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Transnational governance standards in ensuring sustainable development and operation of hydropower projects in transboundary basins

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The notion of “transnational” law encompasses a sophisticated corpus of globally applicable rules, standards and safeguards, often informal in origin, which are widely accepted around the world and supported across a range of business sectors and civil society constituencies. The recent proliferation of such “transnational” law extends to the hydropower sector, where normative standards and safeguards increasingly apply to promote and certify sustainable practices in the development and operation of hydropower projects. Such projects are associated with significant environmental and social impacts and the projected increase in hydropower investments, mainly in emerging economies, will require effective supplemental regulatory tools. Many such projects will be located in, or impact upon, international rivers, thereby adding a further layer of complexity regarding their effective regulation and increased the risk of inter-State disputes over the equitable use of shared waters. Such complexity and risk will be exacerbated by increased uncertainty due to climate change. Thus, the existence of widely accepted transnational standards, which are relevant and applicable to hydropower development globally, can play a key role in building trust between watercourse States and in promoting greater transboundary water cooperation. This article explores the potential role of transnational standards in improved regulation of environmental and social impacts associated with hydropower projects located on international watercourses and the extent to which such standards cohere with established and emerging requirements of international water law. It thus examines the synergies arising between these informal and formal regulatory frameworks with a view to developing a better understanding of their interaction in practice. In so doing, it focuses on two key categories of applicable transnational regime: a sustainability certification and labeling scheme dedicated to hydropower projects and operated by the Hydropower Sustainability Council; and MDB environmental and social safeguard standards imposed upon major water-related projects, including hydropower projects, particularly those adopted by the World Bank and the European Bank for Reconstruction and Development (EBRD).

KEYWORDS

international water law, transnational law, sustainability standards, environmental and social safeguards, multilateral development banks, hydropower, transboundary river basins, World Commission on Dams

1 Introduction

Environmental and social standards and other governance safeguards arising under various transnational governance frameworks, largely developed and promoted by multi-stakeholder coalitions of non-State actors, can be seen to play an increasingly important complementary role in respect of the cooperative inter-State practice envisaged under the broad framework of international water resources law. This is equally true as regards the construction and operation of major hydropower facilities in transboundary watercourses, projects which frequently give rise to inter-State tensions and resulting recourse to international law. As in so many other fields, transnational norms and standards operate to extend the relevance and effective application of more formal rules of international law to previously exempted actors and activities, thereby promoting the sustainable management of shared water resources. In addition, such transnational norms and rule-creators, along with the administrative governance arrangements applying thereto, assist detailed elaboration and more effective practical implementation of the established rules of international water law, which are largely “framework” in character and correspondingly vague regarding their precise normative content and application in specific contexts and scenarios. For example, practical aspects of many of the requirements arising, for both State and non-State actors, under the rubric of the emerging human right of access to adequate water, as set out under General Comment No. 15 adopted in 2002 by the UN Committee on Economic Social and Cultural Rights (CESCR),¹ are likely to be further informed and given practical effect by a range of such transnational regulatory frameworks.² These might include,³ *inter alia*, drinking water quality standards adopted by the World Health Organization (WHO),⁴ various standards elaborated by the International Organization for Standardization (ISO),⁵ environmental and social safeguards adopted by multilateral development banks (MDBs) in respect of project-lending⁶ or sector-specific sustainability standards relating, for example, to hydropower infrastructure.⁷ Of course, the broad commitments made by States in 2015 in respect of the Sustainable Development Goals (SDGs) are now supported by a montage of quasi-regulatory

standards discernible from the extensive framework of targets and indicators set out under SDG 6 on Clean Water and Sanitation.⁸

The notion of “transnational” law encompasses a sophisticated corpus of globally applicable rules, standards and safeguards, often informal in origin, which are widely accepted around the world and supported across a range of business sectors and civil society constituencies. The recent proliferation of such transnational law extends to the hydropower sector, where normative transnational standards and safeguards increasingly apply to promote and certify sustainable practices in the development and operation of major hydropower projects. Such projects have long been associated with significant adverse environmental and social impacts⁹ and the projected global increase in hydropower investments, most of which are likely to be located in emerging economies,¹⁰ will require effective supplemental regulatory tools. Many such projects will be located in, or will impact upon, international river basins, thereby adding a further layer of complexity as regards their effective regulation and management and giving rise to increased risk of inter-State disputes over the equitable and reasonable use of shared water resources and/or over the potential transboundary impacts of such developments. Such complexity and risk will only be exacerbated by increased uncertainty due to climate change. Thus, the existence of relevant and widely accepted transnational standards, which are applicable to hydropower development globally, can play a key role in building trust between watercourse States and in promoting greater transboundary water cooperation.

This article explores the potential role of transnational standards in improved regulation of environmental and social impacts associated with hydropower projects located on international watercourses and the extent to which such standards cohere with the established and emerging requirements of international water law. It thus examines the synergies arising between these informal and formal regulatory frameworks with a view to developing a better understanding of their interaction in practice. In so doing, it focuses on two key categories of applicable transnational regime: a sustainability certification and labeling scheme dedicated to hydropower projects and operated by the Hydropower Sustainability Council; and MDB environmental and social safeguard standards imposed upon major water-related projects, including hydropower projects, particularly those adopted by the World Bank and the European Bank for Reconstruction and Development (EBRD). The article tracks the extent to which these transnational frameworks implement environmental and social standards that reflect, or even exceed those found in international law and, thereby, considers how the former can operate to supplement and enhance application of the values inherent to the latter. In other words, it explores how such transnational regulatory frameworks can function to promote the optimal and sustainable

1 CESCR, *General Comment No. 15: The Right to Water (Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)*, UN Doc. E/C.12/2002/11 (26 November 2002).

2 McIntyre, 2012.

3 See generally, McIntyre (2019).

4 WHO, 2017.

5 See, for example, the range of standards applying to water services utilities adopted by ISO Technical Committee 224, available at: <https://committee.iso.org/home/tc224>.

6 Most notably, World Bank Policy OP 7.50 for Projects on International Waterways, available at: <https://thedocs.worldbank.org/en/doc/152e7cea903188446911a1186487f511-0290012023/op-7-50-projects-on-international-waterways-pdf>.

7 See the Hydropower Sustainable Council’s Hydropower Sustainability Standard and Hydropower Sustainability Assurance System, available at: <https://www.hydrosustainability.org/standard-overview>.

8 See further, McIntyre (2018a, 2023).

9 Consider, for example, the controversial World Bank-funded Sardar Sarovar Dam Project in India and the resulting calls for greater accountability contained in the 1992 Wapenham Report which resulted, in turn, in the establishment of the World Bank Inspection Panel. See Oleschak-Pillai (2014).

10 See, for example, Zarfl et al. (2015), who report that at least 3,700 major dams were then either planned or under construction and were predicted to increase existing global hydropower capacity by 73 per cent.

management of shared international water resources in the specific context of hydropower projects.

2 Overview of the key requirements of international water law

It is useful, therefore, firstly to identify and outline the key normative requirements arising for watercourse States under the existing corpus of international water resources law, both customary and conventional, and under related rules of international human rights law and international environmental law, before mapping onto these the complementary requirements arising under selected transnational frameworks. In this way, this article examines how these complementary transnational frameworks can contribute to ensuring sustainable and equitable utilization of shared water resources, prevention of significant transboundary harm, effective inter-State procedural cooperation, conservation of watercourse ecosystems and of the services provided thereby and, as a consequence, greater realization of the emerging human rights of access to adequate water and sanitation.

The broad corpus of rules, principles and objectives comprising international water law has grown exponentially in the past 60 years,¹¹ not least due to the adoption of several hundred agreements and other instruments,¹² ranging from highly focused bilateral and/or basin-level arrangements through to global framework conventions.¹³ These instruments are further supplemented by a wealth of soft-law declarations, resolutions, codifications and technical guidance, probably best exemplified by the Declarations adopted at Stockholm in 1972¹⁴ and at Rio 20 years later¹⁵ and by the International Law Commission's (ILC) 2008 Draft Article on Transboundary Aquifers.¹⁶ This corpus of rules has kept faith throughout its development with three key established legal principles and duties, i.e., the principle of equitable and reasonable utilization, the duty to prevent significant transboundary harm, and the general duty to cooperate in good faith. Of course, the

normative implications of each key principle or rule continues to develop with new challenges and concerns, and the current focus on sustainability suggests that equitable and reasonable use of shared waters, along with measures to prevent significant transboundary harm, will increasingly have regard to related environmental, ecological and social factors. Equally, greater awareness and concern regarding the human rights-related implications of water quality and availability, especially for indigenous peoples and other vulnerable groups, will inevitably shape relevant notions of equity and of the lawfulness of transboundary impacts.

However, as a body of rules and a basis for inter-State cooperative practice, international water law suffers from certain important shortcomings. Most significantly, it is characterized by normative indeterminacy, especially as regards its substantive requirements,¹⁷ and from related deficiencies in its associated procedural and institutional frameworks,¹⁸ which retard its progressive development and limit its capacity to respond to the looming challenges of the impending global water crisis. Commentators highlight a wide range of other problems impacting upon the efficacy of international water law, including “the reincarnation of the concept of “full permanent sovereignty” which provides a route for countries to back-out from cooperation with others and not take responsibility for harm caused to others”¹⁹ and “the lack or deficiency in enforcement mechanisms.”²⁰ More generally, experts have concluded that “international environmental [and natural resources] law, in spite of its impressive development at the level of treaty law and notwithstanding the abundance of soft law instruments, declarations and ‘understandings,’ remains an immature and underdeveloped body of law.”²¹

For example, whilst it remains true that “the precise implications of an obligation to protect the ecosystems of international watercourses are not altogether clear,”²² it is nevertheless increasingly apparent that the complex and severe threats facing freshwater ecosystems globally require sophisticated regulatory responses.²³ Such threats include, *inter alia*, ever rising demand for water, food and energy and associated large-scale water resources utilization,²⁴ as well as the ecological challenges posed by climate change and the adaptation measures required to address it.²⁵ Constituting a key source of renewable energy and often playing a pivotal role in climate adaptation, hydropower dams and associated water-related infrastructure feature prominently.²⁶

11 One can trace the emergence of modern codified rules on the non-navigational use of international water resources to the [International Law Association's \(1966\)](#) adoption of the seminal important 1966 Helsinki Rules on the Uses of the Waters of International Rivers.

12 See The International Freshwater Treaties Database maintained by Oregon State University, available at: <https://transboundarywaters.science.oregonstate.edu/content/international-freshwater-treaties-database>.

13 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, (1997) 36 *ILM* 700 (adopted 21 May 1997, entered into force 17 August 2014); United Nations Economic Commission for Europe (UNECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes, (1992) 31 *ILM* 1312 (adopted in 1992, entered into force 1996).

14 Stockholm Declaration on the Human Environment, UN Doc. A/CONF.48/14/Rev.1, reprinted in (1972) 11 *ILM* 1616. See [Sohn \(1973\)](#).

15 Rio Declaration on Environment and Development, UN Doc. A/CONF.151/5/Rev.1, reprinted in (1992) 31 *ILM* 876.

16 ILC, 2008 Draft Articles on Transboundary Aquifers, Report of the International Law Commission on the Work of Its Sixtieth Session, (2008) II(2) *Yearbook of the International Law Commission*.

17 See, for example, [Barrett \(2003\)](#), [Brunnée \(2004\)](#), and [McIntyre \(2020a\)](#).

18 See further, [McIntyre \(2020b, 2021a\)](#).

19 [Gupta and Schmeier, 2020](#).

20 [Francioni, 2012](#).

21 Francioni, *ibid*.

22 [McCaffrey, 2007](#).

23 See [Brels et al. \(2008\)](#).

24 See, for example, [Brown Weiss \(2013\)](#).

25 See, for example, [Rieu-Clarke et al. \(2015\)](#).

26 See, for example, [Patel \(2022\)](#), which reports that “[w]orldwide, at least 3,700 medium and large hydropower dams are planned in the coming decades or under construction, heavily concentrated in South America, Africa and South and East Asia.”

Of course, in international watercourses such major water-related infrastructure projects will often constitute a source of transboundary impacts and a flashpoint for inter-State disputes. Thus, the emergence widely accepted transnational rules, standards and safeguards can assist in generating broad consensus and building trust regarding good governance of transboundary waters and related environmental resources.

3 Transnational law

The phenomenon of economic “globalization,”²⁷ and resulting increased economic reliance on complex global supply chains, raises an unprecedented challenge for traditional, State-centered legal frameworks in seeking effectively to regulate the environmental and social impacts of many economic sectors.²⁸ Such regulatory frameworks frequently prove inadequate due to the transnational character of an increasing proportion of economic activity, and due to their inherent lack of responsiveness, flexibility and accessibility. In response to this challenge, a wide range of novel types of rules and standards, often quite informal in character in that they don’t enjoy the official endorsement of State-sanctioned law-makers, has emerged to provide a broad and progressive normative framework for environmental and social governance. Such rules and standards, which apply to activities ranging from the provision of project finance to sustainability certification for myriad internationally traded commodities, products and services, play an increasingly significant role in addressing associated environmental and social concerns.

The emergence of such transnational governance frameworks has led leading legal theorists to consider a novel conception of legal order which responds to the challenges raised by the phenomenon of globalization and takes account of “the processes, practices, institutions, doctrines, values and aspirations through which law becomes less centered upon the jurisdiction and less dependent on the organs of the modern state, and instead gradually comes to assume a ‘global’ significance.”²⁹ Walker describes Twining’s point of departure in his examination of this new conception of legal order as “the inadequacy of the received model of modern law—the state-centered law-world—to our circumstances of intensifying ‘global’ interdependence,” and “the increasing inappropriateness of the high modern view of legal statehood as a largely self-contained and so globally insulated ‘black box’ of doctrine, institutions, culture and education.”³⁰ Thus, the phenomenon of transnational regulatory activity requires scholars “to re-situate the state on a

multipolar densely connected legal map in a complex relationship with other economic, political, and cultural globalizing forces.”³¹ This vision of a rapidly evolving, de-territorialised global legal order is particularly pertinent in the field of water resources management and water services provision, where transnational investment and involvement in major infrastructure projects has proliferated and myriad governance standards have emerged to address the environmental and social impacts of water-related projects and activities.

The emerging system of transnational (water) governance is a hybrid field comprising an intricate mix of public and private (as well as quasi-public and quasi-private) mechanisms, which interact in a complex manner in a dynamic regulatory setting. In addition to formal instruments adopted under national, regional or global legal systems, it also consists of a wide range of private transnational frameworks including, *inter alia*, voluntary corporate codes,³² environmental management systems,³³ sustainability certification and labeling schemes,³⁴ sustainability reporting systems,³⁵ and environmental and social safeguard policies of multilateral project lenders.³⁶ There exists an almost endless variety of novel transnational regulatory activity, including the environmental

31 *Ibid.*

32 See, for example, the corporate social responsibility (CSR) commitments of the Suez Group: <https://www.suez.com/en/about-us/a-committed-group/social>. More generally, see the myriad standards of “corporate social responsibility,” which the United Nations Industrial Development Organization (UNIDO) defines as “a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders”: <https://www.unido.org/our-focus/advancing-economic-competitiveness/competitive-trade-capacities-and-corporate-responsibility/corporate-social-responsibility-market-integration/what-csr#:~:text=Corporate%20Social%20Responsibility%20is%20a,and%20interactions%20with%20their%20stakeholders>.

33 See, for example, the ISO 26000 Social Responsibility Guidance Standard, available at: <https://www.iso.org/iso-26000-social-responsibility.html>. See further, Roht-Arriaza (1995). More specifically, see the comprehensive list of standards developed and adopted by ISO Technical Committee 224 regarding water services. See further McIntyre, *supra*, n. 3, at 162.

34 See, for example, the various sustainability standards adopted under the auspices of the ISEAL Alliance, which includes, *inter alia*, the Alliance for Water Stewardship, the Aquaculture Stewardship Council, Global Infrastructure Basel, the Hydropower Sustainability Council, and a host of standards concerned with various aspects of sustainable agriculture and biodiversity conservation: <https://www.isealalliance.org/iseal-community-members>.

35 See, for example, the various sectoral sustainability reporting standards adopted under the auspices of the Global Reporting Initiative, including GRI 302 Energy 2016; GRI 303 Water and Effluents 2018; GRI 304 Biodiversity 2016; GRI 411 Rights of Indigenous Peoples 2016; and GRI 413 Local Communities 2016: <https://www.globalreporting.org/standards/>.

36 See, for example, the International Finance Corporation (IFC) Environmental and Social Sustainability Policy and Performance Requirements: <https://www.ifc.org/content/dam/ifc/doc/mgrt/sp-english-2012.pdf>, <https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-performance-standards.pdf>. Of more specific and direct relevance for major hydropower

27 Walker describes the phenomenon of “globalization” in terms of “a strong trend away from ‘the local’ and the territorially confined, and in particular the state-confined, as the main point of reference for many areas of human organization” and “the gradual deterritorialization and disembedding of the basic setting of social organization.” See Walker (2014).

28 See, for example, Blanco and Razzaque (2011), who outline, at 33 *et seq.*, the challenge of “global governance” presented by “[t]he process of globalization.”

29 Walker, *supra*, n. 27, at 2, summarizing the relevant writings of William Twining, Twining (2000, 2009, 2011).

30 Walker, *ibid.*, at 8–9.

health policy-making of the World Health Organization (WHO)³⁷ and the testing protocols and risk assessment methodologies developed by the Organization for Economic Cooperation and Development (OECD) Chemicals Group.³⁸ Many corporate actors, particularly multinational corporations, voluntarily agree to abide by established general codes of conduct expressly requiring compliance with environmental and social norms. Most notably, the UN Global Compact, a voluntary initiative based on corporate commitments to a set of 10 sustainability principles including, for example, that businesses should support and respect the protection of internationally proclaimed human rights, support a precautionary approach to environmental challenges, undertake initiatives to promote greater environmental responsibility, and encourage the development and diffusion of environmentally friendly technologies.³⁹ The firmly established OECD Guidelines for Multinational Enterprises, developed incrementally between 1976 and 2011, consist of a framework of voluntary principles and standards for responsible conduct for multinational corporations operating in or from States which adhere to the 1976 OECD Declaration on International Investment and Multinational Enterprises.⁴⁰ Such adherents include all 34 OECD Member States and 12 non-OECD countries. The Guidelines cover the environmental conduct of such businesses in some detail and provide for National Contact Points to handle enquiries and complaints and help to resolve issues relating to their effective implementation. While such widely adopted and highly institutionalized codes of corporate conduct would be expected to exert a strong voluntary compliance pull *per se*, it appears that they can also influence the progressive evolutionary development of formal, legally binding environmental and social protection standards at the national level, both legislative and judicial.⁴¹

This complex mix of environmental and social rules and standards adopted by State and non-State regulatory actors, and the interaction between such rules and standards, may be explained by the phenomenon of “transnational” law, an analytical approach increasingly commonly employed to address the rapidly changing realities of transnational regulation, which increasingly involves, *inter alia*, various forms of industry self-regulation, myriad hybrid forms of private-private and public-private regulation, and governance by intergovernmental organizations with direct or indirect regulatory powers, which

“together form a variegated “global administrative space” that includes international institutions and transnational networks involving both governmental and non-governmental

actors, as well as domestic administrative bodies that operate within international regimes or cause transboundary regulatory effects.”⁴²

Such novel forms of regulatory activity can fill lacunae remaining where formal law-making institutions have failed to elaborate, adopt or enforce binding rules. Consider, for example, the importance of the World Health Organization drinking water quality standards⁴³ as a global benchmark against which any water supply service or provider may be measured. In addition, such informal rules and standards can function to enhance the effectiveness, formation and scope of application of formal rules, which might require considerable time to emerge, especially at the international level. In order to address concerns which inevitably arise regarding such regimes’ lack of democratic foundations and reduced policy control at national and local levels and their resulting lack of effective accountability,⁴⁴ the agencies involved have universally adopted safeguards and principles inherent to national administrative law systems. Esty presciently observes that,

“just as domestic policymakers and administrative law scholars have devised rules and procedures to bolster the legitimacy of administrative agencies, global policy makers might look to the first principles of administrative law to remedy the democratic deficit and legitimacy concerns at the transnational level.”⁴⁵

Focusing more specifically on the strict procedural legacy of national administrative law systems, he concludes that “the procedural rigor of administrative law is a critical tool for refining international governance and legitimizing the exercise of supranational authority.”⁴⁶ Such a proceduralised and participatory approach is now everywhere evident in processes for environmental decision-making, both under informal and formal regulatory regimes, as exemplified by key regional environmental human

42 Kingsbury et al. (2005). These authors proceeds, *ibid.*, to define broadly such “global administrative bodies” involved in generating global norms, to include “intergovernmental institutions, informal intergovernmental networks, national governmental agencies acting pursuant to global norms, hybrid public-private bodies engaged in transnational administration, and purely private bodies performing public roles in transnational administration.”

43 *Supra*, n. 4.

44 See, for example, Harlow (2006), who recounts concerns, at 207–214, regarding the emergence of a transnational “juristocracy,” and even concerns regarding a process of “double colonization.” See also, Steinbach (2016). Others, however, such as Mattarella, conclude that it depends principally upon the nature of the regulatory bodies and their subject-matter, their rule making procedures and the existence of review, suggesting that “under certain conditions ... global influence on national administrative acts could be regarded as a beneficial stimulus to democracy.” Mattarella (2011).

45 Esty (2006).

46 *Ibid.*, at 1495.

projects, see World Bank OP 7.50 Projects on International Waterways, *supra*, n. 6. See further, Salman (2009), Uprety (2010), and Goldberg (1991).

37 WHO (2017), *supra*, n. 4.

38 See <https://www.oecd.org/chemicalsafety/>.

39 See <https://unglobalcompact.org/what-is-gc/mission/principles>.

40 See <http://mneguidelines.oecd.org/about/>.

41 Ajai (2015) and McNally (2015).

rights conventions—the UNECE Aarhus Convention⁴⁷ and the ECLAC Escazú Agreement.⁴⁸

4 Relevant transnational norms

In order to illustrate the functional complementarity potentially existing between informal and formal regulatory frameworks applying to hydropower projects located on international watercourses, this article focuses on outlining the contribution of normative elements of selected transnational frameworks which are relevant to achieving the overarching international water law objective of optimal and sustainable management of water resources, including shared international waters,⁴⁹ and to ensuring that related “vital human needs” are met.⁵⁰ In addition to assessing how each of these transnational frameworks can help to promote effective cooperative engagement between riparian States *inter se* in order “to achieve optimal beneficial and sustainable utilization of ever scarcer water resources,” the primary aim of the classical international water law framework,⁵¹ and the meaningful participation of other key stakeholders, such as civil society actors, business and international investors, as is increasingly envisaged under more progressive international water law regimes,⁵² this article will examine how each transnational framework coheres with and supports other overarching relevant transnational regimes, including the rapidly emerging parameters of the human right(s) to water and sanitation, as elaborated under such instruments as General Comment No. 15 and the measures required for continuing national implementation of SDG 6. It is beyond the scope of this article, however, to explore evolving transnational arrangements for reconciling international investor protection and environmental and social safeguards in respect of hydropower investments, and related developments in investor-State arbitration which

purport to ensure socially and environmentally sustainable water use.⁵³

Publication in 2000 of the final report of the World Commission on Dams (WCD),⁵⁴ a global multi-stakeholder body established in 1997 by the World Bank and the World Conservation Union (IUCN) in response to growing opposition to large dam projects, provided a comprehensive outline of an internationally acceptable governance framework for the planning, construction and operation of dams. This framework comprises seven general “strategic priorities”⁵⁵ each based on a set of “policy principles,” along with detailed decision-making criteria and a set of 26 “guidelines for good practice,” which lay out specific actions for complying with the strategic priorities at five key stages of the project development process. The criteria emphasize, alongside the need for international agreements and a comprehensive framework of international law, the importance of internationally agreed technical standards, codes of practice, certification processes, and public access to information⁵⁶—all approaches which are characteristic of transnational normative activity.⁵⁷ A wide range of international development actors have endorsed the WCD’s findings and recommendations, including the World Bank, the International Hydropower Association, export credit agencies, and international banks and investors, along with many States and the EU. The Commission’s framework has also received broad support from environmental and social civil society, with International Rivers, for example, producing a *Citizen’s Guide to the World Commission on Dams*.⁵⁸ Thus, the 2000 WCD report provides a broad and generally accepted benchmark for transnational governance frameworks applying to the development and operation of hydropower facilities.

Against this background, this paper seeks to assess the contribution of a small number of selected transnational regulatory frameworks which are of direct relevance to the governance of hydropower projects. Although a wide range of transnational frameworks might apply to water resources management and to water-related projects more generally, a comprehensive examination of all of these would be beyond the scope of this paper. For example, many water-related projects and activities might need to have regard to the WHO Drinking-Water Quality Guidelines,⁵⁹ while others, such as those involving large-scale agricultural irrigation, might need to consider the plethora of project, process and product-related standards and certification systems listed as members of the ISEAL

47 United Nations Economic Commission for Europe, Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus, 25 June 1998), (1999) *ILM* 517.

48 Economic Commission for Latin America and the Caribbean, Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú, 4 March 2018).

49 In providing its authoritative articulation of equitable and reasonable utilization, Article 5(1) of the UN Watercourses Convention expresses the aim of this overarching cardinal principle as that of “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.”

50 Traditional rules of international water law have tended to prioritize such needs, with Article 10(2) of the UN Watercourses Convention notably stipulating that “special regard [be] given to the requirements of vital human needs” in the event of a conflict between uses of an international watercourse.

51 See, for example, McIntyre (2021b).

52 See further, Bruch (2005), Razaque (2012), Ebbesson (2015), and McIntyre (2021a).

53 Questions regarding the interaction between international investment law and international water law in respect of hydropower projects are examined elsewhere in this special issue. See A. M. Daza-Clark [in this special issue].

54 *World Commission on Dams (2000)*.

55 Including: Gaining Public Acceptance; Comprehensive Options Assessment; Addressing Existing Dams; Sustaining Rivers and Livelihoods; Recognizing Entitlements and Sharing Benefits; Ensuring Compliance; and Sharing Rivers for Peace, Development and Security.

56 See WCD Final Report, *supra*, n. 54, at 260.

57 See further McIntyre (2018b).

58 *International Rivers (2002)*.

59 *Supra*, n. 4.

Alliance.⁶⁰ The restricted range of governance frameworks of direct relevance to hydropower projects selected for examination here include the highly focused assessment and certification regime administered by the Hydropower Sustainability Council and the relevant environmental and social safeguard standards applied by all multilateral development banks (MDBs) and other project finance lenders, as well as additional dedicated governance requirements related to hydropower, most notably that applied by the World Bank.

4.1 Hydropower sustainability council

The Hydropower Sustainability Council (HSC) is a multi-stakeholder group with a membership comprising hydropower developers and operators and others engaged in the sector, public or commercial banks and other investors, environmental and social civil society, and developed and developing country governments. It aims to ensure that hydropower, which the HSC argues has a key role to play in development and in climate change mitigation and adaptation, is developed in an environmentally and socially sustainable manner. To this end, it has developed the Hydropower Sustainability Standard,⁶¹ against which hydropower operators and developers can demonstrate the environmental, social and governance (ESG) performance of their projects with a view to obtaining the Certified Sustainable Hydropower label in order to provide assurance to communities, government agencies, investors and other stakeholders. HSC is a member of the ISEAL Alliance and its Certified Sustainable Hydropower label is a typical example of the myriad certification and labeling schemes which are such a key source of transnational governance standards. In general terms, the Standard is intended to ensure that hydropower projects can advance sustainable development in four key ways: by conserving and restoring ecosystems and maintaining ecosystem services; by protecting human rights and promoting prosperous communities; by providing safe and climate resilient infrastructure; and by fostering good governance practices in the hydropower industry. Ultimately, the aim is to position the Standard as a central element in regulatory and policy design for hydropower and, by so doing, to encourage green bond issuers, development and commercial lenders, sustainable institutional investors and electricity off-takers to adopt the Standard as one of their core requirements.

The HSC's Hydropower Sustainability Standard contains a suite of detailed environmental and social Performance Requirements (PRs) which resemble (and are designed to be consistent with) those stipulated under other transnational governance frameworks, such as those applied by MDBs in their project-lending activities. Thus, these PRs concern, *inter alia*: environmental and social assessment

and management; labor and working conditions; water quality and sediments; community impacts and infrastructure safety; resettlement; biodiversity and invasive species; indigenous peoples; cultural heritage; and communication and consultation. As many of these reflect, and more often exceed, due diligence standards of conduct and risk management that are likely to be found in national and international legal frameworks, the Hydropower Sustainability Standard PRs provide an extra-legal means of ensuring compliance with the spirit and intent of relevant legal requirements, however vaguely the latter may be articulated or applied. For example, PR 4.1 relating to "environmental and social assessment and management" sets out, in considerable detail, the key parameters for

"The assessment and planning processes for environmental and social impacts associated with project implementation and operation throughout the area of impact of the project, the contribution of the project in meeting demonstrated needs for water and energy services, and the evaluation and determination of project siting and design options."

The assessment should include "evaluation of associated facilities, scoping of cumulative impacts, role and capacity of third parties, and impacts associated with primary suppliers" as well as "any ongoing or emerging environmental and social issues associated with the operating hydropower facility." More generally, the assessment and the environmental and social plans developed during preparation of the project must be able to demonstrate the "strategic fit of the project with needs for water and energy services, and relevant policies and plans." Arguably, these requirements exceed those set out in the corresponding benchmark legal instrument in international law⁶² and go some considerable way beyond the broad requirement for EIA in an international basin identified in customary international law,⁶³ or generally elaborated in State practice.⁶⁴

62 (Espoo) Convention on Environmental Impact Assessment in a Transboundary Context, (1991) 30 ILM 802.

63 See *Pulp Mills on the River Uruguay (Argentina v. Uruguay)* (judgment) [2010] ICJ Reports 14, para. 204; *Certain Activities Carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)* (Judgment) [2015] ICJ Reports 665, paras. 104–105; *Construction of a Road in Costa Rica Along the San Juan River (Nicaragua v. Costa Rica)* (Judgment) [2015] ICJ Reports 665, para. 154.

64 For related practice in the southern Africa region, see:

- 2018 OKACOM *Guidelines on Notification, Consultation & Negotiation of Planned Measures*. <https://www.okacom.org/sites/default/files/publications/OKACOM%20Notification%20Consultation%20Guidelines.pdf>;
- 2017 ZAMCOM *Transboundary Notification Procedures for Planned Measures*. http://zambezicommission.org/sites/default/files/clusters_pdfs/ZAMCOM-Procedures-for-Notification-of-Planned-Measures.pdf;
- 2013 (draft) ORASECOM *EIA Guidelines*. <https://wis.orasecom.org/transboundary-environmental-assessment-for-the-orange-senqu-river-basin/>.

60 See further <https://www.isealalliance.org/>. For example, commercially grown cotton might seek sustainability certification under a number of schemes, including, *inter alia*, the Better Cotton Initiative; Cotton Connect; the US Cotton Trust Protocol; Fairtrade International; or the Alliance for Water Stewardship, each of which would stipulate water management standards. See, for example, the AWS International Water Stewardship Standard <https://a4ws.org/the-aws-standard-2-0/>.

61 Hydropower Sustainability Council (2012).

Similarly, PR 4.6 on “biodiversity and invasive species,” sets down a range of requirements covering “ecosystem values, habitat and specific issues such as threatened species and fish passage in the catchment, reservoir and downstream areas, as well as potential impacts arising from pest and invasive species associated with the project.” The specific measures mandated include an “assessment of terrestrial biodiversity; aquatic biodiversity including passage of aquatic species and loss of connectivity to significant habitat; and risks of invasive species,” and development of related “plans and processes to address identified biodiversity issues” during project implementation and operation. In much the same way, PR 4.3 requires that water quality issues and erosion and sedimentation issues are assessed, identified and addressed by means of appropriate plans and processes covering each stage of the project.

Of particular significance for the cooperative management and equitable and reasonable utilization of an international watercourse, however, PR 4.11 provides a framework for ensuring that due account is taken of “hydrological resource availability and reliability to the project, reservoir planning and downstream flow regimes in relation to environmental, social and economic impacts and benefits.” The Standard stipulates that filling and ongoing management of reservoirs will require structured dialogue with all stakeholders, potentially including relevant authorities and communities in co-basin States, and careful monitoring of reservoir preparation and filling activities and of reservoir-related issues arising during project operation. As regards downstream flows, it highlights the need for an assessment taking account of a broad range of risks and opportunities, and structured monitoring of downstream flow issues taking into account inter-relationships amongst issues. The assessment should identify the flow ranges and variability to achieve different environmental, social and economic objectives based on field studies as well as relevant scientific and other information. In addition, PR 4.11 requires that plans and processes are in place to anticipate and respond to emerging risks and opportunities and, further, that commitments contained in such plans are public, formal and legally enforceable. PR 4.11 requires assessment of the hydrological resource in the basin with a view to identifying and evaluating both long- and short-term risks and uncertainties. On the basis of detailed monitoring of the hydrological resource, including the use of field measurements and appropriate statistical indicators, a plan must be developed to ensure efficiency of water use “based on analysis of the hydrological resource availability, a range of technical considerations, an understanding of power system opportunities and constraints, and social, environmental and economic considerations including downstream flow regimes.” Such a plan should also demonstrate “the flexibility to anticipate and adapt to future changes.” It is immediately apparent that PR 4.11 involves significantly more detailed normative requirements regarding the sustainable utilization of water resources for the purposes of hydropower generation than one would ever expect to find in an international river basin agreement, should one even exist between the co-basin States concerned. Thus, the HSC Hydropower Sustainability Standard can, at the very least, augment any formal legal arrangements existing between co-basin States by informing how any broad sustainability commitments contained therein might be interpreted and applied in the case of a hydropower project located in or impacting a transboundary basin. Where no

such arrangements exist, the Standard can serve as a substitute governance framework, by suggesting what the notoriously vague and indeterminate rules of customary international law might ideally require.

Significantly, as regards the general sustainability and future viability of hydropower projects, particularly in international basins, the HSC Standard additionally includes a PR 4.12 on “climate change mitigation and resilience,” which addresses “the estimation and management of the project’s GHG emissions, analysis and management of the risks of climate change for the project, and the project’s role in climate change adaptation.” Specifically as regards climate change mitigation, PR 4.12 sets down parameters for energy density and estimated CO₂ emissions for the project, including any appropriate mitigation measures, generally requiring that it be demonstrated to be consistent with low carbon power generation and with national and regional policies and plans for mitigation. In relation to resilience, PR 4.12 requires an assessment of the project’s resilience to climate, which

“incorporates an assessment of plausible climate change at the project site, identifies a range of resulting climatological and hydrological conditions at the project site, and applies these conditions in a documented risk assessment or stress test that encompasses dam safety, other infrastructural resilience, environmental and social risks, and power generation availability.”

It also requires “an assessment of the project’s potential adaptation services and fit with national and/or regional policies and plans for adaptation.” On the basis of such assessment, it requires that appropriate structural and operational measures are taken to avoid or reduce the identified climate risks and, further, that plans and processes are developed to respond to unanticipated climate change risks. This requirement encourages the incorporation within the scope of a hydropower infrastructure project of climate adaptation features and measures of wider benefit, which might also flow to co-basin States. Ultimately, such plans and processes must “deliver a project that is resilient to climate change under a range of scenarios.” As regards the management of shared transboundary water resources, it is worth noting that, in elaborating upon the assessment requirements, PR 4.12 places considerable emphasis on “project-specific hydrological modeling using recognized climate models” and on “the project’s opportunities to provide adaptation services.” Clearly, such requirements can do much to address the destabilizing effects of climate change uncertainty in transboundary basins and, by forming the basis of an “uncertainty reduction strategy,”⁶⁵ can facilitate and promote cooperative transboundary water management practices for the benefit of all.

The full suite of governance requirements set out under the HSC Hydropower Sustainability Standard thus appears simultaneously to reflect and augment the rules of international law as regards their application to hydropower projects located in or impacting upon transboundary watercourses. In addition to elaborating upon the particular requirements of the quite general rules of international water law and filling normative lacunae

⁶⁵ See further [Drieschova and Eckstein \(2014\)](#).

where these exist, the Standard also extends the application of such normative requirements to an entirely new cohort of actors—the multinational energy and construction companies and consortia involved in the development and operation of large hydropower projects, whether or not located in transboundary basins. This is particularly important where the States hosting such projects are unwilling or unable to impose appropriate sustainability standards upon developers or operators and/or where co-basin States are unable to agree upon the nature and content of their respective rights and duties under international law.

4.2 Multilateral development banks

Commencing in the early 1990s, all MDBs have since developed and adopted environmental and social safeguard policies applying to developmental lending which have incrementally grown more sophisticated and far-reaching.⁶⁶ The normative governance standards to be applied enjoy ever greater breadth and depth,⁶⁷ with more recent iterations of MDB safeguard policies tending to incorporate human rights requirements, thereby recognizing the need to adopt a human rights-based approach to development activities.⁶⁸ Further, these safeguards now apply to a wide variety of forms of project-finance including, for example, equity investments in client companies and the funding of financial intermediaries, as well as more traditional project-lending and technical assistance activities. As a necessary corollary to the adoption of safeguard policies, all MDBs subsequently established independent accountability mechanisms (IAMs) to respond to complaints by scrutinizing the performance of MDB managements in the implementation of their safeguard policies, and to ensure bank managements' accountability to project-affected persons, civil society and beyond.⁶⁹ A similar approach has been adopted by an increasingly wide range of international financial institutions (IFIs) and other organizations involved in financing development activities, including export credit agencies⁷⁰ and United Nations agencies,⁷¹ and now even including private-sector lenders.⁷² Thus, MDB environmental and social safeguard policies, in conjunction

with the IAMs charged with ensuring compliance therewith, play a key role in elaborating transnational standards of environmental and social conduct and risk management in the development and operation of major infrastructure projects, including hydropower facilities, and, more generally, in inculcating a culture of responsive, transparent and participative administrative governance in all related decision-making.

MDB environmental and social policies increasingly adopt a similar format, largely because many take as a model template the format adopted by the International Finance Corporation (IFC), the private sector-lender of the World Bank Group, and also due to the fact that all MDB environmental and social safeguard policies are routinely revised and updated on the basis of a review process which relies heavily upon benchmarking against the policies and practices of the other MDBs. Quite typically, the latest iteration of the European Bank for Reconstruction and Development (EBRD) Environmental and Social Policy (ESP)⁷³ includes a total of 10 Performance Requirements (PRs) broadly reflecting standards of protection found in leading international legal instruments and frameworks,⁷⁴ several of which might prove to be relevant and applicable to hydropower projects, most obviously including those PRs related to environmental and social assessment, pollution control, involuntary resettlement, biodiversity conservation, indigenous peoples, cultural heritage, and information disclosure and stakeholder engagement. Many of the environmental and social values reflected therein are also central to the emerging human right(s) of access to water and sanitation and to the normative objectives of several SDGs. To date, hydropower projects have featured prominently in the complaints submitted to MDB IAMs alleging non-compliance with the relevant environmental and social policies.⁷⁵

in determining, assessing and managing environmental and social; risk in projects. <http://equator-principles.com>.

73 EBRD Environmental and Social Policy (April 2019). <https://www.ebrd.com/news/publications/policies/environmental-and-social-policy-esp.html>.

74 The 2029 EBRD ESP Performance Requirements include:

PR 1: Assessment and Management of Environmental and Social Risks and Impacts;

PR 2: Labor and Working Conditions;

PR 3: Resource Efficiency and Pollution Prevention and Control;

PR 4: Health, Safety and Security;

PR 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;

PR 6: Biodiversity Conservation and Sustainable Management of Living natural Resources;

PR 7: Indigenous Peoples;

PR 8: Cultural Heritage;

PR 9: Financial Intermediaries; and

PR 10: Information Disclosure and Stakeholder Engagement.

75 High profile examples of hydropower projects which were the subject of complaints to the IFC-CAO, include the Bujagali Hydropower Dam in Uganda and the Nachtigal Hydropower Project in Cameroon, <https://www.cao-ombudsman.org/cases>.

Indeed, even though the restricted geographical scope of EBRD's lending activities would suggest that it funds relatively few hydropower projects, such

66 See, for example, Bissell (2020).

67 McIntyre (2020c) and Nanwani and McIntyre (2020).

68 See further Tignino (2020).

69 In 1993 the Board of Executive Directors at the World Bank established the independent Inspection Panel as the first ever independent accountability mechanism (IAM). See further, Shihata (1994) and Bissell (1997).

70 For example, the Office of Accountability established in 2005 by the Board of Directors of the U.S. Overseas Private Investment Corporation (OPIC): <https://www.opic.gov/who-we-are/office-of-accountability>.

71 For example, in June 2014 the United Nations Development programme (UNDP) adopted mandatory Social and Environmental Standards (SES) applicable to all UNDP projects, which are underpinned by an Accountability Mechanism comprising two key components, the Social and Environmental Compliance Unit (SECU) and the Stakeholder Response Mechanism. <https://www.undp.org/accountability/social-and-environmental-responsibility>.

72 One hundred forty private-sector lenders representing the vast majority of international project-finance debt within developing and emerging markets have now signed up to the so-called "Equator Principles," a voluntary risk-management framework creating minimum standards for due diligence

In parallel with the more impact-specific PRs, even more generally framed institutional commitments to good governance and equity-related values might prove relevant to lending activities for hydropower projects. For example, the 2019 EBRD ESP includes a broad commitment on the part of the Bank to

“require its clients to identify vulnerable people or groups who may be disproportionately impacted by projects and develop and implement mitigation measures so that vulnerable people are not disproportionately impacted. This will include assessing to what extent tariff changes caused by projects may create *problems of affordability of basic levels of services* for disadvantaged and/or vulnerable groups of the population and satisfy itself that effective schemes to mitigate the affordability challenges are developed and put in place.”⁷⁶

Clearly, this type of commitment would align closely with the core requirements regarding the affordability of water-related services normally articulated within the rubric of the human right to water⁷⁷ and SDG 6⁷⁸ and might have significant implications for the financing of a hydropower project ultimately intended to provide power and/or water services to populations which include economically vulnerable groups. As noted above in the context of the HSC Hydropower Sustainability Standard, such transnational governance requirements might play a particularly important role where host States are, for whatever reason, unwilling or unable to impose appropriate regulatory standards upon infrastructure developers or operators.

In addition to such generally applicable environmental and social safeguard and governance policies, however, the World Bank has adopted a policy instrument, Operational Policy (OP) 7.50, specifically dedicated to “Projects on International Waterways,” which is of particular and direct relevance to the development and construction of hydropower projects in international watercourses.⁷⁹ The World Bank has a long history of involvement in the cooperative management and development of international water resources, issuing its first dedicated policy in 1956⁸⁰ and famously playing a central role in the resolution of the

Indus dispute between India and Pakistan⁸¹ and conclusion of the Indus Waters Treaty in 1960.⁸² Initially, the Bank felt it necessary to develop its own policy on such projects due to “[t]he [then] paucity of international rules in this field,” but it is arguably still true that there exists no other “such instrument in the field of international waters for which there was a requirement for compliance by the Bank and its borrowers at an almost global level.”⁸³ Thus, the Bank’s Policy helps to fill gaps in the coverage of general international water law and to ensure greater compliance pull in respect of those legal requirements with which the Policy corresponds.

As regards the scope of application of the World Bank Policy, it corresponds generally with that of key international water law instruments, though it does not include groundwaters but goes further in another geophysical respect as it also applies to related coastal waters.⁸⁴ There can be no doubt that it extends to hydropower projects, as these are listed first among those to which it applies.⁸⁵ Reflecting the central importance of the so-called “general duty of cooperation” in international water law,⁸⁶ OP 7.50 places great emphasis on “the cooperation and goodwill of riparians [which] is essential for the efficient use and protection of the waterway” and highlights the utility of agreeing formal legal frameworks, stressing the importance of “making appropriate agreements or arrangements for these purposes for the entire waterway or any part thereof.”⁸⁷ Consistent with the approach to cooperation adopted under general international water law, the World Bank identifies the duty of inter-State notification as the key procedural element for effective cooperation in respect of projects in transboundary basins,⁸⁸ as this act would normally initiate a continuing process of highly proceduralised

projects have featured prominently among complaints submitted to EBRD’s successive complaint mechanisms, including: Boskov Most—FYR Macedonia (2011); Ombla—Croatia (2011); Paravani—Georgia (2012); Dariali—Georgia (2014); Shuakhevi HPP—Georgia (2018, 2019); Nenskra HPP—Georgia (2018): <https://www.ebrd.com/work-with-us/project-finance/project-complaint-mechanism/pcm-register.html>.

⁷⁶ EBRD Environmental and Social Policy (April 2019), para. 2.6 (emphasis added).

⁷⁷ See, for example, the stipulations set out under para. 12(c)(iii) of General Comment No. 15, *supra*, n. 1, regarding “economic accessibility.”

⁷⁸ See, for example, Target 6.1 regarding the aim to “achieve universal and equitable access to safe and affordable drinking water for all.” See further, McIntyre (2023), *supra*, n. 8, at 453–462.

⁷⁹ World Bank Operational Policy 7.50 (OP 7.50) for Projects on International Waterways (October 1994, as revised in August 2004 and again in March 2012): <https://thedocs.worldbank.org/en/doc/152e7cea903188446911a1186487f511-0290012023/original/OP-7-50-Projects-on-International-Waterways.pdf>.

⁸⁰ Operational Memorandum No. 8: Projects on International Inland Waterways (8 February 1956). See further, Salman (2009, and Appendix 1).

⁸¹ See Michel (1967), Gulhati (1973), and Salman and Uprety (2022).

⁸² 419 UNTS 125.

⁸³ Salman, *supra*, n. 80, at 66.

⁸⁴ Such as that employed in Article 2 of the UN Watercourses Convention, *supra*, n. 13. OP 7.50, para. 1 applies to the following types of international waterways:

- (a) Any river, canal, lake, or similar body of water that forms a boundary between, any river or body of surface water that flows through two or more states, whether Bank members or not;
- (b) Any tributary or other body of surface water that is a component of any waterway described in (a) above; and
- (c) Any bay, gulf, strait or channel bounded by two or more states or, if within one state, recognized as a necessary channel of communication between the open sea and other states and any river flowing into such waters.

⁸⁵ OP 7.50, para. 2(a) list the various types of projects to which the Policy applies:

- (a) Hydroelectric, irrigation, flood control, navigation, drainage, water and sewage, industrial, and similar projects that involve the use or potential pollution of international waterways ...

⁸⁶ See, for example, Article 8 of the UN Watercourses Convention, *supra*, n. 13.

⁸⁷ OP 7.50, para. 3.

⁸⁸ OP 7.50, para. 4.

inter-State communication.⁸⁹ Notification is non-negotiable under the Policy and so, where the borrower/beneficiary State does not for any reason wish to provide notification, the Bank will do so itself. Either way, under the Bank's rules the project cannot progress in the absence of notification, with only very limited *de minimis* exceptions.⁹⁰ In line with this emphasis on effective inter-State cooperation among riparians, and with widespread State practice in international law, the Policy also highlights the important role of "any institutional framework for the international waterway concerned" that has been established by the riparian States concerned, in respect of which "the Bank ascertains the scope of the institution's activities and functions and the status of its involvement in the proposed project, bearing in mind the possible need for notifying the institution."⁹¹ In the 2010 in the *Pulp Mills* Case the international Court of Justice placed similar emphasis upon the role of joint institutional mechanisms in facilitating inter-State notification of projects planned on international watercourses.⁹²

Where, following notification, one or more of the other riparian States objects to the proposed (hydropower) project, the Bank "may appoint one or more independent experts to examine the issues" raised in such objections.⁹³ Such independent experts will be appointed and instructed in accordance with the more detailed rules set out in Bank Procedure (BP) 7.50.⁹⁴ After having considered the independent experts' opinion, which is intended to be essentially technical in character and is in no way determinative of the rights and obligations of the riparians,⁹⁵ the Bank may decide to proceed with the project despite such objections after having notified all parties (see text footnote 93). Once again, this World Bank process for dealing with inter-State disagreement regarding planned projects mirrors the innovative requirement under the UN Watercourses Convention to submit a watercourse dispute to a process of "impartial fact-finding" with a view to achieving an equitable solution.⁹⁶

89 See, for example, Articles 11-19 of the UN Watercourses Convention, *supra*, n. 13. Notification would normally now require an EIA, on which any continuing inter-State communication would be based, see *supra*, n. 63 and n. 64. See further, McIntyre (2013).

90 OP 7.50, para. 7.

91 OP 7.50, para. 5. This focus on cooperative institutional structures coheres with the articulation of the "general obligation to cooperate" under Article 8 of the UN Watercourses Convention, with Article 8(2) providing that:

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.

92 *Supra*, n. 63, at paras. 84-111.

93 BP 7.50, para. 11.

94 BP 7.50, paras. 8-12, available in Salman, *supra*, n. 80, at Appendix 5B.

95 OP 7.50, para. 6.

96 Under Article 33(3)-(9) of the UN Watercourses Convention, *supra*, n. 13.

Thus, in addition to the World Bank's comprehensive Environmental and Social Framework (ESF) which includes, *inter alia*, a set of 10 Environmental and Social Standards (ESSs)⁹⁷ corresponding with those adopted and applied by other MDBs, the Bank's policy on Projects on International Waterways also provides a framework for inter-State communication and cooperation in respect of major projects on international watercourses, including hydropower projects, which are seeking Bank funding. Predictably, this framework reflects that provided under general international water law but can apply in the absence of any applicable conventional rules or where there is disagreement regarding the content and implications of either applicable conventional or customary rules. Of course, a borrower/beneficiary State seeking funding has an obvious added incentive to comply assiduously with the World Bank's governance requirements. In his historical and legal analysis of World Bank policy in this area, Salman explains that, from the very beginning, the Bank understood that "projects on international watercourses could affect relations not only between the Bank and the borrower, but also between governments, and because of that, such projects need special handling."⁹⁸ For this reason, the Bank developed a policy framework that "is basically a dispute avoidance approach," one that over the years "has been refined and considerably expanded under the policy in a number of ways."⁹⁹

5 Conclusion

After a hiatus of several decades, which can be at least partially attributed to its inherent environmental and social impacts, hydropower is once again in favor, both as a renewable form of energy involving minimal greenhouse gas (GHG) emissions and as a key transition element in balancing the intermittency of other renewable energy sources.¹⁰⁰ The potential role of hydropower-related infrastructure in assisting adaption to climate change is also becoming increasingly apparent. In response to its acknowledged impacts, however, a rich complex of transnational governance standards and procedures has emerged with a view to improving the environmental and social performance of hydropower projects. Though a range of such transnational frameworks might be relevant, depending on the unique circumstances and potential impacts of any particular project, an examination of two particularly pertinent examples of different categories of transnational governance framework is nevertheless instructive. Those examined include the assessment and certification scheme administered by the Hydropower Sustainability Council and the environmental and social safeguard policies and other relevant governance requirements applied by multilateral development banks, and the World Bank in particular.

97 See further: <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards>.

98 Salman, *supra*, n. at 67.

99 *Ibid.*

100 See, for example, Pihalehto and Puharinen (2023).

This brief examination suggests a number of roles potentially played by transnational standards in the governance of hydropower projects on international watercourses. First of all, they can be supplemental to the governance framework provided by international water law, filling gaps where they exist and obviating disagreement over the applicability or content of certain rules or principles. In particular, such transnational frameworks can reflect synergies and order overlaps arising between international water law and different applicable sub-fields of international law, such as international human rights law and international environmental law. Secondly, sectorally-focused transnational frameworks, such as the HSC's Hydropower Sustainability Standard, can elaborate upon the detailed requirements and practical application of traditional rules of international law including, for example, the precise modalities of environmental and social impact assessment processes, procedural engagement, mitigation of impacts, and environmental monitoring. Thirdly, transnational frameworks can directly or indirectly extend application of the governance standards and safeguards envisaged under a range of sub-fields of international law to a selection of critically important private actors, including lenders, investors, borrowers, developers, operators and supplier without any need to incorporate such safeguards into one or more national legislative frameworks. Thus, transnational standards remain likely to have a key role in the governance of hydropower projects in transboundary basins for some time to come.

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