WATER IS FOR FIGHTING: TRANSNATIONAL LEGAL DISPUTES IN THE MEKONG RIVER BASIN

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INTRODUCTION

Fresh water is an essential resource, and the battle over water rights can often be quite taxing. Famed humorist Mark Twain is often given credit for an incisively funny remark regarding just this, allegedly stating, "Whiskey is for drinking, water is for fighting."[1] Although first attributed to Twain as a commentary on water rights in the Western region of the United States, this statement rings just as true, if not truer, for the Mekong region of Southeast Asia. The overarching topic of transnational water disputes is widespread and in need of serious legal reformation, as international rivers cover the globe with more than 260 major watercourses shared by two or more states.[2] They cover almost half of the earth's surface, are home to

1. This quote has been attributed to Mark Twain, but until the attribution can be verified, the quote should not be regarded as authentic.

2. PATRICIA WOUTERS, UNIVERSAL AND REGIONAL APPROACHES TO RESOLVING INTERNATIONAL WATER DISPUTES: WHAT LESSONS LEARNED FROM STATE PRACTICE? 114 (6th ed. 2002).

around 40% of the world's population, and generate about 60% of global freshwater flow.[3] The laws pertaining to international shared water sources are often varied and lack sufficient regulatory structure. As countries continue to industrialize, and the world's population grows, the accompanying pollution and demand for fresh water also grow.[4] Because water is oftentimes a scarce commodity—in much of the world scarcer even than oil or natural gas—the potential for conflict will only increase as nations try to meet these growing demands and struggle over control of transnational water bodies.[5] The gravity of demand over the world's freshwater resources is emphasized by the recent international meetings that focus on water-related issues. Such international meetings include: several International Water Association conferences;[6] the 2002 United Nations Summit on Sustainable Development in Johannesburg;[7] the 2001 Bonn Conferences;[8] and the 2000 Second World Water Forum at The Hague.[9] The scale of the freshwater challenge is enormous, especially with climate change making water availability more unpredictable and exacerbating the frequency and intensity of droughts and floods. Water shortages already affect two billion people in over forty countries.[10] Worldwide over 1.1 billion people lack access to safe drinking water, and around 2.6 billion people have no access to adequate sanitation.[11] As a result, more than five million people die each year from water-related diseases that are mostly preventable.[12] Lastly, freshwater ecosystems are the most threatened of all biomes, and one-fifth of freshwater fish species are in rapid decline.[13]

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3. *Id.*

4. Rachel Becker, *World Population Expected to Reach 9.7 Billion by 2050*, NAT'L GEOGRAPHIC (July 31, 2015), http://perma.cc/NQ98-KA8N.

5. *See More Valuable than Oil, Diamonds or Gold*, U.N. REG'L INFO. CTR. (Apr. 23, 2014), http://perma.cc/F979-BVNK (noting the fundamental need for water and the likelihood of water-based conflicts).

6. *See Events*, IWA: THE INT'L WATER ASS'N, http://perma.cc/CFP6-QNTY (last visited Sept. 12, 2015) (listing upcoming IWA events).

7. *See* JOHANNESBURG SUMMIT 2002 (Mar. 31, 2003), http://perma.cc/G6KR-A7RJ (describing the 2002 Johannesburg Summit).

8. *See Conference Report*, INT'L CONF. ON FRESHWATER (Dec. 3–7, 2001), http://perma.cc/KCR6-YCMB (discussing actions required to increase water security).

9. *See 2nd World Water Forum, The Hague, March 2000, From Vision to Action*, WORLD WATER COUNCIL, http://perma.cc/2KLT-9PKW (last visited Oct. 26, 2015).

10. Malgosia Fitzmaurice, *The Human Right to Water*, 18 FORDHAM ENVTL. L. REV. 537, 538 (2007).

11. *Id.*

12. *Id.*

13. Janet N. Abromovitz, *Worldwatch Paper #128: Imperiled Waters, Impoverished Future: The Decline of Freshwater Ecosystems*, WORLDWATCH INST., http://perma.cc/QKP8-DB2L (last visited Sept. 11, 2015).

For the foregoing reasons, protecting access to the freshwater resources needed to meet growing human needs, along with balancing the task of safeguarding fragile ecosystems while maintaining economic prosperity are some of the most serious and urgent tasks confronting the world in the 21st century. In order to succeed, states with freshwater systems that cross national boundaries must accept their responsibility to protect such water sources and work together to manage them in a sustainable and integrated manner. Unfortunately, transboundary water cooperation raises major practical and political issues that oftentimes defeat this task. Many nations have attempted to address the issue by adopting treaties that govern interstate cooperation on specific international watercourses. Furthermore, international bodies such as the United Nations have attempted to enforce broad multilateral international treaties for the same purpose. Unfortunately, most of the world's transboundary water resources still lack sufficient legal protection. Without such protection, it will be difficult, if not impossible, for watercourse states to cooperatively cope with existing and future threats from human pressure and environmental change.

Keeping the paramount importance of this global dilemma in mind, the modest purpose of this article is to address the management and governance of the Mekong River's water resources in Southeast Asia. By taking a look at both regional and international multilateral agreements on the use of transnational water resources, and also the international public and environmental law that bear upon the Mekong River Basin's management, this paper aims to add to the growing commentary on the region.[14] The article begins with a brief overview of the Mekong River controversy, providing the reader with an adequate background of the issue and a sense of the urgency with which the problem needs to be addressed. The article will then discuss the legal issues and complications relevant to the Mekong River dialogue, and will end by addressing potential remedies.

I. BACKGROUND

Southeast Asia is home to the Mekong River, the longest river in the region,[15] and one of the largest river basins in the world.[16] The river runs for over 2,700 miles (4,200 km) from the Tibetan Plateau down to its delta

14. *See generally,* STEPHEN C. MCCAFFREY, THE LAW OF INTERNATIONAL WATERCOURSES 22 (2d ed. 2007).

15. Gilbert F. White, *Mekong River*, ENCYCLOPEDIA BRITANNICA ONLINE (July 30, 2015), http://perma.cc/R4EE-HKFL.

16. *South and East Asia: UNWC's Global Relevance*, U.N. WATERCOURSES CONVENTION USER'S GUIDE, http://perma.cc/758M-NY9U (last visited Sept. 1, 2015).

in southern Vietnam, where it empties into the South China Sea.[17] The river's resources supply China, Myanmar, Vietnam, Lao People's Democratic Republic ("Lao PDR"), Thailand, and Cambodia.[18] More than 100 ethnic groups representing approximately seventy million people live within the river basin. [19] Recently, controversy has been growing concerning the actual and proposed construction of several dams on the river. The dams will heavily influence the Mekong and the surrounding areas' downstream water supply. This affects the region's environment in terms of ecological health, such as degraded habitat and species abrogation. Further, the dams will have immediate and future financial impacts on regional economies. All of these factors necessarily have a heavy impact on human life in the area. Extensive and largely uncoordinated development, usually justified by the argument that the region needs to create wealth and develop their economies, threatens the Mekong River's resources.[20] Seven dams are planned for the Upper Mekong in China's Yunnan Province (two completed and five currently underway).[21] Major hydropower projects are also proposed or underway in Thailand, Lao PDR, Cambodia, and Vietnam, [22] with a further 11 sites under consideration for dam construction.[23] Thus, the Mekong ecosystem is under considerable threat, as are the livelihoods of some of the poorest people on the planet, most of who depend on fish and other riverine resources for their survival and way of life.[24]

The prospect of economic development in the region is tied to a larger trend that began around 2008. Developed countries' economies stopped growing during the 2008–2009 financial crisis; however, many lesser-developed countries kept on growing.[25] China was one of the developing countries that fared particularly well. [26] According to the 2013 United

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17. White, *supra* note 15.

18. *Id.*

19. *Mekong Basin*, FOOD AND AGRIC. ORG. OF THE U.N., http://perma.cc/C956-ETTD (last visited Sept. 11, 2015).

20. Karen Bakker, *Contested Waterscapes in the Mekong Region: Hydropower, Livelihoods and Governance*, 30(4) MTN. RES. DEV. 407, 407 (2010).

21. *Mekong Basin*, *supra* note 19.

22. Nantana Gajensi et al., *The Mekong River Basin: Comprehensive Water Governance*, *in* MULTI-GOVERNANCE OF WATER: FOUR CASE STUDIES 54–55 (Matthias Finger et al. eds., 1st ed. 2006).

23. MILTON OSBORNE, THE MEKONG: RIVER UNDER THREAT 17–18 (2009), http://perma.cc/R3PJ-DZN2.

24. Fleur Johns et. al., *Law and the Mekong River Basin: A Socio-Legal Research Agenda on the Role of Hard and Soft Law in Regulating Transboundary Water Resources*, 11 MELB. J. INT'L L. 1, 4 (2010).

25. KHALID MALIK, HUMAN DEVELOPMENT REPORT 2013: RISE OF THE SOUTH: HUMAN PROGRESS IN A DIVERSE WORLD 11 (2013), http://perma.cc/HZF9-3QC4.

26. *Id.* at 11.

Nations Human Development Report ("UNHDR"), by 2020 the combined economic output of three leading developing countries alone—Brazil, China, and India—will surpass the aggregate production of Canada, France, Germany, Italy, the United Kingdom, and the United States.[27] Other countries within the Mekong region have also met with varying degrees of success since 2008, including Thailand, Vietnam, and Lao PDR.[28] One major factor in creating lasting growth is the development of trade partnerships and inter-governmental cooperation in terms of sustainable development.[29] Indeed, achieving enduring transformation requires countries to chart a consistent and balanced approach to sustainable development. While the UNHDR indicates many countries in the Mekong region have been successful to some extent, there are still major issues over cooperation and sustainable development. This is especially true when it comes to the development of the Mekong River itself and the effect it has on the river's resources.

As this article argues, the legal problems concerning the Mekong projects are four-fold. First, regional and international multilateral agreements are often non-binding commitments to cooperate in river management, which lack sufficient verification and enforcement mechanisms to offer any real oversight. Second, international customary law and general principles offer insufficient recourse for adversely affected countries to bring about substantial change in the region. Third, as a shared resource, water is unique in its properties, and the law often has difficulty dealing with its appropriation, especially in an international context. Lastly, there is a fundamental dilemma between safeguarding access to this resource, and the prospect of foreign investment within lesser-developed countries ("LDCs").

II. MULTILATERAL AGREEMENTS

A. Regional Multilateral Agreements

As to multilateral agreements, the key regional legal instrument used in the Mekong region for coordinating efforts on the river is the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin ("1995 Mekong Agreement").[30] The 1995 Mekong Agreement

27. *Id.* at 13 fig. 3.

28. *Id.* at 12 fig. 2; *see also* RICHARD CONNOR, THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT 2014: WATER AND ENERGY 48 (2014), http://perma.cc/X7RM-5TR9 (reporting estimate annual economic growth in developing countries at 6%, and 2% in higher income countries).

29. *Id.* at 15–16.

30. Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, *opened for signature* Apr. 5, 1995, 2069 U.N.T.S. 3 (entered into force Apr. 5 1995) [hereinafter

establishes a transboundary institution, the Mekong River Commission ("MRC"), which is tasked with the promotion of cooperation in sustainable development of the river.[31] MRC is the only inter-governmental agency that works directly with the governments of Cambodia, Lao PDR, Thailand, and Vietnam on their common interests—joint management of shared water resources and sustainable development of the Mekong River.[32] Since its establishment in 1995 by the Mekong Agreement, MRC has adopted a number of rules and procedures, such as the Procedures for Water Quality, to provide a systematic and uniform process for the implementation of the treaty.[33] MRC also acts as a regional knowledge hub on several key issues including fisheries, navigation, flood and drought management, environmental monitoring, and hydropower development.[34] Some serious shortcomings in the 1995 Mekong Agreement, however, make its singular usefulness somewhat of a lead balloon.

The Fridtjof Nansen Institute, an independent foundation engaged in research on international environmental, energy, and resource management politics,[35]conducted a study in which Ellen Backer poignantly laid out the problems with relying solely on the 1995 Mekong Agreement for a solution ("The Backer Study").[36] The 1995 Mekong Agreement's membership is particularly troubling. From a geopolitical viewpoint, it is the four downstream countries most adversely affected by the projects that are signatories to the 1995 Mekong Agreement.[37] These signatory countries include Thailand, Lao PDR, Cambodia, and Vietnam.[38] Conversely, the two upstream countries, China and Myanmar, hold observer status with

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Mekong Agreement] (Article 1 provides for cooperation in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin including, but not limited to irrigation, hydropower, navigation, flood control, fisheries, timber floating, recreation and tourism. Articles 2–10 outline the objectives and principles of cooperation).

31. *About MRC*, MEKONG RIVER COMMISSION FOR SUSTAINABLE DEV., http://perma.cc/7RD5-F2HV (last visited Sept. 1, 2015).

32. *Id.*

33. *Id.*

34. Mekong Agreement, *supra* note 30, at 3. These regional agreements are necessary because from an institutional standpoint, there is no supranational body, like the World Trade Organization that deals with global trade, that has the power to establish binding environmental laws to address global environmental concerns.

35. *See generally* FRIDTJOF NANSENS INST., http://perma.cc/DRK6-QU2Z (last visited Nov. 5, 2014).

36. Ellen Bruzelius Backer, *The Mekong River Commission: Does It Work, and How Does the Mekong's Basin's Geography Influence Its Effectiveness?*, 26(4) J. CURRENT SE. ASIAN AFF. 31 (2007).

37. *See* Mekong Agreement, *supra* note 30, at 1 ("The Governments of The Kingdom of Cambodia, The Lao People's Democratic Republic, The Kingdom of Thailand, and The Socialist Republic of Viet Nam, being equally desirous of continuing to cooperate in a constructive and mutually beneficial manner for sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources . . . .").

38. *Id.*

MRC,[39] meaning they simply attend an annual dialogue meeting.[40] Therefore, the treaty does not bind the most upstream riparian owners to take into account the downstream countries' water rights before constructing dams or undertaking other projects that may adversely affect the downstream countries.

The 1995 Mekong Agreement would limit upstream users' ability to control the portion of the river's resources within their respective sovereign territories. Using China as an example, since it is the 800-pound gorilla in the neighborhood, it is not difficult to see why China would be reluctant to place itself under MRC's authority. According to expert Mekong researcher Milton Osborne:

> While China has never made public the reasons for its fail[ure] to join the [Mekong River] Commission, these are not hard to find. As indicated by [China's] failure to consult downstream countries in relation to its dam building program on the upper Mekong in Yunnan province, China takes the view that it has no obligation to submit its actions, so far as these relate to that section of the Mekong River in its territory, to discussion or consideration by other countries. . . . Sources in China, speaking in February 2004, made it clear that this attitude is unlikely to change.[41]

This is a basic dilemma that is often stated in international environmental disputes. States have historically been given wide latitude to exploit resources within their territorial boundaries. This is tied to the concept of state sovereignty.[42] As such, transnational environmental problems are much harder to remedy than the domestic variety. However, an emerging doctrine in international environmental law (embodied in Stockholm Principle 21) is that while states have the sovereign right to exploit their own resources, they have a matching responsibility to ensure that no damage accrues to the environment of other states.[43] The "precautionary principle" has also developed in recent decades, mandating that nations not

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39. Backer, *supra* note 36, at 33.

40. *Id.* at 36.

41. MILTON OSBORNE, RIVER AT RISK: THE MEKONG AND THE WATER POLITICS OF CHINA AND SOUTHEAST ASIA 7–8 (2004).

42. *State Authority*, BLACK'S LAW DICTIONARY (10th ed. 2014).

43. U.N. Conference on the Human Environment, *Declaration of the United Nations Conference on the Human Environment*, princ. 21, U.N. Doc. A/CONF.48/14/Rev.1 (June 16, 1972) [hereinafter Stockholm Declaration].

cause serious or irreversible damage.[44] This principle is embodied in the conventions on ozone layer protection and climate change. It is easily apparent that Chinese dams have serious adverse effects downstream. Take for example the construction of the Manwan Dam in China's Yunnan Province. The Mekong River's mean minimum discharge fell by 25% at the Thai-Lao PDR border post-construction.[45] The lower water levels led to decreases in navigability and food supply, and also ecosystem depletion and subsequent human displacement.[46] Decreases in navigability also have direct economic effects. Shipping firms in the area report lost profits from having to reduce the size of their cargo loads.[47] As to food supply, approximately 90% of the river's inhabitants are involved in agriculture, and lowered water levels mean some farmers will not be able to irrigate their crops.[48] This is particularly troubling for Thai rice farmers. These farmers depend on fresh water and nutrient rich sediments used for fertilizing their crops that are now being trapped behind Chinese dams. Diminished flows could also lead to saltwater intrusion from the South China Sea that could render now-fertile farmland in Vietnam unusable.[49] And just to highlight one particularly disturbing example, wide-scale erosion stemming from alteration of the Mekong River's course led to the Thai village of Pak Ing losing an entire bank of land to the river.[50] On the opposite bank, the river swept away the land and homes of 113 families in the Laotian village of Baan Don Sawan.[51]

Putting aside such obvious and direct human impact, the dams also have less visible, but no less troubling, effects on the ecosystems of downstream countries. The dams lead to a loss in biodiversity and threaten extinction of some fish species.[52] David Blake of Rivers Watch South, and

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44. The U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, princ. 2, U.N. Doc. A/CONF.151/26/Rev.1 (Aug. 12, 1992) [hereinafter Rio Declaration].

45. L. Waldron Davis, *Reversing the Flow: International Law and Chinese Hydropower Development on the Headwaters of the Mekong River*, 19 N.Y. INT'L L. REV. 1, 6 (2006).

46. *Id.* at 7–9.

47. *See* Peter S. Goodman, *Manipulating the Mekong; China's Push to Harness Storied River's Power Puts It at Odds with Nations Downstream*, WASH. POST, Dec. 30, 2004, at E01 (documenting that fishing firms are losing profits because of a reduction of fish).

48. *See* Greg Browder & Leonardo Ortolano, *The Evolution of an International Water Resources Management Regime in the Mekong River Basin,* 40 NAT. RESOURCES J. 499, 504 (2000) (stating that most farmers cannot grow rice during the dry season due to a lack of irrigation water).

49. *See* Goodman, *supra* note 47 (describing the possibility that salt water from the South China Sea could spill into the region and ruin crops).

50. Pianporn Deetes, *Lancang Development in China: Downstream Perspectives from Thailand,* LIVING RIVER SIAM (Nov. 5, 2014), http://perma.cc/V7ZH-6T9K.

51. *Id.*

52. *See* Adam S. Rix, *The Mekong River Basin: A Resource at the Cross-Roads of Sustainable Development*, 21 TEMP. ENVTL. L. & TECH. J. 103, 115–16 (2003) (discussing the effects the dams would have on fishermen in the area).

current M-POWER research fellow at the Mekong Sub-region Social Research Centre at Ubon Ratchatani University in Thailand, explained the potentially disruptive impacts on the Mekong's fish when he stated:

> Fish and other aquatic species that have closely evolved and adapted to live in the naturally sediment-rich and turbid conditions of the Mekong will have seriously disrupted feeding and spawning conditions, perhaps leading to a precipitous decline in biodiversity and productivity. Spawning sites may be drastically reduced in the dry season, as rapids fail to become exposed, and in the rainy season lower water levels in the flooded forests of southern Laos and Cambodia will affect important fish feeding spawning and nursery grounds. This will result in a major decline in fisheries in the Mekong basin, including possible extinction of some species.[53]

Further, while any benefits from the dams will accrue in China, there are also negative impacts on China from these projects. For instance, electricity generation is likely to be far less than half (perhaps about one-fourth) of the installed capacity of 15,400 megawatts.[54] The useful hydropower lifetime of the dams also might be much shorter than predicted—perhaps only 30 years instead of the 100 years predicted originally.[55] Unforeseen costs and negative impacts began soon after completion of Manwan Dam in 1993 and they will continue long beyond the useful life of the dams.

But what are the downstream countries supposed to do to combat Chinese projects moving forward? Khy Tanglim, a Cambodian cabinet minister who heads up a team devoted to Mekong policy, aptly summed up the situation when he said, "What can we do? They are upstream. They are a richer country operating in their own sovereign territory. How can we stop them?" [56] Chinese leaders have claimed that any ecological and environmental effects, should they result, would be minimal. [57] Yet as Chinese projects progress, it is becoming more and more apparent that the ecological and environmental effects are real and far from minimal. The effects are such that it is not clear that downstream countries like Thailand can ignore them for much longer. Much of the Thai rice paddies are located in flood plains. Therefore, rice production is directly linked to annual

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53. David Blake, *Proposed Mekong Dam Scheme in China Threatens Millions in Downstream Countries*, 16(3) WORLD RIVERS REV. 4, 5 (2001).

54. Tyson R. Roberts, *Downstream Ecological Implications of China's Lancang Hydropower and Mekong Navigation Project* 1 (Jan. 1, 2001) http://perma.cc/JBU4-ELFW.

55. *Id.*

56. *See* Goodman, *supra* note 47 (quoting Khy Tanglim, a frustrated Cambodian minister).

57. *See* Antoaneta Bezlova, *Asia: Mekong Leaders Back 'Biodiversity Corridors' for Wildlife*, IPS-INTER PRESS SERV., (July 5, 2005), http://perma.cc/NJB3-879Y.

flooding of the river. Diversion of the water will keep Thai rice farmers from being able to cultivate their crops. This, along with the lack of promised government subsidies, only exacerbates the problems Thai rice farmers experience. The Thai Rice Farmers Association has already linked 11 farmer suicides with the lack of government funding and Chinese dams.[58] These are just a few examples of the adverse effects Chinese dams have on downstream countries, and they do not represent an exhaustive list of potential problems that could arise from the alteration of the Mekong's natural course. It is instead merely meant to provide some backdrop for analyzing the legal implications of China's and other Mekong countries' development on the river.

Despite the troubling effects of the dams and China's vapid response, some progress has nonetheless been made. "In 2002, MRC's cooperation with China under the Dialogue Partner relationship was strengthened with the signing of the Memorandum of Understanding ("MOU") on the provision of daily river flow and rainfall data from two monitoring stations in the Yunnan Province during the wet season."[59] The data improve MRC's regional daily forecast of downstream water levels at key points on the Mekong River during the flood season. In turn, these forecasts can save lives and reduce damage to property and crops.[60] The MOU is a step in the right direction toward regional cooperation between signatory and non-signatory countries, yet it is not nearly enough. According to MRC, enhanced cooperation with China and Myanmar is crucial for the sustainable management of the Mekong River Basin, where hydropower and climate change have already modified flow conditions and sediment delivery downstream.[61] Building on the Dialogue Partnership arrangement, future cooperation may include institutionalizing a more extensive information sharing system on river flows and reservoir operations, and also joint technical studies and capacity building in flood and drought management. [62] While non-signatory countries taking action without neighboring countries' consent is one source of strife for the region, China and Myanmar are not the only countries to blame.

In fact, the lack of China and Myanmar as signatories to the 1995 Mekong Agreement is not the only problem surrounding the treaty. There are also issues concerning the signatory countries of the 1995 Mekong

58. Ron Corben, *Thai Rice Farmers Give Government a Week to Make Payments*, VOANEWS (Dec. 5, 2014, 11:50 AM), http://perma.cc/RR8M-RF83.

59. *Upstream Partner,* MEKONG RIVER COMM'N FOR SUSTAINABLE DEV. http://perma.cc/DZ8D-Y7HL (last visited Sept. 12, 2015).

60. *Id.*

61. *Id.*

62. *Id.*

Agreement. There is an enforcement and verification problem leading some countries, such as Lao PDR and Thailand, to ignore the treaty's mandates and undergo projects without fellow signatories' consent. It has been suggested that many state actors from riparian member states prefer MRC to be a toothless organization that identifies development projects and attracts external funds, while the control of the development remains with the states themselves.[63] For example, MRC's precarious authority was recently spotlighted when Lao PDR acted unilaterally on the Xayaburi Dam, violating MRC's 10-year moratorium on main-stem dam construction recommended in 2010.[64] During construction of another Lao PDR project, Lao PDR turned to technicalities to avoid MRC's mandates by insisting that consultation on the Don Sahong was not needed because of its location on a side channel on the river.[65] Lao PDR, under heavy pressure from its neighbors, eventually agreed to a six-month consultation period, but they declared construction would continue throughout the consultation.[66] Viraphonh Viravong, Lao PDR's Vice Minister of Energy and Mines, stated at a news conference, "With your support and constructive input, the [Laotian] government will continue to develop the project in a responsible and sustainable manner."[67] This is a clear violation of the 1995 Mekong Agreement's prior consultation mandate:

> Prior consultation: Timely notification plus additional data and information to the Joint Committee as provided in the Rules for Water Utilization and Inter-Basin Diversion under Article 26, that would allow the other member riparians to discuss and evaluate the impact of the proposed use upon their uses of water and any other affects, which is the basis for arriving at an agreement. Prior consultation is neither a right to veto the use nor unilateral right to use water by any riparian without taking into account other riparians' rights.[68]

This is just one example of a signatory ignoring the 1995 Mekong Agreement's mandate to arrange prior agreement before construction so coordination can lead to sustainable development.

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63. LY THIM, PLANNING THE LOWER MEKONG BASIN: SOCIAL INTERVENTION ON THE SE SAN RIVER 69 (2010)

64. Michelle Nijhuis, *Dam Projects Ignite a Legal Battle Over Mekong River's Future*, NAT'L GEOGRAPHIC (July 12, 2014, 9:03 AM), http://perma.cc/9KRL-7QH3.

65. *Id.*

66. *Id.*

67. *Id.*

68. Mekong Agreement, *supra* note 30, at 3.

Fundamentally, the 1995 Mekong Agreement is criticized as being too soft.[69] In this context, soft law refers to international legal materials that are weak in the obligations imposed. In contrast, hard law refers to international legal materials that are relatively clear and binding. According to the 1995 Mekong Agreement, it is intended to be concerned with sustainable development and resource management on the Mekong River, and could potentially address the entire river basin's ecosystem, including tributaries and wetlands.[70] The signatories specifically aim to "cooperate on the basis of sovereign equality and territorial integrity in the utilization and protection of the water resources of the Mekong River Basin."[71] It has hopefully become clear that for many of the riparian countries the 1995 Mekong Agreement has not been successful to the extent its donors perhaps had hoped. There are no "hard" procedures in place for verifying that countries stay within the Mekong Agreement's mandates. Furthermore, and in a more general sense, treaties are voluntary in that a member state must become a signatory to be bound, thus with any international treaty, there are often issues with regard to treaty enforcement.

B. Global Multilateral Agreements

The relative "softness" of the 1995 Mekong Agreement has not been supplemented by sufficient "harder" international law. The 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses ("Watercourses Convention") is one of the only treaties governing shared freshwater resources that are of universal applicability.[72] It is a framework convention, in the sense that it provides a framework of principles and rules that may be applied and adjusted to suit the characteristics of particular international watercourses.[73] The Watercourses Convention states that all "[w]atercourse states shall, in utilizing an international water-course in their territories, take all appropriate measures to prevent the causing of significant harm to other riparian states."[74] As of May 19, 2014, the Watercourses Convention received the 35th ratification needed to enter into force, and accordingly

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69. PHILIP HIRSCH ET AL., NATIONAL INTERESTS AND TRANSBOUNDARY WATER GOVERNANCE IN THE MEKONG 26–27 (2006).

70. Backer, *supra* note 36, at 33.

71. Mekong Agreement, *supra* note 30, at 3.

72. *See* McCaffrey, *supra* note 14, at 1 (summarizing key provisions from the Watercourses Convention).

73. U.N. Convention on the Law of the Non-Navigational Uses of International Watercourses, (May 21, 1997), U.N. Doc. A/RES/51/869 [hereinafter Watercourse Convention]

74. *Id.*

went into effect August 17, 2014.[75] In fact, the 35th country that ratified the treaty bringing it into force was Vietnam, making it the first Mekong country to sign the Watercourses Convention.[76] "The entry into force of the Watercourses Convention and its ratification by a Mekong River Basin state could have a decisive impact on the management of the Mekong by extending the scope, framework, and substantive norms applying to the Greater Mekong Sub-region."[77] Hopefully other Mekong region countries follow Vietnam's lead. Furthermore, the entry into force of the Watercourses Convention marks a significant milestone in international water law. Unfortunately, Vietnam is the only signatory in the region as of now. Additionally, China was one of three states that voted against the treaty at the U.N. General Assembly.[78] Although China shares over forty transboundary waters with its fourteen neighboring countries, it has never signed onto a basin-wide treaty.[79] China has expressed its disinterest in the Watercourses Convention on numerous occasions, calling it "an infringement on its territorial sovereignty."[80] Without China's involvement in the treaty, as the largest upstream user in terms of projects, the Watercourses Convention does not seem to offer a solution to the Mekong River dilemma.

We must next discuss the Convention on the Protection and Use of Transboundary Watercourses and International Lakes ("UNECE Water Convention"). The UNECE Water Convention is intended to strengthen national measures for the protection and ecologically sound management of transboundary surface waters and groundwaters by obliging parties to prevent, control, and reduce transboundary impact, use transboundary waters in a reasonable and equitable way, and ensure their sustainable management.[81] As of now, however, no Mekong region country has become a signatory to the treaty.[82] Neither has any Mekong country signed the Espoo Convention,[83] which requires signatories to take measures to prevent, reduce, and control adverse transboundary environmental

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75. *Status of the Watercourses Convention*, INT. WATER L. PROJECT, http://perma.cc/Z4U5-4AT4 (last visited July 31, 2015).

76. *Id.*

77. *South and East Asia: UNWC's Global Relevance*, U.N. WATERCOURSES CONVENTION ONLINE USERS GUIDE, http://perma.cc/K6R4-4K3Y

78. *Id.*

79. *Id.*

80. *Id.*

81. *Espoo Convention,* UNECE, http://perma.cc/3F4J-6EJ4 (last visited Sept. 12, 2015).

82. *Status of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, U. N. TREATY COLLECTION (Sept. 13, 2015, 5:02 AM), https://perma.cc/ZF6K-TUYX?type=image.

83. *See Espoo Signatories*, UNTC (Sept. 13, 2015, 8:19 AM), https://perma.cc/35XZ-DCTS?type=source (listing signatories to the ESPOO Convention).

impacts.[84] According to the U.N., the Espoo Convention obliges parties to assess the environmental impact of certain activities at an early stage of planning, and to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across national boundaries.[85] Thus, one can see that considering the current state of things, neither regional nor international agreements offer a sufficient solution to aggrieved parties, or to the prospect of sustainable development in the region.

Still, MRC continues to attempt to bring heightened attention to the problem, and continues to push for further cooperation. MRC published a technical paper highlighting the benefits of cooperation and the role of river and aquifer basin organizations in managing transboundary basins. The publication, based on the international conference in Ho Chi Minh City, Vietnam from April 2–3, 2014, is entitled "Cooperation for Water, Energy and Food Security in Transboundary Basins under Changing Climate."[86] It is a collection of case studies by international experts and participants' shared views on three key issues: sustainable development; climate change adaptation in a transboundary contex; and benefits of cooperation.[87] Still, with all of MRC's efforts, it begs the question if harder law is necessary to adequately develop the river basin.

As somewhat of an aside, MRC is not the only organization taking part in the regional dispute. In 1992, the Asian Development Bank ("ADB") created a program named the Greater Mekong Subregion Program ("GMS"), made up of Cambodia, China, Laos PDR, Myanmar, Thailand, and Vietnam.[88] According to ADB, the program has "contributed to the development of infrastructure to enable the development and sharing of the resource base, and promote the freer flow of goods and people in the sub-region."[89] ADB cooperates with MRC on certain issues, and has observer status to MRC.[90] There are also basin representatives, NGOs, donors, and other international organizations that play a part in the regional debate. [91]

III. INTERNATIONAL CUSTOM

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84. *Espoo Convention*, *supra* note 81, art. 1, 2.

85. *Id.*

86. HANNE BACH ET AL., MEKONG RIVER COMMISSION, COOPERATION FOR WATER, ENERGY, AND FOOD SECURITY IN TRANSBOUNDARY BASINS UNDER CHANGING CLIMATE xiii (2014).

87. *Id.* at 12–40.

88. Backer, *supra* note 36, at 38.

89. Deng Shasha, *Thai PM to Visit Myanmar on Dec. 19-20 to Attend GMS Meeting*, http://perma.cc/G5DU-4JW4 (last visited Sept. 1 2015).

90. Backer, *supra* note 36, at 38.

91. Srisuwan Kuankachorn, *Thai NGO's in Civil Society Movements at the Turn of the Century*, 4 MEKONG UPDATE & DIALOGUE 1, 1 (2001).

This article will now turn its attention to international legal customs that play a role in the dispute. Aside from treaties and conventions, customary international law also has potential impacts on the regional dispute. Customary law is created by consistent behavior over time, where the relevant actors consider it to be opinio juris.[92] One such example of customary law stems from *Trail Smelter* arbitration, stating "[a] State owes at all times a duty to protect other States against injurious acts by individuals from within its jurisdiction . . . not to cause significant harm to other states."[93] *Trail Smelter* involved the harmful effects of transboundary noxious fumes from an ore smelter in British Columbia passing across the U.S. border, through the Columbia River Valley, where the fumes damaged farmland and the crops of U.S. citizens.[94] Although the case did not involve an international watercourse dispute per se, the principles of limited territorial integrity and sovereignty, and the obligation not to cause significant harm have been readily transferred to international environmental law generally.[95] The 1935 *Trail Smelter* tribunal specifically stated that

> No State has the right to use or permit the use of its territory in a manner as to cause injury . . . in or to the territory of another or the property or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.[96]

A similar edict was expressed in Principle 21 of the 1972 Stockholm Declaration, which reads

> States have in accordance with the Charter of the United Nations and the principles of international law . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of their national jurisdiction.[97]

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92. Trail Smelter Case (U.S. v. Can.), 3 R.I.A.A. 1905 (Perm. Ct. Arb.1935).

93. *Id.*; s*ee generally* Convention For Settlement of Difficulties Arising From Operation of Smelter at Trail, B.C., U.S.-Can., Apr. 15, 1935, T.S. No. 893 (exemplifying how to remedy injurious acts by an individual against another state).

94. *Trail Smelter*, 3 R.I.A.A. 1905.

95. *See* Meredith A. Giordano, *Managing the Quality of International Rivers: Global Principles and Basin Practice*, 43 NAT. RESOURCES J. 111, 115 (2003) (discussing the development of international law concerning shared water resources).

96. *Trail Smelter*, 3 R.I.A.A. at 1965.

97. Stockholm Declaration, *supra* note 43, princ. 21.

Principle 21 of the Stockholm Declaration is repeated verbatim in Principle 2 of the 1992 Rio Declaration, and is now generally considered customary international law.[98] Furthermore, the 1997 Watercourse Convention built upon the rule in Article 27

> Watercourse States shall, individually and, where appropriate, jointly, take all appropriate measures to prevent or mitigate conditions related to an international watercourse that may be harmful to other watercourse States, whether resulting from natural causes or human conduct . . . .[99]

The problem with applying the *Trail Smelter* rule to the Mekong River controversy is that the tribunal specifically deals with pollutants. In essence, the rule prohibits one country or state from polluting or allowing its inhabitants to pollute a neighboring state. With the Mekong, the larger concern has to do with water quantity as opposed to water quality. The hydroelectric power dams being constructed on the river are not so much polluting the river as they are depriving downstream riparians' access to fresh water. The upstream users are damming the river, which deprives downstream users to access the levels of water they have traditionally been afforded. Therefore, *Trail Smelter's* principle alone does little to offer a legal recourse to the downstream countries. But as the principle gained acceptance and was reiterated in the Stockholm Declaration, Rio Declaration, and eventually the Watercourses Convention, the emergence of a customary principle binding the Mekong states emerged. It is now accepted that a country's sovereignty is not absolute, but limited to the extent that it cannot use the river in a way that causes significant harm to the downstream riparian states. Although downstream riparians are not protected from all harm, if they can establish significant negative effects by clear and convincing evidence, they should arguably have legal recourse. A mixture of factors makes it difficult for downstream users to establish by clear and convincing evidence that specific dam projects are the causal link to their environmental problems. The complexity of the Mekong River Basin, the lack of transparency in dam-building projects, and the lack of concrete scientific research and data, all contribute to making it difficult to meet the clear and convincing standard.[100] Further, even if a clear and

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98. Rio Declaration, *supra* note 44, princ. 2.

99. Watercourse Convention, *supra* note 73, art. 27.

100. *See* Davis, *supra* note 45, at 29 (citing *Draft Articles on State Responsibility*, (1980) 1 Y.B. Int'l L. Comm'n 271, U.N. Doc. A/CN.4/L.318 (outlining the permissibility of wrongful acts in the case of self-defense in international arenas)).

convincing link standard was met, there are other issues that go into proving the harm is "significant."

The *Lake Lanoux* arbitration offers insight into another important matter of international customary law relevant to the current topic. In *Lake Lanoux*, the French government proposed to carry out works on Lake Lanoux that the Spanish government feared would adversely affect their interests.[101] The case primarily revolved around the Treaty of Bayonne of May 26, 1866 between France and Spain, which defined an important aspect of international customary law.[102] The arbitral body found that "the rule that States may utilize the hydraulic power of international watercourses only on condition of a prior agreement between the interested States cannot be established as a custom, even less as a general principle of law."[103] Therefore, there is no rule of international custom that requires any of the upstream states from making a prior agreement with downstream states before undergoing their projects. There is a provision for prior agreement within the 1995 Mekong Agreement, but that only binds signatory states.[104] As previously discussed, even signatory states often choose to ignore the mandate. Therefore, by taking *Trail Smelter* (and its progeny) and *Lake Lanoux* into account, it would seem that as a matter of international customary law, a state would have a hard time arguing liability, and would further fail on a matter of prior restraint. To compound this problem, even where there is a systematic and shared vocabulary at work, law is understood in a variety of different and often competing ways by different parties that have a stake in the Mekong. Cultural practices, politics, geography, and class are but a short and by no means exhaustive list of factors that could lead to differing interpretations of law.

IV. WATER AS A SHARED RESOURCE

The third legal issue deals with the difficulties inherent in regulating water resources. Generally speaking, the law has a difficult time dealing with water as a resource. In order to begin the discussion, I propose a question to the reader: Should water be perceived as a matter of human rights, a sovereign resource, a shared good, a trade or transport route, a fragile ecology, or something else? If one tries to deal with water as a property-like resource, a number of issues arise. To begin, one cannot point to specific water molecules that they own because water is a moving

101. Affaire du Lac Lanoux [Lake Lanoux Arbitration] (Fr. v. Spain), 12 R.I.A.A. 281, 285 (Trib. Arbitral 1957).

102. *Id.*

103. *Id.* at 308.

104. Mekong Agreement, *supra* note 30, at 4, 12.

resource. Therefore, it is more accurate to consider water in terms of use. One doesn't own the water, but instead must define it as a usufructuary right: one owns the right to use some amount of water. Also, one's right to use water is dependent upon external factors and other users' needs. Thus, one's right to use water is not well defined, and is subject to constant change. The next problem arises when one must decide which uses of water are beneficial, and which uses simply amount to waste. Different jurisdictions have developed different factors to make such decisions these determination, and a number of regulatory models have emerged to deal with water right controversies. Notably, Restatement (Second) of Torts § 850A lists some of the factors used to determine what constitutes a beneficial use.[105] The regulatory systems that deal with water disputes include Riparianism, Capture, Regulated Riparianism, Prior Appropriation, and mixed systems.

The Mekong River is resupplied by precipitate, which is stored as snow in the Himalayan plateau, and by a monsoon season and tropical climate that causes the river to have a particular pulse, characterized by a wet season from May to November, which may account for 85–90% of the total flow of the river.[106] Human life and also flora and fauna within the river basin—have adapted to this particular rhythm over centuries.[107] As previously stated, the river basin's resources are vital to its population, with about 85% "mak[ing] their living directly from the natural resources base" of the basin.[108] The issue most negotiated has to do not with water quality, but with quantity. The decrease in water quantity downstream leads to further problems such as increased salinity. However, the main tensions stem from the withdrawal of water from the basin through inter- or intra-basin transfer schemes, withholding water for hydroelectric power dams, and withdrawal for irrigation purposes.[109] Creating a regulatory scheme that is inclusive enough to take into account every necessary factor is a daunting task.

V. CONSERVATION V. ECONOMIC DEVELOPMENT

Lastly, there is a fundamental dilemma between access to water and the economic incentive to dam the river. For instance, Lao PDR remains one of

105. *See* RESTATEMENT (SECOND) OF TORTS §850A (AM. LAW INST. 1979) (listing factors to consider when deciding if a use of water is reasonable).

106. Backer, *supra* note 36, at 36.

107. *Id.*

108. *Id.*

109. *See* Parineeta Dandekar & Samir Mehta, *Taking Action in India on Downstream Impacts of Dams*, INT'L RIVERS (Sept. 1, 2015), http://perma.cc/N5M3-SRWY (explaining some of the downstream effects dams may cause).

the poorest countries in the world. The promise of foreign investment in the form of new construction projects along the Mekong forced Lao PDR's hand in allowing the construction of a hydropower dam in Vientiane, the capital of Lao PDR.[110] Yet there is a fundamental conflict that emerges. It seems logical to assert that there is some kind of right to access water, as it is essential for health and life. Yet this factor must be weighed against competing notions of economics and geopolitics where foreign investment provides LDCs with a route to increased capital and higher standards of living.

The Xayaburi Dam, the first dam being built on the main stem of the river south of the Chinese border, demonstrates the conflict well.[111] According to Michelle Nijhuis, an American science journalist who writes about conservation and climate change for many publications, the dam is scheduled to be completed in 2015.[112] The Xayaburi is endorsed by the Laotian government, which states its ambition to become the "battery of Southeast Asia" and is financed by Thai investors who are eager to supply their nation's booming cities with electricity.[113] The Xayaburi Dam, along with several other proposed downstream projects, such as the Don Sahong Dam, are passionately opposed by downstream countries such as Cambodia, Vietnam, and numerous environmental organizations.[114] Opposition stems from fears that the projects' threaten riparian countries' water rights, and threatens fish spawning, which in turn negatively impacts food supply and the livelihood of those living in Southeast Asia.

In a statement made all too familiar by area politicians of riparian countries opposed to the projects, Kraisak Choonhaven, a longtime Thai politician and progressive activist, recently stated that "[t]he dams would be a disaster of epic proportions."[115] Choonhaven, and other politicians throughout the region have spoken about the devastating effects the proposed dam projects may have on the surrounding countries. The conflict focuses on the fact that downstream riparian's will have access to a smaller amount of water due to the damming of the rivers. Downstream villagers, such as the Khok Yai, have already been forced to relocate, or will be relocated once the projects are completed.[116] Proponents of the projects argue that the villagers will be better off after relocation because they will have increased access to modern conveniences such as electric power.[117]

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110. Nijhuis, *supra* note 64.
111. *Id.*
112. *Id.*
113. *Id.*
114. *Id.*
115. *Id.*
116. *Id.*
117. *Id.*

Opponents, however, point to many families who have not received their promised pay or housing, or are being torn from a traditional way of life.[118]

The Dam Sahong also threatens the Mekong River inland fishery, which is the largest in the world and an essential part of the region's food supply.[119] An estimated 50–70 million people live on the protein that the Mekong's fish population provides.[120] The Don Sahong Dam's proposed site is a key migration route for many native Mekong fish species.[121] Fisheries experts therefore believe that the dam could be severely damaging to regional food supplies.[122] Yet much like the Xayaburi Dam, Laos PDR is pressing forward on the Don Sahong without its neighbors approval.[123]

The opponents of the Xayaburi Dam were recently strengthened in June 2014 when a Thai national court agreed to hear a lawsuit brought by 37 villagers challenging the Thai government's plans to buy most of the power.[124] These 37 villagers live in northeastern Thailand, where the river forms a border between Thailand and Lao PDR.[125] These villagers argued that floods and droughts have already become more prevalent due to six Chinese dams located upstream.[126] They fear the Xayaburi and other proposed upstream dam projects would only exacerbate their dilemma.[127] Further, grassroots environmental and social groups often protest dams by holding protest marches along the river, and appeal to policymakers both domestic and foreign.[128] One such opponent is Somkiat Kuenchiangsa, a leader of the northern Thai conservation group Rak Chiang Khong, who recently stated "[w]e've done everything imaginable to convince the dam builders that they have to be responsible not just to Laotians, but to everyone who uses the Mekong."[129] While it seems obvious that water is a human right and downstream countries should have legal recourse, in reality, the situation is more complicated. Yet, some progress has been made on the human rights front.

As recently as July 28, 2010, the U.N. General Assembly adopted a resolution declaring that the "right to safe and clean drinking water . . . [is] a human right that is essential for the full enjoyment of life and all human

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118. *Id.*
119. *Id.*
120. *Compare id. with* Backer, *supra* note 36, at 36.
121. Nijhuis, *supra* note 64.
122. *Id.*
123. *Id.*
124. *Id.*
125. *Id.*
126. *Id.*
127. *Id.*
128. *Id.*
129. *Id.*

rights."[130] This Resolution marks a milestone in the development of an international human right to water, yet China abstained from signing the Resolution. It seems axiomatic that there must be a Resolution discussing the human right to a resource vital to one's existence. Yet, if there was not an issue in getting fresh water to all of those in need, the Resolution would not have been created. The Resolution is not legally binding, and thus lends little help to those seeking legal support to water resources. A well developed and enforceable human right to water is increasingly critical in a world where industrialization and modernization have a direct impact on transnational watercourses. This is especially true when one takes into account that water is perhaps the most significant global public health concern, with 2.3 billion people living in water stress, 1.1 billion living without safe drinking water, and approximately 6,000 children under the age of five dying everyday from water-related diseases.[131] According to the United Nations Department of Economic and Social Affairs ("UNDESA"):

> Around 1.2 billion people, or almost one-fifth of the world's population, live in areas of physical scarcity, and 500 million people are approaching this situation. Another 1.6 billion people, or almost one quarter of the world's population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers) . . . Water use has been growing at more than twice the rate of population increase in the last century, and, although there is no global water scarcity as such, an increasing number of regions are chronically short of water. [132]

VI. REMEDIES

So one must necessarily ask, what remedies are available for the downstream Riparians and their citizens? Progressive development of global norms encouraged many international lawyers that there should be a teleological "hardening" of the law of shared water resources, and an accompanying move away from the traditional ad hoc approach that often dominates the governance of rivers.[133] Some would argue that the current

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130. G.A. Res. 64/292, at 2 (Aug. 3, 2010).

131. Fitzmaurice, *supra* note 10 at 538; *see also Water Scarcity*, INT'L. DECADE FOR ACTION 'WATER FOR LIFE' 2005–2015 (Nov. 5, 2014), http://perma.cc/CUX6-2P2D (discussing the U.N.'s definition for "water stress").

132. *Water Scarcity*, *supra* note 131.

133. *See* Sylvia I. Karlsson-Vinkhuyzen & Antto Vihma, *Comparing the Legitimacy and Effectiveness of Global Hard and Soft Law: An Analytical Framework*, 3 REG. & GOVERNANCE 400, 400–02 (2009) (discussing a legalization continuum from treaty provisions devoid of legal content to precise and legally binding treaties with delegated enforcement bodies).

state of "soft law" in international water disputes is littered with problems. The "soft" law approach is dominated by sovereign discretion, political choices, and unstructured negotiation. Yet, as seen with the 1995 Mekong Agreement, even "hard" law often comes up short in many regards. Furthermore, the development of a coherent and singular "international water law" immediately strikes difficulties when applied to the management of particular river systems and when factoring in the various stakeholders at local, national, regional, and international levels. If not properly addressed, the struggle for access to natural resources, market competition, territorial exploitation, and unresolved damages by upstream-downstream development to the environment and livelihood of downstream inhabitants could increase the level of interstate conflict.[134] Risks of conflict are exacerbated as surplus extraction for energy development creates wealth for some at the expense of others.[135]

The current applicable treaties, conventions, and international customary laws have failed to remedy the situation, due in part to the absence of hard principles and proper enforcement mechanisms. The unfortunate reality is there are few possible avenues for recourse to adversely affected riparian states in the region. Because of the lack of legal recourse, the threat of countries turning to extralegal remedies remains ominous, despite the fact that the only known war over water was fought 4500 years ago.[136] Given the importance of downstream interests, some commentators have suggested that armed conflict in the near future is not farfetched.[137] While admittedly conjecture, the author would personally disagree, as any armed conflict between riparians in the region would ultimately posit one side against the military superiority of China. However, if war were to happen, it would have the potential for vast and severe impacts on the environment. Warring nations engage in scorched earth policies that destroy forests and agricultural lands, set fire to oil wells and refineries, and destroy infrastructure such as the dams that exacerbated

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134. David Blake, *Region within a Region: the Mekong and ASEAN, in* THE MEKONG ARRANGED AND REARRANGED 121, 124 (I. Diokno & Nguyen Van Chinh eds., 2006).

135. *See* Philip Hirsch, *Development Assistance in a Transboundary River Basin Setting: The Role of Institutional Mechanisms in Safeguarding Poor People's Livelihoods and Rights to Land and Water in the Mekong Region, in* FROM WATER'WARS' TO WATER'RIOTS'? – LESSONS FROM TRANSBOUNDARY WATER MANAGEMENT 98 (Jannik Boesen & Helle Munk Ravnborg eds., 2004) (noting that "tensions over water are constituted socially, culturally, [and] economically" and are likely to lead to social unrest).

136. *See* Lloyd Duhaime, *2250 BC – The Treaty of Mesilim*, TIMETABLE OF WORLD LEGAL HIST. (May 5, 2012), http://perma.cc/792M-8FGM (describing a treaty that ended the water war between the ancient Mesopotamian states of Lagash and Umma dealing with the Tigris and Euphrates rivers).

137. Davis, *supra* note 45, at 43 (citing a report that a Chinese general said that any strike on China's hydropower project by Taiwan's military would lead to war).

the water scarcity conflict. During World War II, Allied aircrafts bombed the dams that protected Germany's Rhine and Ruhr valleys from flooding in an effort to destroy the German industrial base. [138] Here, the potential to go after the dams would be high, as the dams are the source of the tension. A 1977 Convention on Military Use of Environmental Modification, amending the earlier Geneva Convention relating to the conduct of war, attempted to furnish some ground rules on this subject.[139] However, the Convention makes an exception for conduct deemed necessary for military operations.[140] This exception has the potential to completely disarm the convention.

Another option offered by some commentators could potentially be nonviolent coercive countermeasures. Countermeasures are activities that would normally be considered illegal, save for the fact that they are considered legitimate in response to an ongoing violation of international law that they seek to rectify.[141] Again, while merely speculative, given the tension already present in the region, the author thinks it is unlikely any state would turn to such measures. There is also the possibility that adversely affected riparians seek out an international forum to lodge their complaint. The problem is that getting the opposing state into the forum, such as the International Court of Justice, is largely voluntary.[142] Thus, it is improbable that any state would volunteer to have such claims brought against them in an international court that could potentially bind it to orders they may deem unfavorable.

Fortunately, there are other possible courses of action that may have better outcomes. L. Waldron Davis discusses one such nonviolent solution:

> One option for the downstream riparian states is to seek a tribunal hearing under a multinational environmental agreement, to which China is [already] a party, with compulsory procedures for binding decisions, such as the United Nations Convention on the Law of the Sea (UNCLOS). Article 64 of UNCLOS calls for cooperation in ensuring conservation of highly migratory species listed in Annex I of UNCLOS. Cetaceans, and particularly Family

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138. Joshua Hammer, *Is a Lack of Water to Blame for the Conflict in Syria?,* SMITHSONIAN MAG. (August 27, 2015), http://perma.cc/FTY6-TJKT.

139. Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification, art. 1-3, May 18, 1977, 31 U.S.T. 333.

140. *Id.* at 3.

141. *See Draft Articles on State Responsibility. Texts adopted by the Drafting Committee*, (1980), 1 Y.B. Int'l L Comm'n 270, U.N. Doc. A/CN.4/L.318, *reprinted in* 1 Y.B. Int'l Comm'n 266, U.N. Doc. A/CN.4/SR.1635 (outlining the permissibility of wrongful acts in the case of self-defense in international arenas).

142. *History*, INT'L COURT OF JUSTICE (Aug. 27, 2015), http://perma.cc/LKV3-6H6B.

> Delphinidae (dolphins), are listed in Annex I. Because endangered Irrawaddy dolphins are found in the Mekong, the downstream riparian states could invoke China's obligation to ensure their conservation, which is being threatened by the construction of the dams.[143]

Along those same lines, China is already a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES").[144] Using the same logic behind L. Waldron Davis' argument, Mekong countries could attempt to control development on the river by finding a species listed within CITES' appendices I or II and attempt to halt further development that would threaten said species' health or possibly cause its extinction. This argument would apply to any Mekong country, as all are signatories to CITES.[145] For instance, the Probarbus jullieni, commonly referred to as Jullien's golden carp or the seven-striped barb,[146] is prevalent in all of the countries bordering the Mekong River.[147] The status of Jullien's golden carp is assessed as endangered in the 1996 IUCN Red List of Threatened Animals, estimating a decline of over 50% based on direct observations, a decline in the area and extent of occurrence, and a decline in the quality of habitat.[148] The threatened status of Jullien's golden carp is largely attributed to a decline in the quality and availability of habitat due to dam construction and pollution, loss of spawning grounds, and the clearance of flooded forests that serve as nursery and feeding grounds.[149] As such, Jullien's golden carp is placed on appendix I of CITES and could be used as the impetus to bring China or other riparian states to a tribunal.[150] This is just one example of many options, which taken cumulatively, could create a forceful argument that upstream riparian countries such as China need to stop dam construction, cooperate with downstream riparian states, or risk being in violation of international law.

Taking the argument one step further, it is recognized that to preserve biodiversity it is necessary to transcend the protection of individual species and safeguard entire ecosystems. Species are interconnected in numerous

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143. Davis, *supra* note 45, at 46 (discussing UNCLOS).

138. *See List of Contracting Parties*, CONVENTION ON INT'L TRADE IN ENDANGERED SPECIES (Nov. 5, 2014), http://perma.cc/BX9F-FS3P (listing parties of CITES).

145. *Id.*

146. Other common names include: Thai, Pla Yesok Tong; Malay, Temoleh; Vietnamese, Cá trà soc; Lao, Pa ern daeng; Khmer, Try Trâsâk

147. CITES Animals Committee, AC.16.8.1, Evaluation of Species Selected at AC15, 55–58, (Dec. 11–15, 2000) https://perma.cc/2MYN-2EK9.

148. *Id.*

149. *Id.*

150. Convention on International Trade in Endangered Species of Wild Fauna and Flora app. I, 993 U.N.T.S. 243 https://perma.cc/9UNT-JS8D.

ways. Eliminating one species can have widespread affects on other species. For example, overpopulation of the North American deer leads to migration into suburban areas, where deer are often struck by vehicles and spread Lyme disease.[151] This overpopulation and migration is a direct result of the elimination of wolves, bears, and other predators.[152] The same is true for all of the species that live in the Mekong River basin. In recognition of the importance of biodiversity, the 1992 Rio de Janeiro conference on the environment under United Nations auspices resulted in the Convention on Biological Diversity. [153] Over 165 nations have subscribed to the Convention, including all of the Mekong region countries.[154] As such, the argument could be made by any Mekong region country that any other Mekong region country is in violation of the mandates set forth in the Convention. Article 3 of the Convention asserts that states have both "the sovereign right to exploit their own resources" and "the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[155]

The primary approach to multilateral agreement design is the "framework-protocol" model. Typically, the initial framework treaty contains only general commitments and establishes information-gathering and decision-making structures. Subsequent protocols to the framework treaty provide binding emission reduction or other environmental protection commitments. Therefore, whether it be a regional or a global multilateral agreement, efforts should be made to create a protocol that deals specifically with transboundary water disputes to clarify the international law surrounding the topic and to provide a more concrete source for recourse to adversely affected countries. This is especially true considering the realities of collective action. The many victims of environmental degradation are often unlikely to act together because they often individually experience small amounts of harm, and the cost of transacting with each other will dwarf any possible recovery. But if enough "big players" can cooperate on a regional or global level, the cost of transacting with one another becomes a more reasonable solution capable of addressing the cumulative harms.

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151. GREG CREACY, DEER MGMT. WITHIN SUBURBAN AREAS (2006).

152. Sharon Levy, *A Plague of Deer*, 56 BIOSCIENCE 718, 720–21 (2006) (discussing the impacts deer have on bear and wolf populations).

153. Convention on Biological Diversity, Jun. 5, 1992, 31 I.L.M. 818, at 824.

154. *See List of Parties*, CONVENTION ON BIOLOGICAL DIVERSITY (Aug. 27, 2015), http://perma.cc/T8NX-UV6W (listing parties to the Convention on Biological Diversity).

155. Convention on Biological Diversity, *supra* note 153, at art. 3.

Another potentially nonviolent solution is to invoke the jurisdiction of the United States Federal Courts under the Alien Tort Claims Act.[156] The downstream riparian states could possibly bring a human rights claim, asserting that there is an international norm surrounding the right to a healthy environment or access to water. However, the Foreign Sovereign Immunity Act[157] is a potential bar to any such action. Notwithstanding the Foreign Sovereign Immunity Act, actually bringing a riparian state to court in the U.S. is a daunting hurdle.

CONCLUSION

In order to ensure the peaceful coexistence of the countries within the Mekong region, improved cooperation and coordination of sustainable water management is crucial. Countries who have not done so should become contracting states to the 1995 Mekong Agreement. MRC should find the proper legal route to "harden" its regulatory powers and better enforce the sustainable development of the river. International bodies such as the United Nations should lead efforts to raise awareness and promote the cause of sustainable development. The international water community at large, including non-governmental organizations in the fields of water, conservation, and human rights, should raise awareness as to the value and importance of the resources of the Mekong, and coordinate efforts to promote the need for cooperation and sustainable development in the region. Ultimately, cooperation is key. As water quality degrades and the quantity available struggles to meet rising demand, competition among water users intensifies. This phenomenon is particularly destabilizing in river basins that cross political boundaries. However, experience shows that in many situations, rather than causing open conflict, the need for water sharing can generate unexpected cooperation. Even the two Sumerian city-states of Umma and Lagesh ultimately ended their war over water through a mutually cooperative agreement.[158] Dating back to 2500 B.C., it is often said to be the first treaty of its kind. Millennia of history have refined legal processes, especially with regard to transboundary water disputes. Yet, the fact that modern disputes still give rise to potential violent solutions is evidence enough that international watercourse agreements need to be more concrete, set out measures to enforce treaties, and contain detailed conflict resolution mechanisms.

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156. 28 U.S.C. § 1350 (2012).
157. 28 U.S.C. § 1602 (2012).
158. Duhaime, *supra* note 136.