

The Dual Role of Procedure in International Water Law

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I. Introduction

Of the total amount of water on Earth, only 2.5% is fresh water and only around 30% of this water is available for human use.¹ The rising demand for this finite resource, fuelled by population growth, industrial development, and increasing scarcity, may well result in a global water crisis. Moreover, competing transboundary fresh water demands may lead to interstate disputes over ownership, allocation, and quality of fresh water.² This is particularly so because transboundary fresh water has “[c]haracteristics that make [its] conservation and management particularly challenging, the most notable of which is the tendency for regional politics to regularly exacerbate the already difficult task of understanding and managing complex natural systems.”³

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- 1 E. B. Weiss, *The Coming Water Crisis: A Common Concern of Humankind*, 1(1) *Transnational Environmental Law* (2012), 153-154.
- 2 L. Boisson de Chazournes, C. Leb & M. Tignino, Introduction, in L. Boisson de Chazournes et al. (eds.), *International Law and Freshwater: The Multiple Challenges* (2013), 1-2.
- 3 A. Grzybowski et al, *Beyond International Water Law: Successfully Negotiating Mutual Gains Agreements for International Watercourses*, 22 *Pac. McGeorge Global Bus & Dev. L. J.* (2010), 1, 139-140, cited in R. K. Paisley & T. W. Henshaw, ‘If You Can’t Measure it, You Can’t Manage it’: Transboundary Waters, Good Governance and Data & Information Sharing & Exchange, 24 *Ind. Int’l & Comp. L. Rev.* (2014), 1, 203-206.

It is generally agreed, therefore, that cooperation among states sharing fresh water resources⁴ is required both to manage these resources effectively and to prevent and resolve disputes.⁵

However, such cooperation may prove difficult to elicit as most shared fresh water resources are not governed by either a bilateral or a multilateral treaty that addresses issues of water quantity, quality, or use,⁶ while “the concern to maximize individual benefits provides a powerful incentive to exploit resources unilaterally”.⁷ “Even under favourable circumstance”, therefore, “states may shy away from cooperating, when they can afford to” and “the challenge in international river basins remains the achievement of cooperative solutions to the provision of a common property resource”.⁸

International water law,⁹ which has developed since the beginning of the 20th century to govern non-navigational uses of fresh water resources, aims to achieve precisely this goal of interstate cooperation in the management of such resources by providing states with ‘substantive’ and ‘procedural’ principles to guide their behaviour and interaction. While a distinction between the substantive principles, namely equitable and reasonable utilization and no significant harm, and the procedural principles of international water law has been widely accepted, the distinction is not clear-cut and should not be strictly applied.¹⁰ This is so since “substance typically frames the circumstances in which procedure operates, and the purposes that it is to serve. In turn, procedure has the potential to reinforce and de-

4 The term ‘shared fresh water resources’ used herein is intended to encompass ‘international drainage basins’, used in the Helsinki Rules on the Uses of Waters of international Rivers, and ‘international watercourses’, used in the UN Convention on the Law of the Non-navigational Uses of International Watercourses, G.A. Res. 51/229 of 21 May 1997.

5 P. Wouters, ‘Dynamic cooperation’ – The evolution of transboundary water cooperation, in M. Kidd et al. (eds.), *Water and the Law: Towards Sustainability* (2014), 14.

6 S. M. A. Salman, *Mediation of international water disputes – the Indus, the Jordan, and the Nile Basins interventions*, in L. Boisson de Chazournes, et al. (eds.), *International Law and Freshwater: The Multiple Challenges* (2013), 360-361.

7 M. R. Lowi, *Water and Power: The Politics of a Scarce Resource in the Jordan River Basin* (1995), 1.

8 *Ibid.*, 1-2.

9 To be distinguished from the body of international law governing navigation, maritime issues, and the High Seas.

10 C. Leb, *Cooperation in the Law of Transboundary Water Resources* (2013), 107.

velop, and to give concrete meaning and effect to, substance.”¹¹ Thus, “procedural obligations are interlaced with substantive content”¹² and have become increasingly significant both as a tool for the implementation of states’ related substantive obligations and for the cooperative management of shared fresh water resources.

This chapter will discuss this dual role of states’ procedural obligations under international water law: first, to facilitate compliance with their substantive obligations and, second, to elicit interstate cooperation in the management of shared fresh water resources. The chapter will first describe the content and status of the main procedural principles of international water law, both under customary international law and as treaty obligations in regional and global legal instruments. It will then address the dual role of these procedural obligations in the implementation and execution of international water law by states sharing fresh water resources. In this regard, the chapter will first provide an overview of international water law’s substantive principles of equitable and reasonable utilization and no significant harm and examine the way in which procedural obligations facilitate state compliance with these principles. It will then turn to states’ duty of cooperation under general international law, how the procedural principles of international water law interact with this duty, and how this interaction has facilitated the cooperative management of shared fresh water resources as reflected in treaty practice and in the prevention of water-related disputes.

II. The Procedural Principles of International Water Law

Procedural obligations under international water law can be found in numerous multilateral and bilateral water-sharing agreements, some of which are also said to have gained customary international law status. These include, *inter alia*, the duty to protect and develop shared fresh water resources¹³ through the conclusion of “watercourse agreements”¹⁴ and “joint

11 J. Brunnée, International Environmental Law and Community Interests: Procedural Aspects, in E. Benvenisti and G. Nolte (eds.), *Community Obligations in International Law* (2017), 5, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2784701 (last visited 6 December 2018).

12 Leb, *supra* note 10, 109.

13 E.g. United Nations Convention on the Law of the Non-navigational Uses of International Watercourses (UNWC), GA Res. 51/229 of 21 May 1997, Article 5(2).

14 E.g. *ibid.*, Article 3.

mechanisms or commissions”;¹⁵ the duty to exchange information, consult, and notify of the possible adverse effects of planned measures;¹⁶ the duty to cooperate on the regulation of the flow of the waters of an international watercourse;¹⁷ the duty to develop harmonized policies, programmes and strategies aimed at the prevention of transboundary impact;¹⁸ the duty to conduct research on transboundary impact;¹⁹ and the duty to establish joint programmes for monitoring the conditions of transboundary waters.²⁰ The International Court of Justice (ICJ) has highlighted the “cascading nature” of some of these procedural obligations, from the general duty of states to cooperate, through the duty of prior notification of planned projects likely to adversely impact co-riparian states, to the requirement to conduct some form of environmental impact assessment that takes account of such impact. Moreover, these procedural duties are said to create legally binding obligations on states in their own right, even though the ICJ has suggested that breach of such obligations might not be considered very serious in the absence of actual transboundary harm.²¹

A fundamental procedural principle of international water law is the obligation to notify, which has been codified in the 1997 *United Nations Convention on the Law of the Non-navigational Uses of International Watercourses* (UNWC)²² and also recognized as part of customary international law.²³ Its objective is to give affected states the opportunity to assess the risk of harm with respect to their own interests and rights. Therefore, announc-

15 E.g. *ibid.*, Articles 8(2), 24. Although the Convention has been criticized for leaving “the determination of details, particularly the functions of a joint institution, to the parties to any future watercourse agreement”; J. Brunnée & S. J. Toope, *Environmental Security and Freshwater Resources: Ecosystem Regime Building*, 91(1) *American Journal of International Law* (1997), 26, 54.

16 E.g. UNWC, *supra* note 13, Articles 11-19.

17 E.g. *ibid.*, Article 25.

18 E.g. *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (UNECE), of 17 March 1992, Article 2(6).

19 E.g. *ibid.*, Article 5.

20 E.g. *ibid.*, Article 11.

21 *Case Concerning the Pulp Mills on the River Uruguay*, Judgment, ICJ Reports 2010, available at <http://www.icj-cij.org/docket/files/135/15877.pdf> (last visited 6 December 2018). O. McIntyre, The contribution of procedural rules to the environmental protection of transboundary rivers in light of recent ICJ case law, in L. Boisson de Chazournes et al. (eds.), *International Law and Freshwater: The Multiple Challenges* (2013), 240.

22 UNWC, *supra* note 13, Part III.

23 Leeb, *supra* note 10, 118, 130; S. C. McCaffrey, *The Law of International Watercourses: Non-navigational Uses* (2007), 473.

ing to potentially affected states that a project is planned on a shared water system must be “timely”²⁴ and accompanied by adequate technical data that will allow affected states to carry out their own assessments regarding the impact of the planned measure.²⁵ The related obligation to conduct an environmental impact assessment when there is a risk of significant adverse transboundary impact of planned measures has similarly developed into an essential procedural principle of international water law and a general requirement under customary international law.²⁶ It entails “a national procedure for evaluating the likely impact of proposed activity on the environment”;²⁷ although the scope and content of such an assessment has not been specifically defined by the ICJ and is left to be determined by each state individually on a case-by-case basis. Nonetheless, it has been considered the criterion for achieving “a balance between the use of the waters and the protection of the river”;²⁸ and plays a “pivotal role in facilitating realization of many of the procedural rights and duties arising under the rubric of the duty to cooperate in good faith, including the duty to notify, consult and, if necessary, enter into negotiations with states likely to be affected.”²⁹ In addition, the ICJ has recently clarified and consolidated the specific requirements, minimum standards, and best practices of transboundary environmental impact assessments.³⁰ This duty has been considered by some as purely procedural in nature³¹ and the ICJ in the *Pulp Mills on the River Uruguay* case acknowledged its close link to the obligation to notify of planned measures, which it also considered to be procedural.³²

24 UNWC, *supra* note 13, Article 12.

25 Leb, *supra* note 10, 110.

26 McIntyre, *supra* note 21, 240. The requirement to undertake a transboundary environmental impact assessment is also provided in international instruments such as the UNCLOS, the 1992 Espoo Convention, and the International Law Commission’s 2001 Draft Articles on Transboundary Harm, and has been said to form part of customary international law, U. Beyerlin & T. Marauhn, *International Environmental Law* (2011), 231.

27 Beyerlin & Marauhn, *ibid.*, 230.

28 *Pulp Mills*, *supra* note 21, para. 177.

29 McIntyre, *supra* note 21, 260-261.

30 Certain Activities carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua), Proceedings joined with Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica), Judgment, ICJ Reports 2015, paras. 104, 153-155, 159, 161, 168; Separate Opinion of Judge Bhandari, paras. 41-46.

31 E.g. P. N. Okowa, *Procedural Obligations in International Environmental Agreements*, 67(1) *British Yearbook of International Law* (1996), 291, cited in Leb, *supra* note 10, 110.

32 *Pulp Mills*, *supra* note 21, para. 119.

However, the Court discussed the duty to undertake an environmental impact assessment primarily in the section addressing substantive obligations in light of its relationship with the obligation to prevent transboundary environmental harm.³³ Moreover, in the more recent dispute between Nicaragua and Costa Rica some of the ICJ judges have treated the obligation to undertake an environmental impact assessment as an independent obligation, finding that the threshold for triggering it “is not the high standard for determining whether significant transboundary harm has been caused but the lower standard of *risk* assessment.”³⁴

Another aspect of the duty to notify of planned measures is the duty to consult. Consultation is “the process that ensues in case of a response by the notified State claiming significant adverse effect.”³⁵ This corollary duty aims to achieve the underlying objective of notification, namely to ensure that the interests of the notified state are considered. The consultation process is one of information exchange that carries with it a legal consequence, namely the duty to take into account the information obtained throughout this process.³⁶ Whereas the obligation of consultation resulting from notification of planned measures that might cause significant harm has emerged as a norm of customary law, other consultation obligations may be constituted by treaty instruments, for instance with respect to coordination in managing shared water resources,³⁷ and thus the obligation to consult is also considered one of general applicability.³⁸ The *UNWC*, for instance, refers to states’ obligation to consult in connection with many of its provisions, including the conclusion of watercourse agreements, the application of equitable utilization, the elimination or mitigation of harm, and the prevention of pollution.³⁹ Such consultations are said to be “practically essential” to ensuring that a fair balance between states’ respective uses of a shared fresh water resource is maintained.⁴⁰

A related procedural duty is states’ duty to exchange data and information regularly, which has been said to “maximize securitization by building trust, which translates to unified and adaptive governance of transbound-

33 Ibid., paras. 203-219, cited in Leb, *supra* note 10, 111.

34 Costa Rica v. Nicaragua, *supra* note 30, Separate Opinion of Judge Dugard, para. 10 (emphasis in original).

35 Leb, *supra* note 10, 139.

36 Ibid., 140.

37 Ibid.

38 McCaffrey, *supra* note 23, 476.

39 Ibid., 476-477.

40 Ibid., 477.

ary waters.”⁴¹ Although this duty does not constitute universal practice or customary law,⁴² it clearly exemplifies the dual role of procedure in this context since it is essential for the cooperative administration and sustainable development of rivers as well as for the achievement of equitable and reasonable utilization and the avoidance of significant harm.⁴³ This is so since “without data and information from co-riparian states concerning the condition of the watercourse, it will be very difficult, if not impossible, for a state not only to regulate uses and provide protection [...] within its territory, but also to ensure that its utilization is equitable and reasonable vis-à-vis other states sharing the watercourse.”⁴⁴ Regular data exchange generally takes place on the basis of international agreements or other arrangements,⁴⁵ and states have frequently acknowledged the necessity of such exchange in international water treaties,⁴⁶ ministerial declarations from international waters conferences,⁴⁷ and international resolutions.⁴⁸ Furthermore, inherent in the obligation of regular data and information exchange are the obligations to collect data and to monitor water quality and system conditions.⁴⁹

These procedural obligations under international water law have also been supplemented with a requirement that state parties develop cooperative machinery for their execution. Such machinery entails institutional arrangements such as joint river basin commissions and other joint bodies. The proper functioning of these cooperative institutions not only enables

41 Paisley & Henshaw, *supra* note 3, 203.

42 Leb, *supra* note 10, 118.

43 *Ibid.*, 115.

44 McCaffrey, *supra* note 23, 478.

45 Leb, *supra* note 10, 118.

46 E.g. UNWC, *supra* note 13, Article 9. An analysis of water treaties since 1900 showed that about 39% of the agreements evaluated include a clause on regular information sharing. While the content of these provisions varies, the basic obligation common to all of them is the mutual and regular exchange of data with the objective of informing the process of state interaction on shared water resources. Leb, *ibid.*, 117.

47 E.g. The Declaration of the United Nations Conference on the Human Environment; the Dublin Statement of the International Conference on Water and the Environment; and the Kyoto Ministerial Declaration of the 3rd World Water Forum; Paisley & Henshaw, *supra* note 3, 208.

48 E.g. The Institut de Droit International Resolution on the Pollution of Rivers and Lakes and International Law, article VII; the International Law Association New York Resolution, article 3; and the International Law Association, Helsinki Rules, article XXIX; Paisley & Henshaw, *ibid.*, 208-209.

49 Leb, *supra* note 10, 121.

states to carry out their procedural obligations, but has been linked to the effective fulfilment of their substantive obligations.⁵⁰ The significant role of institutional arrangements in ensuring effective procedural cooperation between states has also been emphasized by the ICJ.⁵¹ The Court has recognized the authority of river basin organizations as:

[g]overned by the ‘principle of speciality,’ that is to say, they are invested by the States which create them with powers, the limits of which are a function of the common interests whose promotion those States entrust to them.⁵²

While early institutions were often limited in focus or scope, since the 1950s the tendency has been toward the creation of cross-sectoral basin institutions with authority over multiple issues, and the number of such institutions has increased dramatically.⁵³ The functions carried out by these institutions vary, and may include problem identification and assessment; information collection, monitoring, dissemination and exchange; coordination of activities; norms and rule-making; supervision and enforcement; operational activities; and dispute resolution.⁵⁴

Procedures for the resolution of fresh water disputes have also been addressed in some international instruments such as the 1966 *Helsinki Rules*, which provided for bilateral negotiations by way of permanent joint commissions, as well as mediation, good offices, and conciliation.⁵⁵ The *UNWC* provides that where negotiations fail, the parties “may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institutions that may have been established by them or agree to submit the dispute to arbitration or to the International Court of Justice.”⁵⁶

The *UNWC* further provides that if after six months the parties have not been able to settle their dispute through such means, it “shall be submitted, at the request of any of the parties to the dispute, to impartial fact-finding [...] unless the parties otherwise agree.”⁵⁷

50 Pulp Mills, *supra* note 21, paras. 173, 176; McIntyre, *supra* note 21, 246-247.

51 McIntyre, *ibid.*, 254.

52 Pulp Mills, *supra* note 21, para. 89.

53 E. B. Weiss, *International Law for a Water-Scarce World* (2013), 166.

54 *Ibid.*, 170-171.

55 *Helsinki Rules on the Uses of the Waters of International Rivers*, *supra* note 4, 486, 488.

56 *UNWC*, *supra* note 13, Article 33(2).

57 *Ibid.*, Article 33(3).

Therefore, the *UNWC* includes a so-called “compulsory system”⁵⁸ of dispute resolution through a default option of “impartial fact-finding” that is intended to provide disputing parties with “recommendations [...] for an equitable solution of the dispute, which the parties concerned shall consider in good faith”.⁵⁹ Given the heavy reliance in transboundary fresh water disputes on “expert recommendations concerning technical matters and the fact that all international water disputes are inevitably very fact-sensitive”;⁶⁰ inquiry and fact-finding may be particularly useful in eliciting cooperation among disputing states. Many water-related international instruments⁶¹ also provide for the resolution of disputes by way of international adjudication, which has traditionally encompassed both judicial settlement and arbitration. The *UNWC*, however, puts priority on the non-binding dispute resolution means detailed above rather than adjudication, does not require the submission of disputes to the ICJ, and does not allow for this option to be used unilaterally.⁶²

III. The Dual Role of Procedural Obligations under International Water Law

A. Facilitation of compliance with the substantive principles of equitable and reasonable utilization and no significant harm

The first role of the procedural principles of international water law is to facilitate state compliance with its core substantive principles of equitable and reasonable utilization and no significant harm. These principles constitute the foundation of the prevailing legal theory governing the use of shared fresh water resources, namely ‘limited territorial sovereignty’. This theory lies midway between the more extreme theories of ‘absolute territorial sovereignty’ (the ‘Harmon Doctrine’), according to which a state is enti-

58 L. Caflisch, “Judicial Means for Settling Water Disputes,” in International Bureau of the Permanent Court of Arbitration (ed.), *Resolution of international water disputes: papers emanating from the Sixth PCA International Law Seminar* (2003), 236.

59 *UNWC*, supra note 13, Article 33(8).

60 E. Kristjánsdóttir, *Resolution of Water Disputes: Lessons from the Middle East*, in PCA (ed.), *Resolution of International Water Disputes* (2003), 357.

61 See, e.g. 1961 Salzburg Resolution, Article 8; 1966 Helsinki Rules, Article XXXIV.

62 *UNWC*, supra note 13, Article. 33; A. S. Al-Khasawneh, *Do judicial decisions settle water-related disputes?*, in L. Boisson de Chazournes et al. (eds.), *International Law and Freshwater: The Multiple Challenges* (2013), 344.

tled to do as it pleases with waters within its boundaries without regard to the interests of other states sharing those waters, and 'absolute territorial integrity,' according to which no state sharing a water resource may make any changes to it that restrict the supply of water to another state.

'Limited territorial sovereignty' is intended to serve as a "mutual limitation of sovereign rights"⁶³ and facilitate cooperation between states sharing water resources through the two core principles of equitable and reasonable utilization and no significant harm. These principles have been codified in the *UNWC* and other international instruments and are also considered to have customary status. They have been said to pivot around the concept of cooperation, which is seen as a "necessary catalyst for the[ir] concrete case-by-case operation."⁶⁴ Moreover, these principles have been said to promote cooperation among riparian states both in the negotiation of water agreements and in the resolution of water disputes⁶⁵ by providing "a broad framework for identifying the shared values of States that underpin and give direction" to such efforts.⁶⁶ At the same time, the equitable and reasonable utilization and no significant harm principles have also been criticized for being "nebulous"⁶⁷ and too general, while shared fresh water resources and their management are specific.⁶⁸ Since "no two rivers present the same economic, social, political or hydrological facts"⁶⁹ and in light of the "bewildering complexity and uncertainty inherent" in these general legal principles,⁷⁰ their use by states may prove to be a tall order absent facilitative procedural principles.

The equitable and reasonable utilization principle, considered by some as the overarching principle governing the use of shared fresh water re-

63 J. Brunnée & S. J. Toope, *The Nile Basin Regime: A Role For Law?*, in A. S. Al-sharhan & W. W. Wood (eds.), *Water Resources Perspectives: Evaluation, Management and Policy* (2003), 106.

64 A. Tanzi, *Regional contributions to international water cooperation: the UNECE contribution*, in M. Kidd et al. (eds.), *Water and the Law: Towards Sustainability* (2014), 159-160.

65 S. C. McCaffrey, *The Codification of universal norms: a means to promote cooperation and equity?*, in M. Kidd et al., *ibid.*, 133.

66 McIntyre, *supra* note 21, 239.

67 *Ibid.*

68 H. Alebachew, *International legal perspectives on the utilization of trans-boundary rivers: the case of the Ethiopian Renaissance (Nile) Dam*, in M. Kidd et al., *supra* note 64, 84.

69 M. S. Helal, *Sharing Blue Gold: The 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses Ten Years On*, 18(2) *Colo. J. Int'l Envtl. L. & Poly* (2007), 337, 347.

70 McIntyre, *supra* note 21, 239.

sources, is rooted in the sovereign equality of states⁷¹ and entitles each basin state to a reasonable and equitable share of water resources for beneficial uses within its own territory.⁷² Accordingly, each state sharing a fresh water resource has “an equal right to an equitable share of the uses and benefits” of that resource⁷³ and is under an obligation to “use the watercourse in a manner that is equitable and reasonable vis-à-vis”⁷⁴ other states sharing the resource. The ICJ has also endorsed the equitable and reasonable utilization principle as a governing principle of international water law.⁷⁵ It was incorporated into Article 5 of the *UNWC* as follows:

Equitable and reasonable utilization and participation

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

2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.

As the equitable and reasonable utilization principle is designed to promote cooperation between states sharing fresh water resources,⁷⁶ Article 6 of the *UNWC* sets out a list of factors to be taken into account by states in the application of the principle in order to facilitate such cooperation, including social, economic, cultural, and historic considerations. However, this article does not prioritize among these factors, and the practical challenge of determining what constitutes each state’s “fair share” and what

71 Helal, *supra* note 69, 342.

72 M. M. Rahaman, Principles of international water law: creating effective trans-boundary water resources management, 1(3) *International Journal of sustainable Society* (2009), 207,210.

73 McCaffrey, *supra* note 23, 391-392.

74 McCaffrey, *The Law of International Watercourses: Present Problems, Future Trends*, in W. E. Burhenne et al. (eds.), *A Law for the Environment* (1994), 114.

75 *Case Concerning the Gabčíkovo-Nagymaros Project* (Hungary/Slovakia), Judgment, ICJ Reports 1997, para. 85.

76 I. Kaya, *Equitable Utilization: The Law of Non-Navigational Uses of International Watercourses* (2003), 7.

conduct or use should be considered “equitable and reasonable” has yet to be overcome.⁷⁷ Furthermore, since the equitable and reasonable utilization principle is “normatively vague, flexible and commonly misunderstood”, it has been suggested that it should be perceived as an “inter-State process” of cooperation rather than “a clear normative rule that dictates a particular outcome.”⁷⁸ Viewed this way, the equitable and reasonable utilization principle “offers insufficient guidance to States on how they may proceed to give effect to these norms”, but its shortcomings “may be offset to some extent by a body of procedural law.”⁷⁹

The no significant harm principle has its roots in states’ general obligation under international law not to use their territory in such a way as to cause harm to another state,⁸⁰ and has also been linked to the principle of good neighbourliness⁸¹ and the cooperation rationale which underlies it.⁸² The no significant harm principle prohibits a state sharing a fresh water resource from using the waters in its territory in a way that would cause significant harm to other basin states or to their environment.⁸³ In the context of international environmental law the obligation not to cause significant transboundary harm is considered to constitute customary international law.⁸⁴ It was articulated in the following terms in the 1992 *Rio Declaration on Environment and Development*:

States have [...] the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or con-

77 H. Elver, *Peaceful Uses of International Rivers: The Euphrates and Tigers Rivers Dispute* (2002), 136-137.

78 McIntyre, *supra* note 21, 247.

79 Leb, *supra* note 10, 108, citing Bourne.

80 Also known as the maxim *sic utere tuo ut alienum no laedas*.

81 This principle is an expression of the idea that sovereignty over a territory comes not only with rights but also with duties, including the duty not to prejudice the rights of others. Some view these two concepts as identical, while others distinguish their origins and argue that the good neighbourliness principle is rooted in sovereignty whereas the no significant harm concept has its source in the principle of good faith, Leb, *supra* note 10, 97.

82 Tanzi, *supra* note 64, 160.

83 *Ibid.*, 211.

84 As confirmed by the ICJ in its 1996 *On The Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, 226, 241-242.

trol do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.⁸⁵

The no significant harm principle has also been prominent in state practice in the international water law field. Particularly in the sense of protecting prior uses, it has been frequently included in water agreements⁸⁶ in order to protect the “legitimate expectations of [first users to] security” since “subsequent users cannot claim surprise when prior uses are protected.”⁸⁷ It was articulated into Article 7 of the *UNWC* in the following terms:

Obligation not to cause significant harm

1. 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.
2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.

Both in international water law and in general international law, the no significant harm principle is founded on a due diligence obligation.⁸⁸ The International Tribunal for the Law of the Sea (ITLOS) Seabed Disputes Chamber⁸⁹ has defined states’ due diligence obligation as “an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain [a] result”. In other words, “this obligation may be characterized as an obligation ‘of conduct’ and not ‘of result’.”⁹⁰ The ITLOS Chamber further linked this obligation to the precautionary principle, finding that

85 Rio Declaration on Environment and Development (1992), Principle 2, available at http://www.unesco.org/education/pdf/RIO_E.PDF (last visited 13 December 2018); see also *Trail smelter Arbitration (USA v.Canada)*, 3 UN Rep. Int’l Arb. Awards, 1911.

86 M. A. Giordano & A. T. Wolf, *Transboundary Freshwater Treaties*, in M. Nakayama (ed.), *International Waters in southern Africa* (2003), 76-77.

87 D. Tarlock, *The Law of Equitable Apportionment Revisited, Updated, and Restated*, 56 U. Colo. L. Rev (1985), 381, 396.

88 *Ibid.*, 443-445.

89 *Responsibilities and Obligations of states sponsoring Person and Entities with Respect to Activities in the Area (Advisory Opinion)*, ITLOS Case No. 17 (1 February 2011), para. 135.

90 *Ibid.*, para. 110.

“the precautionary approach is also an integral part of the general obligation of due diligence” of states, which requires them “to take all appropriate measures to prevent damage [...] and] applies in situations where scientific evidence concerning the scope and potential negative impact of the activity in question is insufficient but where there are plausible indications of potential risks”.⁹¹ Therefore, a state “would not meet its obligation of due diligence if it disregarded those risks”.⁹² In the fresh water context, this precautionary principle was incorporated in the 1992 *UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (UNECE), the 2008 *Draft Articles on the Law of Transboundary Aquifers*,⁹³ and the 2004 *Berlin Rules on Water Resources*,⁹⁴ and was referenced in the *Pulp Mills* case, in which the ICJ noted that “a precautionary approach may be relevant in the interpretation and application of the provisions of the statute”.⁹⁵ Moreover, the ICJ in this case found that the due diligence requirement underlying the no significant harm principle, and the duty of vigilance and prevention that it implies, includes the obligation to carry out an environmental impact assessment prior to the implementation of a project that might cause transboundary harm,⁹⁶ and “once operations have started and, where necessary, throughout the life of the project, continuous monitoring of its effects on the environment shall be undertaken”.⁹⁷ Therefore, it is becoming increasingly clear when and how harmful activities

91 Ibid., para.131.

92 Ibid.

93 Report of the International Law Commission on the Work of its 60th session, UN Doc. A/63/ 10, (5 May–6 June and 7 July–8 August 2008), Article 12.

94 Berlin Rules on Water Resources International Law Association, Report of the 71st Conference, 71 ILA 337, 385 (2004), Article 2, (Berlin Rules).

95 *Pulp Mills*, supra note 21, para. 164.

96 Ibid., paras. 204-205; *Costa Rica v. Nicaragua*, supra note 30, para. 104. However, Judge Donoghue, for instance, expressed doubt that state practice and opinio juris support the existence of a specific obligation to undertake an environmental impact assessment where there is a risk of significant transboundary environmental harm. Nonetheless, she acknowledged that “[i]f a proposed activity poses a risk of significant transboundary environmental harm, a State of origin would be hard pressed to explain a decision to undertake that activity without prior assessment of the risk of transboundary environmental harm”, Separate Opinion of Judge Donoghue, para. 13.

97 Ibid.

will be allowed under the no significant harm principle and the due diligence obligations of states in this regard.⁹⁸

The substantive principles of equitable and reasonable utilization and no significant harm are crucial since, where such standards exist, “the contours of the procedural framework will likely be better defined and any process more goal-oriented.”⁹⁹ However, their generality, *i.e.*, the concept of ‘equity’ underlying the equitable and reasonable utilization principle and the ‘due diligence’ requirement underlying the no significant harm principle, requires them to “be made normatively operational” by means of procedural requirements.¹⁰⁰ In other words, since “...agreement on substantive obligations, however desirable, cannot be pulled out of thin air but must be cultivated, procedural requirements play important facilitating and bridging roles.”¹⁰¹ Therefore, states’ implementation of these substantive principles should be viewed as interlinked with their observance of the procedural obligations of international water law.

This link is crucial for implementing the equitable and reasonable utilization principle and for facilitating the no significant harm principle. The flexibility and non-specificity of the equitable and reasonable utilization principle as formulated in the *UNWC* makes its implementation dependent on a particular state’s judgment of what ‘equitable’ and ‘reasonable’ use entails, which it may be unable to exercise in an objective way without cooperating with other co-riparian states through information exchange and consultation.¹⁰² Therefore:

Procedural requirements should be regarded as essential to the equitable sharing of water resources. They have particular importance because of the breadth and flexibility of the formulae for equitable use and appropriation. In the absence of hard and precise rules for allocation, there is a relatively greater need for specifying requirements for advance notice, consultation, and decision procedures. Such requirements are, in fact, commonly found in agreements by neighbouring States concerning common lakes and rivers.¹⁰³

98 The obligation to conduct an environmental impact assessment has also been said to exist as a separate legal obligation from due diligence, *Costa Rica v. Nicaragua*, supra note 30, Separate Opinion of Judge Dugard, para. 11.

99 Brunnée & Toope, supra note 15, 57-58.

100 McIntyre, supra note 21, 245-246.

101 Brunnée, supra note 11, 34.

102 Leb, supra note 10, 151-152.

103 O. Schachter, *Sharing the World’s Resources* (1977), 69, cited in McCaffrey, supra note 23, 465.

While the no significant harm principle can be implemented by states unilaterally, cooperation achieved through compliance with procedural obligations can nonetheless facilitate states' ability to avoid significant transboundary harm through the obligation to notify potentially affected states of planned measures that may have significant adverse impact, and to consult or negotiate concerning such measures. Under the *UNWC*, this obligation is triggered not where the state planning the measure believes it may result in significant *harm* to other riparian states but rather when the planning state has reason to believe that the measure may have a "significant adverse effect" upon other states. This lower threshold is designed to advance the goal of prevention of harm by requiring notification even before there is an indication that legally significant harm may result.¹⁰⁴

The ICJ has also recognised the impact of procedure on the achievement of the substantive requirements of international water law, namely the achievement of an equitable balancing of states' interests and their due diligence duty to prevent significant transboundary environmental harm.¹⁰⁵ In the *Pulp Mills* case the Court stated that the parties' obligation to inform the joint body responsible for management of their shared river "allows for the initiation of cooperation between the Parties which is necessary in order to fulfil the obligation of prevention",¹⁰⁶ and that utilizations which might affect water quality and/or the regime of a watercourse "could not be considered to be equitable and reasonable if the interests of the other riparian State in the shared resource and the environmental protection of the latter were not taken into account".¹⁰⁷ Accordingly, consultation and information exchange also form part of the implementation process of the equitable and reasonable utilization and no significant harm principles. Ultimately, the Court found that states must comply with these procedural obligations both independently and as part of their compliance with the substantive duties of international water law.¹⁰⁸ The procedural obligations of international water law are therefore designed to facilitate observance of its substantive principles, as well as establish independent

104 McCaffrey, *supra* note 23, 473.

105 *Pulp Mills*, *supra* note 21, paras. 75-77. The Court reiterated this position in *Costa Rica v. Nicaragua*, Judgment, *supra* note 30, paras. 104, 106; McIntyre, *supra* note 21, 241, 244.

106 *Pulp Mills*, *supra* note 21, para. 102.

107 *Ibid.*, para. 177.

108 McIntyre, *supra* note 21, 249.

obligations in and of themselves.¹⁰⁹ The ICJ's treatment of these procedural and substantive obligations also suggests that:

States must ensure compliance with procedural obligations *per se* even where no actual harm occurs but, where harm does occur, breach of procedural rules will constitute a key element in establishing a failure to meet the due diligence standards required under the customary duty to prevent significant transboundary harm.¹¹⁰

B. Eliciting cooperation between states in the management of shared fresh water resources

The second role of the procedural principles of international water law is to elicit cooperation between states in the management of shared fresh water resources. This section will discuss states' duty of cooperation under general international law; how the procedural principles of international water law interact with this duty; and how this interaction has facilitated the cooperative management of shared fresh water resources as reflected in treaty practice and in the prevention of water-related disputes.

Interstate cooperation has been defined as:

[t]he process by which states take coordination to a level where they work together to achieve a common purpose that produces mutual benefits that would not be available to them with unilateral action alone.¹¹¹

"International law evolved, and continues to evolve, around the elastic concept of cooperation";¹¹² and in the past century a 'paradigm shift' in international law has been observed from a 'law of co-existence' to a 'law of co-operation';¹¹³ evidenced by an increasing imposition of obligations to cooperate on states.¹¹⁴

109 Leb, *supra* note 10, 109; McIntyre, *ibid.*, 240.

110 McIntyre, *ibid.*, 249.

111 C. Leb, One step at a time: international law and the duty to cooperate in the management of shared water resources, 40(1) *Water International* (2014), 21, 22.

112 Wouters, *supra* note 5, 63.

113 W. G. Friedmann, *The Changing Structure of International Law* (1964), cited in E. Franckx & M. Benatar, *The 'Duty' to Co-Operate for States Bordering Enclosed or Semi-Enclosed Seas*, in Y-J Ma (ed.), *Chinese (Taiwan) Yearbook of International Law and Affairs* (2013), 67.

114 Franckx & Benatar, *ibid.*

The law of co-existence was composed of rules of abstention aimed at identifying limits to state sovereignty, and was linked to the obligation to omit interference in the sphere of sovereignty of others. The law of cooperation, on the other hand, is composed of positive obligations of assistance reflected, *inter alia*, in the establishment of the League of Nations and its successor the United Nations.¹¹⁵ Indeed, one objective of the United Nations Charter is to “achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character...”¹¹⁶ Furthermore, Articles 2, 55, and 56 of the Charter are commonly considered to be the primary treaty source from which the general principles of cooperation can be derived, and have solidified it as a customary principle of international law.¹¹⁷ Article 56 imposes on Member States two sets of obligations in relation to the principle: to cooperate with each other for the achievement of the purposes of international cooperation, and to cooperate with the United Nations itself for the attainment of these purposes.¹¹⁸ Many post-Charter instruments also reflect states’ general duty to cooperate,¹¹⁹ further contributing to its development. Cooperation among states has therefore constituted the lynchpin of international law since its inception as well as the foundation for the resolution of interstate disputes,¹²⁰ and states’ general duty to cooperate with one another has become “one of the most significant norms of contemporary international law, and also one of the fundamental rules of peaceful coexistence.”¹²¹

A large body of norms of cooperation has also developed in the context of international environmental law as a result of “the common interest of states in the protection of the natural environment and the realization that a number of related issues can be resolved only at the universal level.”¹²²

115 Leb, *supra* note 10, 33.

116 UN Charter, Article 1(3).

117 Leb, *supra* note 10, 34.

118 The UN Special Committee on Principles of International Law Concerning Friendly Relations and Cooperation among States, Official Records of the General Assembly, Twenty-First Session, Annexes, agenda item 87, document A/6230, para. 435.

119 E.g. the Charter of the Organization of American States, the Charter of the Organization of African Unity, the Declaration of Principles of International Law Concerning Friendly Relations and Cooperation among States, and the 1974 Declaration on the Establishment of a New International Economic Order.

120 Wouters, *supra* note 5, 17.

121 Official Records of the General Assembly, *supra* note 118, para. 420.

122 Leb, *supra* note 10, 34.

This body of norms is reflected in many international instruments¹²³ and has been reinforced by international judicial and arbitral decisions such as the *Trail Smelter* arbitration, the *North Sea Continental Shelf* ICJ cases, the *Fisheries Jurisdiction* ICJ case, and the *Mox Plant* (Provisional Measures) ITLOS case.¹²⁴ In the context of rights over shared or common resources, the 1974 Charter of Economic Rights and Duties of States provided that “[i]n the exploitation of natural resources shared by two or more countries, each State must co-operate on the basis of a system of information and prior consultations in order to achieve optimum use of such resources without causing damage to the legitimate interest of others.”¹²⁵ In the specific context of managing shared fresh water resources, moreover, cooperation among states has also become “progressively more formalized” as a result of hydrologic interdependence, culminating in a “general duty to cooperate”¹²⁶ universally recognized as one of the “cornerstone principles of international water law”¹²⁷ that has even been viewed by some as an obligation *erga omnes* imposable on all states.¹²⁸

The evolution of this duty to cooperate in international water law began with the 1911 Madrid Declaration,¹²⁹ which recommended the establishment of permanent joint commissions for the purpose of interstate cooperation on transboundary water issues. The 1961 *Salzburg Resolution on the Utilization of Non-Maritime International Waters*¹³⁰ and the 1966 *Helsinki Rules* set out further norms of cooperation among basin states, including procedural rules for notification, consultation, and negotiation for states that want to utilise shared waters in a manner that seriously affects the pos-

123 E.g. the Stockholm Declaration, Principle 24; the Rio Declaration, Principle 27; UNCLOS, Articles 123 and 197; 1992 Biodiversity Convention, Article 5, Philippe Sands et al, *Principles of International Environmental Law*, 3rd (ed.), (2012), 203-204.

124 Kaya, *supra* note 76, 125; Sands et al, *ibid.*, 204-205.

125 Charter of Economic Rights and Duties of States, GA Res 3281 (XXIX), UN GAOR, 29th Sess, Supp No 30, UN Doc. A/9030 (1974), 50, Article 3.

126 Leb, *supra* note 10, 42, 68-69.

127 C. Leb, *The UN Watercourses Convention: the éminence grise behind cooperation on transboundary water resources* [The UN], 38(2) *Water International* (2013), 146-147.

128 P. Wouters & D. Tarlock, *The Third Wave of Normativity in Global Water Law*, 23 *Water law* (2013), 51.

129 Declaration of Madrid, 20 April 1911, available at <http://www.fao.org/docrep/005/W9549E/w9549e08.htm#bm08.1.2> (last visited 6 December 2018).

130 Resolution on the Use of International Non-Maritime Waters, Salzburg, 11 September 1961, available at <http://www.fao.org/docrep/005/w9549e/w9549e08.htm> (last visited 6 December 2018).

sibility of use by other states.¹³¹ A general duty to cooperate was first introduced in the 1972 International Law Association *Supplementary Rules Applicable to Flood Control*, stipulating that:

[b]asin States shall cooperate in measures of flood control in a spirit of good neighbourliness, having due regard to their interests and well-being as co-basin States.¹³²

Such a general duty was then recognized with respect to pollution of rivers and lakes in the 1979 *Athens Resolution*. This resolution identified specific measures for the implementation of this general duty, including regular exchange of data, coordination of research and monitoring programs, and provision of technical and financial aid to developing countries.¹³³ Similarly, the 1982 *Montreal Rules on Water Pollution in an International Drainage Basin* further confirmed the existence of a general duty to cooperate with regard to pollution of transboundary fresh water. Article 4 of the *Montreal Rules* provided that “[i]n order to give full effect to the provisions of these Articles, States shall cooperate with the other States concerned”. In the commentary to this article, the ILA justified the inclusion of this general duty to cooperate by arguing that it was considered “generally accepted as a fundamental principle”.¹³⁴

The 1992 *UNECE*, the 1997 *UNWC*, and the 2004 *Berlin Rules* also include a general duty to cooperate that applies to all aspects of the management of fresh waters and these instruments thus solidify its status as a guiding norm of international water law.¹³⁵ Furthermore, arbitral and judicial decisions such as those in the *Lake Lanoux*,¹³⁶ *Gabčíkovo-Nagymaros*,¹³⁷ and *Pulp Mills*¹³⁸ disputes have also confirmed the existence of an obligation to cooperate in the transboundary fresh water context. State practice similarly indicates an overall increase in the inclusion of obligations to cooperate in international water treaties from 1900-2010.¹³⁹ This trend has been viewed

131 Leb, *supra* note 10, 75-76; Leb, *The UN*, *supra* note 127, 148-149.

132 1972 International Law Association *Supplementary Rules Applicable to Flood Control*, Article 2; Leb, *The UN*, *supra* note 127, 149.

133 Leb, *supra* note 10, 76.

134 International Law Association, Report of the Sixtieth Conference, Montreal 1982 (London: ILA, 1982), 535-548, cited in Leb, *ibid.*, 77.

135 UNECE, *supra* note 18, Article 9; UNWC, *supra* note 13, Article 8; Berlin Rules, *supra* note 94, Article 11; Leb, *The UN*, *supra* note 127, 146-147, 149.

136 *Lake Lanoux* (France v. Spain), Final Award, (1974) Y.B. Int'l L. Comm'n, vol. 2.

137 Case Concerning the Gabčíkovo-Nagymaros Project, *supra* note 75.

138 *Pulp Mills*, *supra* note 21.

139 Leb, *The UN*, *supra* note 127, 146-147.

as evidence that states increasingly regard cooperation on shared water resources as a general duty.¹⁴⁰

The evolution of the International Law Commission's work on the *Draft Articles Concerning the Law of Non-Navigational Uses of International Watercourses (Draft Articles)*,¹⁴¹ which formed the basis for the UNWC, particularly illustrates the progressive recognition of cooperation as a general principle of international water law.¹⁴² In 1981, the second Special Rapporteur working on this topic, Stephen Schwebel, proposed the concept of 'equitable participation' to reflect that:

[c]onditions and expectations have tended to move the international community to a position of affirmative promotion of cooperation and collaboration with respect to shared water resources.¹⁴³

According to this view, as a corollary to the duty to participate, basin states have a right to the cooperation of other states sharing a transboundary water system.¹⁴⁴ In contrast to the 1966 *Helsinki Rules*, which included no particular procedural provisions, Schwebel thus introduced procedural components of cooperation by stipulating a duty to participate.

Jens Evensen, the following Special Rapporteur, was the first to include an article explicitly defining the general principle of cooperation in this context.¹⁴⁵ He introduced a new Chapter on 'Cooperation and Management in Regard to International Watercourse Systems', which stipulated specific cooperation obligations and rights, including consultation, negotiation and prior notification of planned measures, and provided two reasons for this. First, he argued that it follows from the nature of watercourses as "indivisible units" that cooperation among states is essential for effect-

140 Ibid., 146, 148.

141 1994 Draft Articles on the Law of the Non-Navigational Uses of International Watercourses and Commentaries thereto and Resolution on Transboundary Confined Groundwater, available at http://www.internationalwaterlaw.org/documents/intldocs/UNILC_Commentaries_on_Draft_UNWC.pdf (last visited 6 December 2018).

142 Leb, *supra* note 10, 77-78.

143 International Law Commission, "Third Report on the Law of the Non-navigational Uses of International Watercourses, by S. M. Schwebel, Special Rapporteur" (1982) II(1) YBILC 85, para. 85, cited in Leb, *ibid.*, 78.

144 Leb, *ibid.*

145 Article 10, General Principles of Cooperation and Management, International Law Commission, "Second Report on the Law of Non-navigational Uses of International Watercourses, J. Evensen, Special Rapporteur" (1982) II(1) YBILC 113, para. 64, cited in Leb, *ibid.*

ive management and optimal utilisation, as well as for reasonable and equitable sharing in this utilization. Second, this inclusion would echo the conclusions of the 1977 *United Nations Mar del Plata Conference on Water* and the 1981 *Interregional Meeting of International River Organizations of Dakar*, both of which stressed the importance of state cooperation in this context.¹⁴⁶

This political commitment to cooperation on shared fresh water was further reaffirmed in 1992 with the adoption of *Agenda 21* at the United Nations Conference on Environment and Development, in which states committed to the implementation of integrated approaches and protection of the quality and supply of the world's fresh water resources through both national and international cooperation.¹⁴⁷ The *Draft Articles* therefore reflected the increasing acceptance of cooperation not only as a "necessary political paradigm" but also as a "principle of international water law".¹⁴⁸

Nonetheless, a debate persists on whether the general duty to cooperate "is a principle of international law that gives rise to more specific obligations but is not in itself an independent obligation or whether it represents an autonomous legal obligation and, if so, of what nature".¹⁴⁹ It seems reasonable to conclude in this regard that this principle constitutes both an autonomous obligation and one that gives rise to more specific obligations, and that "cooperation duties can be used to facilitate observance of other rights as well as the creation of new rights; however, they also comprise a substantive obligation in and of itself".¹⁵⁰ In any event, for present purposes suffice it to say that the legal nature of the general duty to cooperate "[r]esides somewhere in the grey zone between definitions of the concepts of 'specific obligation' and 'legal principle'; it is neither one nor the other but rather includes elements of both. The general duty to cooperate is a general obligation with a legal nature of its own: it has all of the attributes of a legal principle and yet is an obligation of general nature."¹⁵¹

146 International Law Commission, "First Report on the Law of the Non-navigational Uses of International Watercourses, by J. Evensen, Special Rapporteur" (1983) II(1) YBILC 173f., paras. 103–106, cited in Leb, *ibid*.

147 Report of the United Nations Conference on Environment and Development, 12 August 1992, UN Doc. A/CONF.151/26/REV.1, cited in Leb, *ibid*, 78–79.

148 Leb, *ibid*, 79.

149 *Ibid*., 80.

150 *Ibid*., 109.

151 *Ibid*., 81.

This “general obligation” to cooperate in the use of shared fresh water resources is most notably set out in Article 8(1) of the *UNWC*:¹⁵²

General obligation to cooperate

1. Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse...

This general duty to cooperate has been viewed as “a bridge between substantive and procedural rules” since specific cooperation obligations include both substantive and procedural content.¹⁵³ Several procedural obligations under international water law, discussed in section I above, also aim to facilitate and enhance cooperation among states sharing freshwater resources. One such obligation, for instance, is for states to exchange and share information. This obligation is said to serve several purposes:

[t]o inform about the general status of a water system; to improve development and management planning capacity; and to prevent harm by notifying other States of imminent danger or of planned activities that might negatively impact the water system or another State’s territory.

Specific procedural obligations concerning information include “regular exchange of data and information, notification of natural emergencies and those caused by human activity, and notification of planned measures”.¹⁵⁴

The detailed procedural requirements linked to states’ obligation to cooperate with respect to shared fresh water resources can no doubt lead to successful management of such resources and to the avoidance of disputes since they function to “formalize and to give specific meaning to the general duty to cooperate”¹⁵⁵ in order to attain “optimal utilization and adequate protection of the watercourse”.¹⁵⁶ Where cooperation on fresh water is achieved it is said to produce four types of benefits: ecological benefits to a river if riparian states join together to maintain a healthy aquatic environ-

152 A similar provision was also included in the 2008 International Law Commission Draft Articles on the Law of Transboundary Aquifers, Article 7(1), GA Rep A/63/10; and the Berlin Rules, *supra* note 94, Article 11; as well as in regional water agreements such as the Nile Cooperative Framework Agreement, Article 3.

153 *Leb*, *supra* note 10, 110.

154 *Ibid.*, 114.

155 McIntyre, *supra* note 21, 243-244.

156 *Ibid.*, 245.

ment in the river basin; increase economic benefits that can be reaped from the river; the reduction of costs that arise because of the river, such as political conflict; and benefits beyond the river that occur as a follow-on effect of cooperation in the transboundary water system.¹⁵⁷ Such benefits, moreover, may reduce the likelihood, frequency, and intensity of water-related disputes since through the “procedural law of cooperation” “[c]onflict can better be *avoided* by talking and sharing information.”¹⁵⁸ Despite the potential for such benefits, however, states do not always interact cooperatively with one another on shared fresh water issues and state relations are more frequently in a state of “cooperative coexistence” than in a state of cooperation, as sovereignty remains a primordial concept.¹⁵⁹

This is partially because states’ decision to cooperate, on any matter, is driven by a variety of considerations including historical, political, economic, and social factors.¹⁶⁰ In the case of the Nile River, for instance, each riparian’s political interest in the shared resource differs greatly and therefore “national water plans tend to be designed in isolation, and there is significant political distrust and a lack of information.”¹⁶¹ On the other hand, in the Mekong River Basin there has been cooperation on the establishment of coordination mechanisms as a result of basin development studies carried out in the early 1950s by both the United States Bureau of Reclamation and the UN Economic Commission for Asia and the Far East.¹⁶² Hydrological considerations also play a role in states’ decision to cooperate on transboundary fresh water issues. These include, for instance, the “multitude of possible water uses, the complexity of interrelationships among these uses, as well as among uses and their transboundary and/or environmental impact, and the inevitable interdependence established by shared hydrologic systems.”¹⁶³

Despite this multitude of considerations and the fact that states do not always succeed, or even attempt, to cooperate in the management of shared fresh water resources, the procedural principles of international wa-

157 Leb, *supra* note 10, 25-26.

158 R. Higgins, *Problems and Process: International Law and How We Use It* (1994), 136, cited in McIntyre, *supra* note 21, 243 (emphasis in original).

159 Leb, *supra* note 10, 35.

160 *Ibid.*, 19.

161 C. Spiegel, *International Water Law: The Contribution of Western United States Water Law to the United Nations Convention on the Law of the Non-Navigable Uses of International Watercourses*, 15 *Duke Journal of Comparative & International Law* (2005), 333, 356.

162 Leb, *supra* note 10, 23-24.

163 *Ibid.*, 195.

ter law still provide a useful framework for the facilitation of such cooperation and, where observed, make interstate cooperation both more likely to occur and more likely to yield benefits for the states involved.

IV. Conclusion

The procedural principles of international water law have gained considerable international traction in relation to shared fresh water resources through international conventions and instruments, decisions of international courts and tribunals, bilateral water agreements.¹⁶⁴ The cooperative practices they facilitate serve important trust-building and conflict-prevention functions.¹⁶⁵ Moreover, understanding the dual role of international water law's procedural obligations, namely to facilitate the implementation of their related substantive obligations and the cooperative management of shared water resources, is vital for the effective joint management of such resources as well as for the protection of the environment. As has been noted in the more general context of international environmental law:

[p]rocedure can promote the protection of community interests in concrete ways [... such as] when substantive requirements lack specificity or when states are reluctant to invoke them [... and] procedural elements play crucial roles when participants hold divergent positions, work towards shared understandings of community interests and collective action, or work to develop, apply, or revise, substantive requirements. But the procedural aspects of international environmental law also are important in their own right. In all of its guises, procedure serves to enable, guide and at times even compel interaction between states and other international actors, including non-state actors.¹⁶⁶

The same applies to the procedural obligations of international water law. These obligations may be somewhat easier for states to comply with since they are often perceived as less intrusive to traditional conceptions of state sovereignty than the substantive principles of international water law. They

164 M. J. Gander, International water law and supporting water management principles in the development of a model transboundary agreement between riparians in international river basins, 39(3) *Water International* (2014), 315; McCaffrey, *supra* note 23, 464-480; McIntyre, *supra* note 21, 239-265.

165 Brunnée & Toope, *supra* note 5, 57.

166 Brunnée, *supra* note 11, 7.

are devoid of the values inherent in the latter, such as environmental priorities and distributive equity, but at the same time they can impact more directly and immediately sovereign discretion since they embody obligations that are unambiguous and unconditional.¹⁶⁷ Ultimately, “the sophistication of [the procedural rules of International water law] can be measured in terms of their internal coherence and comprehensiveness, as well as their functional integration with the key substantive rules of [international water law]”, which together “operate to provide value direction and balance to the environmental, social and economic objectives” of states.¹⁶⁸

167 McIntyre, *supra* note 21, 241.

168 *Ibid.*, 263.