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## Water Law Be Dammed?: How Dam Construction by Non-hegemonic Basin States Places Strain on the Customary Law of Transboundary Watercourses

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**WATER LAW BE DAMMED?:  
HOW DAM CONSTRUCTION BY NON-  
HEGEMONIC BASIN STATES PLACES STRAIN  
ON THE CUSTOMARY LAW OF  
TRANSBOUNDARY WATERCOURSES**

DAVID GOAD\*

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## I. INTRODUCTION

A wave of new conventions has given life to an emerging area of international law governing transboundary watercourses.<sup>1</sup> Although these conventions lack significant support from the global community, the principles embodied within these formal documents constitute binding customary law.<sup>2</sup> At its heart, the law of transboundary watercourses aims to efficiently manage water through the use of agreements between co-riparians in hopes to insulate a finite resource from the whims of political ebbs.<sup>3</sup> These objectives are often countervailed by the preexisting tensions among co-riparians who often use water as a platform to air political grievances or assert

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1. See generally A. Dan Tarlock, *Changing Currents: Perspectives on the State of Water Law and Policy in the 21st Century: Four Challenges for International Water Law*, 23 TUL. ENVTL. L.J. 369 (2010) (discussing the evolution of modern watercourse conventions in the last half of the 20th century).

2. See Stephen C. McCaffrey, *An Overview of the U.N. Convention on the Law of Non-Navigational Uses of International Watercourses*, 20 J. LAND RESOURCES & ENVTL. L. 57, 71 (2001) (noting that the majority of countries adopted U.N. Watercourses Convention which reflected international consensus on the general principles that govern non-navigational uses of international watercourses).

3. See Ryan B. Stoa, *The United Nations Watercourses Convention on the Dawn of Entry into Force*, 47 VAND. J. TRANSNAT'L L. 1321, 1328 (2014) (noting that basin-specific agreements can promote cooperation among co-riparians to resolve issues of equitable use).

political power.<sup>4</sup> Dam construction, in part, is an expression of power as it relates to a watercourse.<sup>5</sup> These structures provide valuable resources to local populations, but also have the effect of challenging traditional power structures along an international watercourse.<sup>6</sup>

This Comment argues that the international legal regime regarding transboundary watercourses is challenged by the construction of dams.<sup>7</sup> In particular, the ambiguous and unclear nature of customary principles of transboundary watercourse law causes a legitimate state action to often be illegal.<sup>8</sup> Current customary law, due in part to its embodiment in various conventions, does not effectively harmonize the concepts of legitimacy and legality.<sup>9</sup> The construction of dams by lesser developed nations, such as Ethiopia and Afghanistan, are legitimate actions; however, these actions likely violate international customary law.<sup>10</sup>

Part II of this Comment provides a backdrop for the construction of the Salma Dam in Afghanistan and the Grand Ethiopian Renaissance Dam (GERD) along the Nile.<sup>11</sup> It will also discuss the history of international transboundary watercourse law, highlighting the concepts and custom that are intertwined within current watercourse conventions.<sup>12</sup> Part III analyzes the extent to which dam construction challenges existing customary law and also uses the prior mentioned case studies to show how legitimate state action can lead to violations

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4. Abadir M. Ibrahim, *The Nile Basin Cooperative Framework Agreement: The Beginning of the End of Egyptian Hydro-Political Hegemony*, 18 MO. ENVTL. L. & POL'Y REV. 282, 288 (2011) (describing the political power that hydro-hegemons, like Egypt, have enjoyed due to predominate political power in a region).

5. See Stoa, *supra* note 3, at 1364 (discussing the Grand Ethiopian Renaissance Dam's impact as a counter-hegemonic action because it decreases the use of water by the hegemon on the Nile).

6. See Waseem Ahmad Qureshi, *Indus Water Treaty: An Impediment to Indian Hydro-Hegemony*, 46 DENV. J. INT'L L. & POL'Y 45, 51 (2017) (noting that India's construction of dams allows it to control the flow of water into neighboring states and therefore enjoy political supremacy).

7. See *infra* Part III.

8. See *infra* Part III.

9. See *infra* Part III.

10. See *infra* Part II.

11. See *infra* Part II.

12. See *infra* Part II.

of customary law.<sup>13</sup> Part III will also assess the customary law of transboundary watercourses by analyzing the unclear relationship between the substantive obligations and duties in relation to the dam construction in Ethiopia and Afghanistan.<sup>14</sup> Part IV makes several recommendations.<sup>15</sup>

## II. BACKGROUND

### A. THE HISTORY OF DEVELOPMENT ON THE HARIRUD RIVER

The Harirud River originates in the high central mountains of Afghanistan, flowing westward towards Herat where its major tributary, the Kabgan River, joins the main body of the Harirud.<sup>16</sup> Its course proceeds northward to form 160 kilometers of the political border between Afghanistan and Iran.<sup>17</sup> Continuing north, the Harirud later provides approximately 170 kilometers of the political border between Iran and Turkmenistan before finally irrigating the Karakum Desert in Turkmenistan.<sup>18</sup> Afghanistan, Iran, and Turkmenistan are thus three co-riparians who rely on the river to perform a number of functions including providing both food security and drinking water.<sup>19</sup> Approximately 50% of the gross domestic product in the basin derives from the agricultural sector that relies heavily upon the waters provided by the Harirud.<sup>20</sup> In downstream cities such as Mashhad, a holy city in Iran visited by millions of pilgrims each year, the Harirud supplies over 50% of the total domestic water demand.<sup>21</sup> In total, the Harirud River produces an annual water availability of 1,600 million cubic meters (MCM), with 1,070 MCM of the total amount reaching

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13. *See infra* Part III.

14. *See infra* Part III.

15. *See infra* Part IV.

16. *See* Eric Ryan Potyondy, *Headwaters and Headaches: Afghanistan's Need for International River Basin Agreements*, 17 *COLO. J. INT'L ENVTL. L. & POL'Y* 201, 229 (2006) (discussing the hydrogeology of the Harirud River).

17. Mohsen Nagheeby & Jeroen Warner, *The Geopolitical Overlay of the Hydropolitics of the Harirud River Basin*, 18 *INT'L ENVTL. AGREEMENTS* 839, 845 (2018).

18. *See id.* at 845–46 (discussing the hydrology of the Harirud River).

19. *See id.*

20. *See id.*

21. *See id.*

the Iranian border.<sup>22</sup> These figures show that most of the Harirud River's water is utilized downstream from the origin state, creating an asymmetric water resource balance reinforced by asymmetric political and economic power balances.<sup>23</sup>

In the last twenty years, Iran and Turkmenistan have developed the Harirud by constructing several dams and canals.<sup>24</sup> In particular, the construction in 2004 of the Doosti Dam, with a capacity of 1250 MCM, allows Iran and Turkmenistan to supply their increasing need for irrigation and drinking water.<sup>25</sup> The Doosti Dam marked a serious progression in Iran's hegemony over the Harirud since the Dam's construction was done without involving Afghanistan and because the Dam's existence facilitates other projects that control the flow of the Harirud, such as the construction of a pipeline that transfers water to systems in Mashhad.<sup>26</sup>

In response to Iran's development on the Harirud, Afghanistan unilaterally built the Salma Dam with financial support from the Indian government.<sup>27</sup> The Salma Dam opened in 2016 and increased irrigable lands in Afghanistan from 35,000 to 80,000 hectares. It also produces around 42 megawatts of electricity annually.<sup>28</sup> In addition to the Salma Dam, Afghanistan is planning two other dams and several

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22. *See id.*

23. *See* Mohsen Nagheby et al., *The Legitimacy of Dam Development in International Watercourses: A Case Study of the Harirud River Basin*, 8 *TRANSNAT'L ENVTL. L.* 247, 251 (2019) (noting that the Harirud plays an economically and strategically important role due to Afghanistan's high dependency on this shared water resource).

24. *See* Nagheby & Warner, *supra* note 17, at 843–46 (positing that disproportionate water usage creates what is termed “hydro-hegemony”, which is rooted in political and economic imbalances centering on the usage of a particular watercourse).

25. *See id.* at 846 (discussing the uses of the Doosti Dam).

26. *See id.*

27. *See* Sudha Ramachandran, *India's Controversial Afghanistan Dams*, *THE DIPLOMAT* (Aug. 20, 2018), <https://thediplomat.com/2018/08/indias-controversial-afghanistan-dams> (stating that the 290-million-dollar Salma Dam was largely funded by India in an effort to promote cooperation between the two governments).

28. *See* Nagheby et al., *supra* note 23, at 250 (discussing the capacity of the Salma Dam to produce both water irrigation of farmland and its ability to produce electricity and subsequently assist Afghanistan in decreasing its dependence of Iranian energy).

new irrigation schemes along the Harirud River.<sup>29</sup> By developing infrastructure along the Harirud Basin, Afghanistan is countering the developments of downstream riparian states in hopes of improving not only its capacity for growth, but also its bargaining position in future negotiations.<sup>30</sup>

While legal arrangements along the basin have been sparse, a few issue-specific agreements were negotiated in the early 20th century.<sup>31</sup> These agreements, formulated between Russia and Iran, generally concerned water allocation and dam construction and were therefore limited in scope.<sup>32</sup> Negotiations resumed in 1992 between Iran and the newly formed Turkmenistan and, under the auspices of earlier negotiations, an agreement was reached to bilaterally study the construction of a new dam along the Harirud.<sup>33</sup> The agreement also committed the negotiating states to equally share the water resources deriving from the dam.<sup>34</sup> Despite the exclusion of Afghanistan in these agreements, construction of the Doosti Dam began in 2000 and opened only four years later.<sup>35</sup>

Afghanistan for its part held that its own development of the Harirud is not contingent on or restricted by the level of negotiation with other basin states.<sup>36</sup> On several occasions, Iran and Turkmenistan jointly sent official letters to President Karzai containing invitations for trilateral cooperation on the Harirud River that were largely ignored.<sup>37</sup> Despite the tension between the Harirud basin states, a

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29. *See id.* (mentioning the needs that Afghanistan claimed in developing the waters of the Harirud).

30. *See id.* (suggesting the dual purpose for Afghanistan's construction of the Salma Dam).

31. *See* Nagheeby & Warner, *supra* note 17, at 848 (discussing that most agreements in the region have arisen around the construction of dams and water allocation and that there has been no formal agreements between all members of the basin).

32. *See* Nagheeby et al., *supra* note 23, at 256.

33. *See id.* (noting that the agreement was similar to previous treaties in the region since the agreement was limited to apportionment and did not create other systems for enforcement nor did it lay the foundation for the enumeration of substantive rights and duties for all parties along the basin).

34. *See id.*

35. *See id.*

36. *See id.*

37. *See id.* ("We [Afghans] received a letter from Iran and Turkmenistan in 2006,

round of negotiations was held in 2017 between Iran and Afghanistan with the objective of forming a strategic partnership related to water and security.<sup>38</sup> However, these talks failed to produce significant or even slight progress relating to the shared water of the Harirud River.<sup>39</sup> Thus, a legal void still surrounds the waters of the Harirud in that no framework cooperation exists, and the legality of dam construction is dictated by customary law as it pertains to transboundary watercourses.<sup>40</sup>

## B. HISTORY SURROUNDING THE GRAND ETHIOPIAN RENAISSANCE DAM

Eleven countries are spread across the basin of the Nile river in Northern Africa.<sup>41</sup> Of those basin states, Egypt has historically dominated the use and control of the waters of the Nile.<sup>42</sup> This domination is now being challenged by exploding populations within the Nile basin that have caused increased demand for water and magnified the pre-existing political tensions in the area.<sup>43</sup>

Ethiopia's construction of the GERD illustrates the challenges placed on the region due to its recent population increase.<sup>44</sup> Construction of the GERD began in 2011 shortly after the project had

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asking for cooperation on the Harirud River, but we [Afghans] responded to them that we do not want to talk about waters.”).

38. *Id.* at 257–58.

39. *Id.*

40. *See id.*

41. Chris Richards, *International Water Rights: A Tale of Two Rivers*, 12 J. ANIMAL & NAT. RESOURCE L. 1, 13 (2016) (listing the nations that share the Nile including Tanzania, Uganda, Rwanda, Burundi, Democratic Republic of Congo, Kenya, Ethiopia, Eritrea, South Sudan, Sudan and Egypt).

42. *See generally* Dereje Zeleke Mekonnen, *Declaration of Principles on the Grand Ethiopian Renaissance Dam: Some Issues of Concern*, 11 MIZAN L. REV. 255 (2017) (discussing the inequitable course of history that has developed around the agreements in the region).

43. For example, 66% of Sudan's electricity production depends on hydroelectric power generations from dams, in comparison to Egypt's 8%. *See* Richards, *supra* note 41, at 13.

44. S.M.A. Salman, *The Grand Ethiopian Renaissance Dam: The Road to the Declaration of Principles and the Khartoum Document*, 41 WATER INT'L 512, 512 (2016) (noting the population that lives or depends on the Nile approaches 250 million and is expected to exceed 300 million by 2050).



been announced.<sup>45</sup> At its completion, the GERD will be the largest dam in Africa and will generate nearly three times as much electricity as the Aswan High Dam in Egypt.<sup>46</sup> Ethiopia claims that the sole purpose for the GERD is to produce hydropower in aims to provide electricity for the majority of its population.<sup>47</sup> The magnitude of the project threatens to undermine Egypt's hegemony of the Nile River.<sup>48</sup>

Egyptian control over the Nile is rooted in multilateral agreements that sought to apportion the waters of the Nile in a manner that facilitated the economic interests of colonial powers.<sup>49</sup> The 1929 Waters Agreement, completed between Egypt and the United Kingdom, allocated 57% of the Nile's waters to Egypt and demanded that any projects by upstream states that might alter the flow of the Nile be approved by Egypt.<sup>50</sup> Thirty years later, the 1959 Nile Waters Agreement was signed between Egypt and the newly independent Sudan.<sup>51</sup> The terms of the treaty sought to secure the existing hegemony enjoyed by Egypt over the Nile by raising Egypt's share of the Nile to 66% of the total flow.<sup>52</sup> These early agreements were made at the exclusion of Ethiopia's interests and thus created a monopoly over the waters of the Nile.<sup>53</sup>

Ethiopia's increasing demand and the region's growing deference to international water law in the last decade of the 20<sup>th</sup> century spurred

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45. *Id.* at 515.

46. *Id.* at 516 (comparing the electricity generated by the Aswan High Dam at 2100 MW installed capacity with that of GERD at 6000 MW).

47. *Id.* (noting that Ethiopia has repeatedly claimed that the purpose of the GERD is not irrigation and explained that the terrain of the region does not support irrigated agriculture).

48. *See id.* (mentioning that Egypt, together with Sudan, responded immediately to the Ethiopian announcement of the GERD and declared their strong opposition, asserting that the GERD will considerably decrease the amount of Nile waters that reach Sudan and Egypt).

49. *See id.*

50. *See id.*

51. Alice Shih & Trevor Stutz, *Sink or Swim: Abrogating the Nile Treaties While Upholding the Rule of Law*, 43 ELR 10786, 10795 (2013) (explaining that the 1959 Nile Waters Agreement gave Egypt the right to construct the Aswan High Dam and the power to veto any other projects on the Nile).

52. *See* Mekonnen, *supra* note 42, at 260 (suggesting that the 1959 Nile Waters Agreement only strengthened Egypt's hegemony along the Nile river).

53. *See id.* (stating that the 1959 Nile Waters Agreement is not binding on the upstream riparian states which are third parties).

the advent of a new round of negotiations that eventually led to the formation of the Nile Basin Initiative (NBI) in 1999.<sup>54</sup> Although the NBI marked a significant step in basin-wide cooperation, a number of factors led to the ineffectiveness of this agreement in obtaining its objective to create a “partnership that [sought] to develop the River Nile in a cooperative manner, shar[ing] substantial socio-economic benefits.”<sup>55</sup> Recognizing the deficiencies in the NBI, the basin states formulated the Nile Basin Cooperative Framework Agreement.<sup>56</sup> Egypt saw this Agreement as a counter-hegemonic device and refused to sign it, claiming that the historic treaties were still binding on newly independent states.<sup>57</sup>

At the conclusion of seven tripartite meetings, the stakeholders to the GERD finally reached an agreement in 2015.<sup>58</sup> The Declaration of Principles (DoP) consists of a preamble and ten foundational principles that governed both the construction of GERD and future projects on the Nile.<sup>59</sup> The DoP incorporates the basic tenants of international water law including the principles of equitable utilization and the duty not to cause harm.<sup>60</sup> The DoP marks a landmark development in the relations between Egypt, Sudan, and Ethiopia because it includes all stakeholders to the GERD and because it recognizes the equality of the Nile states.<sup>61</sup>

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54. See Shih & Stutz, *supra* note 51, at 10787, 10820 (stating that the NBI had lofty goals but only amounted to “rhetorical commitment” due to the inability of the parties to agree to guiding principles).

55. Richards, *supra* note 41, at 18.

56. Shih & Stutz, *supra* note 51, at 10820.

57. *Id.* (expressing that a state may act in a manner inconsistent with international law and custom, but do so in a manner that it perceives as principally justifiable).

58. See Salman, *supra* note 44, at 520 (suggesting that an agreement between the parties was not easily formulated since it took seven meetings to negotiate the details of the Agreement).

59. See *id.* at 520–22 (elucidating the utility of the UNWC as a framework agreement that can be superimposed on basins whose states share different economic, environmental and political characteristics).

60. See *id.* (detailing the incorporation of the customary principles within the DoP).

61. See *id.* (suggesting that the DoP is a landmark development because for the first time in the basin’s history, an agreement had been reached between all basin states).

### C. LEGITIMACY OF DAM CONSTRUCTION

Not all legitimate actions undertaken by states on the international level are legal.<sup>62</sup> In other words, a state may act in a manner inconsistent with international law and custom, but do so in a manner that it perceives as principally justifiable.<sup>63</sup> This divide imparts a sense of separate but sometimes overlapping requirements for legal and legitimate state actions.<sup>64</sup> For instance, legality requires adherence with laws and rules while legitimacy implicates notions of “correct, fair and justified acts”.<sup>65</sup> This dichotomy points to a fundamental divide in the law of transboundary watercourse wherein a state might act to further its own legitimate interest in a way that is consistent with the principle of sovereignty but at the same time not comply with established international rules.<sup>66</sup> The divorce between legality and legitimacy effectively undermines the relevance and efficacy of a body of law.<sup>67</sup> This Comment will in part use the concept of legitimacy as a means of evaluating the effectiveness of current transboundary law.

### D. SOVEREIGNTY

Underlying an assessment of the legitimacy of state action is the concept of sovereignty.<sup>68</sup> The international law of transboundary watercourses inherently recognizes certain concessions in a state’s absolute sovereignty.<sup>69</sup> Absolute territorial sovereignty, often referred to as the Harmon doctrine, suggests that a state has unmitigated control over an international watercourse within its border.<sup>70</sup> The International

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62. See Nagheeby et al., *supra* note 23, at 258 (suggesting that legitimacy rests on the ability of a nation to further its own interests within its sovereign territory).

63. See *id.*

64. See *id.*

65. *Id.*

66. See Potyondy, *supra* note 16, at 229 (suggesting that dam building and other water-related projects attempt to address Afghanistan’s interest in improving its humanitarian and economic position).

67. See Nagheeby et al., *supra* note 23, at 258.

68. See *id.* at 259.

69. See *id.*; Kevin P. Scanlan, *The International Law Commission’s First Ten Draft Articles on the Law of Non-Navigational Uses of International Watercourses: Do They Adequately Address All the Major Issues of Water Usage in the Middle East?*, 19 *FORDHAM INT’L L.J.* 2180, 2207–08 (1995).

70. See Scanlan, *supra* note 69, at 2207 (explaining the origin of the Harmon doctrine, which derived from a dispute between the United States and Mexico over

Court of Justice (ICJ) referenced this doctrine in *Gabcikovo-Nagymaros* during its discussion of *Lake Lanoux*, wherein an arbitral tribunal posited that states have the sovereign right to utilize their natural resources.<sup>71</sup> The ICJ, however, reeled in an absolutist view in *Gabcikovo-Nagymaros*, applying limitations to absolute sovereignty, and instead held that the right of a state to unilaterally build a dam on a shared watercourse within its territory was subject to limitations.<sup>72</sup>

#### E. OVERVIEW OF TRANSBOUNDARY WATERCOURSE LAW

International water laws are a relatively recent development that grew from an acknowledgement of necessity from the international community in the post-war era.<sup>73</sup> In 1966, the International Law Association (ILA) assembled in Helsinki, Finland, to create what would be termed the Helsinki Rules on the Uses of Waters of International Rivers (Helsinki Rules).<sup>74</sup> These rules not only codified customary legal norms and principles, but also kickstarted development of international water law.<sup>75</sup> Though the Helsinki Rules offered a foundation on which to develop a more holistic legal framework, they were limited in scope and were not formally binding.<sup>76</sup> Therefore, in 1970, the United Nations General Assembly

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diverted waters from the Rio Grande wherein the United States argued that it could divert the flow of the Rio Grande because such actions took place within the territory of the United States).

71. See Aaron Schwabach, *Diverting the Danube: The Gabcikovo-Nagymaros Dispute and International Freshwater Law*, 14 BERKELEY J. INT'L L. 290, 328 (1996) (recognizing that while states possess absolute territorial sovereignty, there are limits such as the obligation not to cause harm to downstream riparians).

72. Nagheby et al., *supra* note 23, at 259 (positing that these limitations include the duty not to cause significant transboundary damage and the duty to respect the equitable and reasonable utilization of a shared water course).

73. See Shashank Upadhye, *The International Watercourse: An Exploitable Resource for the Developing Nation Under International Law*, 8 CARDOZO J. INT'L & COMP. L. 61, 74 (2000) (noting that the formal recognition of state practice and customary use of watercourses only began in the latter half of the 20th century).

74. Waseem Ahmad Qureshi, *The IWT and the UNWC: Commonalities and Differences*, 23 OCEAN & COASTAL L.J. 87, 105 (2018) [hereinafter Qureshi, *IWT*].

75. *Id.* (suggesting that the creation of the Helsinki Rules created a foundation that would guide later conventions on transboundary watercourses).

76. *Id.* at 105–06 (noting that the Helsinki Rules only applied to the use of the waters in an international drainage basin, and this limited scope did not respond to all the problems associated with international watercourses).

requested the International Law Commission (ILC) to conduct a study on the law of international watercourses with the aim of treaty formation.<sup>77</sup> The ILC deposited its draft articles, governing surface waters and unconfined groundwaters, to the General Assembly in 1994, and after lengthy negotiations the draft articles were adopted with significant support in 1997 as the Convention on the Law of Non-navigational Uses of International Watercourses (UNWC).<sup>78</sup>

Despite the overwhelming support for the UNWC, it took seventeen years for the treaty to enter into force.<sup>79</sup> During the time between formal adoption and ratification, the ILA, sensing the UNWC's sluggish pace towards entry into force, reconvened in 2004 to synthesize customary international law in light of the UNWC.<sup>80</sup> While the 2004 Berlin Rules added several new layers to international water law, the most important addition to this discussion was the attempt to diffuse the tension between two fundamental provisions of the UNWC—the principle of equitable utilization and the no-harm principle—by incorporating one into the other.<sup>81</sup>

#### F. EQUITABLE AND REASONABLE UTILIZATION

Article 5 of the UNWC codifies the international custom of equitable and reasonable utilization.<sup>82</sup> This provision is considered the hallmark principle for water sharing among co-riparians and is generally accepted by the global community.<sup>83</sup> Article 5 of the UNWC reads as follows:

1. Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable

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77. *Id.*

78. *Id.*

79. Stoa, *supra* note 3, at 1322 (noting the length of time for the requisite number of thirty-five nations to adopt the UNWC before its entry into force).

80. *Id.* at 1329.

81. *Id.* at 1329–30.

82. Convention on the Law of the Non-navigational Uses of International Watercourses, art. 5, U.N. Doc. A/51/49 (May 21, 1997) [hereinafter Convention on Watercourses].

83. See Qureshi, *IWT*, *supra* note 74, at 113 (suggesting that principles that are globally accepted typically constitute customary law in that area).

utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.

2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such in participation includes both the right to utilize the watercourse and the duty to co-operate in the protection and development thereof, as provided in the present Convention.<sup>84</sup>

This provision does not mandate that that all basin states equally divide the watercourse, nor does it give these states the right to a proportional division of the water itself.<sup>85</sup> Instead, the provision demands that states utilize a watercourse in a manner that procures benefit in a protectable, sustainable and reasonable way, while giving consideration to the interests of co-riparians.<sup>86</sup> Inherent in the text is the underlying assumption that all countries are sovereign nations that rest on equal footing in relation to one another.<sup>87</sup> In viewing the scope of the provision, equitable and sustainable utilization of international watercourses relates to “the use itself and from the way in which derived benefits are to be apportioned between States.”<sup>88</sup> Under this understanding, both the use of the watercourse and its allocation must be equitable.<sup>89</sup>

Built within Article 5 is a procedural obligation of participation.<sup>90</sup> Procedural obligations are part and parcel of substantive obligations

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84. Convention on Watercourses, *supra* note 82, art. 5.

85. See Christine Traversi, *The Inadequacies of the 1997 Convention on the International Water Courses and 2008 Draft Articles on the Law of Transboundary Aquifers*, 33 HOUS. J. INT'L L. 453, 474 (2011) (describing the requirements and essential meaning of the equitable utilization principle).

86. See Qureshi, *IWT*, *supra* note 74, at 115 (“[A]ll countries are sovereign nations and no state is superior to another: that all countries are equal in the equation of balance of justice.”).

87. *Id.*

88. Traversi, *supra* note 85, at 474 (asserting how the equitable and sustainable utilization provision should be applied for a reasonable distribution of use of the watercourse and allocation of water between states).

89. See *id.*

90. See Convention on Watercourses, *supra* note 82, art. 5(2) (commanding Watercourse states to participate in the use, development, and protection of an international watercourse).

from the viewpoint of customary law.<sup>91</sup> A basin state is therefore required to cooperate with co-riparians in the development of a watercourse.<sup>92</sup>

Determining the reasonableness of a state's watercourse utilization requires weighing the costs and benefits of a particular use.<sup>93</sup> The provision is therefore flexible in its application, willing to bend and evolve according to the environment in which it is assessed.<sup>94</sup> But the overall utilitarian objective of Article 5 remains constant: limiting waste while providing the maximum benefit of a watercourse to each co-riparian.<sup>95</sup> Article 6 of the UNWC supports Article 5 by providing a non-exhaustive list of factors to be considered in determining a use's compliance with Article 5:

- 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 watercourse 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 resource of the watercourse and the costs of measures taken to that effect;<sup>96</sup>
- g) The availability of alternatives, of comparable value, to a particular

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91. *See id.*

92. *See also* Owen McIntyre, *The Role of Customary Rules and Principles of International Environmental Law in the Protection of Shared International Freshwater Resources*, 46 NAT. RESOURCES J. 157, 178 (2006) (explaining that to resolve disputes amicably, interested parties should be "adequately informed of proposed projects and their potential environmental implications").

93. Qureshi, *IWT*, *supra* note 74, at 116–17 (discussing the factors required to conduct the cost-benefit analysis under Article 6 of the UNWC).

94. *Id.*

95. *See id.*

96. Convention on Watercourses, *supra* note 82, art. 6.

planned or existing use.<sup>97</sup>

These factors should be weighed together in totality and no single factor should form a determination of equitable and reasonable utilization, save any circumstances where vital human needs can be identified.<sup>98</sup> It is important to note, however, that the list provided by the drafters of the UNWC was not meant to be exhaustive; instead, all relevant factors should be considered within a use's cost-benefit analysis.<sup>99</sup>

### G. THE NO-HARM PRINCIPLE

Questions regarding the exact degree of harm are numerous but some cases such as *Lake Lanoux* and *Trail Smelter* deal precisely with the level of harm likely required by Article 7.<sup>100</sup> The mere fact that international judicial bodies have relied on this principle suggests that the obligation as embodied within the UNWC rises to the level of customary international law.<sup>101</sup>

## III. ANALYSIS

The substantive and procedural obligations set forth in the UNWC are held by commenters and states alike as comprising customary law.<sup>102</sup> Although neither Afghanistan nor Ethiopia is a party to the

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97. *Id.*

98. Qureshi, *IWT*, *supra* note 74, at 116 (discussing the level of harm needed to rise to a violation of the no-harm principle as a matter of customary law and not in accordance with agreement such as the UNWC among others).

99. *See id.* at 116–17 (describing the mechanics of Article 6 of the UNWC).

100. *See generally* McIntyre, *supra* note 92, at 178–80 (discussing the general customary obligation to respect the development and utilization of international watercourses as suggested in *Lake Lanoux*).

101. *See* *Lake Lanoux* (Fr. v. Spain), 12 R.I.A.A. 281 (Arb. Trib. 1957) (suggesting that alteration in quantity of water constitutes significant harm); *see also* *Trail Smelter* (U.S. v. Can.), 3 R.I.A.A. 1905 (Ottawa Conv. 1941) (expressing that significant harm requires actual harm as opposed to anticipated or procedural harm); McIntyre, *supra*, note 92, at 166 (suggesting that an international body's reliance on a principle might evidence that principle's standing as customary law).

102. *See* McIntyre, *supra*, note 92, at 206 (explaining that to not cause harm, for instance, a state will need to know the current or proposed uses for a watercourse by a neighboring state).



treaty, these states are held to customary law embodied within it.<sup>103</sup> Specific agreements may supersede any customary obligation, but these basin states have yet to formalize fully contradicting rules within an agreement, so customary law should be used to interpret and analyze the legality of watercourse uses.<sup>104</sup>

It is clear that the reliance on customary law causes unique challenges for states constructing dams on shared watercourses.<sup>105</sup> The ambiguous relationship between the fundamental principles of customary law leaves downstream riparians with valid claims against upstream dam construction.<sup>106</sup> The question then becomes: at what cost might these claims prevail and how well does customary law as codified by the UNWC handle such actions?

#### A. PRINCIPLES AT ODDS: THE RELATIONSHIP BETWEEN EQUITABLE AND REASONABLE UTILIZATION AND THE NO-HARM PRINCIPLE

An unclear relationship exists between the obligations contained in Articles 5 and 7 of the UNWC.<sup>107</sup> On the one hand, upstream states prioritize equitable utilization to the extent that such uses legitimizes future uses of the watercourse within their territories.<sup>108</sup> Downstream states, on the other hand, generally prefer the “no-harm” principle of Article 7 because it protects existing uses by prohibiting upstream actions that might significantly impair a riparian’s established

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103. *Id.*

104. *Accord Agreement on Declaration of Principles Between the Arab Republic of Egypt, the Federal Democratic Republic of Ethiopia and the Republic of the Sudan on the Grand Ethiopian Renaissance Dam Project*, INT'L WATER LAW PROJECT (Mar. 23, 2015), [https://www.internationalwaterlaw.org/documents/regionaldocs/Final\\_Nile\\_Agreement\\_23\\_March\\_2015.pdf](https://www.internationalwaterlaw.org/documents/regionaldocs/Final_Nile_Agreement_23_March_2015.pdf) (Identical principles are contained in the Declaration of Principles as in the UNWC).

105. See generally Nagheeby et al., *supra* note 23, at 258 (characterizing legitimacy of dam building under international law).

106. See Lucius Caflisch, *The Contemporary Law of International Watercourses: Some Aspects and Problems*, 28 SWISS REV. INT'L & EUR. L. 297, 298 (2018) (suggesting that the main tenants of customary law on watercourses, such as the prohibition against significant harm and equitable utilization, leave countries in an unsure position).

107. *Id.* at 302–04.

108. *Id.*

utilization.<sup>109</sup>

Much debate has accumulated over the prioritization of obligations within Articles 5 and 7.<sup>110</sup> In drafting the UNWC, the ILC seemed to provide a clear indication towards its preference to the equitable utilization principle over the “no-harm” principle.<sup>111</sup> The ILC noted that the mere fact that an activity involves significant harm does not necessarily prevent that harmful use if it is equitable and reasonable on balance.<sup>112</sup> The 2004 Berlin Rules attempted to further define the relationship among the principles, concluding that, “basin States. . . shall refrain from and prevent acts or omissions within their territory that cause significant harm to another basin State having due regard for the right of each basin State to make equitable and reasonable use of the water.”<sup>113</sup> Thus, the commentary surrounding these instruments characterize the “no-harm” principle as being consumed by the principle of equitable utilization, suggesting that an evaluation of harm should be read into an analysis of whether a use is equitable and reasonable.<sup>114</sup>

#### B. AFGHANISTAN’S CONSTRUCTION OF THE SALMA DAM VIOLATES THE PRINCIPLE OF EQUITABLE UTILIZATION

The legality of dam construction depends not only on a state’s compliance with substantive norms, but also on the procedural duties that support their substantive counterparts.<sup>115</sup> The unilateral construction of the Salma Dam by Afghanistan likely violated both

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109. *Id.*

110. *Id.*; see also Elizabeth Burleson, *Equitable and Reasonable Use of Water Within the Euphrates-Tigris River Basin*, 35 ELR 10041, 10042–45 (2005).

111. See Anna Schulz, *Creating a Legal Framework for Good Transboundary Water Governance in the Zambezi and Incomati River Basins*, 19 GEO. INT’L ENVTL. L. REV. 117, 147 (2007) (mentioning that Judge Stephen Schwebel, in his reports as the Special Rapporteur to the ILC, subordinated the no-harm principle to the equitable utilization principle).

112. See *id.* (“[W]here there is conflict among the water needs of the states making beneficial use of those waters, that conflict is to be resolved on the basis of equity, taking all relevant factors into account.”).

113. International Law Association, Berlin Conference (2004), Water Resources Law art. 16.

114. See Schulz, *supra* note 111, at 147–48.

115. Nagheeb et al., *supra* note 23, 265.

customary substantive and procedural norms.<sup>116</sup> Beyond speculation of the legality of its construction, the Salma Dam also challenges the ambiguities that exist in customary international law on transboundary watercourses.<sup>117</sup>

The Harirud Basin states have shown a historical reluctance to adopt or ratify agreements governing shared waters.<sup>118</sup> Both Iran and Afghanistan have yet to adopt the UNWC at the time of this writing.<sup>119</sup> Regionally, the basin states have yet to formulate a fully inclusive agreement governing the use of the Harirud's water.<sup>120</sup> While legal arrangements have developed along the basin throughout the 20<sup>th</sup> century, most agreements covering the Harirud River have excluded Afghanistan in the negotiation process.<sup>121</sup> Since the basin is not covered by a cooperative agreement, the legality of state action pertaining to the resources of the Harirud must be viewed through the lens of customary principles.

The claims surrounding the building of the Salma Dam hinge on the traditional dichotomy between equitable utilization and the "no-harm" principle.<sup>122</sup> Afghanistan claims it is developing its portion of the river as a legitimate means of spurring its economy and alleviating poverty.<sup>123</sup> The position of the Afghan government rests in notions of absolute territorial sovereignty where states are free to use waters in their territories in any manner they deem necessary.<sup>124</sup> The

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116. *Id.* at 275 (stating that Afghanistan's actions violated customary law).

117. *See id.* (describing the facts surrounding the construction of the Salma Dam that challenge existing legal customs).

118. *See id.*

119. *See id.*

120. *See id.*

121. Nagheeby & Warner, *supra* note 17, at 851 (summarizing the agreements in the region that originated during the Soviet era, which led to one-sided treaties usually to the exclusion of Afghanistan).

122. *See* Elizabeth B. Hessami, *Afghanistan's Water Plans Complicated by Worried Neighbors*, WILSON CENTER ENVTL. CHANGE AND SECURITY PROGRAM: NEW SECURITY BEAT (Mar. 27, 2017), <https://www.newsecuritybeat.org/2017/03/afghanistans-water-plans-complicated-worried-neighbors/> (explaining the contentions of each riparian in the region).

123. *See* Nagheeby & Warner, *supra* note 17, at 855 (stating that utilization of the Harirud could provide Afghanistan economic prosperity and security by providing water for a burgeoning agricultural sector and energy to the populace of the country).

124. *See generally* Margaret J. Vick, *International Water Law and Sovereignty: A Discussion of the ILC Draft Articles on the Law of Transboundary Aquifers*, 21

government's absolutist position has even gone so far as to suggest that in developing its water resources, it is not necessary for Afghanistan to consult with co-riparians before and during construction of a dam.<sup>125</sup> Although the Afghan government is acting under a legitimate interest in its own security and prosperity, its actions both violate and highlight the challenges of customary law for several reasons.<sup>126</sup>

First, international law recognizes a limit on territorial sovereignty with respect to water resources.<sup>127</sup> The Tribunal in *Lake Lanoux* understood that basin-wide consensus on every major development would severely hamper the ability of a nation to direct its own use of development.<sup>128</sup> The Tribunal agreed with France in that a state does not need prior consent from other riparians when constructing works such as dams.<sup>129</sup> This decision suggests that customary law might tolerate a degree of unilateral action by a basin state.<sup>130</sup> However, the Tribunal qualified its assertion, reasoning that although prior consent is not required by a state, a modicum of good faith negotiation or interest balancing is required.<sup>131</sup> The Tribunal suggested that a state

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PAC. MCGEORGE GLOBAL BUS. & DEV. L.J., 191, 211–12 (2008) (noting that since 1962 international law has recognized limitations on the exercise of sovereignty over natural resources, and that upstream riparians must give deference to downstream riparians when using natural resources in its territory).

125. See Nagheeby & Warner, *supra* note 17, at 855 (noting that on several occasions informal and formal communications, including a statement by Afghan official, have expressed an unwillingness to negotiate in the development of watercourses).

126. See Nagheeby et al., *supra* note 23, at 274 (positing that the totality of circumstances surrounding Afghanistan's action suggests it is in violation of customary international norms).

127. See Vick, *supra* note 124, at 211–12 (noting that since 1962 international law has recognized limitations on the exercise of sovereignty over natural resources and that states must give deference to downstream riparians when using natural resources within upstream riparians' territory).

128. See Upadhye, *supra* note 73, at 87 (suggesting that so long as a state consults with its co-riparian, it is then free to ignore or accept the recommendations given).

129. See Evan J. Criddle & Evan Fox-Decent, *Mandatory Multilateralism*, 113 A.J.I.L. 272, 296–97 (2019) (stating that granting a right of veto by requiring consent from co-riparians for works on a shared watercourse would paralyze a state's territorial jurisdiction).

130. See Tarlock, *supra* note 1, at 373 (noting that a riparian should not unilaterally prevent another state from using the other's share of international river).

131. See Criddle, *supra* note 129, at 296 (holding that a state cannot treat a co-

could achieve a balancing of interests by providing prior notice to the government.<sup>132</sup> Prior notice generally involves “timely notification” to affected stakeholders; a process that involves both consultation and information sharing.<sup>133</sup> The exact extent of this duty as required by custom is by and large unknown, but its practice on the ground surely rises above ignorance and neglect of basin-wide interests.<sup>134</sup> Even if held to the minimum notification requirements of international law, Afghanistan’s outright refusal and unwillingness to cooperate with Iran on the construction of the Salma Dam violated custom.<sup>135</sup>

Second, Afghanistan’s construction of the Salma Dam likely causes significant harm to downstream riparians.<sup>136</sup> If the prohibition against significant harm is treated as a factor in an equitable utilization calculus, then it must be weighed against competing inputs suggested in Article 6 of the UNWC.<sup>137</sup> In constructing dams or other works, an upstream riparian inevitably causes harm to the downstream riparian.<sup>138</sup> The question then becomes: to what extent a particular impairment of use satisfies the threshold requirement under the prohibition against harm?<sup>139</sup> The UNWC states that the quality of harm should be nothing

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riparian’s interest with indifference and that absence of good faith might include unjustified breaking off of discussions, delay, ignorance of established procedures, systematic refusals to take into consideration of adverse proposals and interests).

132. *See id.* (suggesting that while consent is not required a compromise was struck by the Tribunal, which held that prior notice of planned works by a state must be given to affected states, giving the affected state due consideration).

133. *See generally* Tarlock, *supra* note 1, at 404 (noting the procedural components involved in a state’s equitable utilization of a watercourse).

134. *See id.* (explaining the parameters of the customary duty to provide notice to affected parties).

135. Nagheebay et al., *supra* note 23, at 275.

136. *Id.*

137. *See* Stephen C. McCaffrey (Special Rapporteur), *Second Rep. on the law of the non-navigational uses of international watercourses*, U.N. Doc. A/CN.4/399 and Add. 1 and 2 (Mar. 19, 1986 & May 21, 1986) (“[A]n allocation of uses and benefits of the waters of an international watercourse between two or more states entail a certain degree of harm – in the factual sense of unmet needs – to one, or usual both states, and still be “equitable” . . . where there is conflict among the water needs of the states making beneficial use of those waters, that conflict is to be resolved on the basis of equity, taking all relevant factors into account.”).

138. *See* Schulz, *supra* note 111, at 146 (discussing the inevitable environmental impacts caused by dams on both volume of water and the environment).

139. *See id.*

short of “significant.”<sup>140</sup> Taken together, significant harm is defined as “the real impairment of a use, established by objective evidence. . . . it must not be trivial in nature but it need not rise to the level of being substantial.”<sup>141</sup> Judicial decisions have elucidated this conception.<sup>142</sup> Although dealing with transboundary air pollution, the Tribunal in *Trail Smelter* articulated that transboundary damage to American crops and forests resulting from noxious fumes released from a Canadian smelter was sufficient to grant an injunction to the injured party.<sup>143</sup> *Trail Smelter*, by analogizing harm caused by air pollution to harms caused by upstream water development, could be interpreted as effectively dispelling the absolutist approach often championed by upstream riparians and instead establishing a threshold harm required to show an actual injury.<sup>144</sup> The Tribunal in *Lake Lanoux* similarly erected its own qualification of harm, but centered its definition on the impairment in quantity of water reaching downstream riparians.<sup>145</sup> The Tribunal rejected Spain’s contention in part because France’s construction of a dam did not alter the quantity of water entering Spain.<sup>146</sup> Building on the framework established in *Lake Lanoux*, The ICJ in *Pulp Mills* went as far as to list several cases in which significant harm may be found: “[S]ignificant damage to the other party may result from impairment of navigation, the regime of the river or the quality of the waters.”<sup>147</sup> In finding significant harm, the lineage of modern judicial interpretation of the no-harm principle therefore gives special consideration to reductions in quantity and quality of water.<sup>148</sup>

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140. Convention on Watercourses, *supra* note 82, art. 6.

141. See generally U.N. Watercourses Convention: Online User’s Guide, U.N. WATERCOURSES CONVENTION, <https://www.unwatercoursesconvention.org/the-convention/part-ii-general-principles/article-7-obligation-not-to-cause-significant-harm/7-1-2-significant-harm> (last visited Nov. 19 2019) (mentioning the likely definition of significant harm).

142. See generally Schwabach, *supra* note 71, at 327–28 (discussing the history of case law dealing with the no-harm principle).

143. 1 Waters and Water Rights § 1.01 (Amy K. Kelley, ed., 3rd ed. LexisNexis/Matthew Bender 2019) [hereinafter Water Rights].

144. See Schulz, *supra* note 111, at 146 (emphasizing the requirement of serious harm as a means of prohibiting a claim of any harm to establish injury, which if allowed would make upstream development impossible).

145. *Lake Lanoux*, 12 R.I.A.A. at 281.

146. *Id.*

147. *Id.*

148. See generally Schwabach, *supra* note 71, at 327–28 (discussing the case law

The harm created by the Salma Dam is congruous with thresholds set out by various judicial bodies.<sup>149</sup> Unlike the parties in *Lake Lanoux*, Afghanistan has yet to negotiate a water sharing scheme with its downstream neighbors.<sup>150</sup> The Tribunal in *Lake Lanoux* failed to see an actual impairment in the quantity of water entering Spain due to France's effort to restore the water quantity of the river before it entered Spain.<sup>151</sup> The models simulated before the Salma Dam's construction predicted the Dam would cause a thirty-percent reduction in the flow of the Harirud's water, with reductions reaching near eighty-percent in dry climatic conditions.<sup>152</sup> Such reduction was forecasted to reduce water for irrigation in Iran and Turkmenistan by thirty-four-percent.<sup>153</sup> More recently, studies have shown that since the construction of the Salma Dam, Iran is receiving only thirteen-percent of the Harirud River's water, when it received nearly thirty percent prior to construction.<sup>154</sup> This sort of reduction in quantity of water distinguishes the harm resulting from the Salma Dam from that found in *Lake Lanoux*.<sup>155</sup> These reports are significant since judicial interpretation throughout the development of the no-harm principle has had a propensity to find injury where actions lead to water quantity reductions that might eventually place pressure on vital human needs.<sup>156</sup>

Finally, an emerging human rights approach around access to water must underpin any interpretation of Article 10 of the UNWC.<sup>157</sup> The UNWC makes it clear that no use of a watercourse is given priority

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surrounding the no-harm principle).

149. *See id.* (the harms caused by the Salma Dam are similar to that of *Lake Lanoux* and *Trail Smelter*).

150. *See id.*

151. *See id.*

152. *See id.*

153. *See id.*

154. *See id.*

155. *See id.*

156. *Id.* (noting that the arbitral tribunal emphasized the obligation of the upstream state to consider and reconcile the interests of the other riparian state with its own).

157. *See* Takele Soboka Bulto, *The Emergence of the Human Right to Water in International Human Rights Law: Invention or Discovery?*, 12 MELBOURNE J. INT'L L. 290, 312–13 (2011) (demonstrating that the vital human needs provision of the UNWC is consistent with the fundamental human right to water).

over another.<sup>158</sup> When there is a conflict between uses, the UNWC stipulates that weight shall be given to the requirements of vital human needs.<sup>159</sup> Vital human needs refer to water that is necessary to “sustain human life, including both drinking water and water required for the production of food.”<sup>160</sup> Dam construction necessarily strains this demand since both upstream and downstream riparians might claim that water resources constitute a vital human need.<sup>161</sup> When competing vital needs exist, an analysis depends on a hierarchy of those needs where general economic activity commands less importance than uses that support immediate human survival.<sup>162</sup> Afghanistan utilizes the Salma Dam as a means to develop its economy through the generation of electricity and agriculture.<sup>163</sup> Moreover, the number of Iranians who are dependent on the Harirud’s waters outnumber nearly threefold the number of Afghans who depend on its waters.<sup>164</sup> While aiming at a legitimate end, Afghanistan’s use of the Harirud vis-à-vis the Salma Dam fails to predominate over the uses of downstream riparians since economic development is not a vital need contemplated by Article 10.<sup>165</sup>

### C. ETHIOPIA IS VIOLATING CUSTOMARY LAW BY CONSTRUCTING

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158. See Convention on Watercourses, *supra* note 82, arts. 6, 10 (discussing the factors to consider in equitable and reasonable utilization of international watercourse, emphasizing the absence of inherent priority in the use of international watercourse).

159. See *id.* art. 10 (stating that “special regard” should be given to the requirements of vital human needs when there is a conflict between uses of an international watercourse).

160. Bulto, *supra* note 157, at 312.

161. See Nagheby et al., *supra* note 23, at 259 (explaining that the unilateral damming of a shared watercourse can be justified under the sovereign right of state).

162. See Shih & Stutz, *supra* note 51, at 10815 (noting that while satisfying vital human needs takes precedence over competing interests, it does not extend to supporting general economic activity).

163. See Scott Peterson, *Why a Dam in Afghanistan Might Set Back Peace*, CHRISTIAN SCI. MONITOR (July 30, 2013), <https://www.csmonitor.com/World/Asia-South-Central/2013/0730/Why-a-dam-in-Afghanistan-might-set-back-peace> (explaining that the Salma Dam is utilized to increase both cultivatable land and electricity, lowering the region’s dependence on other states).

164. See *id.*

165. See *id.* (describing that Afghanistan aims to achieve sustainable development and security in the region by utilizing the Salma Dam).



## GERD

Similar to the actions undertaken by Afghanistan in its construction of the Salma Dam, Ethiopia is developing its watercourse in a manner that challenges the traditional hydro-hegemony along its respective river.<sup>166</sup> To the dismay of Egypt, Ethiopia's construction of the GERD challenges the status quo along the Nile that for centuries has worked in Egypt's favor.<sup>167</sup> Although the construction of the GERD largely mirrors the same challenges to watercourse law as those posed by the Salma Dam in Afghanistan, the situation along the Nile highlights additional challenges in current international watercourse law.<sup>168</sup>

The history of cooperation among basin states of the Nile is comprised of a series of imbalanced and non-inclusive agreements.<sup>169</sup> These agreements, beginning with the 1929 Waters Agreement between Egypt and the United Kingdom, established the allocation of the Nile waters.<sup>170</sup> This arrangement persisted until 1959 when a new agreement was signed by Egypt and Sudan, apportioning the entire flow of the Nile to the signatory states, excluding any interests of upstream states, including Ethiopia.<sup>171</sup> These agreements in effect created a monopoly over the water resources of the Nile.<sup>172</sup>

Customary law as codified in the UNWC allows for the preservation

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166. See Shih & Stutz, *supra* note 51, at 10787 (discussing how Ethiopia's construction of the GERD and the new Cooperative Framework Agreement by Nile riparian states erode the existing legal framework).

167. *Id.* at 10786–87 (explaining that growing populations and recurrent famines led Ethiopia to build the GERD despite Egypt's threats to wage war against dam building over time).

168. See Bisrat Woldmichael Handiso, *The Challenges and Opportunities of the Grand Renaissance Dam for Energy, Water, Food, Ecosystem Services Nexus in Ethiopia* (2018) (unpublished Master's thesis, Uppsala University) (arguing that the construction of the GERD failed to consider values of ecosystem and biodiversity).

169. See Andreas K. Wendl, *International Water Rights on the White Nile of the New State of South Sudan*, 39 B.C. INT'L & COMP. L. REV. 1, 10 (2016) (noting that the British framers of the Nile Agreements drafted the treaties in a manner favorable to Egypt to secure access to the Suez Canal).

170. See Mekonnen, *supra* note 42, at 258 (noting that the 1929 Agreement allocated the utilizable flow of the Nile waters to Egypt and Sudan at 48 and 4 billion cubic meters, respectively).

171. *Id.* at 260 (explaining that the 1959 Agreement apportioned the entire flow of the Nile to Egypt and Sudan, excluding the interests of any other riparian).

172. *Id.* (demonstrating Egypt and Sudan were the only states with rights to Nile waters, leaving nine upstream riparian states without water).

of power by traditional hegemons along a river.<sup>173</sup> Following the negotiations of the UNWC, the Nile Basin Initiative (NBI), launched in 1999, provoked optimism in the region by incorporating the major tenants of the UNWC into the Agreement, aiming to equalize power along the river.<sup>174</sup> This Agreement, like its successor, the Nile Basin Cooperative Framework Agreement, failed largely due to Egypt's unwillingness to detach from its hegemony over the water of the Nile.<sup>175</sup> Prompted by Ethiopia's plans to build the GERD, Ethiopia, Egypt and Sudan signed the DoP in 2015.<sup>176</sup> The DoP, though formulated with the UNWC in mind, preserves the power balance on the Nile in a number of ways, showing that current international customs can be manipulated as to preserve the current power structures on a basin.<sup>177</sup>

The DoP substantially changes the obligation not to cause significant harm embodied in Article 7 of the UNWC. Principle III of the DoP reads:

Where significant harm nevertheless is caused to one of the countries, the state whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures in consultations with the affected state to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.<sup>178</sup>

This provision not only divorces the no-harm principle from the

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173. *Id.* at 272 (noting that the status quo may be justified under the argument of significant harm).

174. *Id.* at 265 (stating that the launching of the NBI brought "immense hope and optimism unprecedented in the basin's history" by emphasizing equitable utilization of the Nile waters).

175. *See id.* (signaling that rejection by Egypt and Sudan and deterioration of the inter-riparian relationship were the causes of the NBI's failure); *see also* MWANGI S. KIMENYI & JOHN MUKUM MBAKU, *GOVERNING THE NILE RIVER BASIN: THE SEARCH FOR A NEW LEGAL REGIME* 125 (2015) (identifying that the major problem of implementing the CFA was Egypt and Sudan's disapproval of the language of the Agreement, leading them not to sign the Agreement).

176. *See* Mekonnen, *supra* note 42, at 268 (arguing that Egypt's signature of the DoP was triggered by the implementation of the GERD, aiming to limit the upstream riparian rights).

177. *Id.* at 268–70 (demonstrating that the DoP ended up maintaining the status quo, achieving the strategic objectives of Egypt and Sudan rather than upstream riparian states).

178. *Id.* at 271.

equitable utilization principle, but also places a hierarchy among the principles that was not envisioned by the drafters or commentators of the UNWC.<sup>179</sup> The provision does not suggest that due regard must be made to the factors that lead to a determination of which uses are equitable.<sup>180</sup> Therefore, the no-harm principle is untethered from any reference to those factors.<sup>181</sup> This independence allows for the institutionalization of the status quo by suggesting that any harm to current use would sufficiently constitute a violation of Principle III of the DoP.<sup>182</sup> This contortion of the no-harm principle disregards any legitimate purpose that underpins an upstream use and imposes legal obligations that afford greater deference to the legitimacy of downstream uses.<sup>183</sup>

Article 6 of the UNCW fails to provide a useful reference for the determination of equitable utilization when the factors contained within the Article can be effectively claimed by both upstream and downstream riparians.<sup>184</sup> When conflicts of use arise, as is the case with the construction of dams on transboundary watercourses, the current legal framework does not adequately resolve those tensions since there is no prioritization of the factors enumerated in Article 6 of the UNWC.<sup>185</sup> Instead, equity must be sought in the aggregate of the factors weighed against one another.<sup>186</sup> This assumes that one riparian's use compared to that of another is easily quantifiable in

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179. *Id.* at 272 (discussing the reformulation of Principle III).

180. *Id.* at 260 (noting that both Egypt and Sudan received 7.5 and 14.5 billion cubic meters of Nile water, respectively, granting them full control and utilization).

181. *Id.* at 262 (explaining that in the absence of a legal framework addressing equitable use, any harm by a state will violate its obligation under the no-harm principle).

182. *Id.* at 272 (stating that the reformulation of Principle III allows any harm to constitute a violation of the principle).

183. *Id.* (explaining that the reformulation of Principle III justifies the status quo).

184. See Bruce Lankford, *Does Article 6 (Factors Relevant to Equitable and Reasonable Utilization) in the U.N. Watercourse Convention Misdirect Riparian Countries?*, 38 WATER INT'L 130, 140 (2013) (discussing the lack of guidance for evaluating current factors in Article 6 for co-riparians).

185. *Id.* (noting the lack of consensus on how Article 6 factors ought to be prioritized).

186. See McCaffrey, *supra* note 2, at 61 (arguing that the "non-exhaustive" list of factors in Article 6 should be considered in determining whether a use of international watercourse is equitable and reasonable).

relation to a specific Article 6 factor.<sup>187</sup> This sort of certainty assumed by the UNWC rarely exists on the ground where geopolitical and economic forces, *inter alia*, constantly reshape and blur the definition of a reasonable utilization.<sup>188</sup>

Article 6(b) of the UNWC, for example, suggests that the social and economic needs of the watercourse states should be weighed against one another when determining whether a certain use is equitable.<sup>189</sup> But how can it be determined with any amount of certainty which state has more pressing economic or social needs?<sup>190</sup> For instance, nearly ninety-six percent of Egypt's population lives along the basin of the Nile.<sup>191</sup> This population relies heavily on the Nile River for its commercial and domestic water needs that are only expected to grow in the coming century.<sup>192</sup> The construction of the GERD will necessarily affect the volume of water entering Egypt's portion of the Nile and in turn frustrate any pre-existing use.<sup>193</sup> Similarly, by constructing the GERD, Ethiopia is hoping to supply electricity to a burgeoning population and economy.<sup>194</sup> Considering Ethiopia has developed less than five percent of its irrigable land in the basin, its aim is to have the GERD assist in developing its economy by providing water for irrigation and electricity.<sup>195</sup> It could therefore be said that both basin states, Egypt and Ethiopia, have legitimate social and economic needs for the waters of the Nile.<sup>196</sup>

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187. *Id.* (discussing the difficulty for a state to ensure equitable use without information from other riparian states on Article 6 factors).

188. *Id.* (suggesting the importance of cooperation between riparian states to achieve equitable utilization of watercourse system).

189. Convention on Watercourses, *supra* note 82, art. 6.

190. See Lankford, *supra* note 184, at 140 (explaining the difficulties involved in prioritizing the listed factors in Article 6).

191. See KIMENYI & MBAKU, *supra* note 175, at 66 n.13.

192. See Ibrahim, *supra* note 4, at 287 (stating that the Nile waters constitute 96% of Egypt's renewable water).

193. See Hafsa Halawa, *Egypt's Options in the Development of the Ethiopian Dam*, ATLANTIC COUNCIL (Sep. 26, 2018), <https://www.atlanticcouncil.org/blogs/menasource/egypt-s-options-in-the-development-of-the-ethiopian-dam> (explaining that the GERD will decrease Egypt's current share of the Nile River, directly impacting the country's agriculture).

194. See Salman, *supra* note 44, at 516 (demonstrating that Ethiopia's sole purpose of constructing the GERD is to generate hydropower).

195. *Id.*

196. *Id.* (discussing the positions of both Egypt and Ethiopia on the construction

Factor (e) of Article 6 affords protection to prior appropriation of a watercourse by allowing for a consideration of existing uses.<sup>197</sup> This factor at first glance might seem to assist in resolving the previous ambiguity in deciding which state's economic and social needs are more pressing.<sup>198</sup> This factor militates against Egypt's suggestion that prior uses are wholly protected against future uses.<sup>199</sup> Despite barring a per se rule in favor of existing uses, factor (e) strains cooperation with respect to the GERD because it rationalizes Egypt's hegemonic use of the Nile.<sup>200</sup> Where a population relies significantly on a watercourse, factor (e) will be weighted heavily in the balance of all Article 6 factors.<sup>201</sup> Such an interpretation rewards a race to develop a watercourse and, in the case of Egypt's use of the Nile, allows for the preservation of its hegemony along the basin.<sup>202</sup>

#### IV. RECOMMENDATIONS

##### A. STATES SHOULD OBJECTIVIZE SPECIFICITY IN WATERCOURSE AGREEMENTS.

States should look to bypass the ambiguity of customary law by creating specific agreements that prioritize substantive provisions already existing in the UNWC.<sup>203</sup> States might look to other functioning basin agreements that have proven to be successful such as the Indus Valley Agreement and the Agreement on the Amazon.<sup>204</sup>

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of the GERD).

197. Convention on Watercourses, *supra* note 82, art. 6.

198. See James McMurray & Dan Tarlock, *The Law of Later Developing Riparian States: The Case of Afghanistan*, 12 N.Y.U. ENVTL. L.J. 711, 751 (2005) (recommending deference to the existing uses in deciding equitable utilization).

199. *Id.* at 751–52 (showing that the inadequate use of the factor will entirely bar new uses).

200. *Id.* (discussing the need to consider existing use as a factor).

201. See Stoa, *supra* note 3, at 1327 (listing population as a factor that must be weighed in determining the equitable share of water source).

202. See McMurray & Tarlock, *supra* note 198, at 751 (demonstrating the undesired consequences in relying too heavily on only one factor).

203. See Michelle R. Sergent, *Comparison of the Helsinki Rules to the U.N. Draft Articles: Will the Progression of International Watercourse Law be Dammed?*, 8 VILLANOVA ENVTL. L.J. 435, 476 (1997) (suggesting that the U.N. agencies require states to use provisions of the draft articles).

204. See generally Qureshi, *supra* note 6 (analyzing the efficiency of the Indus Waters Treaty).

An effective basin agreement should seek to include all basin state members in an effort to reduce hegemonic influence and in turn democratize the governance of a watercourse.<sup>205</sup> States should pay special focus to enforceability and dispute resolution mechanisms so that conflict may be handled internally.<sup>206</sup> Specifically, states should look to harmonize the no-harm principle with the general principle of equitable and reasonable utilization.<sup>207</sup> The no-harm principle should not be used as a stand-alone criterion since it offers an avenue for abuses by downstream riparians.<sup>208</sup> Instead, the no-harm principle should be read into the equitable utilization analysis.<sup>209</sup> Dam construction should be pursued around agreements that clearly define the principles and their relationship to one another.<sup>210</sup> Before a dam construction begins, an agreement or at the very least, negotiations should take place to discuss the details of the project.<sup>211</sup>

B. CO-RIPARIANS SHOULD ADDRESS WATERCOURSE  
DEVELOPMENT UNDER LIABILITY AND ECONOMIC THEORIES.

In overcoming the deficiencies of transboundary watercourse law as it relates to dam construction, states should adopt an economic approach to achieve an efficient and equitable solution.<sup>212</sup> Under a liability rule, property rights to the Nile could be assigned to Egypt in due consideration for its historical use.<sup>213</sup> An understanding could then

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205. *Id.* at 51 (noting that states with strong military, economic, and political presence tend to enjoy hydro-hegemony in the region).

206. *See* Caflich, *supra* note 106, at 302–04 (discussing how ambiguities in relations between equitable use and no-harm principle can raise uncertainties).

207. *See* Schulz, *supra* note 111, at 141 (emphasizing the equitable use of a watercourse between basin states).

208. *Id.* at 145 (referring to the Harmon doctrine, which reveals the problem associated with the no-harm principle as a standalone factor).

209. *Id.* at 147 (stating that while equity is a guiding principle in watercourse use, harm is one of the factors in deciding whether a use is equitable).

210. *See* Qureshi, *supra* note 6, at 77 (discussing the effectiveness of the water cooperation).

211. *Id.* (explaining the importance of exchanging information through mutual cooperation between states on utilization of watercourses).

212. *See* Daniel Abebe, *Egypt, Ethiopia, and the Nile: The Economics of International Water Law*, 15 CHI. J. INT'L L. 27, 45–46 (2014) (suggesting that an economic approach will incentivize conflicting states to efficiently use the water resources).

213. *Id.* (demonstrating the utilization of the liability rule in the case of Egypt and

be reached where Ethiopia could pay Egypt for any harm, particularly any reductions in quantity of water, resulting from the operations of the GERD.<sup>214</sup> This would incentivize Ethiopia to use the Nile in an efficient manner that does not cause unnecessary harm to Egypt.<sup>215</sup> In theory, this approach would leave both parties in a better position at the cost of environmental concerns.<sup>216</sup> It would also have the effect of creating a market around the GERD.<sup>217</sup> Water share markets could also work in tandem with the property theory around the utilization of a watercourse.<sup>218</sup> When an economy is centered around a dam, all stakeholders are more likely to respect the actions and wishes of the other because the success of their actions will benefit the other.<sup>219</sup> If financial needs are harmonized with efficient operations, then copriparians would be able to employ the most efficient and not the more costly use.<sup>220</sup>

C. AGREEMENTS SHOULD INCORPORATE ECOLOGICAL  
CONSIDERATIONS INTO THE NEGOTIATIONS OF AGREEMENTS TO  
FACILITATE COOPERATION.

In formulating watercourse agreements, states should centralize their focus around common interests, particularly shared ecological interest.<sup>221</sup> While the UNWC does incorporate an ecological approach in Article 20, this approach is not effectively incorporated into Article

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Ethiopia).

214. *Id.* (discussing how both states can escape inefficiency that the status quo presents by using an economic approach).

215. See Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules: An Economic Analysis*, 109 HARV. L. REV. 713, 722 (1996) (discussing the mechanics of the liability rule).

216. See Abebe, *supra* note 212, at 45–46 (demonstrating the utility of using an economic approach in resolving conflict in the Nile).

217. See Jennifer Chau, *Water Markets and the U.N. Watercourses Convention*, 27 GEO. INT'L ENVTL. L. REV. 179, 181 (2014) (noting that experts recommend water markets as a solution to resolving water scarcity problems).

218. *Id.* at 179 (stating that clear property legal framework is necessary for the water markets solution to be viable).

219. See Abebe, *supra* note 212, at 45–46 (considering that the liability rule may provide an incentive for a state to act unilaterally).

220. *Id.* (exploring how the liability rule forces a state to efficiently exploit shared water resources).

221. *Id.* (discussing the positive outcome that the liability rule can create).

6 factors for determining equitable utilization.<sup>222</sup> Parties to a basin-wide agreement should aim to make an ecological approach central to the determination of the reasonability of a particular use.<sup>223</sup> Basin states have a shared goal in the preservation of natural resources.<sup>224</sup> By stipulating to such a focus, an agreement would be easier to formulate because value is shifted from political needs to a broader, ecological focus that encompasses domestic needs without being overly adulterated by political concerns.<sup>225</sup>

In bringing an ecological perspective to the forefront, states should draft agreements that incorporate environmental flows.<sup>226</sup> Environmental flows is a system of managing the quantity and quality of water below a dam in a manner that sustains ecosystems and populations that depend on the water for their livelihood.<sup>227</sup> The main objective of environmental flows is to restore the natural flow regimes of a river that might affect downstream riparians.<sup>228</sup> With this objective in mind, states could negotiate agreements that protect minimum sustainable flows.<sup>229</sup> A consideration of minimum flows would protect the uses and interests of downstream riparians while allowing upstream riparians to construct dams that allow for economic and

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222. See Tarlock, *supra* note 1, at 387 (pointing to the absence of the right to natural flow in the law of equitable apportionment in Article 6 factors).

223. See Mete Erdem, *Ecosystem Approach to Environmental Protection in the Law of International Watercourses*, Dokuz Eylul U.L.J., 1359, 1364 (2013) (calling for an “ecosystem approach” to international watercourses that prioritizes the environment).

224. See Upadhye, *supra* note 73, at 80 (referring to the ICJ decision that recognized and adopted community interest theory, emphasizing the absence of privilege of any one riparian state to another).

225. See Erdem, *supra* note 223, at 1387 (arguing that focusing on the states’ duty to protect the ecosystem will free the states from political demarcation).

226. See *Environmental Flows*, INT’L RIVERS, <https://www.internationalrivers.org/environmental-flows> (last visited Nov. 24, 2019) (emphasizing ecological benefits for implementing an environmental flows system).

227. See *id.* (defining the term “environmental flows”).

228. See *id.* (identifying one of the key objectives of the environmental flows system as managing quantity and quality of water flows below a dam).

229. See Brian D. Richter & Gregory A. Thomas, *Restoring Environmental Flows by Modifying Dam Operations*, 12 *ECOLOGY & SOC’Y* (2007), <https://www.ecologyandsociety.org/vol12/iss1/art12/> (suggesting that the states can restore environmental flows that are sustainable by implementing appropriate operating plans).



social development.<sup>230</sup> In the formulation of watercourse agreements, cooperation among the stakeholders could center on data sharing and the establishment of a joint body tasked with the study of a river's flow regime.<sup>231</sup> States could then establish a base line mark that could demarcate the line between acceptable harm, on one hand, and significant harm on the other.<sup>232</sup>

## V. CONCLUSION

Dam construction places special challenges on the law of transboundary watercourses. While a basin state may be acting in manner that is legitimate, the results of that action often violate customary law. Codified customary law does not sensibly reconcile these concepts to form clear and workable rules so that states have well-defined limits in which to work. The relationship between Articles 5 and 7 of the UNWC is at best unclear. Similarly, the Article 6 factors used to define the concepts of equitable and reasonable utilization are ill-suited to provide a workable conclusion to the legality of dam construction.

By constructing the Salma Dam, Afghanistan has violated substantive and procedural customary obligations. Afghanistan has clearly caused harm to downstream states, and in doing so, has violated the procedural obligations to cooperate with stakeholders.

Ethiopia has also violated the customary rules pertaining to transboundary watercourses. Similar to Afghanistan, it unilaterally constructed the GERD without regard to the harm it would cause to Egypt.

These cases show that in order for a nation to utilize a dam as a tool for development, a nation must often violate international law as it stands. The deficiencies in current customary law cause obvious discord and increased tension in already intense political arenas. Dam construction challenges hydro-hegemony of a watercourse which has a positive net effect, but at times watercourse law effectively preserves the status quo. One may then ask how well watercourse law balances

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230. *See id.* (discussing how re-operation of dams can protect minimum flows).

231. *See id.* (emphasizing the need to closely study the natural river flow regime).

232. *See id.* (noting that the re-operation of dams can address conflicts coming from geomorphic imbalances).

existing power with emerging power in particular basins.

To create a better balance of power, basin states should create clearly defined agreements that use the UNWC as a framework from which to build. However, these nations should go beyond the framework established by the UNWC and prioritize which provisions are given the most deference. By formulating workable agreements between all basin states, dam construction can be both a legitimate and legal action.