, especially *in the midst of conflict*, remain inaccessible.

As Shahram Khosravi remarks, although human rights are addressed in international conventions and are applicable to stateless and undocumented immigrants, they are “inaccessible to many of those who need them”, a dilemma that “exemplifies the ‘abstractedness’ of the law . . . availability in terms of international conventions and declarations” but “inaccessibility to those concretely in need of it” [36]. Khosravi describes Hannah Arendt as “the first to highlight the dilemma embedded in the condition of statelessness in the modern world”, having observed post-WWII in *The Origins of Totalitarianism* (1951), “the condition of statelessness not only rendered individuals immobile, but also caused them to be neglected and abandoned by the very conventions and declarations created for them” [36]. On the 1948 Universal Declaration of Human Rights (UDHR), Khosravi adds:

For Arendt there was only *one* human right, and it was the ‘right to have rights’ . . . the right to claim one’s rights. According to Arendt, the fundamental problem with the UDHR is [dependency] on the nation-state system . . . The territorialization of human rights in the form of a system of nation states reduces *human* rights to *citizen* rights . . . Outside the nation-state system, there is no space for humanity. There is no space for . . . the pure human being in herself, beyond legal and political status. [36]

Protections of the human right to water for the stateless and displaced have followed in the UDHR tradition, replicating weaknesses identified by Arendt seven decades ago. To identify and analyse these deficiencies, one need not commit to “exaggerated claims about the ‘end’ of the state system” or “call for . . . world citizenship” [37]. Water access concerns do, however, present serious challenges to international law, in which enforceability is dependent on nation-state ratification of treaties that are “binding on signatory states alone and can be brazenly disregarded by non-signatories and, at times, even by signatory states themselves” [37].

Seyla Benhabib notes, “Democracies should be judged not only by how they treat their members but by how they treat their strangers” [38]. *If we regard the stateless as ‘estranged’ from the nation-state system, and therefore at greater distance from international protections dependent upon the nation-state system as compared with their citizen counterparts, should we not hold the international justice system to the same standards as we aspire to hold our democracies—judging it not by how it handles the rights of those neatly categorised but by how it protects, or fails to protect, those who fall outside the bounds of states or who are citizens of states unable or unwilling to defend their rights?*

International law regarding the human right to water does not currently rise to this challenge. As Philippe Cullet notes, “the traditional distinction between ‘law’ and ‘policy’ has become blurred at the international and national levels in recent decades in the water sector”, resulting in a transnational conflation between policy recommendations and obligatory laws [39]. As “there is no binding international law framework or even well established soft law framework developed within the UN context underlying water sector reforms” [39], there are voids within international law regarding the human right to water.

All we really have are “gloss” [39] and UN “froth” [26] that state the importance of a human right to water but consistently fail to define this essential right in any detail or lay out repercussions for violations.

2.1. Law and Sovereignty

Weiss notes that a “traditional assumption” in international law has been that “it is not necessary to pierce the veil of sovereignty to unpack the State. Today, however, international water disputes show the necessity of doing so” [26]. International water law has not progressed in more than two decades since the UNWC was written to account for how climate change, population growth, increasing water scarcity, geopolitical conflict, and international security concerns pose new threats to water resources and global dependence on them and has been devoid of development on the specifics of the human right to water beyond grandiose, broad declarations. As Benhabib notes, “There is not only a tension, but often an outright contradiction, between human rights declarations and states’ sovereign claims” [37]. International law on water exemplifies this contradiction—states are reluctant to ratify international treaties that limit control over their water resources.

The consequence of this reluctance is that many states are not even willing to ratify the already severely limited conventions addressing water rights.

The UNWC was just entered into force in 2014 when a 35th state acceded to the Convention, 17 years after it was adopted [40]. As Marc Weller writes, “It is a defining feature of the classical international system that obligations cannot be imposed upon states against their will” [41]. Iraq, Syria, and Yemen are signatories, but this has done little to defend civilians’ water rights in these states.

Stephen McCaffrey, former International Law Commission Special Rapporteur for water law, was instrumental in drafting the UNWC and argues that, within the UNWC, “emphasis on prevention is important, since it is often difficult to stop or modify an activity once it has begun, and it can be very complicated and expensive, if . . . possible, to remedy harm once caused”. In the Palestinian and Yemeni cases, and others, there has not been willingness to “stop or modify” activities that are primary causes of water crimes. Thus, two decades since UNWC adoption, I argue that it is overdue that the part of the Convention dealing with what happens when harmful activities are not “stop[ped] or modif[ied]” is fleshed out [42].

2.2. Statelessness

On Arendt’s views of statelessness and human rights, Benhabib writes:

Statelessness, or the loss of nationality status, [Arendt] argued, was tantamount to the loss of all rights. The stateless were deprived not only of their citizenship rights; they were deprived of any human rights . . . The loss of citizenship rights, therefore, contrary to all human rights declarations, was politically tantamount to the loss of human rights altogether. [37]

Water is the most essential resource for human life, yet those who do not fit neatly into the confines of the nation-state system fall victim to a broken legal system that fails to formalise a definition for protection of the human right to water. If loss of citizenship is “politically tantamount to the loss of human rights altogether” and human rights are inextricably intertwined with civil rights, what are the implications for access to essential resources for the stateless and displaced? Political factors so often overpower legal ideals, but a world in which basic rights to water are not protected is a world in which people with ambiguous legal statuses are at an inherent disadvantage with respect to securing water needed not only to survive but also to live lives with dignity and meaning.

3. International Law and Water Politics: Dissonances and Overlaps

International law has long been a central focus for multiple sides of the world’s most pressing unresolved conflicts. For states accused of disregarding international treaties, international law is often selectively dismissed as illegitimate or biased. Historically, for people living in conflict zones seeking means of legal protection, international law is at times heralded as a means of defence and a productive tool to attract international awareness to the injustice of their plight and at other times disparaged merely as a virtuous—albeit totally unenforceable—ideal of justice. As Andrew Clapham notes, “Human rights law is special as it often suggests that other law is inadequate or unjust”,

which contributes to states' hesitance towards international laws, instead favoring national laws that promote state sovereignty [43]. Clapham continues, "The story of the UN's human rights treaties may leave us dissatisfied. . . . where is the pressure to ensure that these rights are realized in practice?" [43]. This article does not employ a moral understanding of the human right to water as an inherent human entitlement, but is interested in international law's role in the protection of rights to resources. International law has functioned both successfully and unsuccessfully when applied to water rights disputes. Although legal principles for equitable management of water resources exist, these have proven lacking when it comes to establishing enforceable guidelines for the human right to water.

3.1. Background on The Human Right to Water

Weiss argues:

Legal instruments . . . will be crucial to dealing with the growing water crisis. The traditional legal principles upon which existing water management is based will likely be insufficient to deal with the water problems that loom from projected climate change, population growth, food production, increased industrialization, and ecosystem needs. While water law has evolved significantly over the past century, it will need to change further to address these challenges. [26]

These inevitable pressures on equitable water management are compounded further by violent conflict. International law has proven insufficient in numerous ways regarding water access and quality. One of the most significant ways is absence of a normative definition of the human right to water.

The lack of a treaty legally defining guidelines for the human right to water is not for lack of discussion of the matter. In 2002, General Comment No. 15 to the ICESCR declared a right to water implicit within existing Articles 11 and 12 [44]. In 2010, the UNGA issued aforementioned Resolution 64/292, which recognised a human right to water. Despite the progress represented by these developments, the UNGA declaration of a human right to water is limited, addressing "drinking water" and "sanitation". Sanitation is an "analytically separate" issue because the right to water "has important intergenerational implications, which sanitation does not share" [26].

It must also be noted that the principles of Responsibility to Protect, R2P, are designed to protect civilians from mass atrocities. The Brookings Institution notes the "promise of R2P has been more noteworthy in its breach than in the honoring of . . . commitments" [45]. At the time of writing, R2P has not been invoked to protect a right to water, but logically includes this right. This article focuses on *enforceability*, however, and R2P faces serious enforceability challenges. There is little to suggest that R2P would drive humanitarian intervention to protect the right to water.

Catarina de Albuquerque, former UN Special Rapporteur on the right to safe drinking water and sanitation, concluded that the right to water must be considered according to three criteria: sufficient quantity, quality, and access reliability/regularity [46]. UNGA Resolution 64/292 does not specify how states must address these concerns or "equitable access" [46].

Equitable access's significance is magnified when considering the privatisation of water resources and potential for price gouging, either by governments or private corporations to whom state water rights are outsourced. Thus, the UN definition of the human right to water is insufficient due to its failure to address multiple meanings of "equitable access".

When considering "equitable access", it is essential to account for affordability. A prominent example of state failure to provide "equitable access" to water regarding affordability is Bolivia's "Cochabamba Water War" protests (1999–2000), when the municipal water supplier Semapa was privatised, resulting in dramatic price spikes [47]. On the point of "water wars" not in terms of protest, but in terms of armed conflict being triggered due lack of equitable access, Joffé notes, "the thesis of wars over water use and access has been largely discredited" [8]. Mark Zeitoun explains, "[c]ombined together, the terms water and war immediately conjure images of high-tech fighter aircraft patrolling

menacingly over rivers”—Zeitoun astutely criticises these hyperbolic and reductionist arguments [13]. Rather, “water and war *are* intimately related” but water is typically not the sole cause of conflict [13]. A more nuanced understanding suggests, such as in Syria, water scarcity can exacerbate political tensions or, as in the Palestinian case, water restriction can be used as a means of hegemonic control to perpetuate military occupation. This article therefore views such cases not as “wars over water” per se, but demonstrations of water’s critical role in geopolitical conflict.

The issues presented so far raise two central questions: (1) Is it possible, based on existing documentation, to develop a normative definition of the human right to water that accounts for quantity, quality, reliability, and “equitable access” both in terms of physical access and in terms of cost?; and (2) If a working normative definition can be established, can this definition have any impact on water rights unless codified into enforceable international legislation?

3.2. Existing Definitions of the Intragenerational and Intergenerational Human Right to Water

Enforceable guidelines for an independent, legally binding human right to water have not been established, but recognition on both intragenerational and intergenerational levels exists in many intergovernmental organisation documents. The intragenerational human right to water is provision of a sufficient quantity of water that is of safe quality, is available within a reasonable distance, and is affordable, according to institutions including the World Bank, WHO, and the U.S. Agency for International Development (USAID). There are disparities, however, when it comes to definitions of sufficient quantity, safe quality, and reasonable access, ranging from water that “does not contain biological or chemical agents at concentration levels directly detrimental to health”, to considering “how exposure to a certain constituent of drinking water affects the overall risk of disease” [26,48].

Quantity disparities include a WHO recommendation of 20 L per person per day for personal and domestic needs, though WHO notes that increases correspond to significant health improvements [49]. Peter Gleick has argued that 50 L per person per day ought to be an absolute minimum [50]. Gleick’s higher estimate is in contrast to minimums of 20 L per person per day set by WHO, USAID, and the World Bank, which measure domestic use excluding water for cooking and cleaning [51]. It is also been argued that increasing availability of emerging waterless sanitation technologies may reduce needs [51]. This is unconvincing—water access, deemed a “crisis for the poor” [52], disproportionately affects the developing world. Until waterless sanitation technologies are universally accessible, 50 L per person per day is more sensible. Regardless, a 30 L difference in how daily minimums are calculated is not alone a barrier to determining normative guidelines. The definition of ‘reasonable access’ is tougher to pin down.

Albuquerque defines reasonable proximity as “available within or in the immediate vicinity of each household as well as schools, workplaces, health-care settings and public places” [46]. USAID defines reasonable access as a direct in-home connection or public facility within no more than 200 m of the household [51]. Affordability is complex—given the vast disparity of global wealth distribution, no single monetary amount is universally applicable.

Defining affordability is further complicated by the numerous sources many people in the developing world rely on for water supplies—often a combination of household connections, resellers, public and private wells, and rivers and streams [26]. Water from resellers typically costs 10–20 times more than water purchased through in-house utility connections [26]. Water that meets minimum expectations for “reasonable access” in terms of physical proximity *and* affordability often falls short in terms of quality and quantity available—water that is nearby and cheap does not help if it is at best inconsistently available and at worst not potable and potentially toxic [26].

On the subject of affordability, privatisation proponents (such as the World Bank and European Commission) have argued that privatisation increases efficiency [26]. Full privatisation has been implemented in the UK and France (though privatisation in these cases is still subject to critique). Overall, privatisation has had mixed outcomes, including disastrous results in Bolivia in 2000 [47], and in 1999 in South Africa where citizens could not afford water prices following privatisation,

instead turning to unfiltered water, leading to an unprecedented cholera outbreak [53]. As Weiss notes, “[P]rivatization is not the panacea to the world’s ailing public water sector” [26]. Albuquerque notes, “The State cannot exempt itself from its human rights obligations by involving non-State actors in service provision . . . the State remains the primary duty-bearer” [46].

Weiss argues that based on collective analysis of various guidelines, a human right to water should, at minimum, be defined as “20 L of safe water per person per day for metabolic, hygienic, and domestic requirements either by direct connection to a home or from a source within one kilometre of the home, at a cost which each person (or family) can afford” [26]. The question remains: How will states will be held accountable to measure and maintain water quality?

An intergenerational (future generations) right to water is inextricably tied to an intragenerational right (e.g., regarding aquifer saltwater intrusion, pesticide contamination, radioactive waste contamination). These issues affect both freshwater immediately and groundwater for future generations, in some cases for millennia to come, as with radioactive waste. Climate change impacts groundwater recharge rates, slowing down speeds at which groundwater can be extracted for potable water, and sea-level rise increases salinity of ground water aquifers, rendering water non-potable [26]. Sustainable development principles suggest that a human right to water must address access for both present *and* future populations [54,55]. Given current enforceability difficulties for international environmental law and extreme challenges with global consensus on commitments to climate change mitigation (e.g., the 2017 United States withdrawal from the Paris Climate Accords), any proposal for a binding normative definition of the intergenerational human right to water is sure to be met with resistance from industrial powers.

A normative definition of the intragenerational human right to water—and potential for this definition to be incorporated into a legally binding document—is arguably more attainable in the short term. A total of 20–50 L of safe water per person per day for drinking and sanitation as a bare minimum is a starting point, though significant ambiguities remain: (1) How would universal standards for quality be enforced? (2) How would an enforceable treaty account for evolution of these standards over time? (Would mandated reviews every five years be necessary, and/or should quality and minimum quantity be determined on a sliding scale based on location-specific climate concerns?); (3) Is water required for food production sufficiently protected in the existing human right to health, or should water for food production be specifically addressed in the human right to water?

The most significant ambiguity is determining what form a document mandating legally binding guidelines for the human right to water would take. In part, the type of document that defines the human right to water and sets forth accompanying principles would predetermine how the above questions are addressed.

3.3. *Water and the Human Right to Development*

The UN human right to development includes contextualised recognition of the human right to water. The 1986 Declaration on the Right to Development sets out states’ responsibilities to “undertake, at the national level, all necessary measures for the realization of the human right to development, and [to] ensure, inter alia, equality of opportunity for all in their access to basic resources” [56]. Water access is presumably part of “basic resources”, and in UNGA Resolution 54/175 (1999), the UN went a step further to include “rights to food and clean water . . . [as] fundamental human rights” [57].

The problem with Resolution 54/175, as with other examples discussed in which a human right to water is implicitly recognised, is twofold: (1) The right to water is only defined insofar as provision of water resources ensures that another, broader human right is respected; (2) This dependency on a separate, broadly defined human right is problematic, because the right to development itself is not legally enforceable [58].

The human right to water’s importance for development demonstrates the need for this right to be independently established as truly enforceable. The absence of a clear, legally enforceable human

right to water appears to facilitate “de-development”, a concept pioneered by Sara Roy. Roy defines de-development as the following:

[T]he deliberate, systematic deconstruction of an indigenous economy by a dominant power. It is qualitatively different from underdevelopment, which by contrast allows for some form, albeit distorted, of economic development. De-development is an economic policy designed to ensure that there will be no economic base, even one that is malformed, to support an independent indigenous existence. [59]

De-development is compelling when applied to numerous cases involving manipulation of water resources either by design or as a consequence of conflict, such as IS’s systematic destruction of water infrastructure in Iraq and Syria and in cases in which force is deployed by outside powers as part of the stated aim of defeating terrorists, which consequentially leads to de-development. This latter description may apply to the Saudi-led coalition’s use of force in Yemen—force that is ostensibly targeting Al-Qaeda in the Arabian Peninsula and the Houthi rebels but consequentially has a de-developing impact on the civilian population. A key—perhaps most critical—component of this de-development in Yemen is lack of safe access to water, which has overwhelmingly been the most significant factor leading to the devastating cholera crisis—over 1.2 million cases and over 2500 deaths from the waterborne disease as of December 2018 [60]. It appears that Yemen, experiencing “the world’s worst humanitarian crisis” [16,61], is a weakened state [62] en route to lacking an “economic base, even one that is malformed” [59].

The concept of water restriction for de-development begs the question: If international agreements have questionable track records for facilitating development and ameliorating conflict—even when the agreements in question are designed to be binding and maximally enforceable—is it problematic to assert that an expansion or revision of existing international water law could address pressing conflicts centred on lack of water access? The next section addresses this counter-argument, demonstrating that while international law certainly has a mixed track record when it comes to enforcing respect for human rights and carrying out punishments for those who violate these rights with impunity, there are successful models that can serve as partial templates for how an independent, enforceable human right to water could be developed and why the absence of enforceability actively contributes to denial of water access for vulnerable groups, including the stateless, displaced, and inhabitants of armed conflict zones.

3.4. *Law’s Triumphs and Types of Documents That Could “House” an Enforceable Human Right to Water*

As demonstrated, the human right to water is on shoddy legal ground and lacks a permanent legal “home” [26]. A lack of “precise norms for actually guaranteeing” this right [63] contributes to the weakness of laws and agreements addressing water access during international conflict—the UNWC, and Additional Protocol I to the Geneva Conventions. This section comparatively examines historical examples in which international interventions—ranging from a non-binding International Court of Justice (ICJ) Advisory Opinion and non-enforceable opinions of UN Special Rapporteurs to formal, binding convictions handed down by international courts and tribunals—have attempted with both successes and failures to ameliorate international conflicts. Deliberately, not all examples explicitly address water, allowing for analysis of how the right to water functions as *one of many* in a body of human rights. Legal cases involving the human right to water in a humanitarian context are limited—the majority of case law regarding water at the ICJ and Permanent Court of Arbitration (PCA) addressed territorial disputes.

Hersch Lauterpacht famously stated, “If international law is, in some ways, at the vanishing point of law, the law of war is, perhaps even more conspicuously, at the vanishing point of international law” [64]. Much has changed since Lauterpacht’s tenure as an ICJ judge in the 1950s. However, his point about “vanishing” international law still resonates. What can be gleaned from these prominent examples from the international justice sphere—how can analysis of these examples inform a sound examination

of what is flawed in current treaties within international water and humanitarian law? What precedents do international justice offer for alternatives to the current landscape of international law when it comes to water access for some of the world's most vulnerable populations?

3.5. Political Impacts of Non-Binding Opinions

The 2004 ICJ Advisory Opinion on the West Bank separation wall is non-binding. (Note that ICJ Advisory Opinions are legal recommendations, generally non-binding, provided by the ICJ to the UN or a specialized agency.) Iain Scobbie notes,

It is perhaps not surprising that the ... Opinion gave no tangible guidance regarding the material steps that should be taken by the [UN]—or indeed by states—to discharge their responsibilities ... the Court is loathe to dictate courses of conduct to litigant states when the methods of compliance with its rulings are essentially at the parties' discretion. [65]

Ultimately, Israel proceeded with completion of the separation wall. The Opinion has contributed to the Palestinians' quest for legal legitimacy, however, and paved the way for Palestine's 2015 accession to the Rome Statute.

Though non-binding, Ardi Imseis notes that the Opinion made clear that "the construction of the wall ... violates ... international law and that violation is not vitiated by the law of self-defense or necessity" [66]. Restricted water access was repeatedly cited as illegal—the Special Rapporteur on the situation of human rights in the Palestinian Territories occupied by Israel since 1967 stated, "Much of the Palestinian land on the Israeli side of the Wall consists of fertile agricultural land and some of the most important water wells in the region". Other concerns included that the wall will "effectively annex most of the western aquifer system (which provides 51 percent of the West Bank's water resources) ... With the fence/wall cutting communities off from their land and water without other means of subsistence, many ... Palestinians ... will be forced to leave" [67]. The ICESCR and the Convention on the Rights of the Child (CRC) were both cited as legal bases for the Court's Opinion on the wall's illegality—both documents include an implicit recognition of the human right to water.

The UN classification of widespread water disconnections in the United States (US) city of Detroit in 2014 as a "violation of the human right to water and other international human rights" [68] drew on UNGA Resolution 64/292.

The UN Office of the High Commissioner for Human Rights (OHCHR) issued a statement declaring the actions of Detroit's government illegal—placing political pressure on the city to cease illegal activities—but did not have any direct power to force an end to illegal activity. On Detroit, Albuquerque noted, "Disconnections due to non-payment are only permissible if it can be shown that the resident is able to pay but is not paying. In other words, when there is genuine inability to pay, human rights simply forbids disconnections" [68].

Both cases involved the illegality of barriers to water (in the former case, physical, and in the latter, economic) recognised by the UN, but the UN's influence did not consistently lift the barriers. A promising possibility is for violations of the right to water to be "house[d]" [26] within the context of international criminal law. The history of international criminal tribunals offers numerous precedents for the successful prosecution of war criminals, including the ICTY, International Criminal Tribunal for Rwanda and the Special Court for Sierra Leone. The UNWC "emphasise[s] mediation" and views referral to the ICJ or ad-hoc tribunals only as a "last resort" [8]. ICJ cases have not sufficiently addressed water rights for stateless people. International criminal law is a comparatively under-studied area regarding water, deserving of analysis.

4. The Human Right to Water and International Criminal Law

Criminal tribunals have long been subject to debate regarding limitations when prosecuting individuals for what may be more accurately understood as collective crimes [69]. Gerry Simpson writes that this debate can be connected to concerns about the "performative" nature of criminal

law, an idea put forth by Arendt regarding the trial of Adolf Eichmann in an Israeli court in 1961. Simpson writes, “Arendt argued that law and pedagogy are fundamentally at odds . . . A trial that had one eye on educating the public was bound to fail as law” [69]. Contemporary international tribunals are designed to avoid the biases and politicisation associated with national war trials. Though the ICC has faced challenges since its inception, including accusations of bias due to the high percentage of African cases pursued and a series of state-withdrawals from the Rome Statute in 2016, the ICC has prosecuted war criminals.

The Rome Statute presents a different approach to the enforceability challenges inherent in international law, which may have interesting consequences for the human right to water. The ICC’s jurisdiction only extends to crimes committed in the territory of a state party or committed by a national of a state party [70]. This significantly narrows ICC jurisdiction—the US, for example, is not a state party, and its nationals are therefore unlikely to be prosecuted.

The exception is that the UN Security Council (UNSC) is able to refer situations to the ICC, enabling the Court to investigate all Rome Statute crimes in any UN member state without further prerequisites—a comparatively larger pool of 193 UN member states compared with 122 Rome Statute state parties. This presents a wider jurisdiction than, for example, the UNWC, with a jurisdiction completely dependent on ratification by states. The UNWC falls in the middle of a vast spectrum of enforceability (35 ratifications by state parties required). Once entered into force, however, enforcement of the Convention is still dubious—“[t]he recommendations of the commission are not binding on states”, they are merely required to “consider them in good faith” [71].

The ICC would not have been able to investigate situations in Darfur and Libya if not for UNSC referrals as neither Sudan nor Libya are parties to the Rome Statute. ICC jurisdiction is still significantly restricted, however, by UNSC permanent member states’ veto powers. China and Russia vetoed a 2015 draft Resolution proposed by France to refer the situation in Syria to the ICC [72]. National interests of permanent UNSC members effectively limit ICC jurisdiction, resulting in a great unlikelihood that certain situations in countries that are not parties to the Rome Statute can be investigated.

The ICC has yet to prosecute human right to water violations. In September 2016, however, the ICC announced a potentially momentous change of focus, declaring that in addition to war crimes and genocide, it would prioritise crimes resulting in the “destruction of the environment”, “exploitation of natural resources”, and “illegal dispossession of land” [73].

Mentions of “land grabbing” and “destruction of the environment” [73] are particularly interesting regarding Palestine’s 2015 accession to the Rome Statute. To the dismay of water rights advocates, the 18-page policy paper by Chief Prosecutor Bensouda did not mention exploitation and destruction of water resources. It is logical to assume that water is included in the Court’s understanding of “natural resources”, but it remains to be seen how water will factor into ICC cases.

Although water is not explicitly addressed in the 2016 paper or Rome Statute, violations of the right to water implicitly fall within Article 7 of the Rome Statute, “Crimes against humanity”, which include “inhumane acts . . . intentionally causing great suffering, or serious injury to body or to mental or physical health” as crimes within the Court’s jurisdiction [70]. Furthermore, Article 6, “Genocide”, includes “acts committed with the intent to destroy, in whole or in part, a national, ethnical, racial, or religious group”, including “[c]ausing serious bodily or mental harm to members of the group” and “[d]eliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part” [70]. Article 8 defines war crimes as “Grave breaches of the Geneva Conventions” [70]. The ICC’s stated intent to focus on destruction of natural resources is promising. However, the Court’s ability to recognise water’s role within this new purview is hindered by the absence of an international treaty explicitly outlining states’ legally binding obligations to protect the human right to water.

The Court’s ability to consider the human right to water in its case selections and investigations is hindered by sorely out-of-date international laws on water during armed conflict. The Court’s intended pivot towards a focus on environmental destruction offers hope that violations of the human

right to water may begin to be considered in ICC cases. Doing so is technically within the Court's jurisdiction, without any updates to existing laws. However, limitations within the UNWC and Geneva Conventions may pose obstacles to the Court's interpretation of environmental destruction as the concept specifically applies to water access. Thus, the optimal "home" [26] for an enforceable human right to water still appears to be an independent treaty establishing clear definitions of minimum levels of water quality, quantity, and reasonable access that states must provide. The absence of this treaty makes it difficult, though not impossible, for the ICC to factor the right to water into its case selections, evaluations, and rulings.

5. A Legal 'Dialogue'

Article 54 of Additional Protocol I to the Geneva Conventions, added in 1977, states:

It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as . . . drinking water installations and supplies and irrigation works, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive. [34]

Though seemingly simple for states to carry out, Article 54's mandates are problematic in the context of contemporary water crises, particularly regarding protracted warfare and its impacts on stateless and displaced people. Additional Protocol I does not adequately establish legal procedures for addressing long-term subjugation of entire populations through water access denial. This law exemplifies how legal raw material to address water crises in protracted armed conflict situations partially exists but lacks enforceability.

An international legal approach to contemporary water crises has been susceptible to criticism on the grounds that when facing urgent humanitarian crises, a focus on legal reform risks privileging what is ethically ideal rather than what methods achieve equitable access in the shortest time span. A counterargument demonstrates why legal analysis—in tandem with on-the-ground action—is key for achieving results compatible with ultimately resolving conflicts contributing to water access denial. This section explores that counterargument, placing Article 54 of the Geneva Convention into a 'dialogue' with a critical snippet of the UNWC.

Article 7 of the UNWC states

1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.
2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation. [74,75]

Five simple words in Article 7's last line—"discuss the question of compensation"—are of paramount importance to denial of water access for stateless and displaced people in conflict zones. Article 7 means that, when "all appropriate" measures have been taken by one party in an armed conflict to avoid harm to another party but harm still occurs, the harm-causing party must "in consultation with the affected State . . . eliminate or mitigate this harm" and then "consider compensation" for harm already caused. There are three key reasons why this article is problematic. First, how is "tak[ing] all appropriate measures to avoid harm" defined? How can deliberate destruction of critical civilian infrastructure be distinguished from accidental destruction? The UNWC does not adequately define what "appropriate measures" to avoid harm would be for water infrastructure.

Secondly, the UNWC states that when unavoidable harm has been caused, efforts to eliminate or mitigate this harm shall be taken in consultation with the affected state. What if the affected party is not a universally recognised state? This problem is applicable to Palestine, which has been recognised as a state by the UN but not by Israel, the occupying power of the Occupied Palestinian Territories (OPT). This problem applies to civil wars such as in Syria, in which defined negotiating partners for post-conflict consultation do not exist. Article 3 of Convention I of the 1949 Geneva Conventions, “Conflicts Not of an International Character”, addresses civil wars briefly and without regard to resource/water access [76]. The UNWC also insufficiently accounts for internal conflicts and their profound impacts on water infrastructure and access. In cases of belligerent occupation, how can occupying governments be expected to have equal “consultation” about the best way to prevent harm to the same civilian infrastructures that are targeted?

Thirdly, the UNWC is problematic because it requires a harm-causing state and a harmed state to “discuss the question of compensation”, “where appropriate”. Who determines when the “appropriate” time to discuss compensation occurs, and how is this determination made? A process to designate a neutral third party to carry out this task is not outlined.

A path to strengthening the UNWC is to replace this weak language about mere “discussion” with required reparations for incidents such as the bombing of wastewater treatment facilities. As Evans notes, “There is a common misconception that reparations are synonymous with monetary compensation” when reparations actually encompass financial and non-financial meanings: “restitution, compensation, rehabilitation, satisfaction (disclosure of the truth), and guarantees of non-repetition” for victims of human rights violations [28].

The international law of belligerent occupation states that occupying powers are obligated to not directly worsen lives of occupied civilians—funding the reconstruction of essential water infrastructure is a reasonable and achievable expectation to place on occupying powers [77].

A precedent exists for revising the Geneva Conventions and adding information influenced by other laws. This historical precedent strengthens the case for why aspects of the UNWC should not only be amended and improved within that document but should then be duplicated within the Geneva Conventions themselves.

Alongside establishment of an enforceable, independent human right to water, this would demonstrate how environmental factors are inextricable from civilian protection during armed conflict.

The Geneva Conventions were legally amended as recently as 2005, when a new protocol regarding the use of ICRC’s emblems was adopted [78]. The addition of a similarly structured protocol on water during extended occupation would be one possibility to facilitate interaction between water law and the Geneva Conventions. Such a protocol could place a time frame on the period during which an occupying power has to meet obligations to make reparations for destruction—intentional or unintentional—of civilian infrastructure.

Such a protocol would need to outline steps through which an independent commission—including representatives from both the harm-causing and harmed parties—could determine a monetary amount needed for civilian infrastructure reconstruction, in addition to a separate monetary amount calculated for unrecoverable losses (catastrophic injuries/civilian deaths). The monetary amount for unrecoverable losses might include lost earning potentials, paid as reparations to the injured or family members of the deceased.

Another possibility, perhaps more expedient, which has been implemented previously as an interim step to formal IHL revision, is to address water access and quality during protracted conflict in the next *Updated Commentaries* on the Geneva Conventions. The ICRC’s *Updated Commentaries* “give people an understanding of the law as it is interpreted today, so that it is applied effectively in today’s armed conflicts . . . ” [79]. The *Commentaries* are intended as “an essential tool for practitioners like military commanders, officers and lawyers to be able to ensure protection of victims during armed conflict”. They are used to “ensure that military orders comply with law. They are also used by judges in criminal courts and ad-hoc tribunals” [79]. Updates to the *Commentaries* calling for increased

attention to water access denial and more meaningful interaction between IHL and environmental law could have substantive impacts on international legal practitioners. Though the *Commentaries* have yet to explicitly address water or environmental law, the ICRC notes the following:

When the Geneva Conventions were adopted, many areas of international law were still in their infancy, such as human rights law, international criminal law and refugee law, but they have grown significantly ... These areas of law are complementary to humanitarian law as they all seek to provide protection to persons in need of it. Humanitarian law is not a self-contained body of law; there is a lot of communication with other areas of international law ... interpretations offered in the new *Commentaries* take these developments in other areas into account ... [79]

The 2016 *Commentaries* addressed Common Article 3, which pertains to the “humane” treatment of “persons taking no active part in the hostilities” in non-international conflicts. The ICRC notes, “While international armed conflicts still occur, the vast majority of recent armed conflicts have been non-international ... and have generated a level of suffering that is no less than that encountered in international armed conflicts” and “[c]ompared with the number and detail of the provisions governing international armed conflict in the Geneva Conventions, common Article 3 is brief and formulated in general terms” [80].

The *Commentaries* go on to explain that, at the time of drafting the Conventions, this article may have been purposely limited in outlining scope and “intentional[ly] lack[ing] [in] detail” in order to maximise the number of nations that would be adopt the Conventions.

This self-critique, and noted need for an updated understanding of the Article’s applicability, is useful to understand the intentionally vague language that is found in the 1997 UNWC, when a “discussion” about compensation for the destruction of water infrastructure is called for, rather than an explicit demand for reparations.

Additionally, the *Commentaries* section on Article 3 contains numerous references to how statehood is understood and how the Geneva Conventions apply to colonial domination and occupational rule:

[I]nternational armed conflicts ... also include armed conflicts in which peoples are fighting against colonial domination and alien occupation and against racist régimes in the exercise of their right of self-determination ... [80]

Here, the *Commentaries* briefly address an updated interpretation of IHL application to military occupation (an important issue regarding the Israeli occupation of the OPT and US occupation of Iraq). The issue at hand, however, is whether the *Commentaries* have substantively addressed the intersection of water law, such as the UNWC and the existing Geneva Conventions. The answer to that question is no. The answer to another, more hopeful question—Is the ICRC capable of addressing this intersection in future *Commentaries*?—is a definitive yes.

The ICRC has noted that IHL must be continually reinterpreted to account for its own dynamism and the dynamism of the bodies of law with which it interacts. A major step forward would be for the ICRC to feature water law in future *Commentaries*, given the rapidly increasing significance of global water scarcity in armed conflict.

6. Reparations

How ought states and non-state actors be required to address instances of the weaponisation of water that have already occurred? One approach is implementation of reparations requirements. What is the ICC’s potential role in mandating reparations, following the Court’s 2016 announcement of an intended pivot towards focusing on environmental crimes? One potential path forward is that the ICC should be supported to expand the Trust Fund for Victims to make reparations to victims of water and environmental crimes, particularly when these victims are stateless or from states unable or unwilling to make reparations (e.g., Yemen, Syria). The Trust Fund for Victims is a fund, separate from

the ICC though established in accordance with Article 79 of the Rome Statute, which has a two-fold mandate: (1) to implement Court-ordered reparations and (2) to provide physical, psychological, and material support to victims and their families. Though Rome Statute Article 75 permits mandated reparations, reliance on the Trust Fund will likely become problematic in the near future, as the Fund is not UN-funded (the ICC is independent from the UN), and the ICC is expected to start ordering reparations for crimes committed against large numbers of victims, amounting to “considerable sums” likely exceeding voluntary funding from states [28]. Though the Rome Statute was a significant step towards defining crimes requiring reparations, legal definitions for violations of water rights on which reparations guidelines would be based are exceedingly vague. Furthermore, there is no existing study that applies analysis of laws governing water and environmental crimes to the distinctive needs of the stateless and displaced people most affected by these crimes.

As Evans argues, “[R]apidly growing jurisprudence confirms state responsibility to provide reparations for human rights violations caused by state agents or by the failure of states to prevent violations by non-state actors” [28]. Despite these developments, the procedure for securing reparations for victims of crimes committed by non-state actors remains elusive.

Additionally, though reparations procedure for victims of human rights atrocities committed by states is clearer, the actuality of this process is also on rocky terrain, and the process is still in the infancy stage of becoming inscribed into international norms via practices of the ICC. Legally determining the necessity of reparations for victims of human rights atrocities remains a significant challenge. “[T]he adoption of a legally-binding instrument that clearly consolidates the rights of victims and the establishment of effective operative redress mechanisms have yet to be realised” [28].

For reparations to be considered and ultimately distributed to victims of atrocities, the crimes with victims entitled to reparations must first be defined. In the case of grave crimes, such as genocide and crimes against humanity, defined in the Rome Statute, Article 75 states:

1. The Court shall establish principles relating to reparations to, or in respect of, victims, including restitution, compensation and rehabilitation. On this basis, in its decision the Court may, either upon request or on its own motion in exceptional circumstances, determine the scope and extent of any damage, loss and injury to, or in respect of, victims and will state the principles on which it is acting.
2. The Court may make an order directly against a convicted person specifying appropriate reparations to, or in respect of, victims, including restitution, compensation and rehabilitation. [70]

Principles for how violations of the human right to water ought to be redressed, however, are non-existent.

As previously demonstrated, the Geneva Conventions do “prohibit” destruction of “objects indispensable to the survival of the civilian population . . . such as . . . drinking water installations and supplies and irrigation works . . . ” [34]. Regarding internal conflict, the Conventions state similar principles in Additional Protocol II relating to the Victims of Non-International Armed Conflicts:

Starvation of civilians as a method of combat is prohibited. It is therefore prohibited to attack, destroy, remove or render useless, for that purpose, objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works. [35]

However, the Geneva Conventions do not specify what the consequences of such destruction are and, importantly for victims, what the process for reparation, compensation, or redress would be. The UNWC, as previously argued, is even more devastatingly vague, merely calling for “discuss[ion]” about “the question of compensation” [74]. The Convention totally omits consideration of “compensation” for victims of violations of the human right to water committed by non-state actors, and a process for securing said “compensation”, even for crimes committed by states, focuses on

arbitration and is defined in general terms. The UN Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violation of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by the UNGA in 2005, require states to “mak[e] available adequate, effective, prompt and appropriate remedies, including reparation” for victims by “[e]nsuring that their domestic law provides at least the same level of protection for victims as that required by their international obligations” [81]. The Basic Principles were noteworthy for legally establishing (although in a non-binding document) states’ responsibilities to establish a framework and institutions to deliver restitution and compensation to victims. However, the Basic Principles, in their reliance on “the same level of protection . . . as international obligations”, were doomed to fail when it came to violations of the human right to water because of lack of international obligations on this fundamental right.

The Basic Principles do define “restitution” and “compensation” that could apply to violations of the human right to water in Articles 19 and 20:

19. *Restitution* should, whenever possible, restore the victim to the original situation before the gross violations of international human rights law or serious violations of international humanitarian law occurred . . .

20. *Compensation* should be provided for any economically assessable damage, as appropriate and proportional to the gravity of the violation and the circumstances of each case, resulting from gross violations of international human rights law and serious violations of international humanitarian law . . . [81]

The principle that restitution should “restore the victim to the original situation” is commendable but, in the case of the human right to water, often impossible. The contamination of groundwater and destruction of aquifers is often irreversible for at least the lifetime of people dependent on water sources, while contamination by severe toxics or nuclear waste is effectively permanent. Physical harm caused by destruction of water infrastructure or denial of water access should be covered under “Compensation”, though guidance on how to enforce states’ obligations to supply this compensation is not provided.

One notable incident that highlights the importance of reparations for victims of violations of the human right to water is the closure of a dam in the Iraqi city Ramadi, the capital of Iraq’s largest province, in June 2015. The closure of the dam had a dual objective of (1) reducing the water level, “allow[ing] [IS] to infiltrate from Ramadi to Khalidiyah and then easily move to other areas” and (2) depriving civilians in order to weaken the population as IS took over the territory.

The incident in Ramadi is just one devastating example out of numerous incidents involving “strategic weaponization” (“the use of water to virtually or actually control large or important land areas or facilities to fulfill the vision of sovereignty . . .”) and “tactical weaponization” (“the use of water as a weapon on the battlefield”), as well as water deprivation for psychological terrorism or incentivisation [15]. Ultimately, in these incidents, the most likely means of redress for violations of the human right to water is via the ICC or an ad hoc tribunal, though at present these avenues for redress are by no means guaranteed. Thus, a key policy recommendation that can be extracted from this article’s analysis is that establishment of a sustainable funding mechanism for the ICC Trust Fund for Victims (or a fund for reparations for water weaponisation victims that is disconnected from the ICC) ought to be given serious consideration by the Court and by the UN—substantially more consideration than the virtual absence of attention currently being paid to this matter.

In northern Sana’a (Yemeni capital), 1.5 million people were once serviced by a single wastewater treatment plant. Violence in the current conflict damaged the plant, leading to raw sewage “stream[ing] dangerously through the Bani-Al-Hareth district, exposing residents to harmful waste and a potential public health crisis” [82]. This incident led to health issues and long-term agricultural devastation to land affected by sewage exposure. At present, there is no process that requires state combatants in an

intra-state conflict to redress harm for victims whose health and livelihoods have been decimated by countless similar incidents.

If UNSC vetoes can readily prevent crimes committed in Yemen and Syria—two of the most devastating humanitarian situations in the world today—from being brought to the ICC, then the ICC referral process is truly broken.

The problem with reparations for victims of violations of the human right to water is multifold: (1) *The nature of these violations must be more clearly defined in a treaty on the human right to water and protections for victims of crimes violating the human right to water, necessitating an unprecedented merging between IHL and international water law;* (2) *The process for securing reparations for victims of human rights violations must be repaired; a mechanism for bringing situations to the Court that is not at the total discretion of the UNSC (which allows permanent members discretionary veto power used for their own political advantage);* (3) *Within the existing process for establishing the need for reparations as defined in the Rome Statute, violations of the human right to water must be clearly defined as a crime with victims who are unquestionably protected under the Rome Statute.*

7. Water and Armed Conflict in the MENA Region

Existing literature on the human right to water in armed conflict (particularly literature on IS), repeatedly acknowledges the applicability of IHL, particularly the Geneva Conventions, to incidences of wartime manipulation of water resources [15,83,84].

However, the literature consistently falls short of extending this acknowledgement into critical analysis of the role of international law in scenarios where the human right to water during armed conflict has been clearly violated. As established, Additional Protocol I to the Geneva Conventions prohibits destruction of civilian water resources and infrastructure in international conflict [34]. In non-international conflict, all civilian objects are protected and deemed off-limits as military targets according to both the Geneva Conventions [35] and customary international humanitarian law. In 2005, the ICRC established that “these rules are equally binding in international and non-international armed conflicts . . . [and] are binding on all parties to the conflict, even those who have not or cannot sign the conventions, such as non-state armed groups” [85].

7.1. *The Role of Law: Deficiencies, Risks, and Potential Reform*

Regardless of standards set by IHL, civilians’ human rights to water are being trampled on in Iraq, Yemen, and Syria. With regard to Iraq and Syria, Lossow notes, “State actors and non-state actors alike are explicitly not complying with international law, norms and standards, preventing the civil population from receiving the most basic supplies of water, food and medical care” [83]. It is an important step to acknowledge the unprecedented extent to which civilian rights to water are being violated in the context of armed conflict. Existing literature on the rise of the weaponisation of water acknowledges that this development has legal ramifications, but there is a need for analysis addressing how this development has impacted international law and what this development means for the evolution of IHL in years ahead, a topic that is addressed in what follows.

As noted by Médecins Sans Frontières (MSF), the provisions set out in the Geneva Conventions for the protection of civilian water resources and infrastructure are “binding on all parties to the conflict, even those who have not or cannot sign the conventions, such as non-state armed groups” [85]. The inclusion of “non-state armed groups” clearly applies to a group such as IS, while the Geneva Conventions without question apply to more traditional state-led bearers of force in armed conflict, such as the Syrian regime and the Saudi-led coalition in Yemen. Regardless of the legal *applicability* of IHL to “non-state armed groups”, *enforceability* for legal violations committed by these non-state entities is another matter entirely. Although IS does have ambitions for a degree of state-like legitimacy, a central component of which is operating like a state and demonstrating the ability to deliver services for civilian life to function, such as supplying electricity and water [86], IS has no concerns about flagrant, brutal violations of all aspects of international law. This has been exhaustively demonstrated

by its merciless tactics ranging from beheadings to international calls for terrorism and its genocidal campaigns throughout Iraq and Syria. (At the time of writing, the only major legal development involving IS has been a case discussed involving Yazidi torture victims, which would be the first case against IS in international courts. The development has received mixed reactions because of the blatant impracticality of legally pursuing IS via an institution such as the ICC to halt atrocities, and may be an awareness-raising tactic rather than legal strategy leading to an implementable resolution [87,88].)

The fact that IS is bound to international law as a “non-state armed group” does not have any impact on IS’s activities. However, this does not exonerate the international legal system from addressing deficiencies in international law to cope with atrocities committed by this type of actor impacting civilian water access. No international framework exists that outlines the responsibilities of states or international bodies such as the UN in addressing abuses of civilian water rights when these abuses are committed by non-state actors whose actions are unlikely to be halted by pursuit in international courts. Some have argued that in such situations, military engagement [15] becomes a necessary response to curtail weaponisation of water. However, this approach still does not address that there are open questions about state responsibility for aiding civilians who are impacted by water weaponisation committed by non-state actors.

The issues of assistance and justice for civilians are unlikely to be helped, and far more likely to be further jeopardised, by western military engagement. The nature of warfare has been dramatically altered by IS’s weaponisation of water, a reality that makes questions about state responsibility to protect civilians of increasing urgency.

The ICRC claims that the Geneva Conventions are living documents, which require reinterpretation over time to ensure that international justice norms remain relevant to warfare’s ever-evolving nature. Lossow notes the following:

With 174 state parties now signatories to [Additional Protocol I] ... states, with some exceptions of course, have increasingly been hesitating—at least officially— ... from weaponising water. The increasing use of water as a weapon by IS and other military factions in Syria and Iraq breaks with this development. [83]

Given the unprecedented degree to which the weaponisation of water has evolved in recent years, is it not necessary that international law ‘catch up’ and evolve as well?

Water manipulation is not a new phenomenon in the MENA region. For example, Saddam Hussein “used water as a strategic weapon against a Shia population known as the Marsh Arabs” [15]. The Marsh Arabs rebelled against the regime following the 1991 US invasion of Iraq and faced a full-scale diversion of water resources as Saddam’s retaliation, leaving 100,000 people displaced. The catastrophic impacts of water, air, and soil pollution from the use of depleted uranium weaponry have become all too familiar to civilians in Iraq in the years since the Gulf War and 2003 invasion of Iraq. Increases in diseases such as childhood leukaemia have been linked to low-level radiation contamination [89]. As established by Mozghan Savabieasfahani, F. Basher Ahamadani, and A. Mahdavi Damghani, children living in close proximity to a US military base in Iraq were found to have an increased risk of congenital abnormalities, which is linked to thorium and uranium exposure [90]. Going farther back in history, there is evidence that water was weaponised in ancient Mesopotamia, when King Urlama of the city-state Lagash cut off water to the neighbouring city-state Umma [84]. (Mesopotamia was where present-day Iraq is located. The name translates from ancient Greek to “the land between the rivers”, i.e., the Tigris and Euphrates.) As demonstrated in Section 1, however, the nature of water manipulation has changed. In the Syrian case, drought was a key factor leading to the civil war. Climate change is believed to have contributed to the drought’s unprecedented intensity, leading to massive displacements as farmers and herders fled their barren land for cities, only to end up destitute and living on urban peripheries. Climate change is leading to greater incidences and intensity of water scarcity and flooding, making manipulation of water resources as a tool of warfare more potent than ever before.

7.2. Climate Change

Suzanne Saleeby argues that in Syria, climate change alone is not to blame. Rather, it served as a critical push factor that exacerbated already boiling-over socioeconomic tensions [91]. Saleeby states, “Not only has the national government failed to adequately regulate agricultural activity in dry areas during the past decade, it has fomented irrigation practices which contribute to desertification”. Lack of regulation over drilling of illegal wells throughout Syria diminished groundwater reserves, forcing farmers to “rely on private contractors for water”—water that was not sufficiently purified. The water situation in Syria points out a desperate need for enforceable regulations over the privatisation of water to ensure that this water meets international safety standards for purity and safety—standards that do not exist in international law as demonstrated. The Syrian “environment of agricultural deregulation” cultivated under both dictator Bashar al-Assad and his father Hafez al-Assad led to widespread overgrazing of “increasingly fragile and parched” lands [91].

Large-scale privatisation of the agriculture and water sectors led to “corro[sion] [of] customary law over boundary [and property] rights, facilitating overgrazing and leaving farmers deprived of their livelihoods”. Thus, the Syrian case highlights the need for international standards for ensuring equitable access to safe water when the state turns water and land rights over to the private sector.

Even before the outbreak of major unrest in Syria in 2011, enforcing such international standards would have been difficult under the Assad regime, which had a direct interest in promoting privatisation at the expense of farmers in order to earn maximum profit on dwindling agricultural resources when crop production began to plummet (the majority of private contractors had regime ties).

The establishment of an enforceable human right to water, if tied to an international monitoring system that regulates both state-delivered and private water distribution, has the potential to set the bar higher for international water regulatory standards. Resource “inequity as opposed to mere resource scarcity illuminates the ongoing social and economic stratification” in Syria [91]. Such inequity is enabled by a total lack of international regulation over water quality and access standards. The human right to water has for too-long been relegated to the humanitarian domain—portrayed as an obvious and seemingly simple goal—for all in the developing world to attain access to safe water in order to improve global public health and mitigate disease. The Syrian case, however, demonstrates how such an outlook is an over-simplification and how water rights have been confined to the realm of UN “froth” [26]—the practice of setting idealistic standards without a serious eye towards legitimate implementation or enforceability—for too long. Control over and state-sanctioned commodification of water is an international security matter of utmost importance. Water regulatory standards need to be treated with the same meticulous intensity and eye towards international security and global stability as matters such as regulation of nuclear materials and weapons of mass destruction (WMDs). Water manipulation does not have potential to cause devastation and social unrest as quickly as conventional WMDs, but the destabilisation of water access in Syria contributed to turmoil in a few years—not decades. The US has already identified climate change as a “threat magnifier”, and the G7 reported in June 2016 that climate change may soon contribute to violent conflict [92]. Climate change is anticipated to increase both water scarcity, and inequity that will most greatly impact already marginalised, vulnerable communities. However, water security concerns need to be delinked from climate change—climate change is one context in which water security concerns are becoming more pressing than ever before, but a long-existing lack of regulatory standards that enables manipulation of civilian water resources combined with climate change is what creates a perfect storm for water-induced conflict. Water security has not been sufficiently addressed internationally or within the MENA region.

8. Water in Refugee Camps

Water access is one of the most significant public health threats impacting refugee camps today. Often host states are economically ill-equipped to provide sufficient levels of water to refugees within their borders, a common problem in Greek refugee camps.

In refugee camps in water-scarce countries such as Jordan, water access is a longstanding problem for the country's residents, and this problem impacts refugees living in densely populated camps, particularly as Jordan's refugee population has spiked amid crises in Syria and Iraq. Refugees comprised one third of Jordan's population in 2015, not including Palestinian refugees who further increase this percentage significantly [93]. When host states are unable to supply refugees with safe water through the construction of water infrastructure in camps, the responsibility falls on UNHCR and NGOs operating within the camps. UNHCR estimates that more than half of worldwide refugee camps are unable to provide the UNHCR minimum of 20 L of water per person per day for domestic use—a level that does not even account for camp-wide services needs or requirements for schools and other communal buildings [94].

While I was in Diavata, a Greek military-administered refugee camp in the northern Macedonia region, the volunteer coordinator of a Greek NGO described to me how the camp director, a Greek government official, had turned the construction of camp infrastructure into a bidding war—attempting to pit individual NGOs against one another. The objective was to pressure competing organisations to donate more funds for construction of desperately needed infrastructure in the quickest timespan, thereby avoiding the need for contribution by the Greek government [95].

This strategy was, of course, counter-intuitive—asking the NGOs to pool funds and collaborate on construction, supplemented with government funds, surely would have produced a superior outcome. In such cases, it appears that government employees are instructed to avoid expenditure of government funds at all costs, due to overwhelming costs associated with provision of basic services for refugees.

In Jordan's Zaatari refugee camp, inhabited by 81,000 Syrians, people receive an average of 35 L per person per day. This is due largely to work by Oxfam, UNICEF, Mercy Corps, and other humanitarian organisations actively combating the rapid depletion of Zaatari's aquifers in water-scarce Jordan by supplying water tanks and managing water deliveries to the camps up to three times daily. To provide some perspective, 35 L, though above UNHCR's 20 L minimum, is the equivalent of an average five-minute shower—a far cry from life in parts of pre-war Syria where residents became accustomed to 70–145 L per person per day, [96] and barely within range of the previously discussed bare minimum recommendations of 20–50 L per day.

In addition to UNHCR's minimal recommendation of 20 L per person per day for domestic use in refugee camps, the Humanitarian Charter and Minimum Standards in Humanitarian Response guidelines, established by a consortium of aid agencies, state that water sources should be less than 500 m from camp residents [97]. These guidelines do not create any legal obligations for host states and NGOs to provide minimum amounts of water within reasonable access in refugee camps, nor do refugee or human rights laws.

The 1951 Convention Relating to the Status of Refugees and its 1967 Protocol focus mainly on rights relating to persecution, movement, and location of refugees, not responsibilities of states, intergovernmental organisations, and NGOs to provide water for refugees [98]. Thus, the human right to water for refugees has been largely unaddressed in refugee law and falls under one or more of the following domains:

(1) the human right to water for all people, regardless of political status; (2) IHL; (3) international human rights law; or (4) international water law. Given the absence of a clearly defined human right to water that creates enforceable obligations, the first category is unhelpful to all people in need of water, especially vulnerable groups including refugees. The second category, IHL, is only applicable in armed conflict and does not offer help for refugees and asylum seekers once they have fled conflict zones. The third and fourth categories, international human rights law and international water law, as this article has established, are insufficient to protect the human right to water in general, let alone for stateless people without protection from the domestic laws of their home countries and facing legal challenges in host countries. The relevant laws would be the UDHR or UNWC, both of which are heavily focused on state responsibility and do not address the resource needs of stateless and displaced people.

IHL does not discuss in detail a right to an adequate standard of living implicitly encompassing a right to water (according to UNHRC resolution 15/9), leaving IDPs forced to flee armed conflict or still living in the midst of armed conflict legally unprotected regarding water access [99,100]. This is a significant lacuna in international law, given that in most of the world's countries with IDP populations, access to clean water and sanitation for IDPs is significantly worse than for the general population [100,101].

The case of refugees and IDPs once again demonstrates gaping holes in international law for creating legal obligations for states and international organisations regarding the human right to water.

9. Conclusions

The tradition of the oppressed teaches us that the 'state of emergency' in which we live is not the exception but the rule.

—Walter Benjamin [102]

This article has demonstrated that international law regarding water access is largely unenforceable. This unenforceability reflects the lack of legal infrastructure regarding protection for the human right to water as it applies to people not afforded full protection by civil rights and the laws of their home states. International water law is nascent relative to its counterparts, including international humanitarian and human rights law, but by no means inherently undeveloped. It appears that some of the most promising developments on the human right to water for stateless and displaced people may occur outside the 'proper bounds' of international water law.

As Cullet notes, regarding water issues, "states are losing their near monopoly on policymaking and law-making at the international level" [39]. As international water law has proven increasingly ill-equipped to ameliorate global water challenges, the number of refugees and IDPs escaping violent conflict has skyrocketed. The ICC, though flawed, appears to be one of the more likely fora through which *jus post bellum* will be sought for violations of the human right to water, as efforts in international legal reform to redress victim harm progress.

Though, at the time of writing, nine disputes involving water have been brought before the ICJ since the 1990s, these have been disputes between states over equitable use or contamination of a shared water resource, most recently *Dispute over the Silala (Chile v Bolivia)* over whether a shared water body qualifies as a river subject to equitable use restrictions [103]. Water for the stateless, displaced, and residents of armed conflict zones have not been addressed at the ICJ or PCA, due partly to deficiencies in the UNWC identified in this study. The UNWC may *suggest* that the ICJ has jurisdiction over international water disputes, but it does not *enforce* this jurisdiction.

Protracted situations involving water deprivation in the context of broader patterns of de-development or in the course of armed conflict have proven difficult to prevent through *jus in bello*/IHL and equally challenging to address post-conflict. This article has demonstrated multiple ways in which *jus in bello* and *jus post bellum* mechanisms for protection of the human right to water are lacking and has suggested multiple avenues through which both may be achieved in the future, including through the ICC, through the establishment of an enforceable international human right to water, and through formal updates to IHL or updated assessments and recommendations in the ICRC's Geneva Conventions *Commentaries*. The results of the ICC's investigation of the situation in Palestine will determine the extent to which the longstanding water crisis will factor. Enforceability remains a challenge for civilians in Yemen, Iraq, and Syria, none of which are parties to the Rome Statute and do not appear likely to be referred to the ICC via the UNSC, as explained.

The potential revisions to and evolution of international law discussed, including the establishment of an enforceable human right to water, do not suggest that law is a cure-all to simply resolve violations of the human right to water. Rather, this article demonstrates that relatively modest developments in international water law—including the adoption of the UNWC—*have* led to progress, such as the resolution of inter-state disputes at the ICJ.

This progress, however, has not extended to vulnerable groups who lack legal protections regarding water access and who stand to gain the most from these protections. Vulnerable groups lacking the “right to have rights” are entitled to protection and recognition regarding the human right to water. This does not guarantee enforceability of these rights, but it is highly problematic that vulnerable groups already at risk due to ambiguous legal statuses also remain unprotected with respect to the essential right to water. How can any hope for enforceability exist if even an enforceable definition of the human right to water remains absent?

As Benhabib argues, “the boundaries of political community, as defined by the nation-state system, are no longer adequate to regulate membership”, but “Arendt was just as skeptical about the ideals of world government as she was about the possibility of nation-state systems ever achieving justice and equality for all” [37]. This article has examined a path forward for international law relating to the right to water for those lacking a “right to have rights” that treads a middle ground between reliance on inter-state resolution (which inevitably excludes the stateless and displaced) and reliance on non-enforceable UN “world” governance. The history thus far of the human right to water suggests that securing reparations for the stateless, displaced, and victims of armed conflict may, albeit slowly, become a more accessible process outside limits of national laws and civil rights in the future.

A precedent recommending “compensation” has been set in the UNWC, but international law must continue to evolve to better cope with *ongoing* violations of the human right to water and implementation of functioning reparations mechanisms, beyond a mere “discussion of compensation”.

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