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The Practice of Shared Responsibility in relation to Transboundary Water Resources

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The Practice of Shared Responsibility in relation to Transboundary Water Resources

Owen McIntyre[*]

1. Introduction

This chapter examines the possible application of principles of shared international responsibility among multiple actors in the field of international water resources law. In so doing, it employs the conceptual framework for 'shared responsibility' in international law developed and expounded by Nollkaemper and Jacobs.[1] Their broad and inclusive conceptual framework, that includes shared accountability[2] and also incorporates non-state actors,[3] is particularly apt in the case of shared international water resources law, where the determination of formal legal responsibility is rare and where a range of types of actors might be involved in harmful activity, including state and non-state actors operating at the national, transnational and intergovernmental levels. For example, due to the huge capital investment required for major water infrastructure projects, as well as the technical complexity of their ongoing operation and maintenance, it is increasingly common for such projects to be undertaken as 'cooperative endeavors' between state(s) and non-state actors.[4] In international basins such projects very often have the potential to cause significant harm to the interests of other watercourse states or to the watercourse ecosystem itself. Likewise, in the context of shared international water resources, accountability is more likely to arise by means of informal cooperative mechanisms, such as conventional arrangements for joint protection or restoration of a watercourse or 'supervisory institutional arrangements set up under multilateral

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[1] P.A. Nollkaemper and D. Jacobs, 'Shared Responsibility in International Law: A Conceptual Framework' (2013) 34 MIJIL 359. See also Chapter 1 in this volume, P.A. Nollkaemper and I. Plakokefalos, 'The Practice of Shared Responsibility: A Framework for Analysis', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), 1, at ___.

[2] Nollkaemper and Jacobs, ibid., at 363.

[3] Ibid.

[4] Ibid.

environmental [or river basin] agreements', than by virtue of decisions of international courts.[5] Section 2 will consider some further scenarios in which questions of shared responsibility might arise.

Of course, questions might arise as to the nature and form of such shared responsibility. In particular, it is important to examine whether any responsibility arising might be shared joint and severally, whereby each responsible state would be liable for the entirety of the harm caused, or whether it might somehow be apportioned among the states responsible. In order to attempt to answer such questions, it is necessary first to examine the key primary rules and principles firmly established in international law relating to the utilisation and protection of shared waters, breach of which might give rise to shared responsibility (section 3). Next, one must examine the general, secondary rules of international law applicable to internationally wrongful acts and, in particular, those concerned with the attribution of responsibility for breach of such primary rules of international water law (section 4). Finally, it is necessary briefly to examine the processes by which shared responsibility might be applied in the context of shared international water resources (section 5).

2. Factual scenarios

Although there exists no clear example in the practice of international, i.e. inter-state, water resources law of a formal attempt to determine responsibility of two or more states in relation to transboundary harm, it is immediately apparent that such a scenario might easily arise. Two main scenarios can be distinguished.

In a first scenario, states engage in joint or concerted action, for example where two or more upstream states cooperate in the implementation of a major hydrological infrastructure project. In this regard, it is worth remembering that the system of barrages originally planned jointly by Hungary and Czechoslovakia (but subsequently partially implemented unilaterally by a newly independent Slovakia), which gave rise to the dispute in the celebrated *Gabčíkovo-Nagymaros*

[5] Ibid., at 364. It is worth noting that a few river basin organisations (RBOs) are expressly charged with monitoring compliance with the relevant applicable requirements of international water law, including the Organization of the Amazon Cooperation Treaty, the Lake Tanganyika Authority and the International Sava River Basin Authority.

case before the International Court of Justice (ICJ or Court),[6] involved a project intended to be jointly implemented by two upstream riparian states which might easily have resulted in harm to one or more of the downstream co-riparian states.[7] The question arises of whether both states involved in implementing such a project might be required under international law to share responsibility for harm unlawfully caused. Under the conceptual framework elaborated by Nollkaemper and Jacobs, such shared responsibility, arising out of joint or concerted action is referred to as 'cooperative responsibility'.[8]

In a second scenario, the activities of a number of upstream states, which have simultaneously, but independently, engaged in similar polluting activities or in large-scale abstraction of water resources might cause cumulative pollution or other harm to a downstream state(s), which might not easily be attributed or apportioned to any one of these upstream states individually. The question here arises of whether such states, engaging in independent action leading to 'indivisible' harm, might share responsibility for the harm. Nollkaemper and Jacobs refer to such instances of shared responsibility as 'cumulative responsibility', and include as an example the 'pollution of an international watercourse caused by two or more riparian states'.[9]

Either form of shared responsibility might arise by virtue of two or more states' participation in a joint river commission. For example, such a commission might be charged with planning and implementing a joint project, in respect of which it failed to assess and address risks for other basin states. Similarly, a commission might be given the task of adopting joint measures for the environmental protection of a shared basin, but may fail to do so, resulting in pollution damage to downstream states.

3. Primary rules

The basic rules of international law applying to the management of shared international freshwater resources are firmly established and reasonably clearly understood. At their very simplest, these can be reduced to two substantive rules, i.e. the principle of reasonable and equitable utilisation

[6] *Gabčikovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, ICJ Reports 1997, 7.
[7] Which include Serbia, Croatia, Bulgaria, Romania, Moldova and Ukraine.
[8] See Nollkaemper and Jacobs, 'Shared Responsibility in International Law', n. 1, at 368.
[9] Ibid., at 368-369.

and the duty to prevent significant transboundary harm, as well as the duty to cooperate, which can be understood as a *portmanteau* obligation, consisting of a collection of primarily procedural requirements.[10] These three basic rules of general international water law are closely interconnected and together form an integrated suite of substantive and procedural obligations which apply to all riparian states,[11] either by virtue of specific conventional provisions applicable between the state parties concerned or of customary international law, and thus might be breached simultaneously by a number of riparian states either acting in concert or independently.

While each of these primary rules of international water law are included in all globally relevant instruments, most notably the 1997 United Nations (UN) Watercourses Convention,[12] they are also invariably set out in more specific regional water resources conventions and river basin agreements, wherever such instruments have been concluded. Taking the Southern African Development Community (SADC) region as an exemplar of modern inter-state water cooperation, having a regionally applicable Protocol and comprehensive framework of basin agreements, one finds that these rules are central to water utilisation and protection regimes created thereunder.[13] Individual river basin agreements may also contain more detailed rules which inform the specific application of the substantive rules of international water. For example, the 1944 Colorado River

[10] See, for example, the statements of Mr. Tomuschat, Chairman of the International Law Commission's Drafting Committee, ILC *Yearbook* 1988/I (summary records of the fortieth session, 9 May–29 July 1988, 2071st meeting, para. 7).

[11] See *Pulp Mills on the River Uruguay (Argentina* v. *Uruguay)*, Judgment, ICJ Reports 2010, 14 (*Pulp Mills*). See further, O. McIntyre, 'The Proceduralization and Growing Maturity of International Water Law: *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*' (2010) 22(3) JEL 475.

[12] Convention on the Law of the Non-Navigational Uses of International Watercourses, New York, 21 May 1997, in force 17 August 2014, (1997) 36 ILM 700 (1997 UN Watercourses Convention, Convention, or UN Watercourses Convention).

[13] For example, the principle of equitable and reasonable utilisation is set out in Article 3(7)(8) of the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), Windhoek, 7 August 2000, in force 22 September 2003 (2000 Revised SADC Protocol on Shared Watercourses); Article 7.2 of the 2000 Agreement for the Establishment of the Orange-Senqu River Basin Commission, Windhoek, 3 November 2000, in force 2003; Article 3(b) of the 2002 Tripartite Interim Agreement for Co-Operation on the Protection and Sustainable Utilisation of the Water Resources of the Incomati and Maputo Watercourses, Johannesburg, 29 August 2002, in force 2002 (2002 Incomati-Maputo Agreement); and Articles 12, 13 and 14.1 of the 2004 Agreement on the Establishment of the Zambezi Watercourse Commission, Kasane, 13 July 2004, in force 19 June 2011 (Zambezi Commission Agreement). The duty to prevent significant transboundary harm is set out in Article 3(10) of the 2000 Revised SADC Protocol on Shared Watercourses; Article 7.3 of the 2000 Agreement for the Establishment of the Orange-Senqu River Basin Commission; Article 3(c) of the 2002 Incomati-Maputo Agreement; and Articles 14.2 and 14.4 of the 2004 Zambezi Commission Agreement. Similarly, the duty of cooperation is set out in Article 3(5) of the 2000 Revised SADC Protocol on Shared Watercourses; Article 7.1 of the 2000 Agreement for the Establishment of the Orange-Senqu River Basin Commission; Articles 4, 5 and 7 of the 2002 Incomati-Maputo Agreement; and Article 14.5 of the 2004 Zambezi Commission Agreement.

Treaty provides detailed rules on the equitable allocation of quantum shares of the international waters concerned.[14]

It will appear from the discussion below that each of these rules is directly relevant from the perspective of shared responsibility. From one angle, one could say that each constitutes an attempt to prevent the occurrence of harm. From another angle, in cases where multiple states contribute to harm, each of these rules may provide a basis for engaging the shared responsibility of the states (and sometimes international institutions) involved.

3.1 Equitable and reasonable utilisation

The cardinal rule of international water law is that of 'equitable and reasonable utilisation', a somewhat vague and flexible principle under which the utilisation rights of riparian states are to be determined in conformity with the concepts of equity and reasonableness, taking all relevant circumstances into consideration.[15] This principle enjoys 'overwhelming support … as a general rule of law for the determination of the rights and obligations of States in this field',[16] despite the fact that it inevitably suffers from some legal indeterminacy.[17] For example, in his Dissenting Opinion in the *Gabčíkovo-Nagymaros* case, Judge ad hoc Skubiszewski referred to the 'canon of an equitable and reasonable utilization'.[18] In successive codifications of the rules of international water law,[19] the principle of equitable and reasonable utilisation has been articulated in terms of a non-exhaustive list of factors to be considered in determining what constitutes an equitable and

[14] Treaty between the United States of America and Mexico relating to the Utilization of the Waters of the Colorado and Tijuana Rivers, and of the Ro Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico, Washington, 3 February 1944, in force 8 November 1945, 3 UNTS 313 (1944 Colorado River Treaty).

[15] See generally, O. McIntyre, *Environmental Protection of International Watercourses under International Law* (Aldershot: Ashgate, 2007), 53 *et seq.*

[16] Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, and Commentary, ILC Report on the Work of its Forty-Sixth Session, ILC *Yearbook* 1994/II(2), 98, para. 10 (1994 Draft Articles).

[17] S. Barrett, *Environment and Statecraft: The Strategy of Environmental Treaty-Making* (Oxford University Press, 2003), 126.

[18] *Gabčíkovo-Nagymaros*, n. 6, Dissenting Opinion Judge Skubiszewski, at 235, para. 8. See further, S. McCaffrey, *The Law of International Watercourses: Non-Navigational Uses* (Oxford University Press, 2001), 325.

[19] Article V, 1966 International Law Association (ILA) Helsinki Rules on the Uses of Waters of International Rivers, International Law Association, *Report of the Fifty-Second Conference of the International Law Association* (Helsinki, 1966) (Helsinki Rules); Asian-African Legal Consultative Committee 1973 Propositions of the Standing Sub-Committee on International Rivers, Proposition III, *Report of the Fourteenth Session* (10-18 January 1973, New Dehli), at 7-14; Article 6 ILC Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, n. 16, 101; Article 13, 2004 ILA Berlin Rules on Water Resources Law, International Law Association, *Report of the Seventy-First Conference of the International Law Association* (Berlin, 2004) (Berlin Rules).

reasonable share of the uses of shared water resources, suggesting strongly that the principle is largely procedural in nature. Article 5 of the UN Watercourses Convention, which sets out the principle's most authoritative articulation as a principle of general international law, even expressly includes the supplemental principle of 'equitable participation', the inclusion of which, according to the Commentary to the International Law Commission's (ILC) 1994 Draft Articles, which preceded the Convention and provided the basis for its text, denotes a recognition by the Commission that

> cooperative action by watercourse States is necessary to produce maximum benefits for each of them, while helping to maintain an equitable allocation of uses [and that] the attainment of optimal utilization and benefits entails cooperation of watercourse States through their participation in the protection of and development of the watercourse.[20]

Thus, this customary principle is closely linked to the general obligation to cooperate in relation to the use, development and protection of international watercourses contained in Article 8 of the Convention, and hence to the adoption of a so-called 'common management approach', as it is clear that common management institutions and related procedural arrangements can play a very significant role in the principle's practical implementation.[21] Reliance on such institutions and arrangements is indicative of the existence of a so-called 'community of interests' approach to the management of shared water resources, which would regard shared waters as being vested in the community of co-basin states, and as requiring integrated water resources planning and development, thus supporting the idea of shared responsibility.[22]

Any progressive and meaningful analysis of the principle of equitable and reasonable utilisation must understand it as relying upon a community of interests approach.[23] Though few would argue that such an approach has evolved, or is likely soon to evolve, into an autonomous normative requirement of general or customary international law,[24] it has some support in the treaty practice

[20] See Commentary to Article 5 of the 1994 Draft Articles, 97, para. 5, n. 16.
[21] See generally, the *Pulp Mills* case, n. 11.
[22] On the community of interests approach generally, see F. Loures, 'History and Development of the Community-of-Interests Doctrine', in T. Tvedt, O. McIntyre, and T. Kasse Woldetsadik (eds.), *A History of Water: Sovereignty and International Water Law*, History of Water, vol. 2, series 3 (London: I.B. Tauris Publishing, 2015), 212. See also McCaffrey, *The Law of International Watercourses*, n. 18, 170-171.
[23] See, for example, McIntyre, *Environmental Protection of International Watercourses*, n. 15, 28 *et seq.*
[24] See, for example, B.A. Godana, *Africa's Shared Water Resources: Legal and Institutional Aspects of the Nile, Niger and Senegal River Systems* (London: Frances Pinter, 1985), 49; I. Kaya, Equitable Utilization: The Law of the Non-Navigational Uses of International Watercourses (Aldershot: Ashgate, 2003), 205; L. Caflisch, 'Règles Générales du

of states.[25] In addition, the closely-related practice of establishing institutional machinery for the common management of shared waters has long been endorsed by the international community through codifications and declaratory instruments.[26] The idea that a community of interests exists in international watercourses has received quite enthusiastic support, moreover, in the deliberations of international judicial tribunals. In the *River Oder* case, though concerned with rights of navigation, the Permanent Court of International Justice (PCIJ) famously referred to 'principles governing international fluvial law in general' in concluding that

> [t]his community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.[27]

In the *Gabčíkovo-Nagymaros* case, the ICJ quoted the above passage as central to its reasoning in concluding that Czechoslovakia had unlawfully deprived Hungary of its right to an equitable and reasonable share of the natural resources of the Danube. Despite the fact that the 1997 UN Watercourses Convention does not specifically allude to the community of interests concept, the ICJ added that:

> Modern development of international law has strengthened this principle for the non-navigational uses of international watercourses as well, as evidenced by the adoption of the Convention of 21 May 1997 on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly.[28]

Droit des Cours d'Eau Internationaux' (1989) 219 RCADI 9, at 59–61; M. Fitzmaurice and O. Elias, *Watercourse Cooperation in Northern Europe – A Model for the Future* (The Hague: TMC Asser Press, 2004), 14.

[25] See, for example, Article 4 of the 1905 Treaty of Karlstad between Sweden and Norway, Karlstad, 26 October 1905; Article 1 of the 1957 Agreement between Bolivia and Peru concerning a Preliminary Economic Study of the Joint Utilization of the Waters of Lake Titicaca, La Paz, 19 February 1957, *Legislative Texts*, No. 45, at 168; Article 1(2) of the 1992 Agreement between Namibia and South Africa on the Establishment of a Permanent Water Commission, Noordoewer, 14 September 1992, (1993) 32 ILM 1147; and Article 3(9) of the 2009 Agreement on the Nile River Basin Cooperative Framework, available at www.internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010.pdf.

[26] See, for example, UN Committee on Natural Resources, UN Doc. W/C.7/2 Add. 6, 1-7; Economic Commission for Europe, Committee on Water Problems 1971, UN Doc. E/ECE/Water/9 Annex II; Council of Europe Rec. 436 (1965); 1972 Stockholm Action Plan for the Human Environment, UN Doc. A/Conf.48/14/Rev. 1, Rec. 51; *Report of the UN Water Conference*, Mar del Plata, 14–25 March, 1977; Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992, UN Doc. A/CONF.151/26 (vol. II) (1992), at 167, paras. 18.3 and 18.10; Institute of International Law (ILI) 1961 Session, Resolution on Non-Maritime International Waters, Article 9; ILI 1979 Session, Resolution on the Pollution of Rivers and Lakes, Article 7(G), available at www.fao.org/docrep/005/w9549e/w9549e08.htm#bm08.1.5.

[27] *Territorial Jurisdiction of the International Commission of the River Oder*, Judgment, PCIJ, Ser. A, No. 23 (1929) 5, at 27-28.

[28] *Gabčíkovo-Nagymaros*, n. 6, para. 85.

McCaffrey highlights this statement by the Court to argue that 'the concept of community of interest can function not only as a theoretical basis of the law of international watercourses but also as a principle that informs concrete obligations of riparian states, such as that of equitable utilization'.[29] By stressing the role of the relevant cooperative institutional mechanism in the implementation of the substantive requirements of international water law, in addition to its procedural functions, the Court in the *Pulp Mills* case has emphasised equitable and reasonable utilisation as an inter-state process, rather than a clear normative rule which dictates a particular outcome.[30] Indeed, in its concluding paragraph, the Court also pointed out that 'the Parties have a long-standing and effective tradition of co-operation and co-ordination through CARU',[31] by means of which they 'have established a real *community of interests* and rights in the management of the River Uruguay and in the protection of its environment', thus linking the community of interests approach, inherent to equitable and reasonable utilisation, to the duty to cooperate.[32]

In seeking to understand the community of interests concept, and its central role in the implementation of the principle of equitable and reasonable utilisation, it is useful to remember that the latter principle is based upon a particular understanding of the rights of watercourse states arising by virtue of their territorial sovereignty, commonly referred to as 'limited territorial sovereignty'.[33] This theoretical approach may be understood as a compromise between the 'absolute territorial sovereignty' and 'absolute territorial integrity' approaches, under which the sovereign discretion of the upper basin state and the territorial integrity of the lower basin state are restricted by a recognition of the equal and correlative rights of the other state. It has its doctrinal origins in the sovereign equality of states, whereby all states sharing an international watercourse have equivalent rights to the use of its waters. This idea in turn gives rise to the notion that international watercourses are shared resources in which there exists a community of interest among all co-basin states, which requires an equitable and reasonable balancing of state interests

[29] McCaffrey, *The Law of International Watercourses*, n. 18, 152.
[30] *Pulp Mills*, n. 11, paras. 87-93. See generally, 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, C. Leb, and M. Tignino (eds.), *International Law and Freshwater: The Multiple Challenges* (Cheltenham: Edward Elgar, 2013), 239, at 254.
[31] Comisíon Administradora del Rio Uruguay (CARU), a joint river basin commission charged under the 1975 Statute of the River Uruguay with facilitating bilateral communication and consultation between the riparian parties on matters impacting on their use of the river.
[32] *Pulp Mills*, n. 11, para. 281 (emphasis added). See generally, O. McIntyre, 'The World Court's Ongoing Contribution to International Water Law: the Pulp Mills Case between Argentina and Uruguay' (2011) 4(2) WA 124, at 137.
[33] See generally, McIntyre, *Environmental Protection of International Watercourses*, n. 15, 23 et seq.

in order to accommodate the needs and uses of each state. The community of interest concept provides an example of what Hey calls the 'common-interest normative pattern' in international law, which 'seeks to regulate the interests that are common to these actors or the interests of the international community', and under which 'concepts such as that of the international community, the common or community interest and obligations *erga omnes* gained ground'.[34]

This pattern corresponds with the observations of Nollkaemper and Jacobs, who note among the underlying dynamics leading to the increase in situations of shared responsibility that of greater 'interdependence' of states, so that they have increasingly 'felt compelled to work collectively to protect common goods'.[35] The understanding that equitable and reasonable utilisation comprises a process for balancing the interests of watercourse states rather than a normative rule per se would appear strongly to support the possibility that states might share responsibility in this field, just as they share benefits under the community of interests approach.

3.2 Duty to prevent significant transboundary harm

Though the indeterminacy of equitable and reasonable utilisation as the cardinal rule of international water law has long been recognised,[36] it is supplemented by another substantive obligation which seems somewhat clearer and more imperative, i.e. the duty to prevent significant transboundary harm or the so-called 'no-harm' rule. While it is well established in customary international law, this rule has also been included in the UN Watercourses Convention in Article 7(1), which provides that:

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[34] E. Hey, *Teaching International Law: State Consent as Consent to a Process of Normative Development and Ensuing Problems* (The Hague: Kluwer Law International, 2003), 11. On the need to take account of 'communitarian needs' in international law, see generally, B. Simma, 'From Bilateralism to Community Interest in International Law' (1994) 250 RCADI 217; E. Benvenisti and M. Hirsch (eds.), *The Impact of International Law on International Cooperation: Theoretical Perspectives* (New York: Cambridge University Press, 2005); U. Fastenrath, R. Geiger, D.-E. Khan, A. Paulus, S. von Schorlemer, and C. Vedder (eds.), *From Bilateralism to Community Interest: Essays in Honour of Judge Bruno Simma* (Oxford University Press, 2011). In the specific context of international water law, see P. Wouters and A.D. Tarlock, 'The Third Wave of Normativity in Global Water Law: The duty to cooperate in the peaceful management of the world's water resources: an emerging obligation *erga omnes*?' (2013) 23(2) JWL 51.

[35] Nollkaemper and Jacobs, 'Shared Responsibility in International Law', n. 1, at 370.

[36] See, for example, P.A. Nollkaemper, 'The Contribution of the International Law Commission to International Water Law: Does It Reverse The Flight From Substance?' (1996) 27 NYIL 39, at 45.

> 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.[37]

This firmly established customary rule is central to international environmental law more generally[38] and has been linked to a number of legal maxims and doctrines, prominent in both common law and civil law systems, including the maxim *sic utere tuo ut alienum non laedas* (so use your own as not to harm that of another), the theory of abuse of rights (*abus de droit*, *Rechtsmissbrauch*), and the theory of good neighbourliness (*droit international de voisinage*, *Nachbarrecht*), which might go some way towards explaining its broad acceptance.[39] Maljean-Dubois further suggests that if this duty 'manages to assert its customary nature without any problem, it is because it is based on the respect of territorial sovereignty … [being] a fundamental principle for the co-existence and "good neighbor relations" of equal sovereign relations'.[40]

Indeed, in the recent *Pulp Mills* case, the ICJ appeared to recognise this rule of international law as the wellspring of all other rules of customary international environmental law, such as that requiring that an environmental impact assessment (EIA) be undertaken of the transboundary impacts of a proposed industrial facility or activity, all of which function to discharge the due diligence obligations inherent to the duty of prevention.[41] Maljean-Dubois suggests that '[w]e could almost consider that the other customary rules [of international environmental law] simply derive from it'.[42]

The no-harm rule is very well established in general international water law and an examination of treaty practice at river-basin level reveals substantive provisions dealing with, inter alia, minimum

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[37] See also, Article 2(a) of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17 March 1992, in force 6 October 1996, 1936 UNTS 269 (UNECE Water Convention); Article X of the ILA's 1966 Helsinki Rules, n. 19; and Articles 8, 12 and 16 of the ILA 2004 Berlin Rules, n. 19.

[38] See *Trail Smelter Arbitration (United States of America/Canada)* (1938 and 1941), Award, (1949) 3 RIAA 1905, at 1965 and (1941) 35 AJIL 684; *Corfu Channel (United Kingdom of Great Britain and Northern Ireland* v. *Albania)*, Merits, ICJ Reports 1949, 4, at 22; Principle 21 of the Declaration of the United Nations Conference on the Human Environment, Stockholm, 16 June 1972, (1972) 11 ILM 1416 (Stockholm Declaration); Principle 2 of the Rio Declaration on Environment and Development, Rio de Janeiro, 14 June 1992, (1992) 31 ILM 874 (Rio Declaration); *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, 226, para. 29; *Gabčíkovo-Nagymaros*, n. 6, at 77, para. 140; *Pulp Mills*, n. 11, para. 101.

[39] See McCaffrey, *The Law of International Watercourses*, n. 18, 349-353.

[40] S. Maljean-Dubois 'The Making of International Law Challenging Environmental Protection', in Y. Kerbrat and S. Maljean-Bubois (eds.), *The Transformation of International Environmental Law* (Oxford: Hart, 2011), 25, at 42.

[41] See further, McIntyre, 'The contribution of procedural rules to the environmental protection of transboundary rivers', n. 30, 260.

[42] Maljean-Dubois, 'The Making of International Law Challenging Environmental Protection', n. 40, 42.

flow requirements,[43] the prevention of harmful effects,[44] the protection of water quality[45] and the application of clean technologies.[46] Handl points out that many treaties relating to the utilisation of international watercourses contain very general provisions concerning the prevention and abatement of water pollution.[47] The ICJ judgment in the *Pulp Mills* case provides a particularly useful example of judicial deliberation concerning a highly developed articulation of the no-harm rule contained in a river basin agreement, though it also suggests how the customary form of the rule might be interpreted and applied in the context of shared international water resources.[48]

At a practical level, McCaffrey points out that '"[h]arm" may take the form of a diminution in quantity of water, due e.g. to new upstream works or pumping of groundwater', and further notes that

> 'Harm' could also result from, e.g. pollution, obstruction of fish migration, works on one bank of a contiguous watercourse that caused erosion of the opposite bank, increased siltation due to upstream deforestation or unsound grazing practices, interference with the flow regime, channeling of a river resulting in erosion of the riverbed downstream, conduct having negative impacts on the riverine ecosystem, the bursting of a dam, and other actions in one riparian state that have adverse effects in another, where the effects are transmitted by or sustained in relation to the watercourse.[49]

In addition, he further explains that, in general international law at least, the obligation to prevent harm is not confined to one state's direct use of a watercourse that causes harm to another state's use thereof, as 'activities in one state not directly related to a watercourse (e.g. deforestation) may have harmful effects in another state (e.g. flooding)'.[50] Also, it is well established that a state's duty to prevent significant transboundary harm extends to cover the activities of non-state actors operating within its territory. For example, in the seminal 1957 *Lac Lanoux* case, the Arbitral

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[43] For example, Article 6 of the Agreement on Cooperation for the Sustainable Development of the Mekong River Basin, 5 April 1995, (1995) 34 ILM 864; and Article 1, Annex II, of the Treaty of Peace between Israel and Jordan, 26 October 1994, (1995) 34 ILM 43.

[44] For example, Article 7 of the Agreement on Co-operation for the Sustainable Development of the Mekong River Basin, ibid.

[45] For example, Article 3, Annex II, of the Treaty of Peace between Israel and Jordan, n. 43.

[46] For example, Article 3(2)(b) of the Agreement on the Protection of the River Meuse, Charleville Mezières, 26 April 1994, (1995) 34 ILM 859.

[47] G. Handl, 'Balancing of Interests and International Liability for the Pollution of International Watercourses: Customary Principles of Law Revisited' (1975) CYIL 156, at 171.

[48] *Pulp Mills*, n. 11. See further McIntyre, 'The contribution of procedural rules to the environmental protection of transboundary rivers', n. 30, 243-252 and 256-258.

[49] McCaffrey, *The Law of International Watercourses*, n. 18, 348-349.

[50] Ibid., 349. Similarly, the Commentary to Article X of the 1966 ILA Helsinki Rules, n. 19, noted at 500, that 'an injury in the territory of a State need not be connected with that State's use of the waters'.

Tribunal elaborated the relevant rules of international law to which '[a]ll still and running water, whether in the public or the private domain, shall be subject'.[51] In such cases, the requirements of due diligence flowing from the 'no-harm' rule will include the state's duty to regulate effectively the activities of non-state actors where these may contribute to harm to the watercourse or other watercourse states. In the *Pulp Mills* case, the ICJ stressed the obligation of each state to adopt and ensure effective compliance with domestic rules and measures which correspond with applicable international agreements or customary rules.[52]

Clearly, where pollution-related or some other harm is caused within another state by virtue of activities carried out independently within the territory of two or more states, such harm could give rise to the cumulative responsibility of all states permitting such harmful activities. Similarly, where two states engaged in jointly developing a major project fail to meet the due diligence standards required, for example by failing to notify a third state likely to be affected, and significant harm ensues, the former states may incur cooperative responsibility under international law. However, to the extent that there exists a hierarchy among the substantive rules of international water law, Article 7(2) UN Watercourses Convention strongly suggests that the obligation to prevent harm is subordinated to the overarching principle of equitable and reasonable utilisation, where application of these rules would lead to conflicting outcomes.[53] In other words, the most equitable apportionment of beneficial uses might result in inevitable significant harm to one or more basin states, which would have to be tolerated under the principle of equitable and reasonable utilisation.

Despite the concerns of some commentators that 'it is difficult to say what the "no-harm" principle actually requires states to do' and that '"[h]arm" in this context is a murky concept',[54] the ICJ judgment in the *Pulp Mills* case has done much to clarify the obligations involved in the duty of

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[51] *Lac Lanoux Arbitration (France/Spain)*, Award, (1957) 24 ILR 101, available at www.ecolex.org/server2.php/libcat/docs/COU/Full/En/COU-143747E.pdf, at 2.

[52] *Pulp Mills*, n. 11, paras. 195-197.

[53] Article 7(2) UN Watercourses Convention, n. 12, provides that: '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*' (emphasis added).

[54] Barrett, *Environment and Statecraft*, n. 17, 122-123, who adds, citing Björkbom, a Swedish diplomat commenting in 1988, that: 'In theory and words [states] may subscribe to the famous Principle 21 of the 1972 Stockholm Declaration … When it comes to practice and deeds, however, the second part of the principle [stipulating the right of states not to be harmed] is far too often disregarded.'

prevention of transboundary harm and, in particular, the nature and extent of the key due diligence requirements imposed upon a watercourse state.[55] The Court suggests that the duty of prevention imposes both procedural and substantive due diligence requirements. The former include requirements for early notification and consultation and, where necessary, negotiation in respect of planned projects or uses of international water resources which are potentially harmful, each of which could only meaningfully be performed in conjunction with an EIA of the transboundary impacts. The latter include the adoption and effective enforcement of appropriate domestic legal controls on abstraction or pollution, or on the protection of the shared watercourse and its related ecosystems.

3.3 Duty to cooperate

The general obligation of states to cooperate in the resolution of international problems is widely accepted and receives support from Article 1(3) of the UN Charter,[56] which states that one of the purposes of the United Nations is '[t]o achieve international co-operation in solving international problems of an economic, social, cultural or humanitarian character'. The ICJ has noted that the main principles established by the UN Charter have acquired a customary value independent of that text[57] and this approach is evident in the UN General Assembly's 1970 Resolution on Friendly Relations and Co-operation among States.[58] In the field of international water resources, the general obligation to cooperate is given practical effect by means of various associated rules of procedural conduct that are evolving as contemporary international custom, including the duties to notify, consult, negotiate and warn, as well as duties relating to the ongoing exchange of relevant data and information. Whatever the precise legal status of the general duty to cooperate, it can be said to be more firmly established and highly developed in terms of its application to the

[55] *Pulp Mills*, n. 11, paras. 68 and 77. See generally, McIntyre, 'The contribution of procedural rules to the environmental protection of transboundary rivers', n. 30, 243-252.
[56] Charter of the United Nations, San Francisco, 26 June 1954, in force 24 October 1945, 1 UNTS 16 (UN Charter).
[57] *Military and Paramilitary Activities in and against Nicaragua (Nicaragua* v. *United States of America)*, Merits, ICJ Reports 1986, 14, paras. 187-201.
[58] United Nations General Assembly, Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, UN Doc. A/RES/25/2625 (24 October 1970).

protection of the environment and utilisation of shared natural resources.[59] In support of this conclusion one needs only to consider the numerous early non-binding recommendations and declarations of states, which refer to the obligation to cooperate and define some of its means of implementation,[60] as well as the significant number of early international watercourse agreements which expressly allude to the obligation to cooperate.[61]

As early as 1957, the Arbitral Tribunal in the *Lac Lanoux* arbitration was emphatic in its recognition of the duty of states to cooperate in the use of the waters of an international watercourse, linking good faith cooperation with the effective conclusion of international agreements as the key means of ensuring the prevention of transboundary harm.[62] In the *Gabčíkovo-Nagymaros* case, the Court's judgment reflects the procedural obligation to cooperate, and even requires the parties to agree to cooperate in the joint management of the project.[63] The duty to cooperate has received similar support from international tribunals in a range of environmental disputes.[64] The most authoritative statement of current general international water law is set out in the 1997 UN Watercourses Convention, which contains Article 8 specifically on

[59] See, for example, P.-M. Dupuy, 'Overview of the Existing Customary Legal Regime Regarding International Pollution', in D.B. Magraw (ed.), *International Law and Pollution* (University of Pennsylvania Press, 1991), 61, at 70; P. Birnie and A. Boyle, *International Law and the Environment*, 2nd edn (Oxford University Press, 2002), 126; G. Handl, 'The Principle of "Equitable Use" as Applied to Internationally Shared Natural Resources: Its Role in Resolving Potential International Disputes over Transfrontier Pollution' (1978–79) 14 RBDI 40, at 55–63; A.E. Utton, 'International Environmental Law and Consultation Mechanisms' (1973) 12 CJTL 56; F.L. Kirgis, *Prior Consultation in International Law* (University of Virginia Press, 1983).

[60] Including, Principle 24 of the Stockholm Declaration, n. 38; the 1972 UN General Assembly Resolution on Co-operation between States in the Field of the Environment, UNGA Res. 2995(XXVII), UN GAOR Supp. (No. 30), UN Doc. A/8732 (1972); the 1973 Resolution on Co-operation in the Field of the Environment Concerning Natural Resources Shared by Two or More States, UNGA Res. 3129 (XXVIII), UN GAOR Supp. (No. 30A), UN Doc. A/9030/Add.1 (1973); the 1978 UNEP Principles of Conduct on Shared Natural Resources, UNEP/IG/12/2 (1978); Principle 19 of the Rio Declaration, n. 38.

[61] Examples include the 1963 Berne Convention on the International Commission for the Protection of the Rhine, reprinted in Trb. 1963, No. 104; the 1964 Agreement concerning the Use of Waters in Frontier Waters concluded between Poland and the USSR, Warsaw, 17 July 1964, in force 16 February 1965, 552 UNTS 175; the 1971 Act of Santiago concerning Hydrologic Basins concluded between Argentina and Chile, UN Doc. A/CN.4/274 (Articles 3–8); and the 1978 Great Lakes Water Quality Agreement between Canada and the United States, 30 UST 1383, TIAS No. 9258 (Articles 7–10).

[62] *Lac Lanoux Arbitration*, n. 51, at 129–130 (emphasis added).

[63] *Gabčíkovo-Nagymaros*, n. 6. For example, the judgment states, at para. 17, that: 'The Danube has always played a vital part in the commercial and economic development of its riparian States, and has underlined and reinforced their interdependence, making international cooperation essential. … Only by international cooperation could action be taken to alleviate … problems [of navigation, flood control, and environmental protection].'
See further, Commentary to Article 11 of the ILA 2004 Berlin Rules on Water Resources Law, n. 19, at 20.

[64] See, for example, the decision of the International Tribunal for the Law of the Sea (ITLOS) in *The MOX Plant Case (Ireland* v. *United Kingdom)*, Provisional Measures, ITLOS Case No. 10, (2002) 41 ILM 405 (Order of 3 December 2001), para. 89.

the 'general obligation to cooperate'[65] as well as Part III, comprising Articles 11-19, which contains detailed procedural rules requiring watercourse states to notify, consult and negotiate in relation to planned measures which may have adverse effects on other watercourse states. Indeed, Part III may be regarded as the Convention's most important contribution to general international law in this area. Building on the work of the ILC and the UN General Assembly in developing the text of the Convention, the International Law Association's 2004 Berlin Rules include Article 11 providing that: 'Basin States shall cooperate in good faith in the management of waters of an international drainage basin for the mutual benefit of the participating States', the Commentary to which asserts that '[t]he duty of cooperation is the most basic principle underlying international water law'.[66] The Berlin Rules also contain Chapter XI on 'International Cooperation and Administration' setting out detailed rules on, inter alia, exchange of information, notification of programmes, plans, projects or activities, and consultations.

It is readily apparent that permanent river basin organisations can play a key role in facilitating the kind of intense procedural engagement required under the duty to cooperate. The UN Watercourses Convention expressly encourages watercourse states to enter into institutional arrangements to facilitate inter-state cooperation.[67] While states cannot generally be compelled to establish or join such organisations, the *bona fide* participation of states in such common management institutions may demonstrate satisfaction of the procedural obligations inherent to the duty to cooperate.[68] Conversely, the failure of a river basin organisation to facilitate the compliance of its member states with procedural requirements, for example where it failed to notify potentially affected third party co-riparian states of a project being implemented by the

[65] Article 8 UN Watercourses Convention, n. 12, provides: '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. 2. In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions.'

[66] Berlin Rules, n. 19, at 20. The Commentary goes on to explain that this obligation 'ultimately arises because without cooperation between basin States, it is literally impossible for States to fulfil their obligation to share transboundary water resources, to achieve sustainable development, to protect ecological integrity, and to fulfil the many other legal obligations expressed in these Rules'.

[67] Notably, Article 8(2) UN Watercourses Convention, n. 12, provides that: 'In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions.'

[68] McIntyre, *Environmental Protection of International Watercourses*, n. 15, 317 *et seq.*

basin organisation on behalf of the member states jointly, might result in the cooperative responsibility of its members.

Therefore, the duty to cooperate can largely be understood as an 'umbrella' or composite obligation, consisting of a range of procedural requirements, and depending on which might be applicable in a given situation. Joint breach of certain of these procedural requirements might give rise to shared responsibility on the part of the offending state(s) and/or of any relevant international organisation, such as a river basin organisation complicit in the wrongful act in question.[69] Though primarily concerned with the interpretation and application of the 1975 Statute of the River Uruguay, in the *Pulp Mills* case the ICJ provided considerable guidance on how the procedural obligations of international water law apply in practice.[70] The Court also placed great significance on the role of institutional arrangements established for the purpose of facilitating inter-state cooperation and would not allow informal contacts to serve as a substitute for formal notification through the relevant Commission.[71] Such emphasis on the central role of joint institutional arrangements is suggestive of how joint action or inaction, on the part of such organisations, might give rise to shared responsibility.

4. Secondary rules

With a few exceptions, international water law contains little *lex specialis* on international responsibility, and even less on shared responsibility. Typically, the UN Watercourses Convention and particular river basin agreements create frameworks of substantive and procedural requirements without including special provisions on responsibility and liability. Article 7 of the 1992 UN Economic Commission for Europe (UNECE) Water Convention,[72] for example, merely provides that '[t]he Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability'. However, the UN Watercourses

[69] It is important to note that Article 17 of the ILC's 2011 Articles on the Responsibility of International Organizations, ILC Report on the work of its sixty-third session, UNGAOR 66th Sess., Supp. No. 10, UN Doc. A/66/10 (2011) (ARIO), envisages that an international organisation may be responsible for the wrongful acts of states, for example where decisions adopted by that organisation require or permit states to commit acts that contravene international obligations. See further, Nollkaemper and Jacobs, 'Shared Responsibility in International Law', n. 1, at 374.
[70] *Pulp Mills*, n. 11, paras. 68-79.
[71] Ibid., para. 82.
[72] See n. 37.

Convention provides a rule which is of some interest from the perspective of shared responsibility. By referring to the responsible states in the plural, Article 7(2) of the UN Watercourses Convention suggests the possibility of two or more states sharing either cooperative or cumulative responsibility for harm jointly caused.[73]

By providing for the responsibility of states even where harm may not be the result of an internationally wrongful act, Article 7(2) appears to provide a notable example of *lex specialis* in this area.

The UN Watercourses Convention also includes an unusual provision on non-discrimination regarding access to legal redress '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'.[74] It is apparent from a reading of Article 32 of the UN Watercourses Convention, and of the earlier work of the ILC on the topic,[75] that the parties to the Convention anticipate a significant role for private recourse by adversely affected legal persons to domestic courts and remedies as a means for establishing responsibility for unlawful activities related to international watercourses. Of course, such recourse by private legal persons to domestic remedies might involve joint responsibility on the part of multiple actors, public or private, where the domestic legal system in question so provides.[76] Though Chapter VI of the ILA's 1966 Helsinki Rules is solely concerned with 'international disputes as to the legal rights or other interests of basin States or of other States in the waters of an international

[73] Article 7(2) UN Watercourses Convention, n. 12, provides: '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' (emphasis added).

[74] Article 32 UN Watercourses Convention, ibid., provides that: '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 system, 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.'

[75] See, in particular, Article 3 of the draft annex on 'Implementation of the Articles' proposed in the ILC Special Rapporteur's Sixth Report on the Law of the Non-navigational Uses of International Watercourses, ILC *Yearbook* 1990/II(1), at 59-61.

[76] For instance, Article 4(2) of the draft annex proposed in the ILC Special Rapporteur's Sixth Report, ibid., provided that the recourse to which adversely affected individuals in another watercourse state should have access should include 'the right to take part in, or have resort to, all administrative and judicial procedures in the watercourse State of origin which may be utilized to prevent domestic harm or pollution, or to obtain compensation for any harm that has been suffered or rehabilitation of any environmental degradation.' See S. Vinogradov, 'Observations on the International Law Commission's Draft Rules on the Non-Navigations Uses of International Watercourses: "Management and Domestic Remedies"' (1992) 3 CJIELP 235.

drainage basin',[77] nowhere does it preclude the possibility of shared responsibility arising on the part of two or more states. The ILA's 2004 Berlin Rules, in reiterating that 'States are responsible for breaches of international law … in accordance with the international law of state responsibility',[78] specifically refer in the associated Commentary to the ILC's 2001 Articles on Responsibility of States for Internationally Wrongful Acts (ARSIWA),[79] which might be understood to provide for shared state responsibility.[80] In addition, as is the case under the UN Watercourses Convention, the Berlin Rules also provide for adversely affected legal individuals to seek recourse before a competent judicial or administrative authority in the state where the harm arises.[81] The ARSIWA Commentary does not provide any further guidance on when or how, in the specific context of the utilisation of shared freshwater resources, an internationally wrongful act attributable to two or more states might engage the shared responsibility of these states.

Though there exists no clear example in the practice of international water resources law of shared responsibility being determined by an international court or tribunal, co-basin states have on occasion entered into formal conventional arrangements under which they voluntarily undertake to share responsibility for, as well as the costs of, necessary preventive, restorative or compensatory measures. Such arrangements would clearly fall within 'the wide variety of practices by which actors can be held accountable for their involvement in collective wrongdoing but which cannot be qualified in terms of formal international responsibility'.[82] One notable example is that of the 1991 Additional Protocol[83] to the 1976 Convention on the Protection of the Rhine against Pollution by Chlorides,[84] which required the riparian parties to share the costs involved in taking measures to reduce the discharge of waste salts into the Rhine by French potassium mines in the Alsace region. Under this arrangement, Germany was to contribute 30 per cent of the costs involved, the

[77] Article XXVI Helsinki Rules, n. 19.
[78] Article 68 Berlin Rules, n. 19, at 51.
[79] Articles on Responsibility of States for Internationally Wrongful Acts, ILC *Yearbook* 2001/II(2) (ARSIWA); Commentary to the Articles on the Responsibility of States for Internationally Wrongful Acts, ILC *Yearbook* 2001/II(2) (ARSIWA Commentary).
[80] See further, P.A. Nollkaemper, 'Introduction'; and P.A Nollkaemper and I. Plakokefalos, 'Conclusions: Beyond the ILC Legacy', both in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 1, and 341.
[81] Article 69-71 Berlin Rules, n. 19.
[82] Nollkaemper and Jacobs, 'Shared Responsibility in International Law', n. 1, at 364.
[83] Additional Protocol to the Convention on the Protection of the Rhine against Pollution by Chlorides, Brussels, 25 September 1991, in force 1 November 1994, 1840 UNTS 372 (1991 Additional Protocol).
[84] Convention on the Protection of the Rhine against Pollution by Chlorides, Bonn, 3 December 1976, in force 1 April 1984, 1404 UNTS 59.

Netherlands 34 per cent, and Switzerland 6 per cent, with France contributing the remaining 30 per cent. While it is not entirely clear on what basis these contributions were calculated and agreed, they do not appear to have been founded exclusively on the culpability of each state actor.[85] Lammers has noted that

> [t]he participation in the expenses by Switzerland and certainly Germany and France was fair as those states contributed (considerably) to the high artificial salinity of the Rhine water at the Dutch-German border. The contribution of the Netherlands, being the principle victim of this huge salinity of the Rhine water, was, however, not compatible with the principle that the polluter ought to pay for the measures necessary to prevent or reduce the harm caused by pollution.[86]

However, despite what would appear to be some support for joint and several responsibility, both in the case of cooperative responsibility for concerted wrongdoing arising under Article 47 of the ARSIWA,[87] and less so perhaps in the case of cumulative responsibility for indivisible harm arising under 'the general principle that multiple tortfeasors can be held responsible individually even when the damage cannot be apportioned among them',[88] it seems that in the practice of international water law states prefer to share responsibility in proportion to their respective roles in causing the harm in question. This is certainly true in the case of cumulative responsibility. For example, Article 5 of the 1966 Bern Agreement Regulating the Withdrawal of Water from Lake Constance[89] provides:

> Where *the combined effect of a number of withdrawals* of water makes it necessary, under article 3 or article 4, to take compensatory measures, pay an indemnity or make reparation, each riparian State shall participate in such measures, indemnification or reparation *in proportion to the amount of water it has withdrawn*.[90]

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[85] In this regard, it is worth noting that the Commentary to the ILC's 1994 Draft Articles on the Law of Non-Navigational Uses of International Watercourses had suggested, n. 16, 119, that a watercourse state's share in the causing of environmental degradation has to be balanced against the benefits to be gained from mitigation of the problem by states suffering harm.

[86] J.G. Lammers, 'The Rhine: Legal Aspects of the Management of a Transboundary River', in W.D. Verwey (ed.), *Nature Management and Sustainable Development* (Amsterdam: IOS Press, 1989), 440, at 444. See also, J.G. Lammers, 'International and European Community Law and Institutions Relating to the Pollution of the Rhine', Mekong Committee Workshop on 'Legal and Institutional Aspects of Selected International River Basins', Vientiane, Lao PDR, 24 Feb. – 1 March 1993.

[87] See the Commentary to Article 47 ARSIWA, n. 79, which notes, at 124, para. 2, that 'the injured State can hold each responsible State to account for the wrongful conduct as a whole'.

[88] See *Oil Platforms (Islamic Republic of Iran* v. *United States of America)*, Judgment, ICJ Reports 2003, 161, at 202, para. 78.

[89] Agreement Regulating the Withdrawal of Water from Lake Constance, Bern, 20 April 1966, in force 25 November 1967, 620 UNTS 199 (Germany, Austria, Switzerland).

[90] Emphasis added.

Similarly, Article XIII(2) of the Niamey Draft Agreement on Water Utilization and Conservation in the Lake Chad Basin[91] provides that:

> Where damage occurs *as a cumulative effect of water utilization* by several Member States, these member States shall share in the compensatory and preventive measures *in proportion to their respective amounts of utilization* which caused the damage.[92]

Indeed, in respect of Article 20 of the ILC's seminal 1994 Draft, subsequently adopted as Article 20 of the UN Watercourses Convention, requiring states to take joint action, where appropriate, to protect and preserve the ecosystems of international watercourses on the basis of the principles of cooperation and equitable participation, the Commission's authoritative Commentary provides that

> the general obligation of equitable participation demands that the contributions of watercourse States to joint protection and preservation efforts be *at least proportional to the measure in which they have contributed to the threat or harm* to the ecosystems in question.[93]

In the absence of *lex specialis*, the relevant rules are normally those applying in general international law, as exemplified by the ARSIWA, which may in large part be considered an authoritative codification of the rules of international law relating to state responsibility. The Commentary to the ARSIWA unequivocally explains that

> [t]he fact that under article 1 every internationally wrongful act of a State entails the international responsibility of that State does not mean that other States may not also be held responsible for the conduct in question, or for injury caused as a result. Under chapter II [on Attribution of Conduct to a State] the same conduct may be attributable to several States at the same time.[94]

Further, the Commentary to Chapter IV of the ARSIWA advises that 'internationally wrongful conduct often results from the collaboration of several States rather than one State acting alone'

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[91] Draft Agreement on Water Utilization and Conservation in the Lake Chad Basin, text in ILC *Yearbook* 1974/I(2), at 335, para. 358 (Cameroon, Chad, Niger, Nigeria).
[92] Emphasis added.
[93] Commentary to Article 20, n. 16, 119, para. 4 (emphasis added). See also, Commentary to Article 21, ibid., at 121-123, and Commentary to Article 23, ibid., at 124-125. See further, McIntyre, *Environmental Protection of International Watercourses*, n. 15, 150.
[94] ARSIWA Commentary, n. 79, Commentary to Article 1 ARSIWA, at 33-34, para. 6. Indeed, in its early introductory paragraphs the ARSIWA Commentary to Article 1 ARSIWA, ibid., cites, at 32, para. 2, the *Gabčíkovo-Nagymaros* case (n. 6) in support of the basic principle that a breach of international law by a state entails its international responsibility. As noted earlier, the project originally envisaged in this dispute was to have been jointly implemented by two upstream states and might easily have resulted in harm to one or more of the downstream co-riparian states.

and suggests that shared state responsibility might arise, for example, where 'a number of States act through a common organ to commit a wrongful act'.[95] It is quite clear that a river basin organisation might conceivably constitute such a 'common organ' in certain circumstances.[96] Of course, depending on how such an institution might be constituted, it might also qualify as an 'international organisation' capable of incurring responsibility in its own right, as envisaged under the ILC's 2011 Articles on the Responsibility of International Organizations.[97] One in-depth study of the constitutive character of a large sample of river basin organisations points out that such institutions vary widely in their make-up:

> On the one end of the continuum there are organizations with a hierarchy of decision-making organs and international secretariats in place. On the other end are commissions and committees composed of representatives of each member state that serve as negotiation fora without any formal administrative support.[98]

It is interesting to note in this regard that the ICJ expressly highlighted the fact that the Comisión Administradora del Río Uruguay (CARU), the joint river basin commission charged with facilitating bilateral communication and consultation between the parties to the dispute in the *Pulp Mills* case, is the key body for bilateral cooperation in all areas covered by the Statute of the River Uruguay; is endowed with legal personality in order to perform its functions; is to be provided with all the necessary resources, information and facilities essential to its operations; has a permanent existence of its own and a secretariat whose staff enjoy privileges and immunities; and is empowered to establish subsidiary bodies.[99] While the Court was concerned in this case with the legal significance of a basin organisation's formal role in facilitating unilateral compliance with the duty to notify, its focus on CARU's legal nature, role and personality highlights the possibility that, in other circumstances, such a basin organisation could incur responsibility on behalf of its member states jointly.

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[95] Commentary to Chapter IV, ibid., at 64, para. 2.
[96] Commentary to Article 47 ARSIWA, ibid., which notes, at 124, para. 2, that 'two States may act through a common organ which carries out the conduct in question, e.g. a joint authority responsible for the management of a boundary river'.
[97] Article 2(a) ARIO, n. 69, provides that, for the purposes of bearing responsibility under the ARIO, '"international organization" means an organization established by a treaty or other instrument governed by international law and possessing its own international legal personality. International organizations may include as members, in addition to States, other entities'.
[98] I. Dombrowsky, *Conflict, Cooperation and Institutions in International Water Management: An Economic Analysis* (Cheltenham: Edward Elgar, 2007), 108.
[99] *Pulp Mills*, n. 11, paras. 85-93. See McIntyre, 'The World Court's Ongoing Contribution to International Water Law', n. 32, 129.

Chapter IV of the ARSIWA proceeds to list three situations as exceptions to the basic 'principle of independent responsibility', which may in some instances be relevant to inter-state practice concerning international water resources.[100] Specifically, Article 16 ARSIWA deals with cases where one state provides aid or assistance to another state with a view to assisting in the commission of a wrongful act by the latter, and the related Commentary expressly lists as an example of such aid or assistance that of 'providing means for the closing of an *international waterway*'.[101] This situation might arise where one state provides, perhaps by means of a national investment fund or a sovereign wealth fund, financial assistance to another state, thus making feasible a project on a transboundary watercourse, which results in injury to a third state.[102]

Article 47 of the ARSIWA confirms that '[w]here several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act', and the ARSIWA Commentary explains that '[i]n that case the injured State can hold each responsible State to account for the wrongful conduct as a whole'.[103] For the purposes of illustrating the potential application of Article 47, the Commentary expressly provides as an example a situation where 'two States may act through a common organ which carries out the conduct in question, e.g. a joint authority responsible for the *management of a boundary river*'.[104] Clearly, a river basin organisation with a role in the joint planning and implementation of riverine infrastructure might constitute such a 'common organ'. However, the ARSIWA Commentary cautions against assuming the direct transferability of related domestic law concepts and rules, such as that of 'joint and several liability', and, while stressing the principle of independent responsibility, it explains that

> [i]n the application of that principle, however, the situation can arise where a single course of conduct is at the same time attributable to several States and is internationally wrongful for each of them. It is to such cases that article 47 is addressed.[105]

[100] Articles 16, 17 and 18. See ARSIWA Commentary, n. 79, Commentary to Chapter IV, at 64, paras. 5 and 6.
[101] ARSIWA Commentary, ibid., Commentary to Article 16, at 66, para. 1 (emphasis added).
[102] See A.V. Lowe, 'Environmental Conditionalities and International Funding of Water Works of Transboundary Relevance', in A. Tanzi, O. McIntyre, A. Kolliopoulos, A. Rieu-Clarke, and R. Kinna (eds.), *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation* (Leiden: Brill/Nijhoff, 2015), 503.
[103] ARSIWA Commentary, n. 79, Commentary to Article 47 ARSIWA, at 124, para. 2.
[104] Ibid. (emphasis added).
[105] Ibid., at 124, para. 3.

This situation, involving a 'single course of conduct', refers to what Nollkaemper and Jacobs categorise as 'cooperative responsibility', and is to be distinguished from one where a number of states contribute by a series of separate and unrelated wrongful acts to a single occurrence of transboundary harm, and to which Article 47 would not apply. It is worth noting that in illustrating the latter situation, the ILC Commentary once again resorts to an example from the field of international water resources law, stating that:

> Article 47 only addresses the situation of a plurality of responsible States in relation to the same internationally wrongful act … Of course, situations can also arise where several States by separate internationally wrongful conduct have contributed to causing the same damage. For example, several States might contribute to *polluting a river* by the separate discharge of pollutants.[106]

Although not directly related to the issue of shared responsibility, it is also interesting to note that Article 48 ARSIWA appears expressly to recognise the kind of community of interests which may exist among co-basin states.[107] Such recognition of the collective environmental interest of states enhances the idea of the collective obligations of watercourse states, and thus of their collective responsibility for their breach.

Whereas Article 47 of ARSIWA recognises shared cooperative responsibility, there is some judicial support for shared cumulative responsibility in international law beyond Article 47, which might prove particularly relevant in cases of cumulative, yet independent, pollution of international watercourses by two or more states. Judge Simma, in his Separate Opinion in the *Oil Platforms* case, conducted a broad comparative survey of the legal position in the domestic tort law of the United States, Canada, the United Kingdom, France, Switzerland and Germany, as well as that under principles of Roman law, in order

> to conclude that the principle of joint-and-several responsibility common to the jurisdictions that I have considered can properly be regarded as a 'general principle of law' within the meaning of Article 38, paragraph 1*(c)*, of the Court's Statute.[108]

[106] Ibid., at 125, para. 8 (emphasis added).
[107] Article 48 ARSIWA, n. 79, provides that: '1. Any State other than an injured State is entitled to invoke the responsibility of another State … if: (*a*) the obligation breached is owed to a group of States including that State, and is established for the protection of *a collective interest* of the group' (emphasis added).
[108] *Oil Platforms*, n. 88, Separate Opinion of Judge Simma, at 201, para. 74.

In this way, Judge Simma could justify '[e]levating the joint-and-several liability doctrine thus described to the level of international law'.[109] However, he also distinguished between a situation where two or more states have acted in a concerted manner in jointly planning and coordinating an internationally wrongful act, to which Article 47 ARSIWA would apply, and one where states have acted independently in breach of international law to cause factually 'indivisible' harm, to which 'the general principle that multiple tortfeasors can be held responsible individually even when the damage cannot be apportioned among them' would apply.[110] The first situation, involving 'cooperative responsibility', might arise where two states jointly develop a major riverine infrastructure project, such the erection of a hydropower dam, whereas the latter situation, involving 'cumulative responsibility', might arise where a river is polluted due to the independent polluting activities of two upstream states. Thus, he appears to suggest that joint and several responsibility might also apply to two or more independently polluting co-basin states, on the basis of a general principle of law, despite the lack of any coordination by means of cooperative institutional mechanisms.

Notwithstanding this distinction between both bases for the imposition of joint and several responsibility, in considering the 'generic' United States' counter-claim in the *Oil Platforms* case, Judge Simma envisaged another means by which Article 47 of the ARSIWA might apply directly, even where the two offending states in question have never acted in concert in respect of a wrongful act. He suggested that Article 47 may apply where

> the 'internationally wrongful act' is constituted by the creation of negative economic, political and safety conditions … rather than by a specific incident. The bringing about of this environment, taken as a whole, is attributable to both States.[111]

In other words, '[i]t is the creation of dangerous conditions … which constitutes the internationally wrongful act within the meaning of Article 47.'[112] Clearly, according to this interpretation, which the Court did not follow on this occasion, similarly negative environmental conditions caused by

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[109] Ibid., at 200, para. 73.
[110] Ibid., at 202, para. 78. The concept of joint and several responsibility of tortfeasors for "indivisible" harm has recently received enthusiastic support in the English courts in cases involving mesothelioma caused by negligent exposure to asbestos. See, for example, the House of Lords' decision in *Fairchild* v. *Glenhaven Funeral Services Ltd.* [2002] UKHL 22.
[111] *Oil Platforms*, n. 88, at 202, para. 77.
[112] Ibid.

the uncoordinated polluting or abstraction activities of a number of co-basin states might, if taken as a whole, fall within the meaning of Article 47 ARSIWA.

Adopting the characterisation set out above of the due diligence requirements inherent to the duty of prevention,[113] it is clear that two or more watercourse states cooperating on the development and implementation of a major project with the potential to have a significant adverse impact upon another could jointly commit an internationally wrongful act. For example, where they fail to provide adequate notification to states likely to be affected and harm results, each might be responsible in line with Article 47 ARSIWA. According to the ILC's 2011 Articles on the Responsibility of International Organizations (ARIO),[114] a cooperative institutional mechanism involved in such a wrongful act might share international responsibility, depending on its legal character and personality.[115] Equally, the states proposing a joint project might collectively fail to perform any of their procedural obligations in good faith.

Similarly, where a number of watercourse states independently fail to introduce or implement adequate domestic measures for the protection of the waters or ecosystems of a watercourse so that indivisible harm is caused to another watercourse state or to the watercourse itself, responsibility for such harm might be attributed to each of the polluting states. This might conceivably occur either on the basis of the general principle of law identified by Judge Simma,[116] or by taking the view that the creation of negative environmental conditions, rather than any specific incident, constitutes an internationally wrongful act within the meaning of Article 47 ARSIWA.[117]

As regards violation of the duty to cooperate or of any of its related procedural obligations, it is quite clear that shared responsibility due to a collective failure to comply with such rules of international water law is most likely to arise where a number of states are acting in concert in the development and implementation of a joint project. However, many questions remain as to what type of behavior exactly might constitute such a collective failure. It is also in such a scenario that the responsible states might share responsibility with an international organisation, most likely an appropriately constituted river basin organisation, which has failed in its duty to facilitate effective

[113] See section 3.2.
[114] See n. 69.
[115] Article 17 ARIO, ibid.
[116] See *Oil Platforms*, n. 88, at 201, para. 74.
[117] Ibid., at 202, para. 77.

procedural cooperation between the basin states,[118] and whose responsibility might arise under the principles elucidated in the ARIO.[119] The extent to which a river basin organisation might share responsibility for a breach of procedural aspects of the duty to cooperate will of course depend on a range of factors, notably including the powers and functions attributed to it under its founding instrument[120] and the legal personality, if any, conferred upon it by the constituent states.[121] Where such failure to cooperate is not accompanied by any material harm to the state complaining of the breach, the breach will still amount to an internationally wrongful act per se for the purposes of Article 47 ARSIWA,[122] though the redress available is less likely to be significant. However, where material harm has actually been caused to another watercourse state, breach of any applicable procedural requirement would be likely to amount to a failure to meet the standards of procedural due diligence necessary to discharge the duty to prevent significant transboundary harm, and in such a case more meaningful redress may be available.

5. Processes

As there exist few clear examples in the practice of international water resources law of shared responsibility being determined by an international court or tribunal, there is little clarity about the processes involved. It is notable that Article 33 of the UN Watercourses Convention requires parties to have ultimate resort, where listed non-mandatory alternatives have not resulted in the settlement of a dispute, to a process of mandatory impartial fact-finding under a fact-finding Commission to be established pursuant to the Convention.[123] With the recent entry into force of the Convention, no practice exists in relation to this innovative procedural requirement. There would appear, however, to be a marked preference among states for ad hoc, negotiated solutions,

[118] It is worth noting that, globally, 119 such RBOs have been established in respect of a total of 116 international watercourses. See S. Schmeier, *Governing Water Resources: River Basin Organizations and the sustainable governance of internationally shared rivers and lakes* (London: Earthscan/Routledge, 2013), 64 and 273 *et seq.*

[119] See n. 69.

[120] For example, Schmeier, *Governing Water Resources*, n. 118, at 102, notes that 35 of the RBOs examined in her study are charged with 'institutionalized data-sharing', involving 'RBO-based mechanisms through which the RBO itself manages, acquires, analyses and/or disseminates data and information.'

[121] Schmeier notes, ibid., at 88, that 88 of the RBOs studied are equipped with independent legal personality, with the UN Economic Commission for Europe (UNECE) noting that 'legal personality is of the utmost importance for the activity of a joint commission'. See UNECE, *River Basin Commissions and other Institutions for Transboundary Water Cooperation* (Geneva, 2009), at 29 (available at www.unece.org).

[122] *Pulp Mills*, n. 11, paras. 79 and 121-122.

[123] Articles 33(3)-(9) UN Watercourses Convention, n. 12.

as evidenced by the 1991 Additional Protocol to the 1976 Convention on the Protection of the Rhine against Pollution by Chlorides discussed above.[124]

In addition, the founding instruments establishing many river basin commissions will set out procedures under which such institutions can supervise compliance with the relevant legal requirements and assist in the settlement of inter-state disputes.[125] Indeed, Article 33(2) of the UN Watercourses Convention expressly provides that, in their efforts to settle inter-state disputes, the parties may 'make use, as appropriate, of any joint watercourse institutions that may have been established by them'.

As regards recourse to domestic procedures by natural or legal persons, as provided for under Article 32 of the UN Watercourses Convention and Chapter XIII of the ILA's 2004 Berlin Rules, the relevant domestic procedures generally would not preclude an action against several wrongdoers jointly. To once again take the example of the pollution of the Rhine by waste salts from French potash mines, in a case brought by a number of Dutch local authorities, the Dutch Supreme Court held the French mining companies concerned to be proportionately liable, thus recognising the existence of shared responsibility.[126] Such an approach appears to be in line with the approach of the ILC in the development of its 1994 Draft Articles which formed the basis of the UN Watercourses Convention. For example, watercourse states are required under Article 20 of the Convention to take joint action, where appropriate, to protect and preserve the ecosystems of international watercourses on the basis of the principles of cooperation and equitable participation. As recalled in section 4 above, the ILC's Commentary to the 1994 Draft Articles provides that in such cases

> the general obligation of equitable participation demands that the contribution of watercourse States to joint protection and preservation efforts be at least proportional to the measure in which they have contributed to the threat or harm to the ecosystems in question.[127]

[124] See n. 83 and 84.
[125] For a comprehensive account of the roles, including in relation to dispute settlement, delegated to river basin organisations, see Dombrowsky, *Conflict, Cooperation and Institutions in International Water Management*, n. 98, 91 and 108.
[126] *Kalimijnen*, ECLI:NL:HR:1988:AD5713 (23 September 1988). See Lammers, 'The Rhine', n. 86, 452.
[127] Commentary to Article 20, n. 16, 119, para. 4. See generally, McIntyre, *Environmental Protection of International Watercourses*, n. 15, 150.

6. Conclusion

It appears quite clear, therefore, that there exists considerable scope for shared responsibility to arise under international water resources law, as evidenced by the adoption of conventional arrangements requiring states to share the burden of measures necessary for the prevention of harm or the restoration of watercourses. Such shared responsibility might arise in either of the forms identified in the conceptual framework developed by Nollkaemper and Jacobs,[128] i.e. as cooperative responsibility arising out of concerted action, such as the joint development by riparian states of water-related infrastructure projects, or as cumulative responsibility arising out of the independent acts of states, such as the combined effect of the pollution discharges or water withdrawals of a number of co-basin states. Of course, a river basin organisation which has participated in unlawful acts or otherwise contributed to harm caused to the interests of a co-basin state might share in such responsibility, depending on the legal bases upon which it is established.

The three core rules around which general international water law has converged, the principle of equitable and reasonable utilisation, the duty to prevent significant transboundary harm, and the general duty to cooperate, would appear by now to be both sufficiently established and understood normatively, with each comprising a suite of due diligence obligations, in order easily to incur the responsibility of basin states, either jointly or individually. The duty of prevention is particularly clearly understood in terms of the due diligence obligation to take all appropriate measures required of basin states in order to prevent, control or reduce any significant harm to other basin states or to their environment, including harm to human health or safety, to the use of the waters for beneficial purposes or to the living organisms of the watercourse ecosystem. Thus, it is important as regards shared responsibility in respect of significant harm relating to the utilisation of transboundary water resources that Article 7(2) of the UN Watercourses Convention, the only global water convention as yet in force and the most carefully drafted articulation of applicable customary international law, expressly provides that 'the *States* whose use causes such harm shall … take all appropriate measures … to eliminate and mitigate such harm and, where appropriate, to discuss the question of compensation' (emphasis added). Shared responsibility clearly appears to have been within the contemplation of the many experts involved in drafting the Convention and the ILC's Draft Articles on which its text is based.

[128] See Nollkaemper and Jacobs, 'Shared Responsibility in International Law', n. 1.

While the relevant codifications of international rules applying to the area of shared responsibility, as well as a few related judicial statements, would appear to support the application of some form of joint and several responsibility wherever responsibility can be attributed to multiple actors, the conventional practice of states in the field of international water resources law tends towards the allocation of responsibility broadly in proportion to the role of each state in causing harm, though it may also take account of additional factors, such as the benefits to be gained from mitigation or any undue hardship to the state of origin disproportionate to such benefits. However, the processes available for the practical application of shared responsibility in this area remain as yet very underdeveloped.