

WAGING WATERFARE: ISRAEL, PALESTINIANS, AND
THE NEED FOR A NEW HYDRO-LOGIC TO
GOVERN WATER RIGHTS
UNDER OCCUPATION

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I. INTRODUCTION

A. *Thesis and Overview*

Water plays a critical role in sustaining both communities and economies.¹ Its vital contributions to agriculture² and industry,³ let alone public health,⁴ render it a uniquely valuable, if vulnerable, resource. As such, proper protection and regulation of hydrological resources is not merely a concern for conservationists—it is a political and humanitarian imperative embedded within the heart of international human rights juris-

1. U.N. EDUC. SCIENTIFIC & CULTURAL ORG., WORLD WATER ASSESSMENT PROGRAMME, WORLD WATER DEV. REP. 3: WATER IN A CHANGING WORLD 7 (2009), available at http://www.unesco.org/water/wwap/wwdr/wwdr3/pdf/WWDR3_Water_in_a_Changing_World.pdf (observing that smart water management is crucial to satisfy basic human needs as well as to enable long-term economic growth).

2. See WORLD HEALTH ORG., THE RIGHT TO WATER 21 (2003), available at http://www.who.int/docstore/water_sanitation_health/Documents/rightto-water/righttowater.pdf [hereinafter WHO] (explaining that agriculture drives approximately sixty-nine percent of global water extraction).

3. See, e.g., SUSAN S. HUTSON ET AL., U.S. GEOLOGICAL SURVEY, CIRCULAR NO. 1268, ESTIMATED USE OF WATER IN THE UNITED STATES IN 2000, at 29 (2004), available at <http://pubs.usgs.gov/circ/2004/circ1268/pdf/circular1268.pdf> (confirming that American industry consumes 19,700 million gallons per day for uses such as fabricating, processing, cooling, and transporting products).

4. See WHO, *supra* note 2, at 6–7 (describing the role of water resources in public health).

prudence.⁵ Water management is complicated by occupation,⁶ which has a hydrological dimension that must be, but is not presently, governed explicitly by international law. Water management is confounded even further where the occupant and occupied are coriparians⁷—a scenario exemplified by Israel’s control and administration of hydrological resources within the West Bank and Gaza.⁸ In situations of coriparian occupation, the occupant maintains an independent, selfish interest in the water resources shared with the occupied population that compromises its position as a neutral administrator.⁹ This conflict of interest troubles traditional

5. See *id.* at 7–8 (defining access to safe water supply as a human right); see also Nikolai Jorgensen, *The Protection of Freshwater in Armed Conflict*, 3 J. INT’L L. & INT’L REL. 57, 59 (2007) (“Recent interpretations and developments in international human-rights law and international environmental law—fields of general international law (*lex generalis*)—are increasingly referring to fresh water.”); G.A. Res. 64/292, ¶ 1, U.N. Doc. A/RES/64/292 (Aug. 3, 2010) (recognizing a human right to water); Convention on the Elimination of All Forms of Discrimination Against Women, art. 14(2), *opened for signature* Dec. 18, 1979, 1249 U.N.T.S. 13 (mandating that member states “shall ensure to such women the right . . . (h) [t]o enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply”); Convention on the Rights of the Child, art. 24(2), *opened for signature* Nov. 20, 1989, 1577 U.N.T.S. 3 (“State Parties shall pursue full implementation of [the right to healthcare] and, in particular, shall take appropriate measures . . . (c) to combat disease and malnutrition, including within the framework of primary health care, through, inter alia . . . the provision of adequate nutritious foods and clean drinking-water.”).

6. Article 42 of the 1907 Hague Regulations establishes that “territory is considered occupied when it is actually placed under the authority of the hostile army.” Hague Convention (IV) Respecting the Laws and Customs of War on Land, art. 42, Oct. 18, 1907, 36 Stat. 2277, *reprinted in* 2 AM. J. INT’L L. SUPP. 90 (1908) [hereinafter Hague Regulations].

7. I use the term “coriparian” to refer to states, communities, or other political entities situated along common navigable or non-navigable watercourses.

8. Eyal Benvenisti, *Water Conflicts During the Occupation of Iraq*, 97 AM. J. INT’L L. 860, 871 (2003) (noting, with regard to Israel’s administration of Palestinian water resources, “A question of conflict of interests may arise when the occupant is itself a riparian of the same watercourse. . . . In this case, the concentration of representation of both Israeli and West Bank interests in one authority is an unsatisfactory solution.”); see also Jorgensen, *supra* note 5, at 60 n.18 (2007) (acknowledging that governance of freshwater under the “law of occupied territories is a complex body of law and should be the object of a separate study”).

9. See Benvenisti, *supra* note 8, at 871.

strictures of customary International Water Law (IWL), as derived from Transboundary Resource Law (TRL) and International Humanitarian Law (IHL).¹⁰

Existing water rights doctrine is gap-ridden.¹¹ TRL supplies some general principles applicable to inter-sovereign water disputes; however, it offers little insight as to which elements of international law govern water resources under the grossly asymmetrical power dynamics of occupation. IHL binds occupants with firm commitments but lacks a sufficiently particularized and nuanced treatment of what those commitments entail, especially where the occupant taps resources shared with the occupied population from within its own domestic territory. Nor does IHL articulate the precise contours of occupants' affirmative obligations under the Hague Regulations¹² and Fourth Geneva Convention (and its additional protocols)¹³ to restore public order and safety or civil life in the context of water sector development.¹⁴ Even when read together, IHL and TRL do not produce a clear or comprehensive framework for navigating the complexities of coriparian occupation.

As hydrologist Mark Zeitoun explains, “[W]ater is an integral part of war – usually as a target, sometimes as a weapon but seldom as a sole motive.”¹⁵ The failure of IHL and TRL to consider the conflict of interest afflicting occupants' administration of watercourses shared with occupied populations enables occupants to manipulate and to exploit those populations' water resources without overtly violating international

10. *Id.*

11. Melvin Woodhouse & Mark Zeitoun, *Hydro-Hegemony and International Water Law: Grappling with the Gaps of Power and Law*, 10 WATER POL'Y, SUPP. 2, at 103, 118 (2008) (positing that water law is lacking in “those instances of restrictive or oppressive forms of hydro-hegemony maintained in part by covert exertions of power”).

12. See Hague Regulations, *supra* note 6, art. 42–43, 46–47, 53, 55–56.

13. See Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War, art. 33, 54, 56, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287 [hereinafter Geneva Convention (IV)].

14. For an analysis of occupants duties under the Hague Regulations and Geneva Conventions, see *infra* text accompanying notes 204–211 and 195–203, respectively.

15. MARK ZEITOUN, POWER AND WATER IN THE MIDDLE EAST: THE HIDDEN POLITICS OF THE PALESTINIAN-ISRAELI WATER CONFLICT 7 (2008).

law.¹⁶ I term this self-interested administration of occupied populations' water resources "waterfare." Israel's control and constriction of the Palestinian water sectors evidence the existence of waterfare and the need to address it.¹⁷ Regardless of whether waterfare is a tool or a symptom of occupation (and, indeed, at times it appears to be both), it jeopardizes the occupied population's most fundamental human rights and therefore must be cabined.

This Note seeks to reconcile the corpora of IHL and TRL in order to delineate the rights and obligations that attach during the occupation of a coriparian, using Israel's occupation of the West Bank and Gaza as a case study. To fill the remaining doctrinal ambiguities surrounding water rights under coriparian occupation, I propose a two-part rule, around which I structure my argument:

When a state occupies the territory of a coriparian

- (i) any increase in water extraction from resources shared with the occupied territory by the occupant for its own consumption, beyond the demonstrated need of the occupying military, is presumptively in violation of international law. The occupant may defeat this presumption with regard to its domestic extraction only by demonstrating that external circumstances have rendered pre-occupation extraction levels insufficient to meet the

16. See EYAL BENVENISTI, SHARING TRANSBOUNDARY RESOURCES: INTERNATIONAL LAW AND OPTIMAL RESOURCE Use 14–15 (2002) (discussing governments' increasing use of water as a domestic political tool); see also Mark Zeitoun & J.A. Allan, *Applying Hegemony and Power Theory to Transboundary Water Analysis*, 10 WATER POL'Y, SUPP. 2, at 3, 6 (2008) ("[I]gnoring the role of power in transboundary water management and allocation would be as irrational as ignoring the role of gravity or a river bed's friction coefficient while modeling sediment transport"); see also Gamal Abouali, *Natural Resources Under Occupation: The Status of Palestinian Water Under International Law*, 10 PAGE INT'L L. REV. 411, 418 (1998) (concluding that through its occupation of the Palestinian territories, Israel has been able to limit Palestinian control over water resources and stymie development of the Palestinian water sector).

17. See Abouali, *supra* note 16, at 472–73 (highlighting Israel's self-interested appropriation of Palestinian water, interference with Palestinian legal entitlements to water, obstruction of Palestinian access to water, and degradation of Palestinian water sources).

vital human needs of the occupant's domestic population.

- (ii)(a) any failure by the occupant to authorize—and to fund where possible and necessary to satisfy the domestic, agricultural, and industrial needs of the occupied population—water sector development projects approved by the appropriate indigenous political authority presumptively violates international law. The occupant may defeat this presumption only by demonstrating that the project will result in irremediable harm to the watercourse and is not necessary to meet domestic, agricultural, or industrial needs of the occupied population.
- (b) If no indigenous water authority exists in the occupied territory, the occupant shall facilitate creation of an indigenous water authority.

I begin by explaining briefly why a more particularized rule, as opposed to the currently existing guiding principles, is not only appropriate, but critical to promote efficient and equitable governance of water resources under coriparian occupation. In Part II, I sketch the hydrological dimension of Israel's occupation of the West Bank and Gaza in order to demonstrate the reality and gravity of waterfare, thereby laying the factual foundation justifying the rule proposed. In Parts III and IV, I outline and overlay IHL and TRL to expose the doctrinal gaps necessitating each component of the proposed rule, which I then formulate and defend. Throughout the Note, I reference the impact of the Israeli occupation on the Palestinian water sector in order to illustrate the existence and imminence of waterfare, as well as to frame the need for, and potential application of, the proposed rule. I conclude that, by reducing the doctrinal ambiguity that obfuscates the occupant's obligations, the rule proposed would belie many of the issues arising out of occupants' control of coriparian communities' water resources in general, and with regard to Israel's occupation of the Palestinian territories in particular.

B. *How a Clearer Rule Would Promote Efficiency and Human Rights*

Before defining and defending the proposed rule, it is important to establish why a more specific “rule” is the vehicle best suited to encouraging efficient and just water resource administration within a context of coriparian occupation. As mentioned above and detailed below, IHL and TRL set forth, respectively, obligations binding occupants and general principles guiding transboundary water management. However, neither canon accounts for the unique problems posed by a coriparian’s administration of shared watercourses.¹⁸ While vague standards are typically more conducive to joint management, creative negotiation, and achievement of efficient outcomes,¹⁹ the occupant’s absolute authority over the occupied territory suggests that no meaningful negotiation can occur at all between the occupant and the occupied population.²⁰ Absent a clear and binding rule to govern occupants’ hydrological obligations to occupied populations, this dynamic leads to outcomes that are neither efficient nor equitable. A more explicit, enforceable rule would curb, if not cure, the disparity.²¹

Rather than spurring negotiation or joint management processes that lead to efficient allotments and maximization of utility amongst the parties,²² the acute power disparity be-

18. See Bryan Bruns, *Routes to Water Rights*, in LIQUID RELATIONS: CONTESTED WATER RIGHTS AND LEGAL COMPLEXITY, 215, 231 (Dik Roth et al., eds., 2005) (“[R]ules point toward ways to make water allocation based on water rights workable even in the face of severe limitations in hydrological data and technical capacity.”).

19. BENVENISTI, *supra* note 16, at 161–62.

20. Cf. Rutgerd Boelens et al., *Legal Complexity in the Analysis of Water Rights and Water Resources Management*, in LIQUID RELATIONS, *supra* note 18, at 1, 2 (criticizing the common water management paradigm that “emphasizes the need for decentralized platform structures for negotiating local water rights and mediating conflicts among users and uses, but often fails to address fundamental power differentials”).

21. See Ruth Meinzen-Dick & Rajendra Pradhan, *Analyzing Water Rights, Multiple Uses, and Intersectoral Water Transfers*, in LIQUID RELATIONS, *supra* note 18, at 237, 238 (“Those with power are likely to be able to secure and defend their water rights, while those with water rights that are recognized have some bargaining power, even if they are otherwise less economically or politically powerful.”).

22. See BENVENISTI, *supra* note 16, at 158 (stating that, between governments engaged in disputes over natural resources, “not only do negotiations

tween occupant and occupied undermines the parties' capacity for meaningful negotiation.²³ Because the occupied population lacks ultimate decision-making authority and other strong political bargaining chips, it cannot engage with the occupant as a true counterparty in a transaction.²⁴ Whereas vague principles would otherwise permit flexibility and encourage innovation and cooperation,²⁵ in systems of occupation they simply facilitate domination. The occupant has an uncontested monopoly over the occupied population's resources, and the market-based joint management paradigm breaks down.²⁶ This arrangement is inefficient.²⁷

A clearer rule would resolve the market failure inherent in the power disparity between the occupant and the occupied. It would give the occupied population leverage in the forms of international legitimacy, public relations fodder, and more direct access to international legal and political remedies, which it could enforce or threaten to enforce in order to pressure the occupant into either meaningful negotiation or compliance.²⁸ If the occupant refuses to abide by the rule or to negotiate a mutually agreeable solution with the occupied population, the occupant's breach could potentially open up fora (perhaps the International Court of Justice, United Nations Security Council, or other international venues) for redress. Although the costs and complexities may render actual litigation unlikely, the value of a colorable claim, if just for negotiating and publicization purposes, should not be under-

ensure complete control of the outcome, they also present a real assurance of efficient and equitable outcomes").

23. See ZEITOUN & ALLAN, *supra* note 15, at 83 ("Israeli control over transboundary water resources has evolved from pre-1967 high intensity conflict, through domination during the occupation years, and hegemony from the 1995 Oslo II Agreement onwards.").

24. *Cf. id.* at 9 (elaborating upon the less explicit but analogous dynamics of "hegemony," they explain, "The hegemon has a disproportionate capacity to coerce a weaker riparian.").

25. BENVENISTI, *supra* note 16, at 161.

26. *Id.* at 229.

27. *Id.* at 25 ("If entitlements are not protected against incursion by others, their value is diminished and trade in them will not capture their full worth.").

28. Andrew P. Cortell & James W. Davis, Jr., *How Do International Institutions Matter? The Domestic Impact of International Rules and Norms*, 40 INT'L STUD. Q. 451, 452 (1996) (identifying international legal norms as an influence on domestic debate and policy-making).

estimated.²⁹ Unlike loose guidelines, a rule would endow the occupied population with bargaining power that would otherwise be subsumed by the occupant's authority. A rule would help remedy the market failure such that productive negotiation, motivated by the foreseeable threat of litigation, sanctions, or public condemnation targeting the occupant, could encourage collective action and optimal resource allotment while discouraging authoritarian abuse. Put more simply, a clearer rule would help neutralize the inefficiency that plagues resource distribution under occupation.

Not only would a rule be more efficient, it would advance the even more compelling cause of human rights.³⁰ Human rights considerations entail fundamental guarantees in the management of transboundary resources: sufficient *per capita* supply; allocations not premised on nationality, financial resources, or other distinguishing categories; and protection of minority groups from neglect by government-sponsored development projects.³¹ Of course, abiding by human rights norms may also enhance efficiency and heighten the efficacy of international law. As Eyal Benvenisti elaborates, "Granting voice and paying respect to individual and communal interests and rights enhances the quality of the decisions that take due account of their concerns, increases the legitimacy of such agreements, and, thus, strengthens the durability and success of collective action."³² As such, water management schemes that do not meet standards promulgated by human rights law warrant scrutiny and correction.

While these human rights priorities appear obvious when distilled abstractly, the as-of-yet unpolished state of the law governing transboundary water resources under occupation creates plentiful opportunities for violations to occur and to remain unaddressed. I will show that it is exactly these sorts of

29. Ronald C. Slye, *International Law, Human Rights Beneficiaries, and South Africa: Some Thoughts on the Utility of International Human Rights Law*, 2 CHI. J. INT'L L. 59, 61–62 (2001) (enumerating four effects of human rights law: (1) constraints on state action; (2) domestic incorporation of norms; (3) direct constraints on NGOs and International Governmental Organizations; (4) empowerment of victims).

30. See BENVENISTI, *supra* note 16, at 229 (observing that even efficiency concerns are rendered subordinate when human rights are at stake).

31. *Id.*

32. *Id.*

human rights violations that the Israeli government is committing in the West Bank and Gaza. A clearer rule that shifts the burden of disproving violations to the occupant (which retains the cheapest access to the relevant information, such as water availability and usage statistics) maintain the occupied community's position at the negotiating table and allow the occupied population to cooperate with the occupant at its own discretion. Crystallization of such a rule would clarify and solidify the scope of the doctrine, while making the norm more accessible to vulnerable and disempowered populations.

II. RECOGNIZING THE REALITY OF WATERFARE

A. Introduction

*“Is it possible today to concede control of the [Mountain Western, Eastern and Northeastern] aquifer[s], which suppl[y] a third of our water? Is it possible to cede the buffer zone in the Jordan Rift Valley? You know, it’s not by accident that the settlements are located where they are.”*³³

—Former Prime Minister of Israel Ariel Sharon, in response to the question of whether withdrawal of Israeli settlers from the West Bank would ever be possible.

Israel’s control of the water sectors in the West Bank and Gaza illustrates the threat of “waterfare,” or occupants’ self-interested administration of water resources shared with occupied territories. A general introduction to the layout and logistics of the watershed implicated by the case study of Israel and the Palestinian territories will help the reader visualize the issues explored later. Throughout this Note, I contemplate the hydrological sectors of both the West Bank and Gaza. While both regions are relevant to my discussion of occupants’ obligations relating to water management in occupied territories, they do have distinct hydrological settings, which shape the scope and kind of challenges that they face.³⁴

33. Ari Shavit, *Sharon Is Sharon Is Sharon*, HA’ARETZ MAGAZINE, Apr. 12, 2001, available at http://www.cephasministry.com/israel_sharon_sharon.html.

34. For a hydrological map of the Mountain and Coastal aquifers, see Mark Zeitoun et al., *Asymmetric Abstraction and Allocation: The Israeli-Palestinian Water Pumping Record*, 47 GROUND WATER 146, 148 (2009), available at http://www.uea.ac.uk/polopoly_fs/1.147027!ZMA_Asymmetric_Abstractions.pdf.

Beneath the surface of the West Bank lies the Mountain Aquifer, which itself is divided into three basins: the North East Aquifer (flowing northward into Israel); the East Aquifer (flowing eastward into the Dead Sea and Jordan River); and the Western Aquifer (flowing eastward into Israel).³⁵ Those basins carry estimated water potentials³⁶ of 172 million cubic meters (MCM)/year, 145 MCM/year, and 362 MCM/year, respectively.³⁷ The “replenishment” or “recharge” area of the basins is located in the mountainous terrain bifurcating West Bank from North to South.³⁸ The Mountain Aquifer encompasses an area ranging from the Jezreal Valley in the North to Beersheeba Valley in the South, and from the foothills of the Judean Mountains proximate to the Mediterranean in the West to the Jordan River in the East.³⁹ In short, the West Bank contains various subterranean watercourses, which flow from its own territory into Israel.

In contrast, Gaza does not contain an endemic aquifer.⁴⁰ Its sole source of freshwater is the Coastal Aquifer, which runs beneath Israel and yields approximately 360-420 MCM/year.⁴¹ Thus, Gaza must depend entirely upon watercourses flowing from Israel for its freshwater.⁴²

B. *Palestinian Access to Drinking Water*

The physical hydrology of the area offers only a partial picture of water availability in the area; the political environ-

35. Hillel Shuval, *Meeting Vital Human Needs: Equitable Resolution of Conflicts over Shared Water Resources of Israelis and Palestinians*, in *WATER RESOURCES IN THE MIDDLE EAST: ISRAEL-PALESTINIAN WATER ISSUES—FROM CONFLICT TO COOPERATION* 3, 5 (Hillel Shuval & Hassan Dweik eds., 2007).

36. “Estimated potential” describes the quantity of water that may be extracted from a given watercourse over a certain period of time without exhausting the supply.

37. *WORLD BANK ASSESSMENT OF RESTRICTIONS ON PALESTINIAN WATER SECTOR DEVELOPMENT*, Report No. 47657-GZ, at 11 (Apr. 20, 2009) [hereinafter *WORLD BANK REPORT*], available at <http://siteresources.worldbank.org/INTWESTBANKGAZA/Resources/WaterRestrictionsReportJuly2009.pdf>.

38. James W. Moore, *Parting the Waters: Calculating Israeli and Palestinian Entitlements to the West Bank Aquifers and the Jordan River Basin*, 3 *MIDDLE EAST. POL'Y* 91, 93 (1994).

39. Shuval, *supra* note 35, at 5.

40. See *WORLD BANK REPORT*, *supra* note 37, at 10, 27.

41. *Id.* at 27.

42. *Id.*

ment has proven far more determinative of access to water. I now map the Israeli government's control and self-interested administration of Palestinian water resources, or "waterfare," as it exists today.

Israel has failed to provide reliable and affordable access to clean water⁴³ and wastewater treatment facilities⁴⁴ in the West Bank and Gaza.⁴⁵ Where coverage does exist, it is inconsistent, costly, and severely constrained.⁴⁶ As of 2005, ten percent of the West Bank population, comprising one third of Palestinian West Bank communities, remained unconnected to water networks.⁴⁷ Although that statistic represents a fifty percent increase in the number of individuals served since the signing of the interim agreement known as the "Oslo Accords" in 1993, the increase is due primarily to rapid population growth in areas already covered, as evidenced by the only marginal (three percent) increase in percentage of the population covered.⁴⁸ The significance of even that minor improvement is eroded further by the fact that it is due, at least in part, to an intensification of reliance on water purchased from Israel rather than local hydrological development.⁴⁹ In some areas, like the Hebron governorate, almost sixty percent of communities lack access to water networks.⁵⁰ Communities connected to water networks generally depend upon a single Israeli water company, known as "Mekrot," for their supply.⁵¹

West Bank Palestinians' per capita "access" to renewable fresh water resources ranks lowest among Jordan Basin ripari-

43. See generally WORLD BANK REPORT, *supra* note 37, at 14–19, 28–29.

44. *Id.* at 20–21, 30.

45. See ZETOUN, *supra* note 15, at 102 ("As far back as 1982, for instance, the Israeli Minister of Agriculture . . . implemented a series of restrictive measures to 'de-develop' the [West Bank Water Department]. No Palestinian hydrogeologists were hired and the increasing competence of the Palestinian well-drilling department was cut short by the replacement of its crews by solely Israeli ones.")

46. WORLD BANK REPORT, *supra* note 37, at 14–19, 28–29.

47. *Id.* at 14.

48. *Id.*

49. See *id.* at 16 ("Despite the development of new "Palestinian" resources under Oslo, reliance on water provided by Mekrot has actually increased—from 22 MCM in 2000 to 38 MCM in 2007.")

50. *Id.* at 15.

51. *Id.*

ans.⁵² After deducting water used for industrial, commercial, and public consumption, as well as an average loss rate of thirty-four percent, the quantity actually available for household consumption hovers around less than one half of the amount supplied.⁵³ As a result, levels of personal water consumption in most West Bank communities fall far below accepted international standards and in many areas remain comparable to those of refugee camps in the Congo or the Sudan.⁵⁴

In communities without access to water networks or where the network capacity is limited, individuals must purchase water from tankers, which are both unreliable and expensive.⁵⁵ Water tankers often charge consumers four to five times the price of network water.⁵⁶ As a result of dependence upon pricey water providers, the average West Bank household spends eight percent of its income on water.⁵⁷ In some Palestinian communities, families spend over forty-five percent of their income on water.⁵⁸

In Gaza, despite the connection of ninety-eight percent of the population to water networks (originating almost entirely from Palestinian sources), the coverage is unreliable.⁵⁹ For instance, fuel shortages in 2008 cut off network water access to fifty percent of previously covered households.⁶⁰ Some households lacked any access to water for over ten days.⁶¹ As of late February following the Israeli military incursion into Gaza (ending in January, 2009), “150,000 people were still cut off

52. With four times the access of the West Bank, Israel ranks third of the six countries compared. *Id.* at 13, 17.

53. *Id.*

54. *Id.*; see also ZEITOUN, *supra* note 15, at 145 (“Hundreds of thousands of Palestinian residents . . . are still obliged to purchase water from unsafe tankers, while their Israeli settler neighbours engaged in industrial agriculture have it piped into their homes at a subsidised cost.”).

55. Supply rates to one-fourth of the connected population are less than fifty liters per capita per day (lpcd), particularly in southern communities, where sixteen percent of the people living in connected households receive less than twenty lpcd. WORLD BANK REPORT, *supra* note 37, at 17.

56. *Id.* at 18.

57. *Id.* at 21.

58. *Id.* at 22.

59. *Id.* at 28–29.

60. *Id.*

61. *Id.* at 29.

from network supply, and in three areas . . . damaged infrastructure led to contamination of drinking water supply by sewage.”⁶² Similarly, restrictions on movement as well as unstable economic and political landscapes significantly stifle the civilian population’s access to water.⁶³ Little has been done to improve water security; despite ninety percent of all 150 municipal wells containing salt and nitrate levels exceeding those deemed fit for human consumption by the World Health Organization (WHO), no new sources have been developed since 1995.⁶⁴

C. *Palestinian Access to Water Treatment Facilities*

While Palestinians’ access to water sources is limited in both the West Bank and Gaza, the water treatment situation is no more promising in either territory. Approximately 2.8 million people live in the West Bank and Jerusalem, which forms the general recharge area of the Mountain Aquifer. The wastewater of two million of them goes untreated.⁶⁵ Eighty percent of Palestinian homes in the West Bank remain unconnected to a sewer system, and so individuals typically store their wastewater in cesspits, which leach into groundwater.⁶⁶ The sewer systems used by the remaining twenty percent of Palestinian households are antiquated, leak-prone, and unable to absorb the quantity of wastewater currently channeled to them.⁶⁷ As of 2008, ninety-five percent of Palestinian wastewater in the West Bank went untreated. At that time, only one Palestinian sewage treatment plant was operational in the West Bank.⁶⁸

The underdevelopment of Palestinian wastewater treatment facilities has led directly to the degradation of water sources and, consequentially, the decline of public health and

62. *Id.*

63. *Id.* at 29, 53–56.

64. As of April, 2009. *Id.* at vi (“No new sources have been officially developed in Gaza since Oslo II.”), 27.

65. EYAL HAREUVENI, B’TSELEM, FOUL PLAY: NEGLECT OF WASTEWATER TREATMENT IN THE WEST BANK 38 (Michelle Bubis ed., Zvi Shulman trans., 2009).

66. *Id.* at 17.

67. *Id.*

68. *Id.*

economic vitality in the West Bank and Gaza.⁶⁹ A 2001 study by the Palestinian Ministry of Health concluded that of 2,721 samples from wells and water tanks, twenty-two percent had bacterial readings exceeding WHO drinking-water standards.⁷⁰ The study also found a correlation between frequent outbreaks of intestinal diseases in the West Bank and severe pollution of water sources in the area.⁷¹ Contaminated drinking water has taken a toll on public health, as “water-borne disease is a major problem for Palestinians.”⁷² Contamination of springs and shallow wells, on which Palestinians must rely because of Israel’s reluctance to develop, or to authorize the development of, new Palestinian water sources,⁷³ “aggravates the chronic drinking-water shortage in Palestinian communities in the West Bank. Also, use of raw wastewater for agriculture contaminates crops, harming a major sector of the Palestinian economy.”⁷⁴ Over time, untreated wastewater may permanently reduce the fertility of farmland.⁷⁵

Although statistically superior to the West Bank, wastewater treatment in Gaza is still sparse. Only about forty percent of Gazan households are connected to sewerage networks.⁷⁶ The three treatment plants that do exist function inconsistently and, due to “massive problems in both operations and in planned upgrading,” are incapable of handling current loads of wastewater.⁷⁷ The Gaza City plant has been inundated to incapacitation and, according to interviews with Palestinian Water Authority and Coastal Municipalities Water Utility employees, had not been operational in over a year as of November 2008.⁷⁸

69. *Id.* at 25–26.

70. *Id.* at 26.

71. *Id.*

72. WORLD BANK REPORT, *supra* note 37, at 24; *see also* HAREUVENI, *supra* note 65, at 26.

73. WORLD BANK REPORT, *supra* note 37, at 18, 23 (explaining that unconnected communities get water from springs, cisterns, shallow wells, and tankers that are “often unsuitable for drinking”).

74. HAREUVENI, *supra* note 65, at 25.

75. *Id.*

76. WORLD BANK REPORT, *supra* note 37, at 30.

77. *Id.* at 30 (“[L]ittle sewage is being treated and most is returned raw to lagoons, wadis [riverbeds] and the sea.”).

78. *Id.*

The prevalence of untreated wastewater has also proven detrimental to public health, economic development, and general well-being in Gaza. WHO representatives in Gaza reported that twenty-six percent of disease in Gaza is water-related.⁷⁹ Faecal coliform bacteria populations have swelled around the points where untreated sewage is discharged into the sea, thereby contaminating the coastline, infecting fish and eroding the marine-dependent sectors of the economy.⁸⁰ Israeli military attacks and restrictions on Palestinians' movement exacerbate the already-existing water problems.⁸¹ Thus, the paucity of water treatment facilities in the West Bank and Gaza carries grave implications for Palestinians' water access, public health, and economic stability.

D. *Israeli Administration of Palestinian Water Resources*

The decrepit conditions of the Palestinian water sectors in the West Bank and Gaza are not inevitable outcomes that transpired in spite of Israeli assistance. Instead, they are the product of the Israeli government's neglect, and at times even obstruction, of the Palestinian water sectors' development.⁸² B'Tselem, an Israeli non-governmental organization, published a report in 2009, concluding, "Israel has not only failed to support Palestinian attempts to advance solutions for wastewater treatment, it has delayed them[,] . . . not approved Palestinian requests to build wastewater treatment facilities, [and] has attempted to compel the Palestinians to accept solutions that conform to its interests."⁸³ Most concretely, Israel has

79. *Id.*

80. *Id.* at 31; see also UN ENVIRONMENT PROGRAMME, ENVIRONMENTAL ASSESSMENT OF THE GAZA STRIP 80 (2009), available at http://www.unep.org/PDF/dmb/UNEP_Gaza_EA.pdf (noting researchers' inability to assess the impact on the fishing industry of Israel's bombing of Palestinian wastewater treatment plants during Operation Cast Lead because background of levels of untreated discharge into the sea were elevated even prior to the military offensive).

81. WORLD BANK REPORT, *supra* note 37, at 32 ("The main problems are water quality and—above all—Israeli interventions and the access controls and closures that impede access to markets. . . . [T]he main constraints are those stemming directly from the political situation, which have resulted in destruction of physical assets and infrastructure, including wells, and restricted access to markets.").

82. HAREUVENI, *supra* note 65, at 38.

83. *Id.*

frustrated Palestinian water sector development in the West Bank through its *de facto* veto authority over all West Bank water projects by the Joint Water Committee (JWC or “Committee”) and Civil Administration, as well as through the imposition of restrictions on the movement of people and buildings into the West Bank.⁸⁴

JWC was created by an interim agreement (known as “Oslo II”)⁸⁵ signed by Israel and the Palestinian Authority in 1995.⁸⁶ The Committee was designed to implement the agreement and to otherwise govern management of aquifers shared by Israel and Palestinians.⁸⁷ Under article 40, which pertains to water and sewage management in the West Bank, any water project implemented in the West Bank must receive prior unanimous approval from the JWC, which comprises representatives of both the Israeli Water Authority and the Palestinian Authority (PA).⁸⁸ The PA must obtain JWC consent even for projects responding to emergency water needs.⁸⁹ In order to avoid the Israeli Authority’s veto, the PA must often compromise its core principles and long-term interests.⁹⁰ For example, when seeking to acquire approval for projects necessary to mitigate ongoing and imminent humanitarian crises, the PA must frequently agree to service illegal Israeli settlements in the West Bank with its wastewater treatment plants.⁹¹

All proposed water projects in the West Bank must receive approval from the Israeli representatives on the JWC.⁹² In contrast, there is no analogous check on projects proposed by Israeli authorities within that country’s own borders.⁹³ Moreo-

84. WORLD BANK REPORT, *supra* note 37, at 51; *see also* ZEITOUN, *supra* note 15, at 102 (“The disproportionate degree of control thus afforded the Israeli side reaches further—from setting meeting agendas, through recording their minutes, to even coercing their outcomes.”).

85. *See* Interim Agreement on the West Bank and the Gaza Strip, Isr.-Palestine Liberation Organization, Annex III, app. 1, art. 40, Sept. 28, 1995, 36 I.L.M. 551 [hereinafter Interim Agreement].

86. David J. Scarpa, *Hydropolitics in Recent Israeli-Palestinian Relations*, 2 HYDROLOGY 147 (2004).

87. WORLD BANK REPORT, *supra* note 37, at 47.

88. Interim Agreement, *supra* note 85, art. 40, ¶ 14.

89. WORLD BANK REPORT, *supra* note 37, at 50.

90. *Id.* at 51.

91. *Id.* at 50.

92. *Id.* at 51 (stressing the “veto power” of the Israeli Water Authority).

93. *Id.* at 34.

ver, the absence of a dispute resolution mechanism leaves Palestinians without recourse to challenge JWC rejection of their proposals.⁹⁴ Although article 40 requires Israeli authorities and settlements in the West Bank to obtain prior approval from the JWC, they consistently decline to do so.⁹⁵

In addition to receiving JWC approval, all proposed water projects that could impact Area C (a geographic region encompassing roughly sixty percent of the West Bank) must obtain authorization from the Israeli Civil Administration.⁹⁶ The Civil Administration evaluates proposals without public participation or Palestinian representation,⁹⁷ and frequently takes two to three years to issue a decision.⁹⁸ In many cases, project proposals receive approval from JWC only to be denied by the Civil Administration as presenting a “security risk,” among other reasons.⁹⁹ Even if the Civil Administration agrees to authorize a proposal, it may require certain modifications of the original plan, which the PA must then re-submit for approval by the JWC.¹⁰⁰ Even where projects may ultimately win approval from both the JWC and Civil Administration, the lengthy process and procedural barriers render the development of the Palestinian water sector in the West Bank even more time- and resource-intensive than it would be otherwise.¹⁰¹

While Israel does not exercise direct oversight of Palestinian water projects in Gaza, the debilitating blockade and political turmoil aggravated by Israeli military incursions have undermined any substantive development of the Palestinian water sector.¹⁰² As a result of the extreme restrictions on movement of goods and persons in and out of Gaza, U.N. agencies have been unable to advance even smaller relief

94. HAREUVENI, *supra* note 65, at 18.

95. WORLD BANK REPORT, *supra* note 37, at 34.

96. Almost all wells, wastewater facilities, and other hydrologic infrastructure fall into this category. *Id.* at 53.

97. *Id.* at 54.

98. *Id.*

99. *Id.* at 54–55 (referencing a categorical ban on pond-building and refusals to license household cisterns, rainwater harvesting cisterns, minor well rehabilitation projects, water connection repairs, and electrification of wells).

100. *Id.* at 55.

101. *Id.* at 53, 55.

102. *Id.* at 46.

projects;¹⁰³ the absence of basic resources like electricity, pipes, and cement makes repair and construction of infrastructure difficult, if not impossible.¹⁰⁴ Even when building materials are allowed into Gaza, the cost of transporting them through Israeli checkpoints inflates project prices dramatically.¹⁰⁵ Aside from the treatment facilities erected in response to a humanitarian emergency precipitated by the discharge of massive amounts of untreated wastewater, “projects are either not started or held up because of lack of materials or other constraints related to the closures.”¹⁰⁶ Israeli military offensives only worsen the existing crisis.¹⁰⁷

E. *Israeli Exploitation of Palestinian Water Resources*

The limiting of Palestinian access to water resources¹⁰⁸ stands in stark contrast to Israel’s simultaneous exploitation of those same sources, albeit from domestic points of extraction.¹⁰⁹ In 2007, the per capita water withdrawal rate for Palestinians in the West Bank amounted to roughly one quarter of that for Israelis.¹¹⁰ Whereas Palestinians in the West Bank withdraw approximately twenty percent of the “estimated potential”¹¹¹ of the aquifers located beneath them, Israel’s withdrawals have actually exceeded those aquifers’ “estimated potential” by over fifty percent.¹¹² According to one hydrologist, one reason underlying Israel’s higher consumption is that “Israeli supply-driven water policy will meet domestic demand from whatever source is available. When the level of [one Israeli water source] is too low, the difference is not made up through reduced consumption, but through increased reli-

103. *Id.* at 44–45.

104. *Id.* at 46.

105. *Id.*

106. *Id.* at 44

107. *Id.* at 46.

108. *See id.* at 34 (“Israel exploits the very productive Western Aquifer [which lies beneath the West Bank] *from within Israel*, and has denied [Palestinian Authority] requests to allow more wells to meet growing urban demand or potential irrigation and industrial demands in the West Bank.” (emphasis added)).

109. *Id.* at v. For a discussion of the process by which Israel restricts Palestinian water abstraction, see *supra* Part II.B.

110. *Id.* at 13.

111. For a definition of “estimated potential,” see *supra* note 36.

112. WORLD BANK REPORT, *supra* note 37, at 11.

ance on the hidden groundwater resources of the aquifers.”¹¹³ In contrast, Israel espouses “a fundamentally cautious policy towards Palestinians—which consists of maintaining drilling bans while selling minor amounts of water after dry winters and marginally more following wet winters.”¹¹⁴

As evidenced by the situations existing currently in the West Bank and Gaza, waterfare represents a significant threat to occupied communities. Israel’s resistance to and restriction of development of the Palestinian water sectors highlights the capacity of an occupying power to maneuver its hydrological control over resources shared with the occupied population for its own benefit. Thus, humanitarian law should consider and take steps to address such situations, ideally through a more explicit rule. Having demonstrated the desirability of a clearer rule both theoretically and factually, I now derive its content.

III. PREVENTING WATERFARE BY EXTORTIVE EXTRACTION

In this section, I contend that International Humanitarian Law (IHL) and Transboundary Resource Law (TRL) create but do not adequately define water rights of populations under occupation by a coriparian. I show that IHL and TRL contain legal space for a presumption that any increase of an occupant’s non-military extraction from shared watercourses is illegal, which the occupant may defeat only by proving that the increase is essential to fulfill its population’s vital human needs. This presumption should apply even where the point of withdrawal is located within the occupant’s domestic territory because the extraction is still enabled by the ongoing occupation and impacts the shared watercourse. Such a rule is merely a clarification flowing from the logic, if not the letter, of IHL and TRL.

A. *Legal Space for a New Rule*

TRL and IHL provide a jurisprudential foundation upon which to erect a doctrine governing occupants’ withdrawal of water from shared watercourses. However, in their present, unspecific forms, they fail to prevent occupants, such as Israel,

113. ZEITOUN, *supra* note 15, at 156.

114. Zeitoun et al., *supra* note 34, at 158.

from extracting water unconditionally from resources shared with occupied territories. I now chart the legal space for a rule that would help remedy the existing doctrine's textual lacunae.

TRL contains principles justifying a rule limiting an occupant's extraction from watercourses shared with the occupied population regardless of point of access, but does not, without further clarification, lead inevitably to such a rule. The Watercourse Convention (hereinafter "Convention") focuses on the protection, preservation, and management of water,¹¹⁵ and imposes on coriparians both an obligation not to cause significant harm¹¹⁶ as well as an obligation to cooperate.¹¹⁷ The Convention allows for the use of shared hydrological resources in an "equitable and reasonable manner . . . with a view to attaining optimal and sustainable utilization thereof and benefits therefrom."¹¹⁸ The Convention includes a non-exhaustive list of factors to be considered in determining what constitutes "reasonable and equitable utilization," which revolve around concepts of sustainability, access, and demand.¹¹⁹ While the factors are nonhierarchical,¹²⁰ uses relating to "vital human

115. Convention on the Law of Non-Navigational Uses of International Watercourses, art. 1, May 21, 1997, 36 I.L.M. 700 [hereinafter Watercourse Convention].

116. *Id.* art. 7.

117. *Id.* art. 8.

118. *Id.* art. 5.

119. Those factors include:

- (a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
- (b) The social and economic needs of the watercourse States concerned;
- (c) The population dependent on the watercourse in each watercourse State;
- (d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
- (e) Existing and potential uses of the watercourse;
- (f) Conservation, protection, development and economy of use of the water resources of the watercourses and the costs of measures taken to that effect;
- (g) The availability of alternatives, of comparable value, to a particular planned or existing use.

Id. art. 6, para. 1.

120. *Id.* art. 6, para. 3.

needs” receive special regard.¹²¹ Article 29 extends the Convention’s protections to watercourses and related infrastructure during times of armed conflict, in accordance with IHL.¹²²

Despite its contribution to international water law, the Convention contains no discussion of the unique status of water during war or occupation and fails to explain how its measures, many of which are contingent upon cooperation, will remain relevant when conflict renders cooperation unrealistic.¹²³ Furthermore, the Convention’s legal status is questionable.¹²⁴ The Convention was never ratified by the number of parties required for it to enter into force¹²⁵ and, although the International Court of Justice (ICJ) has hinted that the Convention may constitute a codification of customary international law, the ICJ has never unambiguously proclaimed it as such.¹²⁶

TRL, while offering insightful principles on transboundary hydrological management, is neither sufficiently binding nor specifically tailored to water in the context of occupation. The Berlin Rules, released by the International Law Association in 2004,¹²⁷ represent what is perhaps the most current analysis of the state of customary international law on water.¹²⁸ They offer a more thorough discussion of the law of

121. *Id.* art. 10.

122. *Id.* art. 29. The ILC Commentary on article 10 of the Draft Articles on the Law of the Non-Navigational Uses of International Watercourses specifies that the term refers to the use of water “to sustain human life, including both drinking water and water required for the production of food in order to prevent starvation.” Rep. of the Int’l Law Comm’n, 46th Sess., May 2–July 22, 1994, U.N. Doc. A/49/10; GAOR, 49th Sess., Supp. No. 10 (1994).

123. Jorgensen, *supra* note 5, at 88.

124. *Id.* at 86.

125. *Id.*

126. See Gabčívoko-Nagymaros Project (Hung./Slovk.), Judgment, 1997 I.C.J. 7, ¶ 85 (Sept. 25) (“Modern development of international law has strengthened this principle for [equitable access] for non-navigational uses of international watercourses as well, as evidenced by the adoption of the [Watercourse Convention] by the United Nations General Assembly.”).

127. The Berlin Rules on Water Resources, in INTERNATIONAL LAW ASSOCIATION, REPORT OF THE SEVENTY-FIRST CONFERENCE, BERLIN 334 (2004), available at http://www.cawater-info.net/library/eng/1/berlin_rules.pdf [hereinafter Berlin Rules].

128. Jorgensen, *supra* note 5, at 88.

water under occupation,¹²⁹ yet do not distinguish between “[a)] rules of law as they presently stand and . . . [(b)] rules not yet binding legal obligations but which, in the judgment of the Association, are emerging as rules of customary international law.”¹³⁰ The Berlin Rules depart from the Convention’s emphasis on each state’s entitlement to a reasonable and equitable share, and instead emphasize that states must manage the shared watercourse in a reasonable and equitable fashion.¹³¹ Despite their progress towards extending water law jurisprudence to include contexts of armed conflict, the Berlin Rules, as the dissent to the Rules points out, do not distinguish between the mandatory and the hortatory, and therefore do not decisively expand binding commitments related to water administration.¹³²

On the other hand, IHL is binding and clear as to the restrictions operating on occupants’ resource extraction within the occupied territory.¹³³ However, IHL does not sufficiently address problems of occupants’ unilateral *domestic* extraction from watercourses shared with the occupied territory.¹³⁴ The Regulations Annexed to the 1907 Hague Convention (IV) Respecting the Laws and Customs of War on Land (“Hague Regulations”)¹³⁵ constitute the most relevant expression of customary IHL constraining occupants’ seizure of property within an occupied territory.¹³⁶ The Hague Regula-

129. *See id.* (noting that the Berlin Rules review international water law for both peacetime and armed conflicts).

130. Berlin Rules, *supra* note 127, preface; *see also* SLAVKO BOGDANOVIC ET AL., WATER RESOURCES COMMITTEE REPORT DISSENTING OPINION (2004) (dissenting because, *inter alia*, the Berlin Rules do not distinguish between *lex lata* obligations and *de lege ferenda* recommendations).

131. Salman M. A., World Bank, *The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: Perspectives on International Water Law*, 23 WATER RESOURCES DEV. 625, 636 (2007).

132. BOGDANOVIC, *supra* note 130.

133. *See, e.g.*, Abouali, *supra* note 16, at 480 (“Israeli consumption in Israel of Palestinian water without compensation, is a *per se* violation of the Hague Regulations.”).

134. *See* Jorgensen, *supra* note 5, at 59 (“When the body of rules in international humanitarian law is considered, an explicit and consolidated document on the norms of fresh water is non-existent.”).

135. *See* Hague Regulations, *supra* note 6.

136. *See* Abouali, *supra* note 16, at 466, 468.

tions proscribe the confiscation of private property¹³⁷ and public property except where justified by military necessity.¹³⁸ Furthermore, the Hague Regulations prohibit pillage by the occupant,¹³⁹ which includes exploitation of the occupied territory's natural resources.¹⁴⁰ As such, the occupant may only seize property belonging to the occupied population to offset the cost of occupation or if the property could serve military purposes.¹⁴¹ As water is both property and a natural resource,¹⁴² IHL unequivocally forbids the extraction of water from within an occupied territory for consumption by the occupant's domestic population or by any actor other than the occupying military.¹⁴³ Furthermore, article 55 of the Hague

137. Hague Regulations, *supra* note 6, art. 46 ("Private property cannot be confiscated"). An exception exists for the "temporary use of private land and buildings for all kinds of purposes demanded by the necessities of war." L. OPPENHEIM, 2 INTERNATIONAL LAW: A TREATISE § 140 (H. Lauterpacht ed., 7th ed. 1952).

138. Hague Regulations, *supra* note 6, art. 53; *see also* Benvenisti, *supra* note 8, at 869 ("The occupant may use the different types of property to meet its security needs, to defray the occupation administration's costs, and to promote the needs of the local population. It may not use them for its own domestic purposes.").

139. Hague Regulations, *supra* note 6, art. 47; *see also* Geneva Convention (IV), *supra* note 13, art. 33 ("Pillage is prohibited").

140. Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), 2005 I.C.J. 168, ¶ 245 (Dec. 19) ("[W]hen members of the UPDF were involved in the looting, plundering and exploitation of natural resources in the territory of the DRC, they acted in violation of the *ius in bello*, which prohibits the commission of such acts by a foreign army in the territory where it is present.").

141. Antonio Cassese, *Powers and Duties of an Occupant in Relation to Land and Natural Resources*, in INTERNATIONAL LAW AND THE ADMINISTRATION OF OCCUPIED TERRITORIES 419, 422 (Emma Playfair ed., 1992); *id.* at 430 (quoting the International Military Tribunal at Nuremberg's holding that "under the rules of war, the economy of an occupied country can only be required to bear the expenses of the occupation, and these should not be greater than the economy of the country can reasonably be expected to bear").

142. For an argument that Palestinian well water constitutes movable private property and that water from Palestinian basins constitutes immovable private property, see Abouali, *supra* note 16, at 470–71.

143. Abouali, *supra* note 16, at 469; *see also* Institut de Droit International, *Bruges Declaration on the Use of Force*, at 3 (Sept. 2, 2003) ("[T]he occupying power can only dispose of the resources of the occupied territory to the extent necessary for the current administration of the territory and to meet the essential needs of the population."), available at http://www.idi-iil.org/idiE/declarationsE/2003_bru_en.pdf.

Regulations specifies that the occupying state shall act only as “administrator and usufructuary,” and therefore “must safeguard the capital of these properties, and administer them in accordance with the rules of usufruct.”¹⁴⁴ As such, IHL strictly prohibits the occupant from degrading the occupied population’s resources.¹⁴⁵

However, the Hague Regulations do not contemplate an arrangement in which a power occupies a coriparian’s territory and then capitalizes upon the occupation’s neutralization of the coriparian’s government by increasing its own *domestic* water extraction from the shared watercourse.¹⁴⁶ While domestic withdrawal from shared resources is typically subject to regulation under TRL, the compromising of the occupied coriparian’s autonomy eliminates any opportunity to comport with one of the fundamental tenets of TRL: cooperation.¹⁴⁷ Thus, jurisprudential uncertainty permeates occupants’ domestic extraction from watercourses shared with occupied territories. Given the occurrence of just such a situation arising out of Israel’s occupation of the West Bank, an explicit extension of the IHL prohibition of domestic withdrawals is necessary to manage occupants’ otherwise unbridled exploitation.

B. *The Normative Case for a New Rule*

Having shown that the doctrinal gaps in TRL and IHL are sufficiently spacious to accommodate, and indeed could be made coherent by, a new legal rule, I will now demonstrate the urgent need for such a rule using as an example the situation of waterfare existing in the West Bank. Israel’s extraction of water from wells within the West Bank¹⁴⁸ for consumption by its domestic population or settlements indisputably violates the binding IHL mandate not to extract water within the occupied

144. Hague Regulations, *supra* note 6, art. 55.

145. *See* Cassese, *supra* note 141, at 430–32 (noting that the occupant’s use of occupied resources should be limited by the needs of the occupying army or the occupied population and should not extend to promoting the occupant’s own economy).

146. The pertinent section of the Hague Regulations, *supra* note 6, at sec. III, only applies to “Military Authority Over the Territory of a Hostile State,” and thus does not encompass the occupant’s domestic practices.

147. *See* Jorgensen, *supra* note 8, at 88.

148. *See* WORLD BANK REPORT, *supra* note 37, at 11 (documenting water extractions of aquifers below the West Bank and Israel).

territory except as is necessary to sustain the occupying military.¹⁴⁹ Israel's well-drilling¹⁵⁰ within the West Bank to service Israeli (civilian) settlements¹⁵¹ cannot fall within the "military necessity" exception to the Hague Convention's bar on property seizure, and instead seems more reminiscent of the exploitation of natural resources banned by the ICJ.¹⁵²

A coriparian occupant may nevertheless execute the functional equivalent of illicit well-drilling with impunity by using domestic points of access to the shared watercourse. In this latter arrangement, the occupant still extracts quantities of water beyond that which the occupied authority would have otherwise agreed to allot through a negotiated agreement, and so the occupant is still capitalizing on the occupied population's political paralysis to consume more water than would be permissible under principles of TRL. However, the domestic location of the points of access marks the difference between proscribed and (legally) proper extraction.¹⁵³ Moreover, the occupying power may, as Israel does, impose policies limiting the occupied population's water withdrawal so as to increase

149. See, e.g., Abouali, *supra* note 16, at 480; see also Hague Regulations, *supra* note 6, art. 46, 47, 53 (forbidding pillaging and the confiscation of private property, but permitting an occupying army to seize movable property belonging to the state that may be used for military purposes). Israel's continued consumption within its borders of water extracted from Palestinian sources may raise doubts as to the utility of yet another international obligation. While such skepticism is well-founded, questions of enforcement exceed the scope of this Note. Of course, simply because a state violates an international norm does not mean that the state will ignore all of its international obligations, or that such obligations do not nevertheless inform or influence that state's policy choices to at least some degree.

150. See WORLD BANK REPORT, *supra* note 37, at 12 (discussing the effect of Israel's well-drilling on local Palestinian wells).

151. Such settlements are illegal under international law. Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. 883, ¶ 120 (July 9).

152. See Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), 2005 I.C.J. 168, ¶ 245 (Dec. 19) (holding that exploitation of natural resources by armed forces in the Democratic Republic of Congo constituted a violation of the law of war).

153. See WORLD BANK REPORT, *supra* note 37, at 35 (stating that ninety-four percent of Israel's Western Aquifer yields are extracted from within Israel's borders, although eighty-five percent of that aquifer is within the West Bank).

its own water supply.¹⁵⁴ Despite IHL's coverage of water extraction within occupied territories and TRL's relevance to situations in which there is a party with whom to negotiate, both doctrines are textually silent with regard to an occupant's unconstrained extraction of water from a watercourse shared with an occupied population from a domestic point of access. Thus, the normative case for a new rule becomes apparent.

C. *The Rule: Formulation, Derivation and Objections*

The first component of the proposed rule regulates an occupant's water extraction from watercourses shared with the occupied population, regardless of whether the point of extraction lies within or outside of the occupied territory:

When a state occupies the territory of a coriparian

- (i) any increase in water extraction from resources shared with the occupied territory by the occupant for its own consumption, beyond the demonstrated need of the occupying military is presumptively in violation of international law. The occupant may defeat this presumption with regard to its domestic extraction only by demonstrating that external circumstances have rendered pre-occupation extraction levels insufficient to meet the vital human needs of the occupant's domestic population.

This component applies principles underlying both IHL and TRL. First, it follows from the IHL principle that an occupant may extract no more from resources within an occupied territory than is necessary to support the occupying military.¹⁵⁵ Although the Hague Regulations' text only forbids occupants

154. *See id.* at 34 (describing Israel's exploitation of the shared Western Aquifer from wells within Israel while denying Palestinian requests to dig more wells to meet rising demand); *see also* ZEITOUN, *supra* note 15, at 156 (commenting that Israel's domestic water policy will meet demand from any available source).

155. Hague Regulation, *supra* note 6, art. 46 (regarding private property), art. 53 (prohibiting the confiscation of private property and permitting an occupying army to seize only movable public property for military purposes); *see also* Geneva Convention (IV), *supra* note 13, art. 33 (prohibiting pillage); G.A. Res. 3201 (S-VI), ¶ 4(f), U.N. Doc. A/RES/S-6/3201 (May 1, 1974) (recognizing "[t]he right of all States, territories and peoples under foreign occupation to restitution and full compensation . . . for the exploitation . . .

from wielding military occupation as a means to seize property for non-military uses *within* the occupied territory, it proves paradoxical to allow the occupant to wield military occupation as a means to seize that same property from *outside* the occupied territory simply because the location of the extraction differs. For instance, even if Israel extracted water exclusively from wells drilled inside of its own borders,¹⁵⁶ its withdrawal rate from the Mountain Aquifer above that aquifer's "estimated potential" would still constitute an exploitation of a shared watercourse made possible by the occupation of a coriparian; it would therefore clash with the anti-pillaging essence,¹⁵⁷ if not the terrestrially-fixated text, of IHL's proscription of property seizure for non-military consumption.¹⁵⁸

Although this component creates a strong presumption that any non-military-related increase in extraction violates international law, it incorporates a TRL-derived "safety-valve" to allow for elevated extraction in cases of humanitarian necessity.¹⁵⁹ Because TRL typically permits states to extract however much water is necessary to meet the vital human needs of their populations even without arriving at a negotiated agreement with coriparians beforehand, the concurrence of crisis with an ongoing occupation should not disqualify the occupant from an abstraction exception that exists separate and apart from an occupation.¹⁶⁰

Three objections to such a presumption come immediately to mind. However, closer analysis exposes them as ungrounded, or at least inadequate to warrant rejection of the proposal. First, critics may decry the rule as an onerous burden on the occupant that requires an undue sacrifice of sovereignty. After all, the argument goes, occupation is not illegal

depletion of, and damages to, the natural resources and all other resources of those States, territories, and peoples").

156. A World Bank report makes clear that Israel abstracts at least some water from wells within the West Bank for nonmilitary conveyance to its settlements. WORLD BANK REPORT, *supra* note 37, at 5.

157. As mentioned, Israel abstracts fifty percent more than the Mountain Aquifer's "estimated potential" while limiting Palestinian abstraction to just twenty percent of the "estimated potential" of those aquifers. *See supra* notes 111–12 and accompanying text.

158. Hague Regulation, *supra* note 6, art. 53.

159. *See* Watercourse Convention, *supra* note 115, art. 10 (giving priority to water uses serving "vital human needs").

160. *See id.* (prioritizing "vital human needs" in the case of conflict).

per se, and international law should only attempt to govern international issues—not an occupant’s resource management within its borders.

Consideration of two points should dispel concerns about the international rule’s infringement on the occupant’s internal autonomy. Firstly, international law, especially as manifest in human rights jurisprudence, is not limited to external relations between nations.¹⁶¹ Particularly in the case of shared watercourses, the transnational nature of the resource in question does not lend itself to analysis and governance under traditional Westphalian schematics.¹⁶² Thus, the contention that an occupant’s abstraction of transboundary watercourses within its borders remains outside the field of international law lacks merit. Secondly, while occupation is not illegal *per se*, it is disfavored in international law, especially where not authorized expressly by the U.N. Security Council.¹⁶³ As such, encouraging occupants to keep occupations short, or at least no longer than militarily necessary, by limiting natural resource extraction privileges is desirable¹⁶⁴ and promotes one of the bedrock purposes of international law: discouraging unauthorized armed conflict.¹⁶⁵

161. See, e.g., Convention on the Rights of the Child, *supra* note 5 (accord- ing rights, and undertaking governmental obligations, to children within sig- natories’ national jurisdictions); S.C. Res. 1593, U.N. Doc. S./RES/1593 (Mar. 3, 2005) (referring the situation *within* Darfur to the Prosecutor of the International Criminal Court); Convention on the Elimination of All Forms of Discrimination Against Women, *supra* note 5, art. 2 (obligating parties to undertake policies of eliminating discrimination against women).

162. Joachim Blatter & Helen Ingram, *States, Markets and Beyond: Govern- ance of Transboundary Water Resources*, 40 NAT. RESOURCES J. 439 (2000) (“[T]ransboundary water has long presented problems to nation states due to system-wide impacts of isolated actions or shared river basins and aqui- fers.”).

163. See U.N. Charter art. 2, para. 4 (“All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner in- consistent with the Purposes of the United Nations.”).

164. See U. S. Dep’t of State, *Memorandum of Law on Israel’s Right to Develop New Oil Fields in Sinai and Gulf of Suez*, 16 I.L.M. 733, 746 (1977) (warning that without limitations on occupant’s exploitation of natural resources, there would be “an incentive to territorial occupation by a country . . . and a disincentive to withdrawal.”).

165. See U.N. Charter, pmbl. (emphasizing the United Nations’ goal of “ensur[ing] . . . that armed force shall not be used, save in the common interest”).

A second objection may question the necessity for such a rule at all on the grounds that, despite increasing water scarcity, most countries do not invade neighboring territories solely to acquire water. That generalization may be true—at least historically and superficially.¹⁶⁶ Between 1948 and 1999, there were no formal declarations of war over water.¹⁶⁷ Instead, most countries coping with water shortages addressed them through trade and transboundary cooperation.¹⁶⁸ However, a rule governing occupants' extraction from shared watercourses may be more relevant than historical data suggest. The unprecedented stress that global warming and burgeoning population growth¹⁶⁹ are predicted to exert on water sources may exacerbate the potential for such hydro-conflicts beyond any level witnessed previously.¹⁷⁰ While trade and collective action may have allayed hydrological tension in the past, there is no guarantee that what worked in the twentieth century will prevail against the new challenges of the twenty-first.

Even if nations do not launch wars and occupy neighboring countries for the express purpose of increasing their own access to water, the proposed rule would prevent occupants that invaded originally for non-hydrological purposes from us-

166. *But see* ZEITOUN, *supra* note 15, at 7 (“It has been asserted that the absence of war does not mean the absence of conflict. There is ample evidence to support the assertion.”).

167. Wendy Barnaby, *Do Nations Go to War over Water?*, 458 NATURE 282 (2009).

168. *Id.* at 283. Interestingly, Barnaby points to the Israeli-Palestinian Joint Water Committee as an example of such “cooperation.” I examined the Joint Water Committee, and its failure to facilitate meaningful cooperation in the development of the Palestinian water sector in Part II.D; *see also* WORLD BANK REPORT, *supra* note 37, at 51 (concluding that the “fundamental asymmetry—of power, of capacity, of information, of interest—in the JWC puts in question its status as a genuinely ‘joint’ institution”).

169. Rutgerd Boelens et al., *Resources Management*, in LIQUID RELATIONS, *supra* note 18, at 1 (noting that climate change, population growth, urbanization, industrialization, and agricultural intensification exacerbate water scarcity and, consequentially, sociopolitical tensions and conflicts).

170. Alister Doyle, *Water at Core of Climate Change Impacts: Experts*, REUTERS, Feb. 7, 2010, <http://www.reuters.com/article/idUSLDE6160G3> (acknowledging an elevated risk of violent water conflicts triggered by climate change, but observing that cooperation has often succeeded in solving water disputes).

ing the occupation to their advantage *ex post*.¹⁷¹ As Zeitoun observes, “While water may rarely be the sole motive for war it is often a victim and target of it.”¹⁷² For example, Israel’s 1967 invasion of the West Bank was not for the overt purpose of tapping Palestinian water resources.¹⁷³ However, as a result of that non-hydrologically motivated incursion, Israel gained control of Palestinian water resources and to this day extracts virtually unconstrained quantities of water from aquifers shared with the Palestinians from both within and outside of Israel’s national borders.¹⁷⁴ Thus, even absent a historical tendency towards violent clashes over water, a rule restricting occupants’ ability to wield occupation as an avenue for hydro-pillaging, or vice versa, remains not only relevant, but crucial to discourage exploitation of occupied populations by occupants.

Finally, some may object that the rule’s “vital human needs” exception is a dangerously flexible loophole, which the occupant may broaden to accommodate whatever withdrawal level it chooses.¹⁷⁵ However, access to water for “vital human needs” is a fundamental right guaranteed by TRL, whether or not an ongoing occupation exists.¹⁷⁶ Should a humanitarian emergency occur (for example, an attack on infrastructure or

171. See ZEITOUN, *supra* note 15, at 4 (explaining that nations do not launch wars to seize water resources).

172. *Id.*

173. See BENNY MORRIS, *RIGHTEOUS VICTIMS: A HISTORY OF THE ZIONIST-ARAB CONFLICT, 1881–2001*, at 313 (2001) (writing of the 1967 Israeli offensive, through which Israel acquired the West Bank, “The main and initial objective of the Israelis was the destruction of the Egyptian army in the Sinai.”).

174. WORLD BANK REPORT, *supra* note 37, at 13 (noting that Israelis are able to abstract about four times as much water per capita as are Palestinians); see also *supra* Part II.B (evaluating Israel’s limitation of Palestinian access to water resources).

175. See, e.g., Stephen C. McCaffrey, *An Overview of U.N. Convention on the Law of the Non-Navigational Uses of International Watercourses*, 20 J. LAND RESOURCES & ENVTL. L. 57, 64 (2000) (arguing that the vital human needs exception “acknowledg[es] that harm can be caused without engaging the harming state’s responsibility”).

176. See Berlin Rules, *supra* note 127, art. 17 (“Every individual has a right of access to sufficient, safe, acceptable, physically accessible and affordable water to meet that individual’s vital human needs”); see also, e.g., U.N. Secretary-General, *Report of the International Commission of Inquiry on Darfur to the U.N. Secretary General*, ¶ 148 U.N. Doc. S/2005/60 (Feb. 1, 2005) (including the right to water in its review of conflict in Darfur).

water supplies, a natural disaster, etc.) that would otherwise justify increased extraction within the occupant's territory even without coriparian negotiation, the coincidence of an ongoing occupation does not void that right.¹⁷⁷ Of course, "vital human needs" constitutes a narrow and particular category, and increased extraction to fuel agriculture for export or industry cannot be validated through this exception.¹⁷⁸ The strict threshold required to trigger the vital human needs exception is elevated further by the modern reality that the occupant can typically look to non-conventional water resources, engage in more efficient management, or negotiate a solution with other parties, before unilaterally augmenting its abstraction.¹⁷⁹ Thus, this carefully cabined exception applies exclusively to moments of humanitarian crisis in which TRL would authorize any nation to withdraw beyond previously negotiated levels.

D. Conclusion

TRL's general principles encourage the reasonable and equitable use of water resources as established through a process of coriparian cooperation. IHL prohibits occupants from pillaging or extracting more from the occupied population's resources than is necessary to support the occupying military. However, IHL and TRL fail to address the possibility, as demonstrated by Israel's abstraction from watercourses shared

177. Cf. Watercourse Convention, *supra* note 115, art. 28, ¶ 1 (defining "emergency" as "a situation that causes, or poses an imminent threat of causing, serious harm to watercourse States or other States and that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents"). The Convention does not expressly endorse abrogation from the cooperation principle (and, in fact, encourages cooperation even) during emergencies, but acknowledges that in the event of an emergency, the affected state "may take all practicable measures necessitated by the circumstances." *Id.* art. 28, ¶ 3.

178. See Sixth Comm. Convening as the Working Grp. of the Whole, *Report on the Convention on the Law of the Non-Navigational Uses of International Watercourses*, ¶ 8, U.N. Doc. A/51/869 (Apr. 11, 1997) ("In determining 'vital human needs', special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for production of food in order to prevent starvation.").

179. See Barnaby, *supra* note 167, at 283 ("People in developed economies do not die of thirst.").

with the West Bank, that an occupant may take advantage of the occupied population's political incapacitation to increase its own level of extraction beyond those that would be achievable through negotiated agreement with an autonomous sovereign. A more explicit rule prohibiting occupants from increasing their extraction from watercourses shared with the occupied population beyond what is necessary to support their occupying forces not only fits coherently into existing doctrine, it is essential to prevent the transboundary pillaging of water resources.

But occupants' obligations are not limited to respecting the occupied population's private and, to a slightly lesser extent, public property—IHL also imposes affirmative responsibilities upon the occupant.¹⁸⁰ The next section explains both how IHL lays the groundwork for an obligation on the occupant to permit development of, and even to actively develop, the occupied population's water sector.

IV. PREVENTING WATERFARE BY INFRASTRUCTURAL PARALYSIS

The first component of the proposed rule safeguards an occupied territory's watercourses from domestic exploitation by the coriparian occupying power. However, water resources alone, without a functional water sector to utilize them and wastewater treatment facilities to preserve their quality, do little to ensure the occupied population's access to clean and safe water.¹⁸¹ The need for a rule forbidding occupants from frustrating, and, under certain conditions, obligating them to facilitate, development of the occupied population's water sector becomes apparent, even if the conditions are not codified expressly in already-existing law. I now demonstrate that IHL already suggests that such an obligation exists and simply requires an explicit rule to delineate the scope of the duty. I argue that the rule should include a presumption of accepta-

180. Hague Regulations, *supra* note 6, art. 43 (obligating the occupant to “[t]ake all the measures in his power to restore, and ensure, as far as possible, public order and safety”).

181. GUY HUTTON & LAURENCE HALLER, WORLD HEALTH ORG., EVALUATION OF THE COSTS AND BENEFITS OF WATER AND SANITATION IMPROVEMENTS AT THE GLOBAL LEVEL 14–16 (2004) available at http://www.who.int/water_sanitation_health/wsh0404.pdf (describing the health and economic benefits of water treatment).

bility of all water projects approved by the indigenous authority, which an occupant may defeat only by proving that the project will result in irremediable harm to the watercourse and is not necessary to meet domestic, agricultural, or industrial needs of the occupied population. In order to promote projects' actualization in accordance with affirmative obligations under IHL, such a presumption must be accompanied by a duty binding the occupant to finance such projects when possible and necessary to avert humanitarian crises.

A. *Legal Space for a New Rule*

The facilitation of water sector development in an occupied territory involves two complementary dimensions: (1) authorizing water projects and (2) funding them. Although existing IHL and TRL doctrine assigns occupants some level of obligation to provide water to the occupied population, the scope of the duty remains murky. A rule would clarify the actual contours of the obligation. First I show that a duty to maintain existing water infrastructure exists. Then I demonstrate the existing doctrine's support for an affirmative obligation on the occupant to permit and, depending on the circumstances, to finance, development of hydrological infrastructure initiated by the indigenous community.

1. *Occupants' Duty to Maintain Water Infrastructure and Institutions Already Existing in Occupied Territories*

IHL imposes a duty on occupants to maintain and respect existing institutions in occupied territories.¹⁸² Specifically, "[T]he occupying power must not tamper with the fundamental structure and institutions of the government in occupied territory."¹⁸³ As water agencies constitute existing institutions, the occupant must allow them to operate without infringing upon their autonomy. If the occupant hinders the function of those bodies by stripping them of their authority or by modifying their approval process for any reason other than local hu-

182. See YUTAKA ARAI-TAKAHASHI, *THE LAW OF OCCUPATION* 138 (2009) (arguing the obligation to maintain existing institutions can be deduced from the general principle that occupying powers are transitional powers without sovereign power).

183. *Id.*

manitarian imperative or military necessity,¹⁸⁴ the occupant's action violates international law.¹⁸⁵

In addition to a duty to respect institutions within the occupied territory, IHL also casts the occupant as a trustee responsible for preserving existing infrastructure. IHL imbues that position with certain responsibilities to maintain and not to destroy existing hydrological infrastructure. In particular, article 55 of the Hague Regulations states, "The occupying State shall be regarded only as administrator and usufructuary of public buildings, real estate, forests, and agricultural estates belonging to the hostile State, and situated in the occupied country. It must safeguard the capital of these properties, and administer them in accordance with the rules of usufruct."¹⁸⁶

The law of the usufruct mandates that an occupant safeguard capital from deterioration, even where that means investing in its ongoing maintenance.¹⁸⁷ The obligation to safeguard certain objects from wasteful or negligent destruction¹⁸⁸ extends to property, including natural resources like sources of freshwater.¹⁸⁹ Thus, in the context of a water sector within an occupied territory, the principle of usufruct referenced in article 55 of the Hague Regulations would require the occupant to maintain hydrological infrastructure as well as to repair it when necessary to prevent its degradation.¹⁹⁰

Similarly, Additional Protocol I makes it unlawful for an occupant to "attack, destroy, remove *or render useless objects in-*

184. Of course, the occupant may make minor changes to legislation and administration in the occupied territory "in so far as it may be necessary for the maintenance of order, the safety of his forces and the realization of the legitimate purpose of his occupation." LORD MCNAIRE & ARTHUR DESMOND WATTS, *THE LEGAL EFFECTS OF WAR* 369 (4th ed. 1966).

185. See ARAI-TAKAHASHI, *supra* note 182, at 138.

186. Hague Regulation, *supra* note 6, art. 55.

187. Benvenisti, *supra* note 8, at 869.

188. *Id.* ("The usufructuary principle forbids wasteful or negligent destruction of the capital value, whether by excessive cutting or mining or other abusive exploitation, contrary to the rules of good husbandry" (quoting JULIUS STONE, *LEGAL CONTROLS OF INTERNATIONAL CONFLICT*, 714 (1954))); see also MORRIS GREENSPAN, *THE MODERN LAW OF LAND WARFARE* 288 (1959) (observing that the occupant "must preserve the property and not exercise his rights in a wasteful or negligent manner so as to impair its value").

189. Benvenisti, *supra* note 8, at 869.

190. *Id.*

dispensable to the survival of the civilian population . . . [including] agricultural areas for the production of foodstuffs . . . drinking water installations and supplies and irrigation works."¹⁹¹ The Berlin Rules contain a similar order: "An occupying State shall protect water installations and ensure an adequate water supply to the population of an occupied territory."¹⁹² While not constituting a traditional military attack, prohibiting the upkeep of water infrastructure produces an outcome functionally equivalent to a violent incursion; the two processes of destruction differ only in that cases of degradation involve destruction over a more gradual period of time while attacks' effects transpire immediately. By refusing to authorize an occupied population to repair or improve its water infrastructure so as to meet growing personal and agricultural demand, the occupant has effectively "render[ed] useless objects indispensable to the survival of the civilian population."¹⁹³ After all, without maintenance and repair where necessary, the infrastructure cannot serve its purpose and therefore has been effectively destroyed. Any action or decision that disables the occupied population's maintenance of a water sector capable of fulfilling the area's personal and agricultural needs violates IHL. Thus, IHL prohibits the occupant from intentionally allowing the degradation of hydrological infrastructure within the occupied territory.¹⁹⁴ Having demonstrated that the occupant's duty to maintain the existing water sector already exists in IHL, I now explore the potential for a "duty to develop," or at least "to permit development of," existing hydrological infrastructure, which binds the occupant to improve the indigenous water sector to meet the domestic, agricultural, and industrial needs of the indigenous population.

191. Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, art. 54, ¶ 2, *adopted* June 8, 1977, 1125 U.N.T.S. 3 [hereinafter Geneva Conventions Protocol] (emphasis added). Although article 54 of the Geneva Conventions Protocol crafts an 'occupying military necessity' exception to the rule, "in no event shall actions against these objects be taken which may be expected to leave the civilian population with such inadequate food or water as to cause its starvation or force its movement." *Id.* art. 54, ¶¶ 1-2.

192. Berlin Rules, *supra* note 127, art. 54, ¶ 2.

193. Geneva Conventions Protocol, *supra* note 191, art. 54.

194. *Id.*

2. *Occupants' Duty to Permit and Finance Water Projects in Occupied Territories*

IHL goes beyond proscribing certain negative actions by the occupant. The Fourth Geneva Convention also imposes *affirmative* obligations on the occupant to take steps to protect the occupied population's public health, along with infrastructure serving that purpose.¹⁹⁵ Article 55 of the Geneva Convention mandates that the occupant ensure, to the best of its ability, "food and medical supplies of the [occupied] population . . . it should, in particular, bring in the necessary foodstuffs, medical stores, and other articles if the resources of the occupied territory are inadequate."¹⁹⁶ The commentary explains that "supplies" are not limited to foodstuffs or medical implements but also include "any article necessary to support life."¹⁹⁷ Water is "necessary to support life," and therefore IHL imposes a duty on the occupant to ensure adequate supplies of water to the best of its ability.

Unfortunately, article 55 does not offer any guidance as to the means by which the occupant must provide such supplies, and imposes no obligation on the occupant to ensure that the delivery mechanisms be self-sustaining. Commentary on the article explains, "it does not matter whether [the supply] comes from [the occupant's] own national territory or from any other country."¹⁹⁸ Under this limited reading, the transportation or sale of discrete quantities of water would satisfy this obligation. Thus, this article allows but does not require the occupant to develop infrastructure that enables the occupied population to access independently a sufficient supply of water.

Nevertheless, article 55's limited obligation may not undercut the duty to maintain water infrastructure, further developed in article 56 of Geneva Convention. Specifically, article 56 requires,

[T]o the fullest extent of the means available to it, the Occupying Power has the duty of ensuring and

195. Geneva Convention (IV), *supra* note 13, art. 55, 56.

196. *Id.* art. 55.

197. Int'l Comm. of the Red Cross, *Commentary on the Fourth Geneva Convention Relative to the Protection of Civilian Persons in the Time of War*, 310 (Dec. 31, 1958) [hereinafter *Commentary*].

198. *Id.*

maintaining, with the cooperation of national and local authorities, the medical and hospital establishments and services, public health and hygiene in the occupied territory, with particular reference to the adoption and application of the prophylactic and preventive measures necessary to combat the spread of contagious diseases and epidemics.¹⁹⁹

Commentary on article 56 clarifies that the occupant may be obligated to take positive measures to promote public health, such as the opening of new hospitals, establishment of medical supplies stocks, and the organization of medical examinations and disinfection programs.²⁰⁰

Taking into account the asymmetrical power dynamics of occupation, another way of phrasing this rule is through a shifting of the burden of persuasion to the occupant, such that any restriction on the domestic water authority's planning and implementation processes by the occupant is presumptively illegal. In fact, "far-reaching permanent modifications in the political, administrative or judicial institutions" are appropriate exclusively "in exceptional cases where the contents of the existing institutions run counter to the basic concepts of justice and morality."²⁰¹ Particularly in light of the paramount roles of water quality and availability in securing public health²⁰² as well as the clear capacity for contaminated water to catalyze devastating epidemics,²⁰³ a rule clarifying the occupant's obligation to ensure sufficient water sector develop-

199. Geneva Convention (IV), *supra* note 13, art. 56.

200. *Commentary*, *supra* note 197, at 313–14 ("There can be no question of making the Occupying Power alone responsible for the whole burden of organizing hospitals and health services and taking measures to control epidemics.")

201. HCJ 61/80 Haetzni v. Minister of Defence, 34(3) PD 595 [1980], *as summarized in English in* 11 ISR. Y.B. HUM. RTS. 358 (1981); HCJ 393/82 A Cooperative Society Lawfully Registered in the Judea and Samaria Region v. Commander of the IDF Forces in the Judea and Samaria Region, 37(4) PD 785 [1983] (Barak, J.), *as summarized in English in* 14 ISR. Y.B. HUM. RTS. 301, 308 (1984).

202. WORLD HEALTH ORG., WATER FOR HEALTH 2 (3d ed. 2004), http://www.who.int/water_sanitation_health/dwq/waterforhealth.pdf ("The quality of drinking-water is a universal health concern. . . . Ensuring good quality water for the poor is an effective, health protecting measure.")

203. *Id.*

ment in the occupied territory follows naturally from existing obligations.

Finally, the Hague Regulations describe an affirmative obligation binding the occupant to “[t]ake all the measures in his power to restore, and ensure, as far as possible, public order and safety.”²⁰⁴ Several scholars have suggested that the article’s use of the word “safety” results from a mistranslation of the French phrasing, “la vie publicqué,” which appears in the Brussels Declaration of 1874²⁰⁵ as well as in the French text²⁰⁶ of the Hague Regulations.²⁰⁷ They propose that the correct English translation of the French term is “civil life.”²⁰⁸ For instance, Maco Sassóli explains the general sentiment that “civil life” is not only a more precise translation of the text itself, but that it follows more directly from the Regulations’ legislative history.²⁰⁹

Several tribunals have agreed, including the Israeli Supreme Court, which has held that the duty to restore and ensure public life and order includes “a variety of aspects of civil life, such as the economy, society, education, welfare, health, transport and all other aspects of life in a modern society.”²¹⁰

204. Hague Regulations, *supra* note 6, art. 43.

205. ARAI-TAKAHASHI, *supra* note 182, at 96.

206. Convention (IV) Concernant les lois et Coutumes de la Guerre sur Terre, Annexe: Règlement concernant les lois et coutumes de la guerre sur terre, art. 43, Oct. 18, 1907, 205 Consol. T.S. 277, (“L’autorité du pouvoir légal ayant passé de fait entre les mains de l’occupant, celui-ci prendra toutes les mesures qui dépendent de lui en vue de rétablir et d’assurer, autant qu’il est possible, l’ordre *et la vie publics* en respectant, sauf empêchement absolu, les lois en vigueur dans le pays.” (emphasis added)).

207. See Edmund H. Schwenk, *Legislative Power of the Military Occupant Under Article 43, Hague Regulations*, 54 YALE L.J. 393 n.1 (1945); see also EYAL BENVENISTI, THE INTERNATIONAL LAW OF OCCUPATION 10 (2d ed. 2004) (explaining Belgian delegate’s proposed distinction between “l’ordre publique” and “la vie publique” in debate over Brussels Declaration of 1874); Marco Sassóli, *Legislation and Maintenance of Public Order and Civil Life by Occupying Powers*, 16 EUR. J. INT’L L. 661, 663–64 (2005) (noting that legislative history supports a translation of “la vie publicqué” as “civil life,” and thereby encompasses broader social functions).

208. See, e.g., Schwenk, *supra* note 207, at 393 n.1.

209. Sassóli, *supra* note 207, at 663–64; see also BENVENISTI, *supra* note 207, at 10.

210. HCJ 393/82 A Cooperative Society Lawfully Registered in the Judea and Samaria Region v. Commander of the IDF Forces in the Judea and Samaria Region 37(4) P.D. 785 [1984], as summarized in English in 14 ISR. Y.B. HUM. RTS. 301, 306 (1984). The court went on to hold the following:

Such an obligation may attach even to needs that emerge or otherwise evolve during the course of the occupation.²¹¹

A corrected reading of article 43 carries significant implications for the duties described therein. Public health and humanitarian crises implicate civil life in the most fundamental of ways. Thus, articles 43 and 55 of the Hague Regulations, article 54 of The Geneva Convention Protocol Additional and article 55 of the Fourth Geneva Convention compel occupants not only to permit, but also—in certain circumstances—to actively promote, development of the water sector in occupied territories. What remains unresolved under existing doctrine, however, are the precise steps an occupant must take to fulfill that obligation.

B. *Normative Case for the New Rule*

A rule clarifying occupants' obligations to permit and to promote water sector development in the occupied territory is imperative to protect occupied populations from the humanitarian crises and socioeconomic stagnation catalyzed by waterfare.²¹² As laid out above, waterfare's existence and capacity for damage is evidenced by Israel's role in the stagnation of the Palestinian water sector.²¹³ Not only has Israel

The concrete content that we shall give to Art. 43 of the Hague Regulations in regard to the occupant's duty ensure life and order will not be that of public life and order in the nineteenth century, but that of a modern civilized State at the end of the twentieth century. . . . The transportation needs of the local population continue to increase and it is impossible to freeze the condition of the roads in the Region.

Id. at 307, 313; *Cf.* United States v. Wilhelm List (*Hostages Trial*), 8 TRIALS OF WAR CRIMINALS BEFORE THE NUREMBERG MILITARY TRIBUNALS 34, 57 (1948) (holding, "The Status of an occupant of the territory of the enemy having been achieved, International Law places the responsibility upon the commanding general of preserving order, punishing crime, and protecting lives and property within the occupied territory.")

211. *Cf.* ARAI-TAKAHASHI, *supra* note 182, at 107 (describing Germany's state practice of "implementing modification of administrative structure" during its occupation of Belgium in World War I).

212. See U.S. AGENCY FOR INT'L DEV., WEST BANK VILLAGE WATER AND SANITATION PROGRAM: FINDINGS FROM ENVIRONMENTAL HEALTH ASSESSMENTS 2 (2003) (noting that in occupied territories, water treatment is the "single most important intervention for improving the health and quality of life within a water and sanitation program context").

213. See *supra* text accompanying notes 57–107.

failed to develop the Palestinian water sector adequately, it has at times actively dismantled it.²¹⁴

A clearer rule would reduce the law's current state of ambiguity and thereby eschew humanitarian crises,²¹⁵ restore public order and safety,²¹⁶ and calcify the sovereignty²¹⁷ of the occupied population over its natural resources, all of which comprise core pillars of IHL. As chronicled above, a humanitarian crisis due to lack of potable water²¹⁸ and wastewater treatment facilities²¹⁹ exists in both the West Bank and Gaza, much of which stems from Israel's neglect and outright restriction of Palestinian water sectors.²²⁰ As illustrated by Israel's regulation of movement in and out of the West Bank and Gaza, occupants may exercise near-absolute control over the passage of persons, funds, and building materials into occupied territories.²²¹ And, as exhibited by the stunted Pales-

214. See, e.g., WORLD BANK REPORT, *supra* note 37, at 14 (describing the IDF's destruction of a well drilled by Palestinian villagers in "Area B" of the West Bank, at a cost of 90,000 shekels, or about USD \$25,430.94); *id.* at 34 (noting that Israel "has denied PA requests to allow more wells to meet growing urban demand or potential irrigation and industrial demands in the West Bank").

215. See Geneva Convention (IV), *supra* note 13, art. 56 (assigning the occupant the duty of "ensuring and maintaining . . . public health and hygiene in the occupied territory, with particular reference to the adoption and application of the prophylactic and preventive measures necessary to combat the spread of contagious diseases and epidemics").

216. See Hague Regulations, *supra* note 6, art. 43 (stating that an occupant shall "take all the measures in his power to restore, and ensure, as far as possible, public order and safety. . .").

217. See Armed Activities, *supra* note 140, ¶ 244 (recognizing the principle of "permanent sovereignty over natural resources," as articulated by G.A. Res. 1803 (XVII), U.N. Doc. A/5217 (Oct. 14, 1962)).

218. See generally WORLD BANK REPORT, *supra* note 37, at 49 (attributing much of water scarcity in the West Bank to Israeli authorities' rejection of Palestinian project proposals); *id.* at 28 (attributing much of water scarcity in Gaza to conflict and restrictions on transportation and movement).

219. HAREUVENI, *supra* note 65, at 26 (finding that twenty-two percent of wells and tanks sampled in the West Bank showed bacterial readings exceeding WHO drinking-water standards, and that a correlation existed between outbreaks of intestinal diseases and severe water source contamination); *id.* at 38 (reporting that the sewage of two million Palestinians in the West Bank and Jerusalem goes untreated).

220. See WORLD BANK REPORT, *supra* note 37, at vii, x.

221. See *id.* at 33 (concluding that "Israel has de-facto maintained [sic] predominance over the allocation and management of West Bank water resources"); *id.* at 32 (observing that the primary challenges facing agriculture

tinian water sector, occupants can use their control to stymie repair and construction of hydrologic infrastructure.²²²

A rule specifying the precise circumstances under which an occupant could intervene to override the occupied population's development of the water sector would contribute to public order by abating tensions between and within communities in the occupied territory arising out of the absence of reliable water supplies.²²³ Lack of upkeep, and the resulting deterioration, may "render useless" existing infrastructure in violation of Geneva Convention Protocol I.²²⁴ While an occupant may not overtly destroy local infrastructure, if it refuses to allow infrastructural development to keep pace with the expanding population and economic activity, the occupant has effectively "rendered useless" that infrastructure's capacity to serve the intended population. Similarly, the West Bank and Gaza water sectors' states of disrepair may violate the occupant's obligation to abide by the laws of usufruct,²²⁵ to ensure public health,²²⁶ and to restore public and civil life.²²⁷

Finally, the ambiguous state of the law provides occupants with a convenient excuse for the overriding of an occupied population's indigenous authorities via extension of the occupant's own administrative governance. Because there is no explicit rule governing an occupant's management of resources shared with an occupied territory, states like Israel may con-

in Gaza are "water quality and—above all—Israeli interventions and the access controls and closures that impede access to markets").

222. See *supra* text accompanying notes 57–107.

223. See WORLD BANK REPORT, *supra* note 37, at 18 (noting that, in one Palestinian town in the West Bank, "The new water [distribution scheme] . . . is proving inadequate. . . . While waiting for a solution, local people are continuing to deplete and contaminate the shallow aquifer, with growing competition—and risk of conflict—between farming and domestic needs.").

224. See Geneva Conventions Protocol, *supra* note 191, art. 54 ("It is prohibited to . . . render useless objects indispensable to the survival of the civilian population . . . for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive . . .").

225. See Hague Regulations, *supra* note 6, art. 55 (creating an obligation for occupying powers to safeguard public property and administer them in accordance with the rules of usufruct).

226. See Geneva Convention (IV), *supra* note 13, art. 56 (creating an obligation for occupying powers to ensure health facilities).

227. See Hague Regulations, *supra* note 6, art. 43 (creating an obligation to restore and ensure public order and safety).

tinue to exploit coriparians' incapacitation due to occupation. As waterfare may become manifest through an occupant's restriction and dilapidation of an occupied population's water sector, the imposing but still imprecise state of the law demands a clear rule to address it.

C. *The Rule: Formulation, Derivation, and Objections*

As exhibited by Israel's neglect of the Palestinian water infrastructure, occupied populations are particularly vulnerable to occupants' control of their water sectors. As the Hague Regulations and Geneva Conventions contain an affirmative obligation on the occupant to ensure public order and civil life, the proposed rule clarifies how an occupant must fulfill that duty as it pertains to water sector development:

(ii) (a) any failure by the occupant to authorize—and to fund where possible and necessary to satisfy the domestic, agricultural, and industrial needs of the occupied population—water sector development projects approved by the appropriate indigenous political authority presumptively violates international law. The occupant may defeat this presumption only by demonstrating that the project will result in irreparable harm to the watercourse and is not necessary to meet domestic, agricultural, or industrial needs of the occupied population.

This component has two prongs: the first invokes the Geneva Convention's prohibition on "render[ing] useless" objects that are indispensable to civilian survival;²²⁸ the second draws on the affirmative obligations imposed by the Geneva Convention and article 43 of the Hague Regulations to ensure the public health of the occupied population²²⁹ and to restore and ensure civil life,²³⁰ respectively. First, the Geneva Convention's constraint on intentionally rendering useless objects that are indispensable to civilian survival is avoidable only where the objects rendered useless must be destroyed due to

228. See Geneva Conventions Protocol, *supra* note 191, art. 54, ¶ 2, art. 14 (protecting the sustenance of the civilian population).

229. Geneva Convention (IV), *supra* note 13, art. 56.

230. Hague Regulations, *supra* note 6, art. 54, ¶ 2.

either military necessity or safety.²³¹ Thus, the proposed rule's requirement that an occupant at least *permit* the implementation of every project approved by the appropriate indigenous authority follows directly from existing law, except where the project would do irremediable harm and is not necessary to meet the domestic, agricultural, and industrial needs of the occupied population. This rule places the burden of proving that a project should be rejected on the occupant, which is typically the party with greater wealth and access to information as well as the party whose intentions warrant greater scrutiny.²³² The rule does not contain a national security exception for the occupying state such that the occupant may consider only the needs of the local population and the safety of its occupying military—not its own domestic security.²³³

The rule's second prong, clarifying the affirmative obligations to protect public health and to restore civil life in the occupied territories, requires occupants to fund water projects in occupied territories where they are necessary to eschew public health crises and where the expenditure is within the occupant's means. Although each prong's set of source articles contain caveats indicating that the commitments extend only as far as the occupant's capacity to carry them out,²³⁴ this "feasibility" exception is relevant only to the occupant's affirmative obligation to finance projects. In other words, it will never be beyond an occupant's capacity to at least authorize a project, though it may not always be within the occupant's means to finance it.

The proposed rule's formulation will no doubt raise objections, five of which come immediately to mind. First, some may argue that indigenous authorities may enact irresponsible

231. *See id.* at 54, ¶ 3 (stating that submarine cables in an occupied territory should not be destroyed except in cases of necessity).

232. *See* BENVENISTI, *supra* note 207, at 147 (discussing the occupant's increasing interest in taking on government-like responsibilities in occupied area).

233. ARAF-TAKAHASHI, *supra* note 182, at 107 (citing HCJ 393/82 A Cooperative Society Lawfully Registered in the Judea and Samaria Region v. Commander of the IDF Forces in the Judea and Samaria Region. 37(4) PD 785 [1983]; as summarized in *English* in 14 ISR. Y.B. HUM. RTS. 301, 304 (1984)).

234. Geneva Convention (IV), *supra* note 13, art. 56 (beginning, "[t]o the fullest extent of the means available to it"); Hague Regulations, *supra* note 6, art. 43 (stating that the occupant "shall take all the measures in his power . . . as far as possible").

or ecologically harmful projects, which should not receive automatic authorization absent a showing of irremediable harm and lack of necessity. Such an objection seems particularly viable in light of the principle, articulated by the Watercourse Convention²³⁵ and Berlin Rules,²³⁶ that riparians shall avoid “significant harm” to other watercourse states. However, the realities of coriparian occupation suggest that while indigenous authorities must certainly take into account such guiding principles, the asymmetry of power between the occupant and the occupied population will inevitably dominate any exchange between them.²³⁷ Thus, the coriparian occupant’s difficulty in operating as a neutral trustee of the occupied territory suggests that endowing the occupant with the ultimate decision-making authority over what constitutes “significant harm” is to subject all potential water projects to the self-interested and generally unchallengeable governance of the occupant.²³⁸ Indeed, as Benvenisti theorizes, “an occupant who is left without external supervision would tend to advance its own interests, even at the expense of the interests of the occupied population.”²³⁹ Benvenisti’s prediction has been borne out in the case of Israel through its use of its supervisory position in the Joint Water Committee (JWC) to deny, delay, and to redesign Palestinian water projects in the West Bank.²⁴⁰ Thus, a rule that hinges project approval on feasibility determinations made by the occupant would ignore the conflict of

235. Watercourse Convention, *supra* note 115, art. 7.

236. Berlin Rules, *supra* note 127, art. 12, ¶ 1.

237. See BENVENISTI, *supra* note 207, at 147 (“Politicians and soldiers are not saints, and one must expect the occupant to be prejudiced in favor of its own country’s interests at the expense of the indigenous community.”).

238. See *id.* at 191 (identifying as a fundamental misconception underlying the law of occupation the presumption that the occupant may act as an unbiased trustee of the occupied population’s interest).

239. *Id.*

240. See WORLD BANK REPORT, *supra* note 37, at 47 (“(1) the [JWC] process is in general slow; (2) the rate of rejection of [projects submitted by the Palestinian Water Authority (PWA)] is high; (3) the PWA has almost never sought to reject Israeli projects (only one has not been approved); (4) well drilled projects and—until very recently—wastewater projects have had very low rates of approval.”); *id.* at 51 (“[T]he Israeli Water Authority has veto power, and in order to solicit approvals on vital emergency water needs, the [Palestinian Authority] is forced into positions that compromise its basic policy principles.”); see also *supra* text accompanying notes 82–107.

interest inherent in the administration of the occupied population's resources by an occupant.

Second, some may object to an "irremediable harm" standard on the ground that a "significant harm" standard applied would suffice and follows from the text of the Watercourse Convention.²⁴¹ Endowing the occupant with veto power conditioned on a mere "significant harm" standard would ignore the imbalances of information between the occupant and the occupied population, such that the occupied population would have to rely upon data provided by the occupant and therefore remain less capable of challenging an occupant's rejection of a project on the grounds of "significant harm."²⁴² Such disparities of access might enable an occupant to deny projects for purportedly data-driven reasons while leaving the informationally handicapped indigenous authority without means of challenging the occupant's determination.²⁴³ The "irremediable harm" standard, while subject to many of the same concerns facing the "significant harm" standard, requires a stronger showing and so leaves less to the arbitrary line-drawing characteristic of the latter. In other words, by requiring a greater proffer, the higher standard counteracts the information imbalance to at least some degree.

Such informational asymmetries are readily visible in the operation of the JWC in the West Bank. In an effort to promote joint management, article 40 provides for the creation of "Joint Supervision and Enforcement Teams" (JSET), comprising both Palestinian and Israeli members, and explains that their purpose is "to monitor, supervise and enforce the implementation of article 40 [of the Israeli-Palestinian Interim Agreement]."²⁴⁴ While workable in theory, they have proven dysfunctional in practice. Security forces guarding Israeli set-

241. See Watercourse Convention, *supra* note 115, art. 7 (requiring riparians to "take all appropriate measures to prevent the causing of significant harm to other watercourse States").

242. See, e.g., Zeitoun & Allan, *supra* note 16, at 9 (discussing the more covert arrangement of "hegemony," which nevertheless illuminates the more coercive nature of occupation; as they caution, "Hegemons may also exclude the information derived from hydrological and economic modelling, by ensuring that any modelled information used enhances the hegemon's case and not that of a weaker party." (citations omitted)).

243. See *id.*

244. Interim Agreement, *supra* note 85, art. 40, Sched. 9(4).

tlements in the West Bank refuse to allow Palestinian team members to enter the settlements, and so Palestinian JSET members are unable to execute their function as monitors.²⁴⁵ Because JSETs cannot operate according to their “joint” mandate, the Palestinian Authority must depend on Israeli authorities for data. Such disjointed management makes it particularly difficult for Palestinian teams to monitor water use and extraction practices in settlements within their territory.²⁴⁶ Thus, incorporating the lower standard of “significant harm” rather than “irremediable harm” into the proposed rule would enable the occupant, which has the advantage of both military and informational superiority, to utilize such an exception as a loophole through which it could easily deny water projects in the occupied territory without facing substantive rebuttals by the occupied population.

Third, critics may contend that the occupant is an administrator—not a sponsor—and therefore should not bear the burden of financing water projects in the occupied territory. However, this objection misconstrues the scope of the rule’s obligation. As explained above, the occupant has a duty to maintain existing water infrastructure and to allow the indigenous authority to improve its infrastructure.²⁴⁷ The rule only requires the occupant to fund new projects where they are both within the occupant’s means and where doing so is necessary to avoid a humanitarian crisis or to restore civil life, pursuant to the duties articulated by article 56 of the Fourth Geneva Convention and article 43 of the Hague Regulations, respectively. Thus, if the occupant fulfills those obligations in another manner (for example, by piping sufficient quantities of water from its own supplies into the occupied territory), or if the occupant lacks the requisite financial resources, then no obligation to finance the occupied population’s water sector arises.

A fourth objection might take issue with the rule’s inclusion of the “impossibility” exception to the financing obliga-

245. WORLD BANK REPORT, *supra* note 37, at 52 (concluding that “[w]ith no access to settlements and with limited freedom to enter Area C . . . the Palestinian teams were excluded from most JSET activities”). *But see id.* (noting the assertion by Israeli JWC members that the Palestinian teams refused to continue because they did not want to be viewed as “collaborators”).

246. WORLD BANK REPORT, *supra* note 37, at 51.

247. *See supra* text accompanying note 183.

tion on the basis that such a loophole provides the occupant with a ready means of skirting its duty to the occupied population. However, the rule's antecedents in both the Geneva Convention and Hague Regulations also include this (or an analogous "military exception") safety valve.²⁴⁸ Moreover, the "impossibility" exception bears only on the occupant's duty to fund projects, and does not permit derogation from the rule's imposition of an obligation to authorize them.

A fifth consideration, which constitutes not so much an objection as a complication, raises the question of what obligations attach to the occupant in situations in which an indigenous water authority does not exist.²⁴⁹ Although not necessarily a common scenario (nor one encapsulated by the West Bank and Gaza examples), this special case warrants further contemplation. As discussed above, the occupant retains a duty to take all possible actions to restore and ensure public order and civil life.²⁵⁰ Unless the indigenous authority was removed by the occupant during the precipitation of occupation, the creating and instating of an "indigenous" authority could hardly be said to qualify as "restor[ing]" civil life. Thus, any ability, let alone obligation, of the occupant to establish such an authority must fall under the umbrella of "ensur[ing]" civil life. This objection leads into the justification for the final element of my proposed rule.

248. *E.g.*, Geneva Convention (IV), *supra* note 13, art. 147 ("Grave breaches to which the preceding Article relates shall be those involving any of the following acts, if committed against persons or property protected by the present Convention: . . . extensive destruction and appropriation of property, *not justified by military necessity* and carried out unlawfully and wantonly." (emphasis added)); Hague Regulations, *supra* note 6, art. 27 ("In sieges and bombardments all necessary steps must be taken to spare, *as far as possible*, buildings dedicated to religion, art, science, or charitable purposes, historic monuments, hospitals, and places where the sick and wounded are collected, provided they are not being used at the time for military purposes." (emphasis added)).

249. The quandary is complicated further in instances in which an indigenous authority exists but is not democratic or otherwise fails to represent the interests of the occupied population. See ARAI-TAKAHASHI, *supra* note 182, at 139–40 (discussing occupants' capacity to transform administrative structures of the occupied population to advance the latter's interest, as constrained by the prohibition on the occupant's extension of its own administration to the occupied territory).

250. See BENVENISTI, *supra* note 207, at 10 (describing the occupant's duty to ensure "public order and civil life").

D. *Occupants' Obligation to Facilitate the Creation of an Indigenous Water Authority Where None Exists*

The formulation of an indigenous administrative authority would constitute a significant and highly intrusive structural alteration by the occupant, tantamount to legislative reform. However, in certain cases, even legislative reform in the occupied territory is permissible by the occupant.²⁵¹ In fact, occupants may even be required to enact legislation to ensure public order and civil life, particularly in the context of prolonged occupations.²⁵² Of course, the occupant may not legislate as freely and expansively as it does within its own domestic territory, and may do so only within its role as a "trustee" of the occupied territory.²⁵³ Moreover, any administration of resources within occupied territory requires the active involvement of the local population.²⁵⁴ Thus, there is at least sufficient legal space for a rule imposing an affirmative obligation on occupants to facilitate the creation of an indigenous water authority where none existed before. While legislation enacted by the occupant may generate suspicion amongst the occupied population, the nurturing of an indigenous water authority where none existed before might prove less questionable because it would allow the occupied population to advance its own interest in self-determination.²⁵⁵

251. ARAI-TAKAHASHI, *supra* note 182, at 100.

252. See, e.g., Albert Leuquin, *The German Occupation of Belgium and Article 43 of the Hague Convention of the 18th October, 1907*, 1 INT'L L. NOTES 55, 55-56 (Flowerdew & Co. trans. 1916) ("When the occupation is prolonged, and when owing to the War the economic and social position of the occupied country undergoes profound changes, it is perfectly evident that new legislative measures are essential sooner or later."); see also BENVENISTI, *supra* note 16, at 147 ("[I]t would be wrong, and even at times illegal, to freeze the legal situation and prevent adaptations when an occupation is extended.").

253. Allan Gerson, *War, Conquered Territory, and Military Occupation in the Contemporary International Legal System*, 18 HARV. INT'L L.J. 525, 538 (1977) ("An occupant, like a trustee, would be severely restricted in his authority, not because certain activities could not be honestly done, but because of the extreme difficulty of proving them to have been dishonest.").

254. BENVENISTI, *supra* note 16, at 147 ("[T]he law of occupation allows for indigenous input in the affairs of the occupied territory, in fact, mandates it.").

255. See ARAI-TAKAHASHI, *supra* note 182, at 169 (explaining that "no permanent change can be introduced, save in cases of necessity, and by the principle of self-determination of people"). Establishing an indigenous water authority would promote self-determination within the occupied terri-

The law of occupation imposes an absolute ban on the extension of the occupant's administrative structures into the occupied territory.²⁵⁶ In territories where no indigenous water administration authority exists, the ban on extending occupant's administration would seem to leave water resources in the occupied territory without any administrative management system—hardly an acceptable outcome for an actor designated to act as the “trustee” of the occupied territory.²⁵⁷ In such a situation, the obligation preventing an occupant from stretching its administrative reach into the occupied territories appears to conflict directly with its obligation to ensure public order and civil life. The only means by which the occupant might ensure public order and civil life (i.e., provide for the proper regulation of hydrological resources in the occupied territory) while refraining from intervening in the administrative sphere of the occupied territory is to facilitate the creation of an indigenous water authority. While humanitarian law does not contain any explicit provision imposing a duty on the occupant to form an indigenous water authority, in order for the occupant of a territory lacking such an authority to comply with other, clearer obligations under international law, such an affirmative responsibility may be implied. An explicit rule, with the following language, would clarify the piecemeal and perplexing state of the law:

(ii) (b) If no indigenous water authority exists in the occupied territory, the occupant shall facilitate the creation of an indigenous water authority.

The indigenous water authority would function as an independent administrative body responsible for managing and developing domestic and transboundary hydrological resources, wastewater treatment, and the local water economy. Its decisions would receive the same deference I argue should attach to those of any indigenous water authority. While a de-

tory, unlike in the examples analyzed in *id.* at 131 (cautioning that “measures imposed without the consultation of the local population may risk flouting the requirement of self-determination of peoples”).

256. *See id.* at 140 (“[I]t is forbidden for the occupant to extend its own administration to the occupied territory.”).

257. *See, e.g.,* Jordan J. Paust, *The United States as Occupying Power over Portions of Iraq and Special Responsibilities Under the Laws of War*, 27 SUFFOLK TRANSNAT'L L. REV. 1, 12 (2003–04) (“[T]he occupying power must safeguard such public property much like a trustee.”).

tailed blueprint of such a body exceeds the scope of this paper, establishing the occupant's duty to facilitate its formation is essential to reconciling the particular obligations I contend must exist under international water law. Moreover, as "trustee," the occupant, through its duty to safeguard, may even carry a duty to supply adequate funding to the indigenous water authority so as to ensure that it is capable of actually functioning.²⁵⁸ Indeed, financial support for the institution may be a critical part of ensuring public safety and civil life.

E. Conclusion

The Hague Regulations and Geneva Conventions create affirmative obligations that compel occupants to maintain, permit, and at times even to finance, indigenous development of water infrastructure in occupied territories. The power disparity between occupants and occupied populations, particularly in light of coriparian occupants' inherent conflict of interest, inspires questions about the extent of the occupant's obligation to develop infrastructure within the occupied territory. A rule compelling the occupant (1) to approve all water projects proposed by the indigenous authority, unless the occupant shows that they will do irremediable harm to the watercourse and that there is no domestic, agricultural, or industrial necessity, and (2) to fund those projects where necessary and possible, would both clarify existing IHL and resolve the conflict of interest that plagues occupants' administration of occupied territories. Coupled with a counterpart mandating that where no indigenous water authority exists, the occupant must develop an indigenous body responsible for managing the local water economy, such a rule would translate IHL into the previously un contemplated realm of waterfare.

V. BIDDING FAREWELL TO WATERFARE

As exemplified by a close examination of Israel's management of water resources shared with the West Bank and Gaza, occupants exercise enormous power over the administration of water resources accessible from both inside and outside of occupied territories. Occupation's political incapacitation of occupied communities enables occupants to extract more

258. See Paust, *supra* note 257, at 12.

water than they would be capable of acquiring through negotiations with a non-occupied government. Without occupants' authorization of hydrological sector repairs and improvements, occupations may paralyze the water sectors within occupied territories through a process of "waterfare." Transboundary Resource Law (TRL) and International Humanitarian Law (IHL) do not satisfactorily encompass the risk of waterfare. Indeed, those bodies of law presume that the coriparian occupant will act as a neutral trustee or administrator—an approach that clashes with the reality of self-interested occupants managing neighboring territories with whom they share natural resources. A jurisprudence founded on such unrealistic assumptions can hardly be expected to govern disputes efficiently and equitably, and as demonstrated by Israel's dominance of the Mountain Aquifer and the dilapidation of the Palestinian water sectors in the West Bank and Gaza, it does not.

The proposed rule delineates the scope of an occupant's obligation to the occupied population and its hydrological resources by requiring occupants to authorize all water projects approved by the appropriate indigenous authority unless the occupant can prove that the projects will do irremediable harm to the watercourse and are not necessary to meet the domestic, agricultural, or industrial needs of the occupied population. I contend that the occupant must finance such projects where both necessary to avoid humanitarian crises and possible, and that it must facilitate the formation of such an indigenous water authority in cases where one does not already exist.

Throughout my argument, I reference the Israeli occupation of the West Bank and Gaza as a case study. I do so not to confine my proposed rule to those particular circumstances, but rather to illustrate the utility of such a rule in the context of a long-term, stable occupation, which is precisely the variety of occupation most susceptible to waterfare. All occupations possess their own nuances and unique characteristics. However, shorter occupations present less of a threat of waterfare through either extortive extraction (as there is too little time to deplete watercourses) or infrastructural paralysis (as there is too little time for lack of development to pose a problem). As shorter occupations are less conducive to waterfare, I focus my analysis and rule on the issues arising out of long-term occupa-

tions. Having shown the theoretical feasibility and normative desirability of such a rule, the task of enacting it is left to the International Law Commission or, perhaps, future treaties.

Similarly, my argument revolves around hydro-rights due to their increasing salience, the well-developed discourse surrounding them, and their utility as a proxy for so many other issues plaguing communities under occupation. Nevertheless, my argument's implications may ripple through other categorical realms as well. For instance, regulation of air pollution, public health, and education present similar questions of maintenance and development. Because those areas exceed the perimeter of my analysis, I leave them to future scholars to explore.

As water becomes increasingly scarce, the need to craft a consistent and comprehensive legal framework to protect the rights of populations that lack the autonomy necessary to defend their own rights—or, as the case may be, to negotiate meaningful water management agreements—escalates as well. Despite the advantages that vague standards offer for promoting creative negotiation and market solutions to water problems, the water sectors in the occupied Palestinian territories demonstrate that when occupation leaves a population without adequate authority or functional political structures to bargain meaningfully with the occupying power, a firm and unequivocal rule is essential to ensuring that the occupied population is not left to unchecked exploitation by the occupant. Although implementation and enforcement of the proposed rule will raise difficult questions with both legal and political dimensions, the first step to reaching a remedy is defining the right. Until a rule like the one proposed frames and particularizes the general obligations already populating existing doctrine, IHL and TRL will fail to address the modern concerns of coriparian occupation and transboundary resource management, and waterfare will remain a reality.

