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# Water Scarcity: Preventing Future Conflicts

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# WATER SCARCITY: PREVENTING FUTURE CONFLICTS

*Rush O'Connor\**

*This Note focuses on nations with shared water sources forming transboundary agreements to promote peaceful solutions and to protect people's right to water. Given the growing scarcity of water, this Note emphasizes the urgent need to create agreements. It argues that international agreements are ineffective with respect to protecting the right to water and do not create proper forums for settling disputes over water. Yet international organizations can take an active role in helping to form transboundary agreements and acting as mediators when an agreement fails. This Note then explores how transboundary agreements work and why they are better than international agreements when protecting the right to water. In particular, the Note examines two of the more successful examples—the International Joint Commission and the Indus Water Commission—and how they can serve as models for other agreements. Finally, the Note then outlines the components necessary for effective transboundary agreements, which will in turn create a safer world and protect the right to water.*

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## I. INTRODUCTION

There are 263 sources of fresh water shared by multiple nations.<sup>1</sup> These water sources serve about 40% of the world's population and account for approximately 60% of the total fresh water on the planet.<sup>2</sup> Of the 263 shared sources of water, only 105 of the sources are the subject of an agreement regulating what a nation may do with the source.<sup>3</sup> Most of the existing fresh-water agreements are significantly limited in scope.<sup>4</sup> Although some shared sources of water may not soon create controversy, the Organization for Economic Co-operation and Development (OECD) predicts that "by 2050 almost 40 per cent of the world population will live in areas of high water stress."<sup>5</sup> One study suggests that four billion people currently experience water scarcity during at least one month of the year.<sup>6</sup> Since World War II, there have been 37 conflicts over shared sources of water.<sup>7</sup> While most were minor, more conflicts are likely to arise as the planet becomes more arid.<sup>8</sup> To address this problem before it worsens, every nation with a shared source of water should create a bilateral or multilateral agreement equipped to handle any disputes over the shared body of water. By examining the failures of other strategies and the benefits of transboundary agreements, it is possible to see how all countries with shared resources must form transboundary agreements to better protect water rights for all.

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1. U.N. WATER, TRANSBOUNDARY WATERS: SHARING BENEFITS, SHARING RESPONSIBILITIES 1 (2008).
  2. *Id.*
  3. *Id.* at 6.
  4. *Id.* at 6.
  5. Rebecca Lowe & Emily Silvester, *Water Shortages Threaten Global Security*, 68 IBA GLOBAL INSIGHT 42 (2014).
  6. Mesfin M. Mekonnen & Arjen Y. Hoekstra, *Four Billion People Facing Severe Water Scarcity*, 2 SCIENCE ADVANCE 1 (2016).
  7. Gordon Chang, *Blue Gold: The Coming Water Wars*, WORLD AFFAIRS (Oct. 2013), <http://www.worldaffairsjournal.org/article/blue-gold-coming-water-wars> [<https://perma.cc/Z96S-SXPM>] (discussing how conflicts arose between Israel and its neighbors, with some arguing that Six Day War came about partially because of water).
  8. U.N. WATER, *supra* note 1, at 3.

## II. BACKGROUND

### A. *Water Scarcity*

Although water covers most of the Earth's surface, fresh water has become increasingly scarce, impacting countries and regions all over the world. In the U.S., California has entered its fourth year of drought and, despite being hit hard by El Nino in 2015, the drought will likely continue.<sup>9</sup> Syria has experienced a drought since the civil war began in 2011, and some researchers argue that the drought itself provided an indirect cause of the conflict.<sup>10</sup> The lack of water caused rising food prices and placed stress on the sources of water that do exist in Syria, all of which created unrest and government stress.<sup>11</sup> The Aral Sea in Central Asia, which provides water to about 43 million people through the rivers it feeds, has shrunk to 10% of its original size since 1960.<sup>12</sup> In addition to these regions, South Africa, Brazil, the Caribbean, and North Korea all currently experiencing some of the worst droughts in decades.<sup>13</sup> As Earth becomes a drier planet, tensions will rise between countries over shared sources of water.<sup>14</sup>

While it may not instantly lead to conflict, situations where one country controls a shared source of water could lead to massive droughts in another country or countries.<sup>15</sup> For example, by building dams on rivers shared with Syria and Iraq, Turkey has helped worsen the water conditions for these two countries.<sup>16</sup> Without enforcement mechanisms and a forum to discuss the dam, Iraq and Syria lacked the means to take preventive action.<sup>17</sup> The dam drastically slows the flow of the rivers to Syria and Iraq.<sup>18</sup> This has in particular impacted Syria,

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9. Paul Rogers, *California drought: How will we know when it's over?*, SAN JOSE MERCURY NEWS (Jan. 9, 2016), [http://www.mercurynews.com/drought/ci\\_29364616/california-drought-how-will-we-know-when-its?source=infinite-up](http://www.mercurynews.com/drought/ci_29364616/california-drought-how-will-we-know-when-its?source=infinite-up) [https://perma.cc/55LV-7YEX].
  10. Henry Fountain, *Researchers Link Syrian Conflict to a Drought Made Worse by Climate Change*, N.Y. TIMES (Mar. 3, 2015), at A13.
  11. *Id.*
  12. Lowe & Silvester, *supra* note 5, at 48.
  13. Terrell Johnson, *California Isn't Alone: Historic Droughts Happening Around the World*, WEATHER CHANNEL (Jul. 28, 2015), <http://www.weather.com/science/environment/news/california-historic-drought-world-brazil-africa-korea>.
  14. Lowe & Silvester, *supra* note 5, at 42.
  15. Lowe & Silvester, *supra* note 5, at 47.
  16. Lowe & Silvester, *supra* note 5, at 47.
  17. Lowe & Silvester, *supra* note 5, at 47.
  18. Lowe & Silvester, *supra* note 5, at 47.

which is already suffering from drought conditions.<sup>19</sup> Because the Middle East is one of the world's most arid regions,<sup>20</sup> similar situations will inevitably lead to future conflict if countries do not establish ground rules for using shared water sources.<sup>21</sup> Over time, nations have tried multiple approaches to address this issue, such as international agreements, regional agreements, and transboundary agreements.<sup>22</sup>

*B. International Agreements*

Some of the earliest attempts to protect the right to water took the form of international agreements.<sup>23</sup> Currently, there exists no enforceable international treaty that has fully recognized an enforceable right to safe access to water.<sup>24</sup> The international community began pushing for a recognition of this right during and immediately after World War II.<sup>25</sup> The 1949 Geneva Conventions forbid nations from preventing access to water in times of war or conflict.<sup>26</sup> This was further expanded in the 1970s with Protocols I and II of the Geneva Conventions, which made it a war crime to attack or destroy water sources and installations.<sup>27</sup>

While there have been other attempts to make safe access to fresh water a protected right for all, the most recent attempt occurred with a resolution passed by the U.N. in 2010.<sup>28</sup> However, the resolution did not bind any country and instead merely recognized the right.<sup>29</sup> Still, 121 nations supported the resolution, despite the fact that 41 nations abstained from adopting it.<sup>30</sup> One of the main reason that nations such as the U.S. abstained from adopting the resolution was due to fear that

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19. Lowe & Silvester, *supra* note 5, at 47.
  20. See Lowe & Silvester, *supra* note 5, at 47 (noting that Syria, Iraq, and Turkey are three of the driest countries on Earth).
  21. Lowe & Silvester, *supra* note 5, at 46–47.
  22. Gonzalo Aguilar Cavallo, *The Human Right to Water and Sanitation: From Political Commitments to Customary Rule?*, 3 NO. 5 PACE INT'L L. REV. ONLINE COMPANION 136, 139 (2012).
  23. *Id.* at 139.
  24. *Id.* at 139.
  25. *Id.* at 143–44.
  26. *Id.* at 143–44.
  27. *Id.* at 144.
  28. Lori Beail-Farkas, *The Human Right to Water and Sanitation: Context, Contours, and Enforcement Prospects*, 30 WIS. INT'L L.J. 761, 784 (2013); see also G.A. Res. 64/292, *The Human Right to Water and Sanitation* (Jul. 28, 2010).
  29. Beail-Farkas, *supra* note 28, at 784.
  30. Beail-Farkas, *supra* note 28, at 784–85.

the resolution would interfere with U.N. actions in Geneva in regards to the right to safe access to water.<sup>31</sup> Further, concerns over what exactly the right would require remained an issue for nations that abstained from the vote.<sup>32</sup> The nations that did vote for the resolution voted for different reasons and recognized the right in different ways.<sup>33</sup> This could create future problems, because the lack of consensus could make the right difficult to enforce.<sup>34</sup> While the resolution from the U.N. General Assembly did recognize the right to water, Catarina de Albuquerque, the U.N.'s Independent Expert, acknowledged that the resolution at most existed as a "powerful symbolic gesture."<sup>35</sup> While proclaiming the right, the resolution accomplishes little because it does not define what the right entails.<sup>36</sup> Although some nations support a right that requires governments to provide safe access to water, others disagree.<sup>37</sup> Progress has been made on the international approach, but regional agreements and bilateral agreements have done more to ensure that nations have safe access to water.<sup>38</sup>

### *C. Regional Agreements*

Regional agreements often have a right to water included in their charters.<sup>39</sup> These agreements encourage peace by recognizing that all people and their neighbors deserve the right to safe access to water.<sup>40</sup> For instance, the Organization of American States (OAS) and the South Asia Association for Regional Cooperation (SAARC) provide an illustration of how most regional pacts deal with water.<sup>41</sup>

While not explicit, nations in the OAS recognized the right to safe access to water under the right to basic public services in the Protocol

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31. See Cavallo, *supra* note 22, at 169 (noting the U.S. urged caution adopting the resolution because it was unclear what obligations it would have under such an agreement).
  32. Beail-Farkas, *supra* note 28, at 784.
  33. See Cavallo, *supra* note 22, at 170–73 (explaining how some states wished for obligations from the governments between other nations and others who viewed the right limited to only their own people).
  34. Cavallo, *supra* note 22, at 170–73.
  35. Beail-Farkas, *supra* note 28, at 785.
  36. Beail-Farkas, *supra* note 28, at 785.
  37. See Beail-Farkas, *supra* note 28, at 785 (arguing that nations have not fully considered the "implications" of having the right).
  38. See Cavallo, *supra* note 22, at 145–55 (discussing various regional agreements pertaining to water rights).
  39. Cavallo, *supra* note 22, at 145–55.
  40. See Cavallo, *supra* note 22, at 145–55 (noting the language in many of the agreements that imply access to water is an important right).
  41. Cavallo, *supra* note 22, at 146.

of San Salvador.<sup>42</sup> The agreement focuses on nations ensuring that all of their citizens have access to water.<sup>43</sup> Yet, when it comes to transboundary disputes, the protocol lacks a forum to settle them.<sup>44</sup>

In South Asia, the SAARC explicitly recognizes the right to safe access to water.<sup>45</sup> Again this encourages countries to recognize that everyone who lives in their region has a right to safe access to water, thus encouraging peaceful solutions when dealing with disputes of shared sources of water.<sup>46</sup> Like the OAS, this agreement also fails to provide a mechanism to handle disputes.<sup>47</sup>

Regional pacts similar to international agreements generally focus on having countries recognize the right to safe access to water, but avoid the question of how to handle any disputes over water sources.<sup>48</sup> The lack of a forum to address any issues between nations on shared sources can lead to tensions without a means to resolve them.<sup>49</sup> For example, an agreement exists on the usage of the Nile River, but the nations involved have failed to adjust the agreement to address modern concerns.<sup>50</sup> Because the agreement lacks any forum to address the dispute, tensions have arisen, particularly for Egypt, which obtains 95% of its water from the Nile River.<sup>51</sup> Regional agreements have the potential to help protect the right to water, but without enforcement mechanisms, they remain as inefficient as international agreements.

#### *D. Transboundary Agreements*

Transboundary agreements involve at least two or more nations and center on a shared source water or some other item.<sup>52</sup>

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42. Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (Protocol of San Salvador), arts. 10–12, Nov. 17, 1988, 28 I.L.M. 156.
  43. *Id.*
  44. *Id.*
  45. South Asian Association for Regional Cooperation [SAARC], *Social Charter art. 3(4)*, (Jan. 4, 2004), available at <http://www.jus.uio.no/english/services/library/treaties/02/2-03/saarc-social-charter.xml> [<https://perma.cc/35L2-2XEH>].
  46. *Id.*
  47. *Id.*
  48. Cavallo, *supra* note 22, at 145–55.
  49. Lowe & Silvester, *supra* note 5, at 46–47.
  50. See Lowe & Silvester, *supra* note 5, at 46–47 (explaining that agreements made during the colonial era failed to address the concerns of nations besides Egypt and Sudan).
  51. See Lowe & Silvester, *supra* note 5, at 46–47 (discussing how while Egypt's former president did not wish for war, it remained an option).
  52. U.N. WATER, *supra* note 2, at 3.

Transboundary agreements over water provide a means to handle disputes in a peaceful manner.<sup>53</sup> Many of these agreements have the same goal of protecting each nation's right to the water source, but they accomplish this by different means.<sup>54</sup> Some treaties provide very limited guidance on the use of a shared source of water, but others, such as the International Joint Commission and Indus Waters Treaty, provide an extensive framework that has helped protect the right to safe access to water for all nations involved.<sup>55</sup> These two treaties have had more success than most, yet the agreements have some major differences on how they handle disputes.<sup>56</sup>

### 1. The International Joint Commission

The Boundary Waters Treaty of 1909 established the International Joint Commission (IJC) to handle all disputes regarding shared sources of water between Canada and U.S.<sup>57</sup> While it has gone through some revisions since the original treaty, the International Joint Commission has helped resolve over 100 disputes that have arisen between the U.S. and Canada.<sup>58</sup> The treaty has provided a peaceful means to handle the many shared sources of water between the two nations, and fosters a means to provide the nations with the water their citizens need.<sup>59</sup> Its success stems from three elements of the treaty: (1) clearly indicating exactly what rights each nation has in using any shared water source; (2) creating a body with the authority to decide any disputes; and (3) providing a neutral decision maker in case the International Joint Commission finds itself in a stalemate.<sup>60</sup>

The treaty outlines the scope of the International Joint Commission's authority, and when nations can undertake projects with shared water sources without having to consult with the International Joint Commission or the other country.<sup>61</sup> The main purpose of the

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53. U.N. WATER, *supra* note 2, at 3.

54. U.N. WATER, *supra* note 2, at 3.

55. *See generally* U.N. WATER, *supra* note 2, at 5; *see also* Treaty between the United States and Great Britain Relating to Boundary Waters and Questions Arising between the United States and Canada, Gr. Brit.-U.S., Jan. 11, 1909, 36 Stat. 2448 [hereinafter *Boundary Waters Treaty*].

56. U.N. WATER, *supra* note 2, at 3.

57. *Boundary Waters Treaty*, *supra* note 55.

58. *See Historical Highlights*, INT'L JOINT COMM'N, [http://www.ijc.org/en/\\_/IJC\\_History](http://www.ijc.org/en/_/IJC_History) [<https://perma.cc/R96F-FMHS>] (last visited Mar. 2, 2017) (explaining that the IJC has resolved issues over pollution, energy projects, and more).

59. *Id.*

60. *Boundary Waters Treaty*, *supra* note 55.

61. *Boundary Waters Treaty*, *supra* note 55, at art. III-VI.



agreement was to ensure that the natural level or flow of the water source was not altered as a result of actions from either nation.<sup>62</sup> Thus, actions occurring wholly within the nation's borders that only minimally impacted the level or flow of water did not require regulation from the International Joint Commission.<sup>63</sup> These actions include improvements to a harbor, deepening of channels, or any other government projects that does not impact the flow or level of the water.<sup>64</sup>

The agreement, however, provides extensive detail on which actions should go to the International Joint Commission for review.<sup>65</sup> For instance, neither nation can build a dam or any other type of obstruction that would improve the water levels for itself, but hurt the other nation.<sup>66</sup> The exception is if the International Joint Commission grants approval to the nation seeking to build the obstruction by majority vote.<sup>67</sup> The treaty also forbids the pollution of the water source should it impact the health or safety of the other nation.<sup>68</sup> Either country can request for the IJC to intervene if pollution by one country is permitted.<sup>69</sup> Article VI of the treaty goes into extreme detail when limiting the U.S. to the exact amount of water it can divert from the Milk River and explaining how much Canada can divert from the St. Mary River.<sup>70</sup> These details allow the U.S. and Canada to know exactly what rights they have when using any shared resource.<sup>71</sup>

The Boundary Water Treaty of 1909 not only provides specifics on the treaty's jurisdiction, but also the formation of the International Joint Commission.<sup>72</sup> The Commission consists of six appointed members, three from each nation, and there are no special skills or education requirements for each member.<sup>73</sup> The Commission has authority over any projects that should impact the level or flow of the water source, and Article VIII establishes a standard for the priority of

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62. Boundary Waters Treaty, *supra* note 55, at art. III.

63. Boundary Waters Treaty, *supra* note 55, at art. III.

64. Boundary Waters Treaty, *supra* note 55, at art. III.

65. Boundary Waters Treaty, *supra* note 55, at art. III-IV.

66. Boundary Waters Treaty, *supra* note 55, at art. IV.

67. Boundary Waters Treaty, *supra* note 55, at art. IV.

68. Boundary Waters Treaty, *supra* note 55, at art. IV.

69. Boundary Waters Treaty, *supra* note 55, at art. IV.

70. Boundary Waters Treaty, *supra* note 55, at art. VI.

71. Boundary Waters Treaty, *supra* note 55, at art. VI.

72. Boundary Waters Treaty, *supra* note 55, at art. VII-X.

73. Boundary Waters Treaty, *supra* note 55, at art. VII.

certain rights when it comes to river usage.<sup>74</sup> This agreement includes details that other transboundary agreements lack, such as establishing that a nation's rights with respect to "domestic and sanitary purposes" has the highest priority, followed by navigational purposes, and lastly electrical and irrigation purposes.<sup>75</sup> Projects that satisfy the last right but violate the first two rights would require the International Joint Commission to reject the project.<sup>76</sup> Anything that violates the first priority requires the IJC to reject the project.<sup>77</sup> However, the treaty gives the Commission wide discretion on any case. For example, the Commission may require the nation requesting the project to take remedial action to compensate for losses the other country may suffer if the project receives approval.<sup>78</sup>

The International Joint Commission decides all issues on a majority vote.<sup>79</sup> In instances of tie breakers the commissioners will send a report to each of their respected governments, which then provides its input to its commissioners to resolve the dispute.<sup>80</sup> In some instances the U.S. and Canadian governments may ask the Commission to make a finding on an issue. Following a majority vote, the Commission will send a report to the two governments, who will then make the decision on the issue.<sup>81</sup> The negotiation process then remains with the two governments to make all the decisions by their own standards, or, alternatively, they can send instructions to their representatives to address the issue.<sup>82</sup> The last mechanism goes into effect if the IJC fails to resolve the issue. If this happens, the treaty provides for a "neutral umpire" as prescribed under Article XLV of the Hague Convention.<sup>83</sup> The treaty exists so that the IJC can resolve all disputes, and only in the rare instance of a tie will a neutral observer be requested by either nation to resolve the problem.<sup>84</sup>

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74. Boundary Waters Treaty, *supra* note 55, at art. VIII.

75. Boundary Waters Treaty, *supra* note 55, at art. VIII.

76. Boundary Waters Treaty, *supra* note 55, at art. VIII.

77. Boundary Waters Treaty, *supra* note 55, at art. VIII.

78. Boundary Waters Treaty, *supra* note 55, at art. VIII.

79. Boundary Waters Treaty, *supra* note 55, at art. VIII.

80. Boundary Waters Treaty, *supra* note 55, at art. VIII.

81. Boundary Waters Treaty, *supra* note 55, at art. X.

82. Boundary Waters Treaty, *supra* note 55, at art. VIII.

83. Neither country has ever used this provision for the two ties that occur. Boundary Waters Treaty, *supra* note 55, at art. VIII.

84. Boundary Waters Treaty, *supra* note 55, at art. VIII.

With the treaty existing for over a 100 years, the IJC has only voted in a tie twice.<sup>85</sup> The first tied vote dealt with one case to reopen a previous IJC decision, while the second tie dealt with a study to be conducted by the IJC.<sup>86</sup> In the first instance, the previous decisions by the IJC governed the dispute; in the second, the IJC decided not to conduct the study.<sup>87</sup> Neither country has ever requested a neutral umpire, but since there have only been two tied votes, there have been few instances that would allow this to happen.<sup>88</sup>

By providing details on the rights of each nation, the treaty allows the Commission to know when one party acts in the wrong.<sup>89</sup> The Commission has succeeded by finding solutions to nearly every issue.<sup>90</sup> While the treaty has had plenty of success, other agreements have succeeded with different formulas, such as the Indus Waters Treaty of 1960.

## 2. Indus Waters Treaty of 1960

The Indus Waters Treaty has often received praise for its ability to have its terms enforced, despite the multiple wars between India and Pakistan since its inception.<sup>91</sup> While the Indus Waters Treaty and the Boundary Waters Treaty of 1909 have some similarities, differences do exist.<sup>92</sup> For example, the Indus Waters Treaty specifies what the treaty will cover and provides for the formation of a commission and a neutral decision maker, yet it approaches these aims in very different manner.<sup>93</sup>

The Indus Waters Treaty placed requirements on both nations depending on where the rivers or tributaries flowed from.<sup>94</sup> With rivers flowing east, Pakistan had a duty to ensure that flow remained the same and that India had unrestricted access.<sup>95</sup> The duty is reversed with all western flowing rivers.<sup>96</sup> In regards to unrestricted access, both

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85. DENNIS SCHORNACK & JOHN NEVIN, *THE INTERNATIONAL JOINT COMMISSION: A Case Study in the Management of International Waters* 6 (2006).

86. *Id.* (rejecting a study over the apportionment of the Waterton and Belly Rivers).

87. *Id.*

88. *Id.* at 6–7.

89. Boundary Waters Treaty, *supra* note 55, at art. III–X.

90. SCHORNACK & NEVIN, *supra* note 85, at 6.

91. Lowe & Silvester, *supra* note 5, at 45.

92. Boundary Waters Treaty, *supra* note 55; *see also* Indus Waters Treaty, India-Pak., Sep. 19, 1960.

93. Indus Waters Treaty, *supra* note 92.

94. Indus Waters Treaty, *supra* note 92, at art. II–IV.

95. Indus Waters Treaty, *supra* note 92, at art. II–IV.

96. Indus Waters Treaty, *supra* note 92, at art. II–IV.

countries could always use the source of water for certain domestic uses, such as harbor improvements or projects intended to improve navigation of the water source.<sup>97</sup> The treaty also required both nations to maintain certain drainage systems, so as to control the flow of the rivers in a manageable manner.<sup>98</sup> While the treaty covers an expansive number of issues, both countries may take action to prevent erosion or to remove sand bars from a river without consulting the other country.<sup>99</sup> Similar to the Boundary Waters Treaty of 1909, the Indus Waters Treaty also discourages any undue pollution, and requires countries to take preventive action.<sup>100</sup>

The treaty further specifies other requirements for the two nations.<sup>101</sup> Unlike the IJC, the treaty creates a financial obligation for certain projects that will be necessary in the upkeep of the Indus River Basin for projects dealing with drainage or irrigation.<sup>102</sup> The cost varies depending on where the project occurs.<sup>103</sup> Also, the treaty requires India and Pakistan to exchange data on the river in order to keep track of the flow and the water quality of the river.<sup>104</sup> Lastly, in Article VII, the treaty provides an option to conduct future projects that can be done together in regards to the Indus River Basin.<sup>105</sup> By establishing detailed standards, India and Pakistan clarify what rights and obligations each country has regarding the handling of the rivers.

In regards to the setup of the Indus Commission, differences begin to emerge between the Indus Waters Treaty and the Boundary Waters Treaty of 1909. Whereas the International Joint Commission has three commissioners from each country, the Indus Commission only has one commissioner appointed from each country, and each commissioner must hold the qualifications of an engineer specializing in hydrology and water use.<sup>106</sup> Further, while in most instances the commissioners will represent their countries on any issue subject to the treaty, the countries have the option to approach each other directly at any time to handle an issue.<sup>107</sup> Because the commissioners essentially act as

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97. Indus Waters Treaty, *supra* note 92, at art. II–IV.

98. Indus Waters Treaty, *supra* note 92, at art. II–IV.

99. Indus Waters Treaty, *supra* note 92, at art. IV.

100. Indus Waters Treaty, *supra* note 92, at art. IV.

101. Indus Waters Treaty, *supra* note 92, at art. V.

102. Indus Waters Treaty, *supra* note 92, at art. V.

103. Indus Waters Treaty, *supra* note 92, at art. VI.

104. Indus Waters Treaty, *supra* note 93, at art. VII.

105. Indus Waters Treaty, *supra* note 92, at art. VII.

106. Boundary Waters Treaty, *supra* note 55, at art. VII; *see also* Indus Waters Treaty, *supra* note 92, at art. VIII.

107. Indus Waters Treaty, *supra* note 92, at art. VIII.

ambassadors for the two countries for water issues, India and Pakistan have granted their commissioners diplomatic immunity in order to “safeguard the independent exercise of their functions in connection with the Commission.”<sup>108</sup> Should disputes arise, the Indus Commission shall always examine the issue first.<sup>109</sup> If the dispute continues, then a neutral expert will come in at the request of either country.<sup>110</sup> The World Bank appoints the neutral expert, who must have an engineering background.<sup>111</sup> The neutral expert will then proceed to attempt a solution.<sup>112</sup> However, if this fails, then the treaty provides two more alternatives.<sup>113</sup> The governments can either negotiate between themselves or use a court of arbitration, organized by the World Bank, to settle the dispute.<sup>114</sup>

The Indus Waters Treaty provides multiple ways to resolve issues that may arise when it comes to the Indus River Basin, which has helped to continue cooperation even in times of war.<sup>115</sup> Unlike the IJC, the Indus Commission has made use of its Neutral Expert.<sup>116</sup> Yet, with only two commissioners, split votes will more likely occur more often. This process has helped resolve disputes involving the Kishanganga Dam and Baglihar Dam.<sup>117</sup> In these instances, the Neutral Expert approved the dams but required India to ensure that the river continued at a certain flow level.<sup>118</sup> By providing details on the treaty’s scope, the rights of each nation, and a system to handle disputes, these two countries have created a system that ensures that both sides can resolve issues over water peacefully.

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108. Indus Waters Treaty, *supra* note 92, at art. VIII.

109. Indus Waters Treaty, *supra* note 92, at art. IX.

110. Indus Waters Treaty, *supra* note 92, at art. IX.

111. *2007 Neutral Expert Gives His Judgement on Baglihar Dam*, DAWN (July 2, 2011, 3:06 PM), <http://www.dawn.com/news/640989/2007-neutral-expert-gives-his-judgement-on-baglihar-dam> [<https://perma.cc/5LBY-EKVV>].

112. Indus Waters Treaty, *supra* note 92, at art. IX.

113. Indus Waters Treaty, *supra* note 92, at art. IX.

114. Indus Waters Treaty, *supra* note 92, at art. IX.

115. Indus Waters Treaty, *supra* note 92, at art. VIII; *see also* Lowe & Silvester, *supra* note 6, at 45.

116. Zafar Bhutta, *Kishanganga Project Victory Claims Cloud Final Arbitration Award*, EXPRESS TRIBUNE (Dec. 22, 2013), <http://tribune.com.pk/story/648986/kishanganga-project-victory-claims-cloud-final-arbitration-award/> [<https://perma.cc/K7YF-J68M>].

117. *Id.*

118. *Id.*

### III. WHY TRANSBOUNDARY AGREEMENTS?

While water-rights advocates tend to focus on international agreements, which reach more nations, international agreements often have flaws.<sup>119</sup> Transboundary agreements can help address these flaws more efficiently than international agreements.

#### *A. The Flaws in an International Solution*

The key flaws of an international agreement deal with enforcement issues, defining the right, and failure to address location-specific problems.<sup>120</sup> The international order does have some enforcement mechanisms, but they are extremely limited in their power.<sup>121</sup> The International Criminal Court can enforce the right in times of conflict and war, but otherwise has very limited jurisdiction.<sup>122</sup> Alternatively, the International Court of Justice can help resolve disputes between nations,<sup>123</sup> which is a necessity with 263 sources of water.<sup>124</sup> Lastly, certain treaties, such as the Geneva Convention, contain enforcement mechanisms for those that signed the treaties.<sup>125</sup> However, the international-treaty approach has limits, since many nations falsify reports that they are required to submit in accordance with their treaty obligations.<sup>126</sup> Further, enforcement often takes far too long for those that choose not to hide their violations.<sup>127</sup> While enforcement exposes some serious limitations to international agreements, other flaws exist.

Another issue that exists with international agreements centers on the definition of the right.<sup>128</sup> With any agreement, defining the terms can be difficult; adding every nation amplifies this problem.<sup>129</sup> For instance, while no nation voted to oppose to the right to safe access to water, 41 nations still abstained in a U.N. General Assembly vote due to disagreements over how to define that right and whether the U.N. General Assembly was the proper organization to protect it.<sup>130</sup> This vote

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119. Beail-Farkas, *supra* note 28, at 793–800.

120. Beail-Farkas, *supra* note 28, at 793–800.

121. Beail-Farkas, *supra* note 28, at 792.

122. Beail-Farkas, *supra* note 28, at 792.

123. Beail-Farkas, *supra* note 28, at 792.

124. U.N. WATER, *supra* note 1, at 1.

125. Beail-Farkas, *supra* note 28, at 793–94.

126. Beail-Farkas, *supra* note 28, at 793.

127. Beail-Farkas, *supra* note 28, at 794.

128. Beail-Farkas, *supra* note 28, at 786.

129. Beail-Farkas, *supra* note 28, at 786–88.

130. Beail-Farkas, *supra* note 28, at 785.

alone demonstrates the strong disagreement over the definition of the right and what instrument should serve as the means of safeguarding it.<sup>131</sup> When vague terms are used in international agreements to gain consensus, vague solutions are often the result, given the opportunity for disagreement over interpretations, even when enforcement measures exist.<sup>132</sup> A lack of specifics prevents nations from knowing whether another country committed a wrong or not under a treaty. With so many nations involved, international agreements will always have limits given the inability to agree on details.

The last major problem with international solutions deals with the issue of location-specific problems.<sup>133</sup> All countries have different priorities; consequently, one solution is unlikely to fit every situation and may not fully address the specific issue between two nations.<sup>134</sup> Big but general solutions that try to satisfy multiple countries will likely lead to certain areas not being addressed.<sup>135</sup>

*B. How Transboundary Agreements Address These Issues*

Bilateral or multilateral agreements can succeed where international agreements struggle because they have more flexibility, while still making use of international institutions to resolve disputes when necessary.<sup>136</sup> These transboundary water agreements succeed because they can set the parameters, details, and means for enforcing the agreement.<sup>137</sup> While the number of nations that join bilateral or multilateral agreements will be smaller than that of international agreements, they have the benefit of addressing specific issues and providing a worthwhile solution.

In regard to enforcement, successful bilateral agreements work when the member nations have vested authority in a commission or other body that has some independence but still permits countries' involvement.<sup>138</sup> This solution removes the enforcement of any disputes from the nations' hands, but still allows the nations to have an input as they are the ones that appoint the officials.<sup>139</sup> For instance, in the

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131. Beail-Farkas, *supra* note 28, at 784.

132. Beail-Farkas, *supra* note 28, at 784–86.

133. Ling-Yee Huang, *Not Just Another Drop in the Human Rights Bucket: The Legal Significance of a Codified Human Right to Water*, 20 FLA. J. INT'L L. 360 (2008).

134. *Id.* at 360.

135. *Id.*

136. U.N. WATER, *supra* note 1, at 6.

137. PATRICIA WOUTERS, INTERNATIONAL LAW – FACILITATING TRANSBOUNDARY WATER COOPERATION 17 (2013).

138. *Id.* at 22.

139. *Id.* at 22.

Indus Waters Treaty, India and Pakistan grant all authority to a commissioner chosen to represent each nation.<sup>140</sup> Should the commissioners fail, the treaty allows India and Pakistan to bring in a neutral expert who can enforce a decision or a court of arbitration, which also holds the power to enforce a decision.<sup>141</sup> Most of the time, disagreements can be handled between the two countries, but when this fails an international organization can come in to decide the issue.<sup>142</sup>

Similarly, under the Boundary Waters Treaty of 1909, disputes are handled by the six-person commission, which has three members appointed from each nation.<sup>143</sup> Like India and Pakistan, the U.S. and Canada vest authority in a commission, while still having a say by appointing the commissioners.<sup>144</sup> This approach makes enforcement easier because nations are more likely to cooperate when using a forum that they created.<sup>145</sup> Transboundary agreements, by providing specific terms, encourage nations to determine and commit to the issues that they are willing to enforce.

Bilateral and multilateral agreements, merely by having fewer parties involved, can more easily address the specific concerns that will allow them to protect the right to water and thus benefit their citizens.<sup>146</sup> By adding details specific to each country's needs, the nations and neutral bodies they establish can more clearly recognize which country violated the terms of the treaty and what solution is allowed under the terms.<sup>147</sup> The Indus Waters Treaty and the Boundary Waters Treaty of 1909 both highlight this fact, since both provide detail on what is required, how much water each country can use, what they cannot do, what the treaty covers, and how decisions are made.<sup>148</sup> Both treaties specify how much water a nation can use on a particular river during a certain season.<sup>149</sup> All of this careful specificity helps to prevent possible issues from developing into major disputes, since the treaty

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140. Indus Waters Treaty, *supra* note 92, at art. VIII.

141. Indus Waters Treaty, *supra* note 92, at art. IX.

142. Indus Waters Treaty, *supra* note 92, at art. IX.

143. Boundary Waters Treaty, *supra* note 55, at art. VII–VIII.

144. Boundary Waters Treaty, *supra* note 55, at art. VII.

145. *See generally* WOUTERS, *supra* note 137, at 22; *see also* Boundary Waters Treaty, *supra* note 56; *see also* Indus Waters Treaty, *supra* note 93.

146. WOUTERS, *supra* note 137, at 28.

147. WOUTERS, *supra* note 137, at 16.

148. Boundary Waters Treaty, *supra* note 55; Indus Waters Treaty, *supra* note 92.

149. Boundary Waters Treaty, *supra* note 55; Indus Waters Treaty, *supra* note 92.



dictates exactly what should occur.<sup>150</sup> International agreements cannot accomplish this because their goal is often focused on gaining as many nations to commit to a concept as possible, rather than servicing the specific needs of each nation.<sup>151</sup> Thus, international treaties remain vague, like the resolution passed by the U.N. General Assembly recognizing the right to water.<sup>152</sup> For an agreement to be effective, sufficient detail is key so that parties can see who is at fault when disputes arise and reach a solution to the problem.

As previously discussed, bilateral and multilateral agreements have great flexibility because they involve only a few nations at most.<sup>153</sup> This flexibility makes them adaptable for multiple purposes because they can be tailored to the exact desires of the countries involved.<sup>154</sup> For instance, while both have had success, the Indus Commission and the International Joint Commission have major differences in their makeup, decision-making processes, and scope of authority.<sup>155</sup> This allows countries greater freedom and permits them to tackle problems head on, which cannot be done as easily under broader, vaguer international treaties.<sup>156</sup>

Transboundary water agreements provide solutions to countries' actual problems, enforcement mechanisms, and a forum for ensuring peaceful solutions to any disputes that may arise. They can help protect the right to water between nations with a shared source of water, while also promoting peaceful cooperation. Although each transboundary agreement applies only to a few nations, the formation of more agreements among more nations will have a greater, positive effect on the world. Taking inspiration from the World Bank's involvement in the Indus Water Treaty, other organizations can help form and enforce transboundary agreements.<sup>157</sup> With outside help, more nations can

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150. Boundary Waters Treaty, *supra* note 55; Indus Waters Treaty, *supra* note 92.

151. Beail-Farkas, *supra* note 28, at 792–94.

152. Beail-Farkas, *supra* note 28, at 784–85.

153. See U.N. WATER, *supra* note 1, at 3 (discussing the benefits of cooperation between nations with a shared water source.)

154. U.N. WATER, *supra* note 1, at 3.

155. Boundary Waters Treaty, *supra* note 55; Indus Waters Treaty, *supra* note 92.

156. See U.N. WATER, *supra* note 1, at 5 (“[M]ultilateral environmental agreements . . . may not solely address water issues, but help provide an important support framework for cooperation.”).

157. The World Bank took an active role in forming the agreement and remains involved in settling any disputes that may arise. *Fact Sheet: the Indus Waters Treaty 1960 and the World Bank*, WORLD BANK (Jan. 24, 2017), <http://www.worldbank.org/en/region/sar/brief/fact-sheet-the-indus-waters-treaty-1960-and-the-world-bank> [<https://perma.cc/7L3S-DDSH>]

make more effective agreements.<sup>158</sup> International organizations can take an active role in forming transboundary agreements and in resolving disputes that other bodies cannot.<sup>159</sup>

#### IV. THE KEY COMPONENTS IN AN AGREEMENT

Transboundary water agreements must contain certain key components to be effective, otherwise they risk failing for the same reasons that international treaties often fail. The agreements must specify the requirements of the nations involved; incorporate an organization or commission to act as the decision maker with respect to all aspects of the agreement; and create a mechanism to resolve disputes when the commission or organization fails to provide a solution.<sup>160</sup> With these components, a bilateral or multilateral agreement should succeed because it will confer the necessary authority and provide enough detail so that the agreement can be enforced in a meaningful way.<sup>161</sup>

Possibly the most important aspect to any bilateral agreement is its level of specificity.<sup>162</sup> By providing details, nations can know exactly what rights and obligations they have.<sup>163</sup> Further, the agreement should address what topics or issues the treaty governs and what a nation can do without seeking prior approval by an oversight body.<sup>164</sup> Both the Boundary Waters Treaty of 1909 and the Indus Waters Treaty explain the scope of the agreement, what each nation must do, and what water sources they have a right to use.<sup>165</sup> The Indus Waters treaty goes even further by detailing financial expectations and shared-data requirements in order to monitor the conditions of the river basin effectively.<sup>166</sup> Both bilateral agreements also specify how issues will be

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158. *Id.*

159. *Id.*

160. U.N. WATER, *supra* note 1, at 7; WOUTERS, *supra* note 138, at 17.

161. WOUTERS, *supra* note 137, at 6 (“Where transboundary watercourse States agree on how these matters will be dealt with in their international water-related relations, the potential for effective cooperation is increased; this is further enhanced where the institutional mechanism that is established. . . is fully functional.”).

162. WOUTERS, *supra* note 137, at 17–20.

163. WOUTERS, *supra* note 137, at 17–19.

164. WOUTERS, *supra* note 137, at 17–19.

165. Boundary Waters Treaty, *supra* note 55; Indus Waters Treaty, *supra* note 92.

166. Indus Waters Treaty, *supra* note 92, at art. VI.

settled and what constitutes a violation under the treaty.<sup>167</sup> By including specifics, the agreements permit less room for interpretation and more certainty about what the member countries can and cannot do. A detailed agreement allows any neutral organization to settle a dispute for the two nations more easily.<sup>168</sup>

To keep politics out of the handling of a shared water resource, it is critical to give an organization the authority to settle any issues or disputes.<sup>169</sup> Further, by giving the organization at least some independence from the nations involved, the commission can focus on the facts of the issue and the requirements of the treaty.<sup>170</sup> Giving this body enough authority to handle most issues promotes cooperation and peace between nations.<sup>171</sup> The Indus Commission and the International Joint Commission both have successfully fulfilled this role for their treaties.<sup>172</sup> The Boundary Treaty of 1909 grants the International Joint Commission the authority to handle any disputes over the waterways under regulation of the treaty.<sup>173</sup> The International Joint Commission, through the authority granted to it by the U.S. and Canada, has successfully settled over 130 disputes between the two countries.<sup>174</sup> The Indus Commission also received authority to handle disputes, but the member nations also have a clause that allows them to act on issues independent of the commission.<sup>175</sup> While having this provision can help, the success of the commission is directly linked to the amount of authority bestowed upon it.<sup>176</sup> However, the Indus Commission has certainly had success in keeping water flowing to both nations, despite two wars and other conflicts occurring over time.<sup>177</sup> A commission or

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167. Boundary Waters Treaty, *supra* note 55, at art. VIII; Indus Waters Treaty, *supra* note 92, at art. IX.

168. WOUTERS, *supra* note 137, at 17–20.

169. WOUTERS, *supra* note 137, at 21–22.

170. WOUTERS, *supra* note 137, at 21–22.

171. U.N. WATER, *supra* note 1, at 6–7.

172. Lowe & Silvester, *supra* note 5; *see also* Aaron T. Wolf & Joshua T. Newton, *Case Study of Transboundary Dispute Resolution: The International Joint Commission*, OREGON STATE UNIV., [http://www.transboundarywaters.orst.edu/research/case\\_studies/Documents/ijc.html](http://www.transboundarywaters.orst.edu/research/case_studies/Documents/ijc.html) [<http://perma.cc/7L3S-DDSH>] (last visited Apr. 23, 2017).

173. Boundary Waters Treaty, *supra* note 55, at art. VIII.

174. Wolf & Newton, *supra* note 172, at 4.

175. Indus Waters Treaty, *supra* note 92, at art. X.

176. U.N. WATER, *supra* note 1, at 6–7.

177. Lowe & Silvester, *supra* note 6, at 45.

other organization with the authority to decide issues can help settle a problem before it develops into a larger issue.<sup>178</sup>

Lastly, any transboundary water agreement must have a mechanism for resolving issues that the commission or organization cannot.<sup>179</sup> Ideally, the commission will prevent any issue from expanding into a larger dispute, but back-ups are necessary.<sup>180</sup> The Indus Waters Treaty particularly excels in this area<sup>181</sup> It sends all issues first to the Indus Waters Commission, and then has two steps if the commission fails to find a compromise for a disagreement.<sup>182</sup> Under the first option, as previously discussed, the issue must be sent to a neutral expert; if the expert fails to resolve the dispute, the issue goes to a court of arbitration.<sup>183</sup> The court then gives the final decision on the issue.<sup>184</sup> By having these mechanisms, the treaty takes the decision out of the nations' hands and places it with a neutral body so that compromise can be established.<sup>185</sup> With these components, an agreement can serve to promote peaceful resolution to a dispute.

## V. CONCLUSION

People cannot survive without water, and as the world becomes more arid, conflict over water is more likely to arise. Although international treaties can incorporate more nations, bilateral agreements are better at protecting people's right to water because they address and prevent geographic-specific conflicts between nations. By establishing agreements now, nations can develop better relationships with each other and understand what water belongs to them versus their neighbors. However, in order for these agreements to succeed, they must establish rules for all issues, an organization with the proper authority and means to settle disputes, and a secondary dispute-resolution procedure if the organization fails to reach a resolution. This strategy does not ignore international organizations, but rather puts them in a supporting role. International organizations can help form the agreements between countries and serve a role in the arbitration process. By forming strong transboundary agreements, nations can avoid water-related conflicts and protect their citizens' right to safe access to water.

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178. WOUTERS, *supra* note 137, at 21.

179. WOUTERS, *supra* note 137, at 21–22.

180. WOUTERS, *supra* note 137, at 21–22.

181. Boundary Waters Treaty, *supra* note 55, at art. VII–XII; Indus Waters Treaty, *supra* note 92, at art IX.

182. Indus Waters Treaty, *supra* note 92, at art IX.

183. Indus Waters Treaty, *supra* note 92, at art IX.

184. Indus Waters Treaty, *supra* note 92, at art IX.

185. WOUTERS, *supra* note 137, at 21–22.