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Dirty Laundry-Why International Measures to Save the Global Clean Water Supply Have Failed

Leah Sandbank*

*Fordham University School of Law

NOTE

DIRTY LAUNDRY: WHY INTERNATIONAL MEASURES TO SAVE THE GLOBAL CLEAN WATER SUPPLY HAVE FAILED

*Leah Sandbank**

INTROCUTION

Water pollution is a global problem.[1] Laws that prohibit or control pollution already exist on regional, state and even international levels; yet tens of millions of people worldwide are without clean or sanitary water.[2] For these people, water for drinking, bathing and irrigation is dirty and disease ridden.[3] In addition, the rapid growth

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* J.D. Candidate, 2002, Fordham University School of Law; B.A., University of Chicago, 1998. Leah would like to thank Jay and the staff at the *Fordham Environmental Law Journal* for all of their hard work.

1. *See generally* THE SCARCITY OF WATER: EMERGING LEGAL AND POLITICAL RESPONSES, at 1–7 (Edward H.P. Brans et al., eds., Kluwer Law International 1997); *see also* The International Water Law Project, *at* http://internationalwaterlaw.org (last visited Mar. 6, 2002) (for links to cases, books and articles on this subject).

2. *See* THE SCARCITY OF WATER, *supra* note 1, at 5–11. The four major global problems concerning fresh water are defined as "a) shortage of renewable supplies; b) unequal distribution of supplies; c) problems of water quality and health; and d) disastrous effects of unrestrained construction of dams and reservoirs." *Id.* at 5.

3. *Id.* at 7. Although clean drinking water, sanitation systems and irrigation systems are three separate components of water law,

rate of the earth's population is exacerbating an already serious problem.[4] However, national legislation often times may not take into account international norms of environmental law. Governments that are without a strong internal policy on water pollution often implement law that is lax on pollution.[5]

The fact that pollution is often a transboundary occurrence complicates global regulation of water pollution.[6] Water and air pollution do not stop at territorial boundaries.[7] Pollution emanating from one nation often adversely affects the clean water in another nation.[8] The question of which nation has jurisdiction over the polluter leads to animosity and fighting between the nations.[9]

Fighting over pollution costs has recently become an issue that the International Court of Justice ("ICJ") has had to tackle.[10] Various international, political and legal bodies have offered solutions for how to avoid interstate conflict over water pollution,[11] yet the problem remains unresolved and burgeoning. International environmental law is moving toward centralization or globalization

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this Note combines them into one larger problem of co-management of shared clean water resources.

4. *See* George William Sherk et al., *Water Wars in the Near Future? Reconciling Competing Claims for the World's Diminishing Freshwater Resources—the Challenge of the Next Millennium,* THE CEPMLP ONLINE J. 2, 3.1, *at* http://www.dundee.ac.uk/cepmlp/journal/html/article3-2.html (last visited Mar. 6, 2002).

5. *See, e.g.*, Peter Rogers, *Water: Not as Cheap as You Think: We Must Change Our Water Policies so the Cost of This Resource Reflects its Value*, 89 MASS. INST. OF TECH. REV. 30 (1986).

6. *See* Thomas W. Merrill, *Golden Rules for Transboundary Pollution,* 46 DUKE L. J. 931, 932 (1997).

7. *Id.*

8. *Id.*

9. *Id.*

10. *See, e.g.*, Gabčíkovo-Nagymaros Project (Hung./Slovk.), 1997 I.C.J. 35 (Sept. 25) (also printed in 37 I.L.M. 162, 202 ¶ 155); *see* discussion *infra* text Part III. Generally, ICJ cases are easily assessable at http://www.icj-cij.org.

11. *See infra* note 42. For example, some of the political bodies of the UN listed and the legal bodies of the UN, the International Law Commission and the International Law Association. *Id.*

and away from regionalization or fragmentation.[12] However, international lawmakers are still struggling to create a regulatory system that can be adopted by all countries universally.[13]

One wonders whether the United States' Clean Water Act ("CWA")[14] can be used as a model of centralized regulation.[15] The United States has a long history of federal regulation of water pollution.[16] The CWA sets out the basic rules for territorial responsibility, causation and a standard of care.[17] However, in order to be a successful model, the CWA must be a successful program. Further, the CWA must be transferable and translatable to the international community. This quest is problematic because although the U.S. court system has validated the CWA, the Act has not proven to be an effective vehicle for protecting the polluted state.[18] Because there is no consistent body of decisional law in the U.S. concerning the CWA, one cannot be certain whether the law governing transboundary pollution in the U.S. is, in actuality, more developed than that in the international community and, hence, used as a blueprint for international water pollution control.[19]

This Note examines whether the CWA can be used as a model of centralized regulation of transboundary pollution for the international community or whether the federal system is as flawed as the current international environmental legal regime. Part I gives an overview of the international norms and standards regarding trans-boundary pollution by examining several of the international

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12. *See* Merrill, *supra* note 6, at 931.

13. *See* discussion *infra* text Part I. Many of the international documents that create a model regulatory regime contain exceptions for those countries that do not have the economic or social means to begin a program banning pollution and punishing polluters.

14. Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (1994).

15. *See, e.g.*, Merrill, *supra* note 6, at 933.

16. *See* Ann K. Wooster, Annotation, *Actions Brought Under the Federal Water Pollution Control Acts Amendments of 1972 (Clean Water Act) (33 U.S.C.A. §§ 1251 et. seq.)—Supreme Court Cases*, 163 A.L.R. FED. 531, § 2(a) (2000).

17. *See* Merrill, *supra* note 6, at 934.

18. *See id.*

19. *See id.*

legal and political bodies that have been established in response to global water scarcity, and their weaknesses. Evident in these documents is the lack of monitoring and enforcement measures. Part II introduces background to the CWA, focusing on its treatment of transboundary pollution. Part II examines the 1997 United Nations Convention on the Non-Navigational Uses of International Watercourses and the Danube Dam Case, comparing these two new developments in international transboundary pollution to the CWA. Part III discusses the way North America has managed its international transboundary water resource conflicts and looks at the most recent of international water management agreements. Part IV returns to the CWA to answer the question of whether the future of clean global water depends on an existing example of centralized water management.

I. THE COMPLEX INTERNATIONAL SYSTEM OF BILATERAL TREATIES, MULTILATERAL ENVIRONMENTAL AGREEMENTS AND INTERNATIONAL CONVENTIONS

As previously stated, international environmental regulation is changing from a fragmented or regional approach to a global or centralized approach. Does this change mean success in controlling transboundary pollution? More than 200 multilateral agreements ("MEAs")[20] exist to deal with environmental issues. However, few MEAs deal directly with transboundary pollution.[21] Many bilateral treaties and agreements exist between nations sharing waterways, [22] but these treaties go largely unnoticed until an international dispute between parties to the agreement arises. A number of international

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20. One source puts this number at 216 and growing. *See* WTO, WTO REPORT: THE NEED FOR ENVIRONMENTAL COOPERATION (1999), *available at* http://www.wto.org/english/tratop_e/envir_e/stud99_e.htm (last visited Mar. 6, 2002).

21. *See* Merrill, *supra* note 6, at 933.

22. *See, e.g.*, Jesse H. Hamner & Aaron T. Wolf, *Patterns in International Water Resource Treaties: The Transboundary Freshwater Dispute Database,* 1997 COLO. J. INT'L. ENVTL. L. & POL'Y 157 (1997) (analyzing the 124 bilateral treaties governing the world's international watersheds negotiated since 1870).

water law conferences have been held, creating conventions and declarations;[23] yet these non-binding instruments merely propose governing principles and have little to do with liability and pollution limitations.[24]

A. *Water Scarcity and Unilateral Solutions*

Seventy percent of the world's surface is covered by water.[25] Ninety-seven percent of the total water supply is ocean water, and 2.5% of the remaining water supply is fresh water.[26] Further, as much of this fresh water supply is trapped in polar caps and glaciers, only an estimated 0.36% of the world's water can be used as a fresh water resource.[27] If the water supply were to remain at its present level and was evenly distributed, the fresh water supply would be enough for the world population.[28] However, while many of the developed countries have an abundance of fresh water, and have the economies and resources to keep it fresh and clean,[29] developing countries, who might not have enough fresh water to begin with, are faced with choosing between controlling water pollution or ensuring food availability and economic development.[30]

Developing countries often rely on industrialization to increase their economic growth.[31] Although industrialization causes pollution, the importance of a sustained economy is often seen to be of higher value to the developing countries than regulation and protection of the water supply.[32] Other economic development, such

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23. *See* The International Water Law Project, *supra* note 1 (for a list of conferences, agendas and papers).

24. *See generally* Hamner & Wolf, *supra* note 22, at 158 (analyzing the content of international multilateral and bilateral treaties and agreements dealing with non-navigational uses of water).

25. THE SCARCITY OF WATER, *supra* note 1, at 3.

26. *Id.*

27. *Id.*

28. *See* Sherk et al., *supra* note 4, at 2.

29. *Id.*

30. *Id.* at 2.2, 2.3.

31. *Id.* at 2.1.

32. *Id.* at 2.3.

as the building of dams of hydroelectric water plants, is another attempt to strengthen national economies.[33] Such development not only comes at the expense of safe water supplies but also increases the threat of ecological disasters.[34] Conservation is further stressed by a rapidly growing world population,[35] which places additional strain on existing clean water supplies.[36] Finally, agriculture consumes most of the available water supply, and agricultural policy, like industrial policy, often favors use, not conservation of the water supply.[37]

For nations whose fresh water supply is shared by another nation, bilateral treaties are the most common manner in which to set the rules and policies for each nation's use of such water.[38] These treaties also apportion amounts of water for each nation depending on which is the upstream state and which is the downstream state.[39] In places where there is conflict, either a joint commission or the ICJ may administer arbitration.[40] Conflict often occurs because instead of treaties being examined and re-drafted with the changing needs of the nations and new knowledge regarding environmental pollution

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33. *Id.*

34. *See* Sherk et al., *supra* note 4, at 2.3.

35. *See id.* at 3.1. The statistics on population growth is that, over the past 40 years, the population size has more than doubled to its present size of approximately 6 billion. It is projected that by 2100 the population will increase to around 12 billion. *Id.*

36. *Id.*

37. *Id.* at 2.2.

38. Merrill, *supra* note 6, at 932.

39. *See* THE SCARCITY OF WATER, *supra* note 1, at 12 (using as examples of bilateral treaties addressing transboundary water conflict: The Nile River Treaty System; article 6 of the Israeli-Arab water conflict; Israel-Jordan 1994 Treaty of Peace, article 6; 1987 Agreement on the Common Zambezi River System); *see also* Sherk et al., *supra* note 4, at 5.2—5.4 (for examples of the Indus River, the Meuse River and the Mekong River as shared waterways subject to treaty and conflict resolution).

40. *See supra* Sherk et al., note 4, at 5.2—5.4 (examples include the Mekong River Commission, the Permanent Joint Technical Committee between Egypt and Sudan, and the Joint Water Committee between Israel and Jordan).

addressed, the treaties are simply ignored until the pollution of one state environmentally threatens its neighbor.[41]

B. *Water Scarcity: International Response*

1. The Early Declarations and Customary International Law

Despite the prevalence of bilateral treaties, various international organizations under the umbrella of the United Nations have attempted to create universal norms and principles of water management.[42] The United Nations ("U.N.") was prompted to act by fear of upstream states strong-arming downstream states into unfavorable treaties, as well as by the developing countries favoring their own economic needs over the global necessity to control pollution. Two of the earliest and perhaps best-known statements concerning international trans-boundary pollution are Principle 21 of the Stockholm Declaration[43] and Article 10 of the Helsinki Rules.[44]

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41. *See* Hamner & Wolf, *supra* note 22, at 160 (citing as an example, the Jordan Basin). In this region, an unratified bilateral treaty led to unilateral development and eventually conflict which escalated to war in the early 1950's and mid-1960's. *Id.*

42. Although the history of U.N. organizations, conventions, declarations and agreements which deal with water problems is too voluminous for this paper, some of these organizations which tackled the water problem include: Food and Agriculture Organization of the United Nations, United Nations Development Program, United Nations Educational, Scientific and Cultural Organization, United Nations Environment Program, United Nations Children's Fund, United Nations Industrial Development Organization, World Health Organization ("WHO"), World Meteorological Organization and United Nations Conference on Environment and Development.

43. *Declaration of the United Nations Conference on the Human Environment*, princ. 21 (produced in Stockholm from June 5–16, 1972), *available at* http://www.unep.org/Documents/Default.asp?DocumentID=97&ArticleID=1503 (last visited Mar. 6, 2002) [hereinafter Stockholm Declaration].

44. *Helsinki Rules on the Uses of the Waters of International Rivers*, art. 10 (adopted by the International Law Association at the

Principle 21 states that all nations "have 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."[45] Likewise, the Helsinki Rules provide that a nation must prevent new or increased water pollution that would cause "substantial injury" in a co-basin nation.[46] Although these documents are not binding on the nations that have ratified them, the principles have since become customary international law, recognized by most nations as generally accepted principles of law.[47] Through principles such as these, international law has been able to limit the absolute territorial sovereignty of nations.

The first convention to build upon the principles of the Stockholm Declaration was the United Nations Conference on Environment and Development ("UNCED"), which met in Rio de Janeiro in June of 1992 ("Rio Declaration").[48] Seeking to both affirm and build upon the principles of the Stockholm Declaration, the participating states

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fifty-second conference, held at Helsinki in August 1966), *available at* http://www.inter nationalwaterlaw.org (last visited Mar. 6, 2002) (photocopy on file with the *Fordham Environmental Law Journal*) [hereinafter Helsinki Rules].

45. Stockholm Declaration, *supra* note 43, at princ. 21.

46. Helsinki Rules, *supra* note 44, at art. 10.

47. *See* Merrill, *supra* note 6, at 952–53.

48. U.N. ENV'T PROGRAMME, RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, U.N. Doc. A/Conf.151/26, U.N. Sales No. E.73.II.A.14 (1992), *available at* http://www.uneporg/Documents/Default.asp?DocumentID=78&ArticleID=1163 (last visited Mar. 6, 2002) [hereinafter RIO DECLARATION].

adopted Agenda 21,[49] an action program to guide governments in implementing national environmental legislation.[50]

Chapter 18 of Agenda 21 deals specifically with the issue of water scarcity.[51] The general objective of Chapter 18 objective is "to make certain that adequate supplies of water of good quality are maintained for the entire population of this planet, while preserving the hydrological, biological and chemical functions of ecosystems, adapting human activities within the capacity limits of nature and combating vectors of water-related diseases."[52] Chapter 18 then lists seven proposed program areas for safeguarding global water resources from pollution.[53] Each proposed program area identifies a set of objectives and activities to be carried out in the implementation of such program.[54]

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49. *Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources*, U.N. Environment Programme, Agenda Item 21, ch. 18, U.N. Doc. A/Conf.151/26 (1992), *available at* http://www.unep.org/Documents/Default.asp?Document ID=52&ArticleID=66 (last visited Mar. 6, 2002) [hereinafter Agenda 21].

50. *See* RIO DECLARATION, *supra* note 48. The Rio Declaration, including Agenda 21, is not binding nor self-executing. It is a guideline with an ambitious objective. State governments, in order to implement Agenda 21, must take the principles or programs and adopt them as local law. Principle 11 of the Rio Declaration states, "States shall enact effective environmental legislation." *Id.* at princ. 11.

51. *See generally* Agenda 21, *supra* note 49, at ch. 18.

52. *Id.* at ch. 18.2.

53. *Id.* at ch. 18.5. The seven programme areas are: "a) integrated water resources development and management; b) water resources assessment; c) protection of water resources, water quality and aquatic ecosystems; d) drinking-water supply and sanitation; e) water and sustainable urban development; f) water for sustainable food production and rural development; g) impacts of climate change on water resources." *Id.*

54. For example, the objectives for integrated water resources development and management ("Programme A") are:

In addition to being all encompassing,[55] Chapter 18 declares the development of an institutional mechanism to carry out the nations water policy as an objective without being explicit regarding what the water policy should be and how to develop the institutional mechanisms to carry it out.[56] For example, Chapter 18.12 refers

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> a) To promote a dynamic, interactive, iterative and multisectoral approach to water resources management
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> . . . .
>
> b) To plan for the sustainable and rational utilization, protection, conservation and management of water resources based on community needs within the framework of national economic development policy;
>
> c) To design, implement and evaluate projects and programmes . . . based on an approach of full public participation . . . .
>
> d) To identify and strengthen or develop . . . the appropriate institutional, legal and financial mechanism to ensure that water policy and its implementation are a catalyst for sustainable social progress and economic growth.

Id. at ch. 18.9. The activities for Programme A include: "h) [m]obilization of water resources, particularly in arid and semi-arid areas; l) [p]romotion of water conservation through improved water-use efficiency and wastage minimization schemes for all users, including development of water-saving devices; o) [d]evelopment and strengthening, as appropriate, of cooperation, including mechanisms where appropriate, at all levels concerned . . . ." *Id.* at ch. 18.12.

55. Chapter 18 attempts to address all the clean water concerns, including urban and rural, industrial and agricultural, developed and developing countries, sanitation, technology, social policy, minorities, economic strain and level of responsibility. It provides a good guideline for the direction development of environmental programs and for an assessment of goals, but it does not suggest a nation can actually attain such lofty goals. *See id.* at ch. 18.

56. Chapter 18.27 provides for all States to undertake an institutional framework, and determine what that institutional framework should do. At the same time, Agenda 21 does not provide how such framework should be formed or what liabilities or

specifically to action from the global level down to the lowest level.[57] This requires specific planning, management, delegation and harmonization to occur at every level.[58] However, the control of water policy at a local or regional level is completely different than at the national level—one approach is regionalized and the other is centralized. By including both options in the same sentence, Chapter 18 creates an action program that fails to determine which level of government is responsible for taking such action. Thus, far from creating an action plan, Agenda 21 simply reinforces the broad-based recommendations of policy made at Stockholm.

2. The World Trade Organization

Other than the 20 specialized agencies of the United Nations, no global international organization, such as the World Trade

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minimum limitations on pollution for which it should provide. *See id.* at ch. 18.27.

57. Chapter 18 distinguishes that:

> (i) At the lowest appropriate level, delegation of water resources management, generally, to that level, in accordance with national legislation, including decentralization of government services to local authorities, private enterprises and communities;
>
> (ii) At the national level, integrated water resources planning and management in the framework of the national planning process and, where appropriate, establishment of independent regulation and monitoring of freshwater, based on national legislation and economic measures;
>
> (iii) At the regional level, consideration, where appropriate, of the harmonization of national strategies and action programmes;
>
> (iv) At the global level, improved delineation of responsibilities, division of labour and coordination of international organizations and programmes, including facilitation discussions and sharing experience in areas related to water resources management.

Agenda 21, *supra* note 49, at ch. 18.12(o).

58. *Id.*

Organization ("WTO") has addressed the problem of a diminishing and dirty transboundary water supply.[59] The WTO is strictly concerned with the international trade in goods. Water is not currently thought of as a tradable good, but what if it was? One can imagine if water does become a tradable commodity, the WTO would regulate such trade.

The WTO came into effect for all member nations on January 1, 1995.[60] Agreements that govern the WTO include the 1947 General Agreement on Tariffs and Trade ("GATT"), as amended,[61] as well as numerous side agreements dealing with specific areas of trade.[62] The

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59. The World Bank is an organization that funds many developing nations in an attempt to solve their water crises, but it too falls under the U.N. umbrella. The organizations list, *supra* note 42 and all the conventions and declarations listed in the Protocol, *infra* text Part III, also fall under the U.N. umbrella. I except this of any of the charters of regional economic integrations, such as the European Union, the Association of South East Asian Nations, or the North American Free Trade Association because they necessarily exclude truly global interests and problems.

60. The present set up of the WTO was concluded in 1994 at the end of the last of the Round negotiations, the Uruguay Round of Multilateral Trade Negotiations. The Final Act, incorporating the GATT and the side agreements, was also finalized in 1994, but all agreements as well as the WTO itself entered into force as of Jan. 1, 1995. There are over one hundred governments who are members of the WTO.

61. Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, LEGAL INSTRUMENTS–RESULTS OF THE URUGUAY ROUND vol. 1 (1994), 33 I.L.M. 1125 (1994) [hereinafter Final Act]. When this Note refers to GATT, it refers only to the amended GATT of 1994.

62. *See, e.g.*, Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS–RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 81 (1994) [hereinafter TRIPS Agreement]; Agreement on Agriculture, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, LEGAL INSTRUMENTS–RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 28 (1994) [hereinafter

closest the WTO comes to dealing with environmental issues is in Article XX, which are the general exceptions of GATT,[63] and the Agreement on the Application of Sanitary and Phytosanitary Measures ("SPS Agreement").[64]

The water regulation issue has never come up as a matter of dispute among WTO member nations.[65] However, it is possible that

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Agriculture Agreement]; Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, LEGAL INSTRUMENTS–RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 28 (1994) [hereinafter SPS Agreement].

63. The environmental exceptions listed in Art. XX may be found at XX(b) and (g). The chapeau to Art. XX states that:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustified discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
> XX (b):necessary to protect human, animal or plant life or health; and
> XX(g): relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

Final Act, *supra* note 61, at arts. XX, XX(b), XX(g).

64. The SPS Agreement is an elaboration of the rules of GATT XX(b), and includes "any sanitary or phytosanitary measures necessary for the protection of human, animal or plant life or health . . ." SPS Agreement, *supra* note 62, at art. 2(1).

65. Under both the GATT and then the WTO, there have been only eight environmental panel proceedings under the dispute mechanism since 1948. All measures involved the GATT Article XX exceptions. They included: Prohibition on Imports of Tuna and Tuna Products (Can. v. U.S.) (1982); Measures Affecting Exports of Unprocessed Herring and Salmon (Can. v. U.S.) (1988); Restrictions on the Importation of and Internal taxes on Cigarettes (U.S. v. Thail.) (1990); Restrictions on Imports of Tuna (Mex. v. U.S.)

a national measure relating to water use, production or consumption that causes a restraint on trade may violate either Articles XX(b) or XX(g) of GATT or the SPS Agreement.[66] Additionally, certain water related technology might be protected by patent law and, therefore, fall under the Agreement on Trade Related Aspects of Intellectual Property Rights ("TRIPS").[67] Thus, the existence of the WTO may already indirectly affect transboundary water law.

What if water became a product for export? If water became an expendable commodity to developed, water-rich countries and a cheap but necessary commodity for water-scarce countries to buy,[68]

(1991); Restrictions on Imports of Tuna (European Union v. U.S.) (1994); Taxes on Automobiles (European Union v. U.S.) (1994); Standards for Reformulated and Conventional Gasoline (Venez. & Braz. v. U.S.) (1996); Import Prohibition of Certain Shrimp and Shrimp Products (India, Malay., Pak. & Thail. v. U.S.) (1998). In addition, European Community Measures Concerning Meat and Meat Products (Can. & U.S. v. European Union) (1998), involved the SPS Agreement. *See* Environmental Disputes in GATT/WTO (providing links to panel proceedings involving the examination of environmental measures or human health-related measures under GATT Article 20), *available at* http://www.wto.org/english/tratop_e/envir_e/edis00_e.htm (last visited Mar. 6, 2002) [hereinafter Beef Hormones case].

66. For example, a measure which prohibits the import of certain products which may have the effect of de-purifying water, if disposed of incorrectly, may be argued as being trade restrictive, but may be justified as necessary for the protection of human health or life, particularly if such measure is advocated or supported by the Protocol.

67. Water safety technology, testing equipment, etc. may have intellectual property rights and therefore be governed under the TRIPS. *See* TRIPS Agreement, *supra* note 62.

68. It is suggested that this proposition is already occurring, and may in fact be a more efficient means of water allocation in poor water countries, than the more expensive means of creating and maintaining a system to prevent and monitor water pollution. *See* THE SCARCITY OF WATER, *supra* note 1, at 106 (quoting M. Thobani, *Tradable Property Rights to Water*, World Bank Paper (1995)).

it would be governed either by GATT as a product/good or by TRIPS as a property right.[69]

Although the WTO has not directly addressed the question of regulating the global water supply, it has formed the Committee on Trade and Environment ("CTE"). The CTE has recently completed a special study on Trade and Environment[70] and has recommended that the WTO not tackle these issues.[71] According to the CTE, the WTO's most influential role in serving environmental needs would be as a model of international cooperation upholding all legal rights and obligations.[72] The WTO's reluctance to take on an environmental agenda suggests that it will not likely replace the U.N. as a forum for the resolution of environmental and transboundary disputes between nations.[73]

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69. *Id.*; *see also id.* at 253 (for the proposition that if water becomes a tradable good under GATT, it would be subject to the same provisions on tariffs and export restrictions. Provisions restricting the amount of water leaving or entering a State could come under Article XI of GATT).

70. The CTE is used as a forum for WTO Members to discuss environmental issues and was set up by the 1994 Ministerial Decision on Trade and Environment. The Trade and Environment study, released in October 1999 mainly discusses the relation of MEAs to the CTE. The conclusion is that the best way to deal with international environmental problems is via MEAs, not the WTO. *See* Work of the Trade and Environment Committee, *at* http://www.wto.org/english/thewto_e/minist_e/min99_e/english/about_e/13envi_e.htm (last visited Mar. 6, 2002).

71. *See id.* "The WTO is not an environmental agency. Its members do not want it to intervene in national or international environmental policies or set environmental standards. Other agencies that specialize in environmental issues are better qualified to undertake those tasks." *Id.*

72. *Id.*

73. *See* THE SCARCITY OF WATER, *supra* note 1, at 109.

> The crucial question is whether unilateral measures of governments to protect the trade in fresh water in the context of the right to an adequate standard should be considered as not 'necessary,' taking into account GATT's preference for international agreements; Practice

II. A COMPARATIVE REGIME

To view the U.N. as filling the need for an international manager of the environment is clearly an exercise in futility. The U.N. monitors environmental threats, fosters cooperation among nations, provides financial assistance and sets forth goals for the nations to meet.[74] But there is not one organization that is directly responsible for enforcing implementation of national environmental programs, arbitrating conflicts among nations or even collecting information on the successes or failures of the national programs.[75] In particular, neither the documents of the U.N. dealing with water pollution nor the WTO agreements offer any insight regarding how to translate soft law into hard law.

A. *The Clean Water Act—A Brief Overview*

One example of a hard law concerning water management is the United States Clean Water Act ("CWA"). The CWA addresses the problems and difficulties facing an organization attempting to structure a centralized program of water law. Thus one can anticipate the problems of international regulation of water by comparing the CWA to the current international structures in place.

The Federal Water Pollution Control Act (or CWA) was enacted in 1948 with the aim of "restor[ing] and maintain[ing] the chemical, physical and biological integrity of the Nation's waters."[76] The Act sets up a structure by which both the states and the federal government maintain their sovereign power in certain defined

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> has shown that the former GATT panels dealing with disputes between states regarding the interpretation of the general exception clause did not take recommendations of the U.N. specialized agencies into account if they did not fit into the protection of freedom of international trade.

Id.

74. *See* Catherine Tinker, *Environmental Planet Management by the United Nations: An Idea Whose Time Has Not Yet Come?*, 22 N.Y.U. J. INT'L. L. & POL., 793, 798–99 (1990).

75. *Id.* at 805.

76. 33 U.S.C. § 1251(a) (1995).

areas.[77] Specifically, each state may establish its own systems of water management, including setting pollution limitations, provided that they at least meet the minimum standards set forth by the federal government.[78] The federal agency responsible for setting these minimum standards and for overseeing the states' actions is the Environmental Protection Agency ("EPA").[79]

The CWA takes two approaches to protect water from pollutants: effluent limitations[80] and water quality standards.[81] Although the basic premise is that pollution is illegal[82] there are exceptions to this rule.[83] One such exception is the provision to allow effluents, which are pollutants, to enter a body of water.[84] An effluent limitation is a restriction on quantities, rates and concentrations of effluents.[85] Effluent limitations may be set either by the states or by the Administrator.[86] States can adopt limitations that are stricter than the

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77. Leonard B. Dworsky et al., *Water Resources Planning and Management in the United States Federal System: Long Term Assessment and Intergovernmental Issues*, 31 NAT. RES. J. 475, 525 (1991).

78. *Id.*

79. *See* 33 U.S.C. § 1251(d).

80. *See id.* § 1311.

81. *Id.* § 1313.

82. *Id.* § 1311(a). "Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful." *Id.*

83. *Id.* (Sections 1312, 1316, 1317, 1328, 1342 and 1344 set out these exceptions).

84. *See id.* § 1362(6).

85. 33 U.S.C. § 1362(11).

86. *See id.* § 1370.

> Except as expressly provided in this chapter, nothing in this chapter shall (1) preclude or deny the right of any State . . . to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution; except that if an effluent limitation . . . is in effect under this chapter, such State . . . not adopt or enforce any effluent limitation . . . which is less stringent than the effluent limitation . . . under this chapter.

federal standards, however, state limitations cannot be lower than the federal limitations.[87] State limits on effluents must be approved by the EPA and are subject to review by the proper authority.[88]

States also set their own water quality standards.[89] These standards, approved by the EPA, are then maintained and enforced by each state for its own waters.[90] The EPA Administrator proposes water quality standards for any state that does not set its own standards.[91] The criteria used for water quality are based on standards necessary to protect public health, as well as fish and wildlife and recreational activities involving the particular navigable water.[92]

The system of maintaining effluent limitations and water quality standards is administered through the National Pollutant Discharge

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Id.

87. *Id.*

88. *See id.* § 1313(b)(2)(A) "Whenever the State revises or adopts a new standard, such revised or new standard shall be submitted to the Administrator." *Id.* § 1313(b)(3). "If the Administrator . . . determines that such standard meets the requirements of this chapter, such standard shall thereafter be the water quality standard of that State." *Id.* Such review of standards by the Governor of the State or the State water pollution control agency takes place at least once every three years via public hearings.

89. *The 1998 Idaho Water Quality Symposium*, 35 IDAHO L. REV. 453, 466 (1999). Generally, the States set water quality standards while effluent limitations are technology-based minimum standards set by the EPA. Water quality standards must be based on

> (1) the 'designated uses' of the waters, such as for fishing, swimming, drinking, or protection of aquatic life; (2) 'water quality criteria' necessary to protect such uses, that may be expressed in narrative form, numeric criteria, or both; and (3) an 'anti-degradation' requirement, prohibiting deterioration or degradation of surface waters from current conditions.

Id.

90. *See id.*

91. *See* 33 U.S.C. § 1313(b)(1) (1994).

92. *Id.* § 1312(a).

Elimination System ("NPDES").[93] The NPDES is a permit issued by the EPA Administrator, after a public hearing, for the discharge of any pollutant. Before issuing a permit, the Administrator determines whether the polluter will meet the requirements under the Act or any such other requirements the Administrator deems necessary.[94] States are authorized to administer such a permit program for discharge of pollutants into navigable waters within its jurisdiction.[95] However, no permit will be issued if the Administrator objects. [96] Additionally, the Administrator can withhold approval of any state permit program that does not ensure compliance with the requirements of the Act.[97]

None of the international documents addressing clean water resources provide for an administering body such as the EPA or a clear and established pollution controlling system such as the NPDES system. At the same time, the CWA takes into account the need for state sovereignty, albeit a limited sovereignty. Limitations of the CWA are set forth in Part III.B, and include an apparent preference for the rights of a source state over those of an affected state and preventing states from overriding an Administrator's decision.

B. *North America's International Water Management System*

In addition to its own water management, the United States is involved in the international management of its shared water resources with Mexico and Canada. Each of these nations has its own national clean water regulations, but they submit their disputes over boundary waters to the International Commissions that govern them.[98] The United States, Mexico and Canada have two international commissions to regulate and manage the water that

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93. *Id.* § 1342(a)(1).

94. *Id.*

95. *Id.* § 1342 (a)(5).

96. *Id.*

97. *See* 33 U.S.C. § 1342 (a)(5).

98. *See generally* Leonard B. Dworsky & Albert E. Utton, *Assessing North America's Management of its Transboundary Waters*, 33 NAT. RES. J. 413 (1993).

these nations share.[99] The International Joint Commission (U.S./Canada) and the International Boundary and Water Commission (U.S./Mexico) reconcile water disputes over their international boundary waters via dispute resolution.[100]

Besides administering treaties for the Colorado, Rio Grande and Tijuana Rivers, the commissions have recently faced new challenges in transboundary management.[101] Such problems include the negative effects of acid rain, irrigation and sewage problems, and power plant discharges.[102] Additional concerns such as protection of biodiversity, a growing policy movement towards ecological management, and an increase in bilateral trade agreements force the commissions to tackle and solve a variety of water management issues.[103] The successes, failures and challenges that face these two commissions would be the same as those that face any commission that both manages international resources and resolves international conflicts.

An obvious failure of the kind of international water management system, such as the IJC and the IBWL is that the governments of the nations involved refuse to acknowledge or implement the agreements and standards set by the commissions.[104] The IJC is governed by the 1909 Boundary Waters Treaty, which provides certain mechanisms and principles for the Commission to follow in

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99. *Id.* at 413–14. The International Joint Commission ("IJC") reconciles disputes between the U.S. and Canada while the International Boundary and Water Commission ("IBWC") reconciles disputes between the U.S. and Mexico. Although they have mainly been limited bodies to reconcile disputes, recently a conference was held to assess how the Commissions and the three governments could work together to share resources, cooperate and avoid international conflict. *Id.*

100. *Id.*

101. *Id.* at 415.

102. *Id.* at 416.

103. *Id.* at 415.

104. *See generally* Dworsky & Utton, *supra* note 98 at 420–21. Neither the U.S. nor Canada have implemented Water Quality Agreements promulgated by the IJC and have failed to use water quality standards geared towards the restoration of the Great Lakes. *See id.*

the prevention and resolution of disputes between U.S. and Canadian shared water.[105] Although the IJC is succeeding in setting water levels and water allocations, it has underused its powers to enforce water quality.[106] Both Canada and the U.S. should allow the Commission to exert bi-national control over water quality standards,[107] as the U.S. government has done in exerting federal control over water pollution between its states.

In order for these international commissions to be successful, the three governments of the U.S., Canada and Mexico must create the authorities or institutions actually needed to implement and enforce the principles and guidelines of the commissions, while further making implementation of an international water program a priority.[108] The IJC, for example, has the authority to conduct hearings, make findings, suggest policy objectives and set forth guidelines,[109] but these results are all ineffective if not signed into law by both the United States and Canada. Similar to the existing international conventions on clean water, the commissions cannot work without recognition and implementation by the national governments of the legitimacy of international standards and control mechanisms.

III. THE U.N. CONVENTION ON THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES

The international community has recently re-examined the problem of water control. One can argue that the international initiatives have taken into account both the success and the failures of the CWA. In 1997, there were two major developments in

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105. *Id.* at 420.

106. *Id.* at 422.

107. *Id.* at 427. The U.S. government established not only statutory principles, goals and standards, but also created a governmental authority, the EPA, to oversee and manage the federal, state and local enforcement of the statute. *See id.*

108. *Id.* at 426.

109. *Id.* at 428 n.30 (stating that Article X of the 1909 Boundary Water Treaty authorizes the dispute finding and recommendation authority of the IJC).

international clean water management. The first development occurred when the first environmental case went before the ICJ. This case involved a transboundary water conflict between Hungary and Czechoslovakia.[110] The second development was the general acceptance of a new international convention governing the uses of transboundary water resources.[111] The international community has hailed this new convention as the answer to the inherent conflict between sovereign national water management and international water management. The combination of these two developments indicated that the world may be ready for a change in the status quo regarding transboundary water quality.

A. *The Danube Dam Case*

In 1997 the ICJ ruled on its first environmental treaty dispute case.[112] Although the case concerned a dispute over a bi-lateral treaty, it highlighted the problem of inadequate international cooperation on environmental issues. The leaders of Hungary and the (former) Czechoslovak Republic signed a treaty in 1977 for the construction and operation of the Gabčíkovo-Nagymaros System of Locks.[113] The project included two hydroelectric power plants and the building of a dam and canal through which to divert water.[114] The idea was to produce hydroelectricity while protecting against flooding.[115] The two countries had agreed to share the financing, construction and management of the project.[116] Each party would

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110. *See* discussion *infra* Part III.A.

111. *See* discussion *infra* Part III.B.

112. *See* Colleen P. Graffy, *Water, Water Everywhere, Nor Any Drop to Drink: The Urgency of Transnational Solutions to International Riparian Disputes*, 10 GEO. INT'L ENVTL. L. REV. 399, 432 (1998); *see also* S. Stec & G.E. Eckstein, *Of Solemn Oaths and Obligations: The Environmental Impact of the ICJ's Decision in the Case Concerning the Gabikovo-Nagymaros Project*, 8 Y.B. OF INT'L. ENVTL. L. 41 (1998).

113. *See* Graffy, *supra* note 112, at 432.

114. *Id.*

115. *Id.*

116. *Id.*

contribute to the project, and both would equally reap the benefits.[117] The 1977 Treaty set out guidelines for preserving the quality of water prior to the project.[118]

The dispute between the two parties arose in 1989 when Hungary abandoned the project, citing negative environmental risks caused by the project.[119] Czechoslovakia elected to continue with the project, creating a dam in its own territory and under its own control.[120] Czechoslovakia's dam was known as "Variant C."[121] In May of 1992, Hungary formally terminated the 1977 Treaty itself.[122] This act led to the parties submitting their dispute to the ICJ in June 1993.[123] In making its decision, the Court relied on the 1977 Treaty and principles of customary public international law.[124]

The Danube Dam case indicated the first time an esteemed international high court had an opportunity to make rulings on principles and to set precedent that would guide international environmental law.[125] The Court first found that Hungary did not have a right to suspend and abandon the project,[126] nor to walk away from the 1977 Treaty.[127] Second, the Court found that

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117. *Id.*

118. *Id.* at 432–33.

119. *See* Graffy, *supra* note 112, at 433.

120. *Id.*; *see also* Gabriel Eckstein & Yoram Eckstein, *International Water Law, Groundwater Resources and the Danube Dam Case*, *in* GAMBLING WITH GROUNDWATER—PHYSICAL, CHEMICAL AND BIOLOGICAL ASPECTS OF AQUIFER-STREAM RELATIONS, 243, 245 (John Van Brahana et al., eds., 1998).

121. *See* Graffy, *supra* note 112, at 433; *see also* Eckstein & Epstein, *supra* note 120, at 243.

122. *See* Graffy, *supra* note 112, at 433.

123. *Id.* at 434.

124. *Id.* at 436.

125. *See* Stec & Eckstein, *supra* note 112, at 49.

126. "The Court . . . [f]inds . . . that Hungary was not entitled to suspend and subsequently abandon, in 1989, the works on the Nagymaros Project on the part of the Gabčíkovo Project for which the Treaty of 16 September 1977 and related instruments attributed responsibility to it." Gabčíkovo-Nagymaros Project, *supra* note 10, at 79.

127. *Id.*

Czechoslovakia had the right to proceed with what was considered a "provisional"[128] solution.[129] The main point of contention among the justices was that Hungary had not conclusively supported its fear of risk of a grave and imminent peril.[130] In choosing not to weigh the scientific evidence of both sides, but instead using customary international law, the court concluded that Hungary's threats did not amount to a grave and imminent peril.[131]

Reaching its decision, the Court chose not to make any decisive statements about environmental law,[132] finding only that Hungary had prematurely terminated the Treaty.[133] Hungary could have simply incorporated its environmental concerns into the original Treaty, by amendment, through articles 15, 19 and 20 of the 1977

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128. Czechoslovakia itself considered Variant C provisional because it was a temporary measure and had been conducted within the framework of the 1977 Treaty. *See id.* at 46.

129. *Id.* at 79. The Court found "that Czechoslovakia was entitled to proceed, in November 1991, to the 'provisional solution' as described in the terms of the Special Agreement." *Id.* There was some discussion that Variant C was a unilateral provisional solution in violation of international law, yet because it had not been put into operation, Czechoslovakia was entitled to continue with its construction. *See, e.g.*, Stec & Eckstein, *supra* note 112, at 44.

130. *See* Eckstein & Eckstein, *supra* note 120, at 243; *see also* Gabčíkovo-Nagymaros Project, *supra* note 10, at 37. In following the International Law Commission's Article 33 of the Draft Articles on the International Responsibility of States and customary international law, the Court, in the words of the Draft Articles, concluded that there must have been an "essential interest" of the State to act in conflict with its international obligations, and that such interest must be threatened by a "grave and imminent peril." *Id.*

131. *See* Gabčíkovo-Nagymaros Project, *supra* note 10, at 37.

132. *Id.* at 38. The Court supplemented its finding that Hungary had not proved imminent peril by first stating that it has stresses, "the great significance that it attaches to respect for the environment, not only for States, but also for the whole of mankind." *Id.*

133. *Id.* at 63.

Treaty.[134] These articles were included to allow the parties to accommodate new states of environmental knowledge.

> The articles do not contain specific obligations of performance but require the parties, in carrying out their obligations to ensure that the quality of water in the Danube is not impaired and that nature is protected, to take new environmental norms into consideration when agreeing upon the means to be specified in the Joint Contractual Plan.[135]

The Court continues by saying that implementation of new norms must be a mutual arrangement translating into specific obligations.[136] Additionally, the notice of termination Hungary gave to Czechoslovakia was ineffective in and of itself to terminate the Treaty.[137] Due to this inadequacy of termination, both parties were still under legal obligation to continue to negotiate the terms of the Treaty in good faith, taking environmental impacts into consideration.[138]

Although the Court chose to look at this case not as an environmental dispute but rather as a treaty dispute, some commentators feel the Court went far enough in supporting international environmental law and that the ruling marks a turning

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134. *Id.* at 64.

135. *Id.*

136. *See id.*

137. *See* Eckstein & Eckstein, *supra* note 120, at 245–46.

138. *See* Gabčíkovo-Nagymaros Project, *supra* note 10, at 75. The Court stresses that new environmental norms and standards should be taken into consideration even when continuing with activities already begun.

> It is not for the Court to determine what shall be the final result of these negotiations to be conducted by the Parties. It is for the Parties themselves to find an agreed solution that takes account of the objectives of the Treaty, which must be pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses.

Id. The Court had previously mentioned the recent adoption of the 1997 U.N. Convention on the Law of the Non-Navigational Uses of International Watercourses.

point in international environmental awareness.[139] Conversely, some critics argue that the Court's refusal to consider the real scientific evidence put before it of the risk of environmental harm was a setback for international environmental law.[140] However, because the ruling came from the ICJ, it seems clear that other courts will look to this decision when deciding issues of international environmental law, and particularly transboundary watercourse use.[141]

B. *The International Law Commission's Convention on the Law of the Non-Navigational Uses of International Watercourses*

In the Danube Dam Case, the Court not only mentioned, but also directly quoted from, the U.N. Convention on the Law of the Non-

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139. *See* Graffy, *supra* note 112, at 439 (concluding that the Court reinforced the view that international water boundaries must be a source of unity, that non traditional tools such as the precautionary principle, sustainable development and environmental rights can be used in environmental impact assessment, and encouraged State cooperation of the 1997 Convention). "The [Gabčíkovo-Nagymaros] Case can be viewed as a barometer of humanity's growing environmental awareness. By demonstrating the balance which must be maintained between pursuing economic projects and preserving the quality of the environment, it signifies a turning point and indicates just how far we have come." *Id.* at 439.

140. *Compare* Graffy, *supra* note 112, at 440, *with* Stec & Eckstein, *supra* note112, at 41, *and* Eckstein & Eckstein, *supra* note 120, at 247 (arguing that the decision failed to give recognition to the changing international norms relating to sustainable development by neglecting to apply the international law on the use of shared watercourses and by avoiding scientific justification for the Court's conclusions). On the scientific evidence point, Gabriel and Yoram Eckstein wrote, "[t]here is presently an absence of scientific knowledge among government officials, legislators, policy-makers, jurists and legal scholars. This situation often results in significant problems of inadequate protection, mismanagement, and certainly damage to natural resources ad the environment." Eckstein & Eckstein, *supra*, at 246–47.

141. Eckstein & Eckstein, *supra* note, at 246–47.

Navigational Uses of International Watercourses, which had just been adopted in April of 1997 ("1997 Convention").[142] In doing so, the Court reminded the parties that they must communicate with each other in order to adhere to the principle of using, managing and sharing the watercourse in an "equitable and reasonable manner".[143] This principle is the cornerstone of the 1997 Convention.[144] The basis of this principle is that all states have a sovereign right to use the water in its own territory as it sees fit.[145] In an international context, riparian states have equal rights to use shared water.[146] It becomes necessary to use equity and reason as the principles to

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142. The Court quoted from Article 5, paragraph 2, for the proposition that States must adhere to the principle of equitable and reasonable manner for use of shared international watercourse. *See* Gabčíkovo-Nagymaros Project, *supra* note 10, at 77. "Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner." *United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses*, U.N. GAOR 6th Comm., 2nd Sess., art. 5, para. 2, U.N. Doc. A/51/869 (1997) [hereinafter 1997 Convention]. This document is also assesable at http://www.dundee.ac.uk/cepmlp/water/assets/images/UNCONV.doc.

143. 1997 Convention, *supra* note 142, at art. 5, para.1. Article 5, paragraph 1 states:

> Watercourse States shall, in their respective territories utilize and international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the Watercourse States concerned, consistent with adequate protection of the watercourse.

Id. at art. 5, para. 1.

144. *See* THE SCARCITY OF WATER, *supra* note 1, at 83.

145. *Id.*

146. *Id.*

temper implementation of such sovereign rights,[147] otherwise conflict and/or a reduction in the quality or quantity of water will ensue.[148]

Similar to the Convention on the Law of the Navigational Uses of International Watercourses, the CWA also demands tempered execution of state sovereignty. However, U.S. courts support the need to allow the EPA Administrator discretion in how the water pollution laws are interpreted and implemented.[149] When the need arises, the federal government can take matters out of the hands of the state and force administration on a federal level.[150] The U.S. Supreme Court, in the case of *International Paper Company (IPC) v. Ouellette*,[151] was asked to answer the question of whether the CWA pre-empted a common law nuisance suit, which is filed under the law of an "affected" state, when the source of the injury is another state.[152] The court ruled that the CWA pre-empts an affected state from being able to stop the issuance of a permit allowing a source state to discharge pollutants that would affect the quality of the water in another state.[153]

According to the Supreme Court in *Ouellette*, a source state may impose more stringent discharge limitations upon a point source located within its borders than the limitations set by the federal government.[154] In contrast, an affected state that is subjected to pollution originating from a source state does not have the ability to refuse the issuance of an NPDES permit to that source state.[155] The only recourse an affected state has is the right of notice by the source state and the right to a hearing held by the agency before the reissuance of a permit.[156] The Court in *Ouellette* held that "when a

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147. *Id.*

148. *Id.*

149. *See, e.g.*, Arkansas v. Oklahoma, 503 U.S. 91 (1992); *see also infra* pp. 195–96.

150. *See* Lawrence J. MacDonnell, *Federal Interests in Western Water Resources: Conflict and Accommodation*, 29 NAT. RESOURCES J. 389, 390 (1989).

151. 479 U.S. 481 (1987).

152. *See Oullette*, 479 U.S. at 487.

153. *Id.* at 500.

154. *Id.* at 494; *see also* 33 U.S.C. §1311(g)(2) (1994).

155. *See* 33 U.S.C. §1342(b)(5).

156. *See id.* § 1342(b)(3).

court considers a state law claim concerning interstate water pollution that is subject to the CWA, the court must apply the law of the State in which the point source is located."[157] The Court also clearly states that pre-emption was necessary since allowing a suit based on the law of an affected state was "inconsistent with 'the full purposes and objectives of Congress.'"[158]

Although neither the 1997 Convention nor the judgment of the Danube Dam case were as explicit as the *Ouellette* Court in limiting state sovereignty, both the 1997 Convention and the ruling also recognize that international cooperation necessitates a limitation in a nation's rights. Article 3 of the 1997 Convention calls for Watercourse States[159] to enter into "watercourse agreements" that use the provisions of the 1997 Convention as a framework.[160] In cases where bilateral agreements already exist, the Convention does not affect the rights or obligations of any party.[161] Watercourse States are obligated to cooperate with each other "on the basis of sovereign

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157. *Oullette*, 479 U.S. at 487. The Supreme Court reversed the decision of the District Court and the Court of Appeals which adopted the interpretation that a state action involving interstate water pollution would be maintained under the law of the state in which the injury occurred. In doing so, it ignored the concerns expressly laid out in *Illinois v. Milwaukee*, 731 F.2d 403 (7th Cir. 1986), *cert. denied*, 469 U.S. 1196 (1985).

158. *Oullette*, 479 U.S. at 499 n.20 (quoting *Hillsborough Court v. Automated Med. Labs*, 471 U.S. 707 (1986)). The holding in this case was limited to only an affected State's input into the permit process by *Arkansas v. Oklahoma,* 503 U.S. 91, 100 (1992).

159. 1997 Convention, *supra* note 142, at art. 2. A Watercourse State is defined as a "State Party to the Convention in whose territory part of an international watercourse is situated or a party that is a regional economic integration organization, in the territory of one or more of whose Member States part of an international watercourse is situated." *Id.*

160. *Id.* at art. 3, para. 3. "Watercourse States may enter into one or more agreements, hereinafter referred to as: 'watercourse agreements,' [sic] which apply and adjust the provisions of the present Convention to the characteristics and uses of a particular international watercourse or part thereof." *Id.*

161. *See id.*

equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse."[162] In doing so, the 1997 Convention encourages the use of joint mechanisms or commissions to aid in cooperation.[163]

Besides the principle of equitable and reasonable utilization, under the 1997 law, nations are also to govern shared watercourses with the principle of no-harm.[164] The "No Significant Harm Principle" is located in Article 7, paragraph 1, which states, "Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other Watercourse States."[165] Because the "No Significant Harm Principle" inherently adopts the doctrine of prior appropriation, which protects first time users, and the principle of equitable and reasonable utilization is more of a balancing approach, one can argue that these two principles will be inconsistent in their use.[166] In order to assess whether harm has occurred, the "No Significant Harm Principle" prescribes nations to account for the current state of their water, while the principle of equitable and reasonable use doctrine begins with a clean water source.

The main problem with these two divergent principles is that their use could result in inequity between developed nations and the developing nations, who are usually the nations most in need of

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162. *Id.* at art. 8, para. 1.

163. *Id.* at art. 8, para. 2.

164. *See* Laurence Boisson de Chazournes, *The UN Convention on International Watercourses: Prospects for an Unfinished Agenda for Co-Management*, *available at* http://gurukul.ucc.american.edu/maksoud/water98/present7.htm (last visited March 9, 2002); *see also* Sharif S. Elmusa, *Harmonizing Equitable Utilization and Significant Harm: Comments on the 1997 ILC Convention*, *available at* http://gurukul.ucc.american.edu/maksoud/water98/present7.htm (last visited Mar. 9, 2002).

165. 1997 Convention, *supra* note 142, at art. 7, para. 1.

166. *See* David J. Lazerwitz, *The Flow of International Water Law: The International Law Commission's Law of the Non-Navigational Uses of International Watercourses*, 1 IND. J. GLOBAL LEGAL STUD. 247 (1993), *available at* http://ijgls.indiana.edu/archive/01/01/lazerwitz.shtml (last visited Mar. 9, 2002).

equal bargaining power.[167] The inequity between developed nations and developing nation is reinforced due to the balancing clause. Inherent in a balancing clause is the problem of nation/nation conflict. Because the standard of equitable and reasonable utilization is a higher standard than that of no significant harm, nations with different standards may disagree over which standard governs their own cooperation in international water standards.

Similar to the 1997 convention, the CWA also deals with state/state conflict. States within the United States that share a waterway face the same issues as nations that share a waterway. Upstream states typically have a riparian notion that they can use the water as they see fit, while the downstream states often get the brunt of pollution from the upstream state.[168] The CWA does not expressly allow for states to commence civil litigation against each other. Instead, state governments may proceed with civil action against an Administrator for failure to enforce an effluent limitation, which resulted in degradation to public health or which is a violation of that state's water quality standards.[169] Nevertheless, the United States judicial system has resolved civil conflicts of transboundary water pollution.

There was an upstream (Arkansas)/downstream (Oklahoma) state conflict over shared waterways within the United States in *Arkansas v. Oklahoma*.[170] Oklahoma has adopted as part of its water quality standards the federal anti-degradation policy, which prohibits any further degradation of the water quality.[171] The anti-degradation policy is similar to the no significant harm principle.

In this case, the Supreme Court found that the EPA could issue a permit allowing an Arkansas sewage treatment plant to discharge effluents into the Illinois River even though the result of such

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167. *See id.*; *see also* Sherk et al., *supra* note 4, at 7.2 (arguing that although the two principles can be read together, in practice, they will yield different results).

168. *See* THE SCARCITY OF WATER, *supra* note 1, at 36 (for a discussion of third world examples of upstream/downstream competition). Population growth and water scarcity are additional factors that would add to such a potential conflict. *Id.*

169. *See* 33 U.S.C. § 1365(h) (1994).

170. 503 U.S. 91 (1992).

171. Arkansas v. Oklahoma, 503 U.S. 91, 95–96 & nn. 1–2 (1992).

discharge would violate Oklahoma's water quality standards.[172] The EPA had justified issuing the permit to the plant in Arkansas by concluding that since the water was already polluted, any added effluents would not produce a detectable change in the water quality.[173] Therefore, the water quality standards of Oklahoma were not violated by the Arkansas discharge. The Court reinforced the notion that the EPA Administrator has broad discretion in objecting to or allowing State issuance of a permit or in issuing a permit itself.[174] Justice Stevens repeated the rule that federal law controls interstate water pollution, concluding that permit decisions are to be entrusted to the EPA and not settled by the courts. [175] The courts favor the power entrusted to the EPA by Congress.

The 1997 Convention is different in its framework from the CWA because it provides comprehensive rules for international use and management of shared waterways.[176] The framework includes ways for Watercourse States to reach mutual agreements on measures that protect and preserve an international watercourse from pollution.[177] The Convention has been endorsed by the U.N. General Assembly, which means that it has more clout in the international community than the Rules.[178] In sum, nations are supposed to work together instead of leaving decisions to an administrator or to the courts.

One glaring deficiency in the 1997 Convention is an independent dispute settlement mechanism, like the U.S. court system or the ICJ,

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172. *Id.* at 112.

173. *Id.*

174. *Id.* at 105–06.

> Congress has vested in the Administrator broad discretion to establish conditions for NPDES permits . . . Similarly, Congress preserved for the Administrator broad authority to oversee state permit programs . . . The application of state water quality standards in the interstate context in wholly consistent with the Act's broad purpose 'to restore and maintain the chemical, physical and biological integrity of the Nation's waters.'

Id.

175. *See id.* at 114.

176. *Id.*

177. *See* 1997 Convention, *supra* note 142, at arts. 20–23.

178. *See* Chazournes, *supra* note 164.

to interpret the 1997 Convention.[179] The 1997 Convention promotes peaceful settlement of all disputes over the interpretation or application of the 1997 Convention.[180] However, the 1997 Convention provides for various methods of dispute settlement other than judicial review. Individuals may use national courts to seek relief for harm caused by activities relating to the international watercourse.[181] If such peaceful settlement cannot be reached, parties can use other means of arbitration or mediation by a third party, by any other international watercourse institution, or by the ICJ.[182] If these means of arbitration fail, an independent fact-finding commission comprised of one member nominated from each party shall be established to hear evidence and make recommendations, which parties must then consider in good faith.[183]

The 1997 Convention can be seen as a typical "state oriented instrument,"[184] which means that it does not include reference to a top-down system of global, national, regional and local public management. This is different from Chapter 18, which does.[185] In

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179. *See* Lazerwitz, *supra* note 166.

180. *See* 1997 Convention, *supra* note 142, at art. 33, para. 1.

181. *Id.* at art. 32.

> [U]nless the watercourse States concerned have agreed for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal systems, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on in its territory.

Id.; *see also* Chazournes, *supra* note 164.

182. *See* 1997 Convention, *supra* note 142, at art. 33, para. 2.

183. *Id.* at art. 33, paras. 3–9

184. *See supra* note 143 and accompanying text The premise of the 1997 Convention is the sovereign right of states to use the water in their territory as that State sees fit.

185. *See supra* note 49 and accompanying text.

addition, the 1997 Convention considers cooperation of the riparian states to take place on the national level, through joint commissions, data exchanges, and notification of planned measures.[186] The 1997 Convention is silent on the preferred dispute settlement mechanism, but it instead allows states with disputes to choose among various avenues of arbitration or settlement.[187] Also missing is the acknowledgement of the variations in economic abilities and social policy concerns among nations.[188] This is different from Chapter 18 of Agenda 21, which was careful to account for the disparity in the abilities of nations.[189] Despite these inadequacies, the 1997 Convention provides a basic and somewhat comprehensive framework of principles and guidelines for nations to follow when adopting measures that protect their internal water quality and quality of shared watercourses.[190] Because the 1997 Convention occurred so recently, one is unable to determine whether this framework for protecting transboundary water is successful in and of itself, or whether it has supplied nations with defenses to the same problems facing states when they are trying to assert their sovereignty under the CWA.

C. *The Protocol*

The recent adoption of a new document may supercede the 1997 Convention and render it moot. The UN/ECE Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes ("Protocol") was adopted in June 1999 at the Third Ministerial Conference on Environment and Health. It is the most recent U.N. document that attempts to establish rules for the management of transboundary resources. The objective of the Protocol, on both an international and national level, is the protection of human health through water

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186. *See* 1997 Convention, *supra* note 142, at arts. 3, 9, 12.

187. Id. at art. 33 (discussing the Dispute Settlement Procedures of the 1997 Convention); *see also* Final Act, *supra,* note 61.

188. *See* Lazerwitz, *supra* note 166 (discussing the need for assistance for developing countries in particular).

189. *See* Agenda 21, *supra* note 49, at ch. 18.6.

190. *See* 1997 Convention, *supra* note 142, at arts. 35–36 (discussing Ratification and Entry into Force).

management.[191] The Protocol states that nation parties should take all appropriate measures to ensure an adequate supply of drinking water,[192] sanitation,[193] safeguards against water-related disease[194] and

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191. UN/ECE Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Mar. 24, 1999, at art. 1, U.N. Doc. MP.WAT/AC.1/1991/1 (1999), *available at* http://www.internationalwaterlaw.org/RegionalDocs/UN_ECE_Protocol.htm (last visited Mar. 9, 2002) [hereinafter Protocol on Water and Health].

> The objective of this Protocol is to promote at all appropriate levels, nationally as well as in transboundary and international contexts, the protection of human health and well-being, both individual and collective, within a framework of sustainable development, through improving water management, including the protection of water ecosystems, and through preventing, controlling and reducing water-related diseases.

Id.

192. *Id.* at art. 4, para. 2(a). "The Parties shall, in particular, take all appropriate measures for the purpose of ensuring: (a) Adequate supplies of wholesome drinking water which is free from any micro-organisms, parasites and substances which, owing to their numbers or concentration, constitute a potential danger to human health." *Id.*

193. *Id.* at art. 4, para. 2(b). "The Parties shall, in particular, take all appropriate measures for the purpose of ensuring: (b) Adequate sanitation of a standard which sufficiently protects human health and the environment. This shall in particular be done through the establishment, improvement and maintenance of collective systems." *Id.*

194. *Id.* at art. 4, para. 2(d).

> The Parties shall, in particular, take all appropriate measures for the purpose of ensuring: (d) Sufficient safeguards for human health against water-related disease arising from the use of water for recreational purposes, from the use of water for aquaculture, from the water in which shellfish are produced or from which they are harvested, from the use of waste water for irrigation or from the use of sewage sludge in agriculture or aquaculture.

the protection of water resources used for drinking water.[195] It also mandates national action to create a stable legal and administrative framework for both private and public sector clean water initiatives[196] and also requires public authorities to take account of any action by any individual has an impact on public health.[197]

Most importantly, the Protocol allows parties to implement more stringent measures than statutorily required[198] and does not preempt any rights or obligations existing under the 1997 Convention or any international agreement, "*except where the requirements under this Protocol are more stringent than the corresponding requirements under the Convention or than other existing international agreement.*"[199] Thus measures set forth in the 1997 Convention, which are not as stringent as the Protocol measures, would be pre-empted. Specifically, the Protocol dictates the precautionary principle[200] and the polluter-pays principle[201] as the guiding

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Id.

195. *Id.* at art. 4, para. 2(c). "The Parties shall, in particular, take all appropriate measures for the purpose of ensuring: (c) Effective protection of water resources used as sources of drinking water, and their related water ecosystems, from pollution from other causes, including agriculture, industry and other discharges and emissions of hazardous substances." *Id.*

196. *Id.* at art. 4, para. 5 "The Parties shall take all appropriate action to create legal, administrative and economic frameworks which are stable and enabling and within which the public, private and voluntary sectors can each make its contribution to improving water management for the purpose of preventing, controlling and reducing water-related disease." *Id.*

197. Protocol on Water and Health, *supra* note 191, at art. 4, para. 6. "The Parties shall require public authorities which are considering taking action, or approving the taking by others of action, that may have a significant impact on the environment of any waters within the scope of this Protocol to take due account of any potential impact of that action on public health." *Id.*

198. *Id.* at art. 4, para. 8. "The provisions of this Protocol shall not affect the rights of Parties to maintain, adopt or implement more stringent measures than those set down in this Protocol." *Id.*

199. *Id.* at art. 4, para. 9 (emphasis added).

200. *See id.* at art. 5(a).

customary principles for nations when implementing measures relating to water safety.[202] The Precautionary Principle basically says that measures to prevent harm should be taken before scientific evidence has confirmed a causal effect. The Polluter-Pays Principle states that any costs for prevention or clean up should be undertaken, at any time, by the polluter. The Protocol also mentions that the World Health Organization's Guidelines are the target for drinking water quality.[203]

The Protocol is a binding set of obligations[204] for nations who ratify the document.[205] Once the Protocol is entered into force,[206] the Parties must hold meetings,[207] agree to the dispute settlement mechanism of the Convention,[208] and cooperate with each other in the implementation of local and national measures under the Protocol.[209] The specific objective, with clear target standards and timeframes, makes this document easier to implement on a national or international level than Agenda 21.[210] The Protocol still allows nations the sovereign right to exploit their own resources, so long as

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201. *See id.* at art. 5(b).

202. *See id.* at art. 5(a)–(b).

203. Protocol on Water and Health, *supra* note 191, at art. 6, para. 2(a).

204. *See id.* at art. 22 (providing provisions for full ratification, acceptance, approval and accession, as well as the limitation for regional economic integration).

205. *Id.*

206. *See id.* at art. 23.

207. *See id.* at art. 16.

208. *See id.* at art. 20.

209. Protocol on Water and Health, *supra* note 191, at arts. 11(b), 14 (for the Protocol on Water and Health's obligations on international cooperation and assistance in assessing, establishing and executing plans for improving water quality and sanitation under it).

210. Since this Protocol on Water and Health was not adopted until June of 1999, there are no statistics as to whether implementation of it has, on the whole, been more successful than the implementation of Agenda 21.

such activities do not cause damage to areas beyond their jurisdiction.[211]

IV. THE ROLE OF A PROPOSED AND OF AN EXISTING JUDICIAL ARBITRATION

Because there have been so many measures which deal specifically with the protection of water, either on a national or international context,[212] and because rules of customary international law, such as the Vienna Convention,[213] also have to be taken into consideration, knowing which guidelines and principles to follow is daunting. Parties to the 1997 Convention may be parties to the Protocol and to other U.N. Organizations in addition to the WTO.[214] Further, complications arise because most nations that share waterways have had some form of bilateral agreement in place for years.[215] No international agreement exists that supercedes or changes the

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211. This sovereign right is acknowledged in art. 5(c) as being in accordance with the Charter of the United Nations. In the ever-increasing global world, almost any abuse of water supply would have a negative effect outside the jurisdiction of the abusing State. And, if the right to a clean supply of water is a fundamental right, then this fundamental right directly conflicts with this sovereign right. *See, e.g.*, Peter Gleick, *The Human Right to Water*, *in* 1(5) WATER POLICY 487 (1999).

212. This Note covers the Helsinki Rules, the Rio Declaration, Agenda 21, Chapter 18, the WTO, the 1997 Convention, and the Protocol on Water and Health. Although these are the major bodies, which deal specifically with transboundary water, there may be other conventions, which deal indirectly with clean water issues, such as the documents of the WHO.

213. Although the ICJ does not rule on the applicability of the Vienna Convention to the Danube Dam Case, it does acknowledge that rules laid down in the Convention "might be considered as a codification of existing customary law." Gabčíkovo-Nagymaros Project, *supra* note 10.

214. *See* THE SCARCITY OF WATER, *supra* note 1.

215. *See generally* Hamner & Wolf, *supra* note 22.

obligations of a bilateral agreement, except for the Protocol.[216] Yet the ICJ in the Danube Dam Case stated that changes in international environmental norms and standards should be taken account of by nations party to such an agreement.[217]

It seems likely that one of the bodies of the U.N., such as the International Law Commission, could take on the role of manager of the world's transboundary water resources if it wanted to do so. The ICJ also is available as a forum in which nations could resolve cases of transboundary water disputes. However, evidenced by comparing the new activity in the realm created by the 1997 Convention and the Protocol to the CWA, it is possible to learn from the mistakes of others.[218] Like the CWA, any international commission or act must be binding on all States and must establish minimum standards on water quality as well as overriding principles and protocols.[219] In addition, a commission must be willing to work with nations to enable them to set their own standards and policies, contained within the framework of an international document. To head this commission, there must be an administrator with authority to settle disputes. Otherwise, concepts such as equitable and reasonable utilization remain as soft law, without being actualized in national law.[220] However, all of this will fail anyway if nations states are unwilling to implement the international standards.

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216. The standard language on the multilateral agreements discussed herein, is that of the 1997 Convention, "nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention." 1997 Convention, *supra* note 142, at art. 3.

217. *See* Graffy, *supra* note 112, at 436–38.

218. This has already been suggested for the North American management of its transboundary waters. *See* MacDonnell, *supra* note 150.

219. *See id.* The article does not recommend detailed specification to set up such an institution, but it does give general requirements that the institution should follow.

220. It is most important that clean up of water is a national priority for the States. Getting the NGOs (non-governmental organizations) and the local community involved would be impossible without national support. In addition, every waterway

CONCLUSION

Much of international environmental law is contradictory. Clean water is a fundamental human right[221] but nations have the sovereign right to pollute their water.[222] Global cooperation is essential for transboundary water management,[223] but there exists only one binding international agreement that enforces minimum measures stricter than the bilateral agreements for which nations have negotiated.[224] The guiding customary principles that guide international water law are inherently contradictory. Equitable and reasonable utilization of resources and first in time or prior appropriation are the opposite of each other.[225] However, as fresh water is becoming increasingly scarce,[226] and as water resources are not used efficiently[227] and most national policy favors economic growth,[228] billions of people are left without a sufficient amount of clean water.[229]

The international community has tried to solve the problem.[230] Yet, without the will to put global environmental needs over

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and every State is different. States must be allowed to manage in a way that respects their right to govern, while adhering to international standards for water quality and quantity.

221 *See generally* Gleick, *supra* note 211.

222. *Id.*

223. *See* Graffy, *supra* note 112, at 432.

224. *See* discussion *supra* Part III.C (discussing the Protocol and its exception for more stringent measures).

225. *See* THE SCARCITY OF WATER, *supra* note 1.

226. *See* Graffy, *supra* note 112, at 402–03.

227. *Id.* at 403.

228. *Id.*

229. *Id.* at 404. Two billion people lack access to clean water and an additional billion lack safe sanitation systems. *Id.*

230. *See* THE SCARCITY OF WATER, *supra* note 1, at 49. Although it was not the first international response, the United Nations Water Conference, held in Mar del Plata in 1977 produced the first action plan for nations to implement its principles and follow its guidelines in implementing measures. *Id.*

sovereignty, the international community has simply been building ineffectively upon the same principles for at least thirty years.[231]

If an international organization is willing to adopt some of the strengths of the CWA, such as identifying problems establishing abatement measures and seeking compliance, the existing international clean water documents could be overhauled. Nations could set their own restrictions, limitations and standards, as long as they meet the minimums set by the international organization. Member nations to the organization would be bound by the policies and processes set forth by the organization. An international court, such as the ICJ, would be essential for arbitrating disputes among member nations. The international community should continue to learn from the United States model and improve upon it. It needs to, for the lives and livelihoods of billions are at stake.

231. For example, the Helsinki Rules on the Uses of the Water of International Rivers, August 1966, from which all other water resources documents are based, was implemented in 1966.