The Need for an International Legal Concept of Fair and Equitable Benefit Sharing

Elisa Morgera*

Abstract

This article proposes a concept of ‘fair and equitable benefit sharing’ deriving from international biodiversity law, international human rights law, and the law of the sea. The concept identifies normative elements that are shared among the international treaties that refer to benefit sharing, comprising the act of sharing; the nature of the benefits to be shared; the activities from which benefit sharing arise; the beneficiaries; and fairness and equity as the rationale for benefit sharing in international law. The concept is not intended to provide a holistic or exhaustive notion of fair and equitable benefit sharing but, rather, to support comparison and generalization with a view to shifting the current investigation from sectoral/technical approaches to the perspective of general international law and the contribution to research in other areas of international law. The proposed conceptualization is thus geared towards the development of a research agenda targeting a variety of international and transnational legal materials, allowing for the appreciation of differences in the context of varying logics of different areas of law.

Fair and equitable benefit sharing is a diffuse legal phenomenon in international law that has elicited little investigation with regard to its nature, extent, and implications. It has been mostly studied as the cornerstone of the international legal regime on bioprospecting (research and innovation based on genetic resources). However, under the radar, a

* Professor of Global Environmental Law, School of Law, University of Edinburgh, United Kingdom. Email: elisa.morgera@ed.ac.uk. This article is part of the project entitled BENELEX: Benefit-Sharing for an Equitable Transition to the Green Economy: The Role of Law, funded by the European Research Council (November 2013–October 2018), available at www.benelex.ed.ac.uk (last visited 12 April 2016).

1 Such an ‘international regime’ has been identified as comprising the Convention on Biological Diversity (CBD) 1992, 1760 UNTS 79; the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization 2014, CBD Decision X/1 (2010) Annex I; the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) 2001, 2400 UNTS 303; CBD, Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of Their Utilization, CBD Decision VI/24 (2002) Annex, according to CBD.
growing number of international legal materials refer to ‘benefit sharing’ with regard to natural resource use (extractive activities, forest and water management, tourism, the use of marine resources, land use, and food production), environmental protection (biodiversity conservation and the fight against climate change), and the use of knowledge. Concrete benefits to be shared have been identified as being both monetary and non-monetary in nature, such as revenue, information, scientific and commercial cooperation, joint management of natural resources, and technical support.

Yet from both a policy-making and law-making perspective, the proliferation of references to benefit sharing has been accompanied by a remarkable lack of conceptual clarity, to the point that it has been rightly asked whether there is just one concept of benefit sharing or many. Benefit sharing is employed in international law to connote a treaty objective, an international obligation, a right, a safeguard.


E.g., CBD, Guidelines on Biodiversity and Tourism, Decision V/25 (2000), paras 4(b) and (d).


E.g., UN Rapporteur on the Right to Food, Large-Scale Land Acquisitions and Leases: A Set of Minimum Principles and Measures to Address the Human Rights Challenge, UN Doc. A/HRC/13/33/Add.2 (2010), para. 33.


Universal Declaration of Human Rights, GA Res. 217 A (III), 10 December 1948, Art. 27(1); CBD, *supra* note 1, Art. 8(j); Nagoya Protocol, *supra* note 1, Arts 5(5), 8(a).


CBD, *supra* note 1, Art. 1; ITPGREA, *supra* note 1, Art. 1; Nagoya Protocol, *supra* note 1, Art. 1.

CBD, *supra* note 1, Arts 15(7), 8(j); Nagoya Protocol, *supra* note 1, Art. 5.


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or a mechanism.\(^{16}\) However, there is no instance in which it has been unequivocally understood,\(^{17}\) fully developed,\(^{18}\) or made satisfactorily operational.\(^{19}\)

In addition, benefit sharing is applied to relations that have different relevance under international law and are characterized by different de facto power asymmetries. It applies among countries whose relationships are characterized by sovereign equality and, in key areas of international cooperation, by the controversial principle of common but differentiated responsibility.\(^{20}\) It also applies to relations between a government and a community within its territory, whose relationship is characterized by the state’s sovereign powers and international obligations over natural resources and the relevance, to different extents, of international human rights law. For the purposes of conceptual clarity, therefore, a distinction needs to be drawn between benefit sharing among states (inter-state benefit sharing) and benefit sharing within states (intra-state benefit sharing between governments and communities).\(^{21}\) Furthermore, benefit sharing applies to relations between communities and private companies\(^{22}\) that may be protected by international investment law and that, even when that is not the case, are increasingly understood in the light of business responsibility to respect human rights.\(^{23}\) Finally, benefit sharing applies to relations within communities (intra-community benefit sharing),\(^{24}\) which raises questions of the interaction among communities’ customary laws, and national and international law.\(^{25}\) These occurrences point to another overlooked conceptual distinction: transnational traits can be identified in the

\(^{16}\) UNCLOS, supra note 6, Art. 140; ITPGRFA, supra note 1, Art. 10; Nagoya Protocol, supra note 1, Art. 10.
\(^{17}\) See interpretative divergences and ongoing negotiations under the Nagoya Protocol discussed in E. Morgera, E. Tsioumani and M. Buck, Unraveling the Nagoya Protocol: Commentary on the Protocol on Access and Benefit-sharing to the Convention on Biological Diversity (2014).
\(^{18}\) E.g., International Seabed Authority (ISA), Towards the Development of a Regulatory Framework for Polymetallic Nodule Exploitation in the Area, UN Doc. ISBA/19/C/5 (2013).
\(^{19}\) An inter-sessional process is currently underway on enhancing the functioning of the ITPGRFA Multilateral System. ITPGRFA, Resolution 2/2013 (2013).
\(^{24}\) E.g., PRAI, supra note 22, principle 6; Committee on Food Security (CFS), Principles for Responsible Investment in Agriculture and Food Systems (2014), paras iv, 23.
\(^{25}\) E.g., Nagoya Protocol, supra note 1, Art. 12(1).
inter-state and intra-state dimensions of benefit sharing as well as in the intra-community dimensions (particularly when international development assistance is involved).

This proliferation may be explained by the intuitive appeal of benefit sharing as a frame, to borrow a term from communication, sociological, and political sciences. It emphasizes the advantages (the positive outcomes or implications) of tackling challenges in bioprospecting, natural resource use, and knowledge production so as to help motivate participation by different stakeholders. As André Nollkaemper has aptly explained, frames ‘play an essential, though not always recognized, role in the development of international law’. Frames select and accentuate certain aspects of reality over others to promote a particular problem definition or approach to its solution, they are chosen and strategically used by actors with particular agendas and powers, and they ‘have distinct normative and regulatory implications’. As a frame, benefit sharing holds the promise to facilitate agreement upon specific forms of cooperation since different parties are being motivated by their perception of the benefits that would derive from it.

On the other hand, fragmented, but growing, empirical evidence indicates that in practice benefit sharing rarely achieves its stated objectives and may actually end up working against its purposes. On the ground, benefit sharing has been seen as a ‘disingenuous win-win rhetoric’ that leads to the loss of control and access over resources by the vulnerable through ‘narrative framings of the global public good’ and ‘dominating knowledge approaches’. This body of work, in other words, points to the critical weight that power asymmetries have in all of the relations to which benefit sharing applies. This literature, however, does not engage in a systematic reflection on the opportunities and limitations of international law to prevent, address, and remedy the injustices that may be brought about in the name of benefit sharing. The implication is that as an aspirational and optimistic frame, benefit sharing remains to be assessed from a healthily sceptical and legally robust perspective.

Against this background, this article aims to develop a concept of fair and equitable benefit sharing deriving from international environmental law, international human rights law, and the law of the sea, with a view to shifting the investigation from current sectoral/technical approaches to the perspective of general international law, and possibly contributing to research in other areas such as international health.

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31 There is already a body of research on benefit sharing in this area, but with limited engagement with other areas of international law. Wilke, ‘A Healthy Look at the Nagoya Protocol: Implications for Global
The Need for an International Legal Concept of Fair and Equitable Benefit Sharing and economic law.\textsuperscript{32} The concept will serve to identify normative elements that are shared among different treaties and other international legal instruments, based on the understanding that international law is often developed by building in an iterative process on previously agreed language.\textsuperscript{33} Identifying a common core to fair and equitable benefit sharing in international law will serve the purposes of comparison and generalization.\textsuperscript{34} However, it is not intended to provide a holistic or exhaustive notion of benefit sharing. Rather, it will allow for an appreciation of the variation and continuous evolution across regimes with different purposes, standards of protection, and interpretative approaches.

Different historic matrices behind the proliferation of references to benefit sharing in international law will be identified first, with a view to explaining the methodological and substantive premises of the enquiry. On these bases, an international legal concept of benefit sharing will be proposed, comprising the following elements: the act of sharing; the nature of the benefits to be shared; the activities from which benefit sharing arise; and the beneficiaries. The connection between benefit sharing and equity will be explored last, with the latter providing the rationale for benefit sharing in international law. The conclusions will develop a research agenda on the basis of the proposed conceptualization.

1 Historic Matrices

A legal history of benefit sharing in international law has yet to be drawn. The earliest textual reference to benefit sharing can likely be found in the Universal Declaration of Human Rights (the right of everyone to share in the benefits of scientific advances as part of the human right to science).\textsuperscript{35} Its normative content, however, has not yet been clarified through national or international practice.\textsuperscript{36} Instead, benefit sharing appears to have found more fertile normative ground in connection with natural

\textsuperscript{32} There appears to be no literature examining the impact (or lack thereof) on international economic law of the exhortations of the UN General Assembly to sharing the benefits of globalization. E.g., GA Res. 63/230, 17 March 2009: Second UN Decade for the Eradication of Poverty (2008–2017), para. 12 or earlier references to benefit sharing in the Charter of Economic Rights and Duties of States, GA Res. 29/3281, 12 December 1974, Art. 10.


\textsuperscript{34} In the tradition of analytical jurisprudence, as defined by Twining, ‘Law, Justice and Rights: Some Implications of a Global Perspective’, in J. Ebbeson and P. Okowa (eds), Environmental Law and Justice in Context (2009) 76, at 80–82.

\textsuperscript{35} Universal Declaration of Human Rights, supra note 10, Art. 27.1.

resources. In this section, it is argued that benefit sharing developed in international law first under the umbrella of the New International Economic Order (NIEO) and its legacy for the global sustainable development agenda and, more recently, under the discourse on ecosystem services.

The NIEO can be described as newly independent developing countries’ attempt in the 1970s at radically restructuring the global economic system by prioritizing the objective of development as part of the decolonization process. The NIEO provided the context for the development of the concept of national sovereignty over natural resources to support the self-determination of states and of peoples to decide about the economic, social, and cultural aspects of human development. In both cases, the NIEO called for international cooperation on the basis of need and for shifting away from legal techniques that serve to perpetuate economic domination by a minority of states. Against this background, benefit sharing has been linked to the still controversial notion of a human right to development and to the rights of indigenous and tribal peoples to their lands and natural resources. In addition, it has been encapsulated in the innovative construct of the common heritage of mankind with regard to the moon and deep seabed minerals to prevent a few states from appropriating resources beyond the reach of those with fewer technological and financial capacities.

Since then, the NIEO has formally disappeared from the international agenda, its project of overhauling the international economic order having been abandoned following the creation of the World Trade Organization. However, the discourses on equitable globalization and the principle of sustainable development have been seen as ‘direct reminders’ of the NIEO’s call for equity among states and for a rights-based approach to development. To a still significant extent, the NIEO has thus evolved into a general approach to the making of international environmental law aimed at solidarity and cooperation.

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40 UN Declaration on the Right to Development, GA Res 41/128, 4 December 1986, Art. 2.3.
41 ILO Convention no. 169, supra note 14, Art. 15.2.
42 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies 1979, 1363 UNTS 21, Art. 11(7).
43 UNCLOS, supra note 6, Art. 140.
46 Salmon, supra note 38, at 49.
to the benefit of the least-favoured countries.\(^{47}\) And it has been enriched by the recognition of cultural diversity among and within states, resulting in the protection of the rights of marginalized individuals and communities over natural resources in order to protect their cultural identity and livelihoods.\(^{48}\) As a result, national sovereignty over natural resources has been progressively qualified by duties and responsibilities towards other states and towards communities\(^{49}\) (including communities outside states’ own borders\(^{50}\)) and redefined as a commitment to cooperate for the good of the international community at large in terms of equity and sustainability.\(^{51}\) This evolution provides the background for the references to both inter-state and intra-state benefit sharing in the Convention on Biological Diversity (CBD), the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), and the Nagoya Protocol on Access and Benefit-Sharing to the CBD (Nagoya Protocol).\(^{52}\)

The more recent spread of benefit sharing in the areas of water, land, and climate change has in turn been attributed to the discourse on ecosystem services\(^ {53}\) – the multiple ways in which ecosystems contribute to human well-being.\(^{54}\) Having gained global scientific and political traction in the lead up to the 2005 UN Summit,\(^ {55}\) this discourse has served to emphasize the largely unaccounted merit of ecosystem service providers and the devastating impacts of ecosystems’ decline on the vulnerable.\(^ {56}\) The discourse clearly starts to develop the argument, from an economic perspective, that an economic valuation of ecosystems serves to prevent more easily monetized objectives from taking priority in decision making\(^ {57}\) and that ecosystem stewards should be rewarded (including through payments for ecosystem services) for contributing to human well-being. While ecosystem stewards may often be vulnerable, being the most exposed to unsustainable and inequitable environmental management decisions and practices,\(^ {58}\) this is not always the case, and the notion of ecosystem services does not necessarily aim to protect the vulnerable.\(^ {59}\)

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\(^{48}\) Tourme-Jouannet, *supra* note 45, at 121, 149.


\(^{52}\) CBD, *supra* note 1; ITPGRFA, *supra* note 1; Nagoya Protocol, *supra* note 1.


\(^{57}\) Economics of Ecosystems and Biodiversity (TEEB), *Challenges and Responses* (2014).


\(^{59}\) See generally Sikor, *supra* note 29.
Legal scholars, therefore, have focused on the moral and cultural acceptability, and the social and environmental effectiveness, of pricing and marketing ecosystem services, with the limitations of purely monetary valuation being openly acknowledged in the discourse. Whether or not ecosystem services can be fully or solely responsible for the diffusion of benefit sharing, they raise conceptual questions that find clear correspondence in the debate on benefit sharing as a ‘post-neoliberal attempt to harness market-based activities ... to social and environmental ends’ or a preference for solutions based on financial transactions that may ignore or even reinforce injustices. Other questions, however, relating to ecosystem services from an international legal perspective have not yet been tackled in the literature – namely whether and to what extent ecosystem services contribute to an evolutive interpretation of human well-being as the objective of international economic and social cooperation under the UN Charter, of permanent sovereignty over natural resources, and of the human right to a decent standard of living. These inter-linked notions will be relied upon in conceptualizing benefit sharing in the following sections.

2 Premises

Short of a legal history of benefit sharing, it is proposed, following Neil Walker’s reflection on global law, to conceptualize benefit sharing by identifying ‘heavily overlapping, mutually connected and openly extended’ patterns of normative development through a selective reading of the sources of international law, their areas of impact, and their perceived limits. This approach appears particularly fitting since iterative, reflexive, and decentralized approaches are increasingly relied upon in the further development and implementation of international law. The present conceptualization, therefore, attempts to gauge incipient trends and articulate future projections, as part of an iterative process of mapping, scanning, schematizing, and (re)framing legal phenomena related to benefit sharing, with a view to understanding the ‘capacity of law, drawing upon deep historical resources, to recast the ways in which it addresses


[63] Martin et al., supra note 29, at 84.


[67] Universal Declaration of Human Rights, supra note 10, Art. 25(1).


[69] Ibid., at 108.

[70] Ibid., at 25–26, 112, 143.
some of the problems of an interconnected world.\textsuperscript{71} As with other enquiries into global law, therefore, the conceptualization of benefit sharing finds itself ‘somewhere between settled doctrine and an aspirational approach’.\textsuperscript{72} In this effort, it is further proposed to draw on the multi-disciplinary literature on norm diffusion in order to understand how benefit sharing has become embedded in various contexts, while developing an awareness of the role of power and politics in this connection and of the possible bias in this type of research, such as the assumption that norms that diffuse are desirable or innovative.\textsuperscript{73}

In addition to taking a global law approach, the other premise of this article is that even if earlier references to benefit sharing can be found in international human rights instruments and in the law of the sea, conceptualizing benefit sharing today should take international biodiversity law as a reference point. The reasons for this stance is that the CBD has contributed to the significant normative development of benefit sharing, gradually building consensus\textsuperscript{74} among 196 parties on both its inter- and intra-state dimensions across different triggering activities (bioprospecting, the use of knowledge, and natural resource management).\textsuperscript{75} International human rights law and the law of the sea, in comparison, have focused mainly on intra-state and inter-state benefit sharing respectively and on a narrower range of triggers, which may explain the occasional, explicit reliance by international human rights bodies on the normative development of benefit sharing under the CBD\textsuperscript{76} and on similar proposals in the context of the further development of the law of the sea.\textsuperscript{77}

In this connection, the worth of the CBD to provide relevant and applicable norms for the interpretation of other international treaties through systemic integration is often underestimated.\textsuperscript{78} The CBD’s membership is virtually global, and its subject matter is remarkably wide: it covers the variability of life on earth,\textsuperscript{79} all human activities that may affect biodiversity conservation as a common concern of humankind,\textsuperscript{80} and

\begin{thebibliography}{9}
  \bibitem{71} Ibid., at 110.
  \bibitem{72} Ibid., at 18, 21.
  \bibitem{73} Parks and Morgera, supra note 26, at 365.
  \bibitem{74} On the law-making power of consensus, see A. Boyle and C. Chinkin, \textit{The Making of International Law} (2007), at 260.
  \bibitem{75} The whole international community is party to the CBD, with the notable exception of the USA.
  \bibitem{77} Co-Chairs’ Summary of Discussions at the Working Group on Marine Biodiversity in Areas beyond National Jurisdiction, UN Doc. A/69/177 (2014), para. 54.
  \bibitem{78} Vienna Convention on the Law of Treaties (VCLT) 1969, 1155 UNTS 331, Art. 31(3)(c).
  \bibitem{79} See the definition of biological diversity under CBD, supra note 1, Art. 2.
  \bibitem{80} Ibid., preambular para. 3.
\end{thebibliography}
arguably even non-living resources that form part of ecosystems.81 Admittedly, however, the open-ended and heavily qualified rules contained in the CBD may not, in and of themselves, provide sufficient guidance to the interpreter. One needs to rely on the decisions of the CBD Conference of the Parties (COP)82 as subsequent practice establishing agreement on the interpretation83 of relevant CBD rules on benefit sharing.84 Notwithstanding the continued reluctance to use explicit human rights language,85 this normative activity has contributed to clarify the implications of the CBD obligations for the protection of the human rights of indigenous peoples in the context of the technicalities of environmental decision making and management processes.86 That said, relevant interpretative guidance is dispersed in a myriad of CBD decisions and has not been subject to any significant monitoring or compliance process, which explains why the status and broad implications of relevant and applicable CBD rules on benefit sharing have not been appreciated.87

3 The Concept

The following sections will identify the shared normative elements of benefit sharing in international law by focusing, in turn, on the act of sharing, the nature of the benefits to be shared, the activities from which benefit sharing arise, the beneficiaries, and the teleological connection with equity. The conceptualization will start from an analysis of the references to benefit sharing in treaty law: the UN Convention on the Law of the Sea (UNCLOS), the International Labour Organization’s (ILO) Convention No. 169 Concerning Indigenous and Tribal Peoples, the CBD and its Nagoya Protocol, and the ITPGRFA.88 It will explore textual variations and identify evidence of convergence in their interpretation. The discussion will also point to other areas of international law where benefit sharing is emerging and engage with the limitations to the proposed concept with a view to informing future research. The conceptualization will distinguish between inter-state and intra-state benefit sharing with regard to specific regimes, while attempting to identify a common normative core of benefit sharing that can apply to both as well as to transnational dimensions of the concept.

81 See the definition of ecosystems under ibid., Art. 2.
83 VCLT, supra note 78, Art. 31(3)(b); First and Second Report on Subsequent Agreements and Subsequent Practice in Relation to Treaty Interpretation, UN Doc. A/Cn.4/660 (2013) and UN Doc. A/CN.4/671 (2014).
84 Morgera and Tsioumani, supra note 21.
86 See note 76 in this article.
88 UNCLOS, supra note 6; ILO Convention no. 169, supra note 14.
A Sharing

The verb ‘to share’ distinguishes international agreements that encapsulate benefit sharing as a specific legal notion from hortatory references to the benefits arising from international cooperation more generally. Although the ILO Convention No. 169 does not use the verb ‘to share’ (rather the verb ‘to participate in’), successive interpretations of the Convention have repeatedly used a benefit-sharing terminology. In fact, the Inter-American Court of Human Rights and former UN Special Rapporteur on Indigenous Peoples’ Rights James Anaya have emphasized that ‘benefit sharing’, as encapsulated in the ILO Convention, refers to an inherent component of indigenous peoples’ rights to land and natural resources that is implicit in the American Convention on Human Rights and the UN Declaration on the Rights of Indigenous Peoples.

In all events, it has been argued that ‘to share’ and ‘to participate’ in the benefits convey the same idea of agency, rather than of the passive enjoyment of benefits. The ways in which the action of ‘sharing’ is spelled out in the relevant international materials discussed below, in effect, points to a concerted effort in identifying and apportioning benefits through a dialogic process. In other words, benefit sharing differs from the unidirectional (top-down) flows of benefits and, rather, aims at developing a common understanding of what the benefits at stake are and how they should be shared. In this connection, it has been argued that benefit sharing is geared towards consensus building. It entails an iterative process, rather than a one-off exercise, of good-faith engagement among different actors that lays the foundation for a partnership among them. In the inter-state context, this arguably refers to the idea of a global partnership enshrined in the Rio Declaration on Environment and Development, in terms of both a ‘new level of cooperation’ between developed and developing states and a form of cosmopolitan cooperation, which includes (controversial)

89 E.g., Observation of the Committee of Experts on the Application of Conventions (2009), reprinted in 99th ILC Session (2010), para. 11.
90 Saramaka, supra note 2, para. 138.
93 Mancisidor, supra note 36.
96 Rio Declaration on Environment and Development 1972, 11 ILM 1416 (1972), preamble and principles 7 and 27.
98 Dupuy, supra note 97, at 72; Francioni ‘The Preamble of the Rio Declaration’, in Viñuales, supra note 97, 85, at 89.
public-private partnerships as well as other cooperative relations between states and civil society that are inspired by a vision of public trusteeship.\textsuperscript{99} With regard to the intra-state dimension of benefit sharing, the term ‘partnership’ specifically refers to an approach to accommodate state sovereignty over natural sovereignty and indigenous peoples’ self-determination.\textsuperscript{100}

The verb ‘sharing’ also implies that not every actor may play an active part in a certain activity that triggers benefit sharing but, rather, that everyone should participate in some of the benefits derived from it.\textsuperscript{101} This is probably the least studied aspect of the treaties that include benefit sharing. Beyond a mere logic of exchange, benefit sharing serves to recognize, reward, promote, and renew/strengthen the conditions for the production of global benefits (such as scientific advancements for global food security and global health or ecosystem services) that derive from specific activities that trigger benefit sharing among specific parties. As discussed below, however, international rules on benefit sharing have mostly developed with regard to the sharing of benefits among those directly participating in the triggering activity and often enshrine the underlying production of global benefits in the treaty’s objective.\textsuperscript{102} with the intention of providing a yardstick to scrutinize the suitability of implementing measures in sharing benefits beyond the specific parties involved in a triggering activity. Occasionally, specific obligations concern the sharing of global benefits deriving from specific triggering activities, in which case vulnerable beneficiaries tend to be privileged. For instance, the ITPGRFA foresees that benefits deriving from the use of plant genetic resources for food and agriculture flow directly and indirectly to farmers in all countries, particularly in developing countries, irrespective of whether they have contributed relevant genetic material to the multilateral system of access and benefit sharing, according to internationally agreed eligibility and selection criteria.\textsuperscript{103} In other regimes, however, these obligations remain much more indeterminate.\textsuperscript{104}

\section{Inter-State Benefit Sharing}

In the inter-state dimension, there appear to be two fundamental ways to share benefits among states – multilateral and bilateral – with the latter being a residual solution and the former being confined to specialized ambits of application. The multilateral sharing of benefits, which has been resorted to in the context of natural resource use within the common heritage regime and in specialized areas of bioprospecting, occurs through multilateral decision making within an international organization

\begin{footnotesize}
\textsuperscript{99} Sand, ‘Cooperation in a Spirit of Global Partnership’, in Viñuales, supra note 97, 617, who refers as a concrete example to the ITPGRFA.
\textsuperscript{101} Schabas, supra note 36, at 276, referring to the \textit{travaux preparatoirs} of Art. 27(1) of the Universal Declaration on Human Rights, supra note 10.
\textsuperscript{102} CBD, supra note 1, Art. 1; ITPRGFA, supra note 1, Art. 1; Nagoya Protocol, supra note 1, Art. 1.
\textsuperscript{103} ITPGRFA, supra note 1, Art. 13(3) and Annexes 1–3 to the Funding Strategy in 2007; EAO, Report of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (2007).
\textsuperscript{104} Nagoya Protocol, supra note 1, Art. 8(b).
\end{footnotesize}
leading to the determination of standard contractual clauses. Under the law of the sea, benefits from the minerals in the deep seabed have been shared in this way,\textsuperscript{105} and the development of precise rules and procedures has been left to the International Seabed Authority (ISA).\textsuperscript{106} Due to the fact that activities in the deep seabed have not yet reached the stage of exploitation of resources, however, the ISA has not yet elaborated on revenue sharing, but has already put in place non-monetary benefit-sharing rules.\textsuperscript{107} Under the ITPGRFA, a standard material transfer agreement has been agreed upon, with two mandatory monetary benefit-sharing options for the commercial use of a specified list of plant genetic resources for food and agriculture (such as rice, potatoes, and maize).\textsuperscript{108} In these cases, the applicable multilateral decision-making rules determine how state parties arrive through dialogue at a concerted determination of the sharing modalities.\textsuperscript{109}

Compared with the circumscribed areas of deep seabed minerals and plant genetic resources for food and agriculture, the bilateral sharing of benefits\textsuperscript{110} is envisaged under the CBD\textsuperscript{111} and its Nagoya Protocol\textsuperscript{112} as a residual regime with regard to trans-boundary bioprospecting.\textsuperscript{113} In this case, benefit sharing is operationalized through ad hoc contractual negotiations (‘mutually agreed terms’), instead of standard contractual terms decided by an international decision-making body.\textsuperscript{114} Thus, treaties incorporating a bilateral approach leave national rules to govern the contracts. These treaties have so far not provided specific substantive criteria in this regard\textsuperscript{115} or created an international mechanism specifically aimed to oversee how benefits are shared in particular cases.\textsuperscript{116} While contractual negotiations may in principle also be seen as being a consensus-building, dialogic way to share benefits, leaving partnership

\textsuperscript{105} UNCLOS, supra note 6, Arts 136–141.

\textsuperscript{106} Ibid., Art. 160(2)(f)(i), (g).


\textsuperscript{109} But also in the World Health Organization (WHO), Pandemic Influenza Preparedness Framework for the Sharing of Influenza Viruses and Access to Vaccines and Other Benefits, WHO Doc. WHA64.5, 24 May 2011.

\textsuperscript{110} Although note the possibility for a multilateral benefit-sharing mechanism to be established under the Nagoya Protocol, supra note 1, Art. 10; Morgera, Tsioumani and Buck, supra note 17, at 197–208.


\textsuperscript{112} Nagoya Protocol, supra note 1, Art. 5.

\textsuperscript{113} Morgera, Tsioumani and Buck, supra note 17, at 85.

\textsuperscript{114} As is explicitly foreseen in CBD, supra note 1, Art. 15(7), last sentence, and the last sentence of Nagoya Protocol, supra note 1, Art. 5(1), where reference is made to ‘mutually agreed terms’.


\textsuperscript{116} Morgera, Tsioumani and Buck, supra note 17, at 282.
building to contractual freedom raises concerns in the face of the well-documented, unequal bargaining powers at stake. In partial recognition of this challenge in the bilateral context, the gradual development of international guidance (likely of a soft-law nature) on the terms of sharing is foreseen, in dialogue with non-state actors, but to a lesser extent than in treaties supporting multilateral benefit sharing.

2 Intra-State Benefit Sharing

With the exception of the Nagoya Protocol, which refers to mutually agreed terms, international treaties on intra-state benefit sharing do not spell out in any comparable way to inter-state benefit sharing described above, how sharing is to be undertaken. This may be explained by the fact that appropriate benefit-sharing systems have to be established 'on a case by case basis, taking into account the circumstances of the particular situation of the indigenous peoples concerned' and 'can take a variety of forms'. In the context of both biodiversity and human rights, a (domestic) public law approach could be used to share benefits, through direct payments or through the establishment of trust funds by the government, as well as the legal recognition of communities' customary practices, participatory planning, and/or shared or delegated natural resource management. In addition, benefits can be shared through practical cooperation and support from the government to communities, by sharing scientific information, building capacity, facilitating market access, and providing assistance in diversifying management capacities. When the private sector is involved, however, a private law contractual approach seems needed for setting up joint ventures and licences with preferential conditions with communities, although it cannot be denied that governments could decide to set standard contracts in this regard.

Since all of these sharing modalities could be put in place in a top-down fashion with disruptive or divisive effects on beneficiary communities, both international

117 Ibid., at 7.
118 Nagoya Protocol, supra note 1, Art. 30 and Decision NP-1/4 (2012); as well as Arts 19(2), 20(2).
119 Ibid., Arts 5(2), 5(5). Contrast with CBD, supra note 1, Art. 8(j); ILO Convention no. 169, supra note 14, Art. 15(2).
124 Akwé: Kon Guidelines, supra note 76, para. 40.
125 CBD, Guidelines on Biodiversity and Tourism, supra note 5, para. 23; Addis Ababa Principles and Guidelines, supra note 123, operational guidelines to principle 12.
126 IACHR, Kichwa Indigenous Community of Sarayaku v. Ecuador, Judgment (Merits and Reparations), 27 June 2012, para. 194; Endorois, supra note 8, para. 274; CBD, Guidelines on Biodiversity and Tourism, supra note 5, para. II(27); PRAI, supra note 22, Principle 12.
human rights and biodiversity instruments point to the need for the sharing of benefits to be culturally appropriate and endogenously identified. In other words, even if treaty law leaves significant leeway to states in determining appropriate forms of sharing benefits with communities, culturally appropriate sharing would be difficult to ensure in the absence of a good faith, consensus-building process with communities. Similarly, international developments on ‘business responsibility to respect human rights’ have clarified that benefit sharing, as part of the due diligence of companies operating extractive projects in or near indigenous lands, entails good faith consultations with communities with a view to agreeing on benefit-sharing modalities that make them partners in project decision making, not only giving them a share in the profits (for instance, through a minority ownership interest).

**B Benefits**

International treaties containing benefit-sharing obligations define the nature of the benefits to be shared to various degrees. The Nagoya Protocol is the only instrument that provides a detailed (non-exhaustive) list of benefits that may apply to both intra-state and inter-state benefit sharing. More generally, applicable specifications with respect to the benefits of intra-state benefit sharing can then be found in soft law documents and case law. In all of these cases, a menu of benefits to be shared is offered, the nature of which is invariably both economic and non-economic, which arguably allows states to take into account, through the concerted, dialogic process of sharing, the beneficiaries’ needs, values, and priorities, and possibly their ‘different understandings of justice,’ with a view to selecting the combination of benefits that lays the foundation for partnership. While the nature of the benefits is mostly defined with regard to the parties to the triggering activity, several immediate benefits shared among them are meant to preserve, restore, or enhance the conditions under which underlying global benefits (such as ecosystem services) are produced. The benefits to be shared are thus seen as contributions to human well-being. That said, the interplay and tensions between economic and non-economic benefits, as well as between their immediate and global relevance, remain unclear and contentious.

127 Saramaka, supra note 76, paras 25-2; CBD, Refinement and Elaboration of the Ecosystem Approach, Decision VII/11 (2004), annex, paras 1(8), 2(1); CBD, Tkarihwaëri Code of Ethical Conduct on Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities, Decision X/42 (2010), annex, para. 14.


1 Inter-State Benefit Sharing

In the case of the law of the sea, the nature of the benefits has become clear with practice. While the ISA is still working out how to share monetary benefits from mining in the Area, as expressly provided for by UNCLOS,\textsuperscript{132} it has already regulated the sharing of non-monetary benefits such as training, capacity building, scientific information, and cooperation,\textsuperscript{133} which is implicit in the common heritage concept.\textsuperscript{134} In addition, the ISA has created an endowment fund for marine scientific research in the Area,\textsuperscript{135} which was initially filled with the balance of the application fees paid by pioneer investors and is currently dependent on donations.\textsuperscript{136} Thus, the possibility of choosing among monetary and non-monetary benefits has the advantage of allowing the distribution of more immediately available (generally non-monetary) benefits while the monetary benefits are being accrued (although the challenge of obtaining stable financing, generally through voluntary contributions, for sharing non-monetary benefits may still be a significant issue). Non-monetary benefits are also aimed at increasing the capabilities of countries that are not able to directly participate in the triggering activity.

Along similar lines, under the ITPGRFA, a benefit-sharing fund is at present filled with donations in order to contribute to capacity building and technology transfer,\textsuperscript{137} since monetary benefits have been defined (as a percentage of the gross sales of the commercialization of products) but not yet materialized.\textsuperscript{138} The challenges in accruing monetary benefits under the ITPGRFA – the most sophisticated international benefit-sharing mechanism to date – cast a shadow over the feasibility of monetary benefit sharing under other, less sophisticated regimes such as the Nagoya Protocol (which identifies monetary benefits as profits in the form of access fees, up-front or milestone payments, royalties, or license fees).\textsuperscript{139}

Other significant benefits have also been identified by the CBD as participation in biotechnological research and in the results of biotechnological research.\textsuperscript{140} These benefits were expanded upon in the Nagoya Protocol to include participation in product development and admittance to ex situ facilities and databases,\textsuperscript{141} joint ventures

\textsuperscript{132} UNCLOS, supra note 6, Art. 140.
\textsuperscript{134} ISA Assembly, Resolution Establishing an Endowment Fund for Marine Scientific Research in the Area, Doc. ISBA/12/A/11 (2006).
\textsuperscript{137} Nagoya Protocol, supra note 1, Annex. 1(a–e).
\textsuperscript{138} CBD, supra note 1, Arts 1, 15(5), 16, 19.
\textsuperscript{139} Nagoya Protocol, supra note 1, Annex, 2(a–c), (e).
with foreign researchers, and joint ownership of relevant intellectual property rights
(IPRs).

While questions related to IPRs remain controversial and well studied, the trade-offs between different forms of non-monetary benefits have not been fully analysed. On the one hand, non-monetary benefits such as technology transfer and capacity building can be essential to enhance the ability of beneficiaries to share in monetary benefits in the long term. On the other hand, they may create dependency on external, ready-made solutions that may not fit particular circumstances or that may allow for the exertion of undue influence by donor countries.

In addition, as will be discussed in the next section, there has not been sufficient legal analysis to distinguish capacity building and technology transfer under benefit-sharing regimes from general obligations in this regard in other international environmental agreements. In other words, no legal investigation has ventured into the relationship between benefit sharing and the principle of common but differentiated responsibility that underlies financial and technological solidarity obligations.

In addition, the conceptual relation between benefits and access to natural resources or knowledge is unclear. Under the ITPGRF, access to plant genetic resources for food and agriculture through a multilateral system is considered a benefit in itself since the exchange of these resources is indispensable for the continuation of agricultural research and food security. Access to genetic resources in other countries, through bilateral channels, could arguably also be seen as a benefit in the context of the CBD, although the CBD parties have emphasized that access is a pre-condition for sharing benefits. The latter interpretation underlies a logic of exchange that may prevail in concrete (multilateral or bilateral) negotiations to the detriment of the multifaceted equity rationale of benefit sharing.

2 Intra-State Benefit Sharing

The types of benefits to be shared at the intra-state level have been specified mostly in international environmental law (in the ITPGRF and the Nagoya Protocol, with specific regard to genetic resources and traditional knowledge, and in CBD COP decisions with regard to natural resource management). A menu of monetary and non-monetary benefits have been referred to, albeit with a different emphasis under international biodiversity law and international human rights law: as a reward for ecosystem

142 Ibid., Annex, 1(i), (j).
143 And for this very reason, the question was eventually set aside in the negotiations of the Nagoya Protocol. See discussion by Pavoni, ‘The Nagoya Protocol and WTO Law’, in Morgera, Buck and Tsioumani, supra note 31, 185, at 200–205.
144 E.g., Nagoya Protocol, supra note 1, preambular recitals 5, 7, 14.
145 Morgera, Tsioumani and Buck, supra note 17, at 313, 331.
147 ITPGRFA, supra note 1, Art. 13.
148 Morgera, Tsioumani and Buck, supra note 17, at 49–52.
stewardship under the former and as compensation under the latter. In either case, non-monetary benefits have been less prominent, although empirical evidence suggests that they may exceed the importance of monetary benefits for communities’ well-being.\footnote{Wynberg and Hauck, ‘People, Power and the Coast: Towards an Integrated, Just and Holistic Approach’, in R. Wynberg and M. Hauck (eds), Sharing Benefits from the Coast: Rights, Resources and Livelihoods (2014) 143, at 158.}

In the context of the use of genetic resources, traditional knowledge, and natural resources under international biodiversity law, monetary and non-monetary benefits appear to amount to a reward for traditional knowledge holders and ecosystem stewards for their positive contribution to humanity’s well-being through the ecosystem services they provide, maintain, or restore, and from the scientific advances and innovation that build on their traditional knowledge. For these reasons, the nature of the benefits is linked to the aim of allowing these communities to continue to provide global benefits by preserving and protecting the communal way of life that has developed and maintaining their traditional knowledge and ecosystem stewardship.\footnote{CBD Secretariat, supra note 122, para. 23.}

Non-monetary benefits to be shared to this end comprise the legal recognition of community-based natural resource management\footnote{CBD, Expanded Work Programme on Forest Biodiversity, supra note 123, para. 31; CBD, Work Programme on Protected Areas, supra note 76, paras 2(1)(3)–2(1)(5).} and the incorporation of traditional knowledge in environmental impact assessments\footnote{Akwé: Kon Guidelines, supra note 76, para. 56.} and in natural resource management planning,\footnote{Addis Ababa Principles and Guidelines, supra note 123, operational guidelines to Principle 4; CBD, Expanded Work Programme on Forest Biodiversity, supra note 123, para. 33; Agenda 21, supra note 111, para. 15(4)(g); Johannesburg Plan of Implementation, UN Doc. A/CONF.199/20 (2002), para. 44(j).} which can be seen as ways for beneficiaries to be formally recognized as partners in resource management.

Another key benefit that is specific to the agricultural sector is the continuation of traditional uses and the exchanges of seeds,\footnote{Nagoya Protocol, supra note 1, Art. 12(4); ITFGFRA, supra note 1, Art. 9(3).} which are considered essential for farmers to continue to contribute significantly to global food security.\footnote{See discussion in Tsioumani, supra note 137, at 36–37.} Furthermore, non-monetary benefits have been identified as different forms of support to enable communities to navigate increasingly complex and ever-changing technical, policy, and legal landscapes (from the global to the local level) that affect their traditional way of life, including scientific and technical information and know-how, direct investment opportunities, facilitated access to markets, and support for the diversification of income-generating opportunities for small- and medium-sized businesses.\footnote{Ibid., paras 40, 46; Addis Ababa Principles and Guidelines, supra note 123, rationale to Principle 4; CBD, Guidelines on Biodiversity and Tourism, supra note 5, paras 22–23, 43; CBD, Bonn Guidelines, supra note 1, para. 50.} Monetary benefits, in turn, include a share of profits deriving from commercial products or products generated through conservation and sustainable use activities (park entrance fees, for instance), job creation, and payments for ecosystem services.\footnote{Akwé: Kon Voluntary Guidelines, supra note 76, para. 46.} Risks attached to different forms

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  \item \footnote{Wynberg and Hauck, ‘People, Power and the Coast: Towards an Integrated, Just and Holistic Approach’, in R. Wynberg and M. Hauck (eds), Sharing Benefits from the Coast: Rights, Resources and Livelihoods (2014) 143, at 158.}
  \item \footnote{CBD Secretariat, supra note 122, para. 23.}
  \item \footnote{CBD, Expanded Work Programme on Forest Biodiversity, supra note 123, para. 31; CBD, Work Programme on Protected Areas, supra note 76, paras 2(1)(3)–2(1)(5).}
  \item \footnote{Akwé: Kon Guidelines, supra note 76, para. 56.}
  \item \footnote{Addis Ababa Principles and Guidelines, supra note 123, operational guidelines to Principle 4; CBD, Expanded Work Programme on Forest Biodiversity, supra note 123, para. 33; Agenda 21, supra note 111, para. 15(4)(g); Johannesburg Plan of Implementation, UN Doc. A/CONF.199/20 (2002), para. 44(j).}
  \item \footnote{Nagoya Protocol, supra note 1, Art. 12(4); ITFGFRA, supra note 1, Art. 9(3).}
  \item \footnote{See discussion in Tsioumani, supra note 137, at 36–37.}
  \item \footnote{Ibid., paras 40, 46; Addis Ababa Principles and Guidelines, supra note 123, rationale to Principle 4; CBD, Guidelines on Biodiversity and Tourism, supra note 5, paras 22–23, 43; CBD, Bonn Guidelines, supra note 1, para. 50.}
  \item \footnote{Akwé: Kon Voluntary Guidelines, supra note 76, para. 46.}
\end{itemize}
of benefits to be shared, however, have not been fully or systematically analysed. For instance, community-based management of natural resources within protected areas may impose a very high burden on communities to ensure the respect of environmental and animal and plant health regulations in the face of global crises such as elephant and rhino poaching. Communities may also be subject to concessions with short and insecure tenure and relatively high payments. More generally, little attention has so far been paid to the costs and losses for communities that may be associated with certain benefits.\(^{159}\)

In regional human rights case law, benefit sharing has been portrayed as a form of compensation with an emphasis on monetary benefits.\(^{160}\) Under ILO Convention No. 169, reference has been made to sharing the profits from oil-producing activities.\(^{161}\) Along similar lines, the African Commission has called for profit sharing from the creation of a game reserve and employment opportunities.\(^{162}\) In this connection, former UN Special Rapporteur James Anaya tried to distinguish benefit sharing and compensation, while recognizing their connection,\(^{163}\) as the former aims to make up for broader, historical inequities that have determined the situation in which the specific material and immaterial damage (including environmental damage affecting indigenous peoples’ subsistence and spiritual connection with their territory\(^{164}\)) has arisen.\(^{165}\) In addition, it can also be deduced from Anaya’s more general reflection on benefit sharing that, as opposed to compensation that is expected to make up for lost control over resources and income-generation opportunities, benefits combine new opportunities of income generation and continued, or possibly enhanced, control over the use of the lands and resources affected by the development.\(^{166}\)

While these dividing lines can be quite blurred in practice, however, the nature of benefit sharing as part of a general and permanent obligation to protect the right to property over natural resources of indigenous peoples, which is independent of any violation of their rights, appears as the more fundamental difference from compensation.\(^{167}\)

\(^{159}\) Wynberg and Hauck, \textit{supra} note 150, at 158.

\(^{160}\) Saramaka, \textit{supra} note 2, paras 138–140; Endorois, \textit{supra} note 8, paras 298–299, 295.

\(^{161}\) ILO, Report of the Committee Set Up to Examine the Representation Alleging Non-Observance by Ecuador of ILO Convention No. 169, Doc. GB.282/14/4 (2001), para. 44(3).

\(^{162}\) Endorois, \textit{supra} note 8, para. 228 and recommendations.

\(^{163}\) Indigenous Peoples’ Rights Report, \textit{supra} note 22, paras 67, 89, 91; Rapporteur on Indigenous Peoples’ Rights, \textit{supra} note 15, para. 76.


\(^{167}\) This argument builds upon the distinction proposed by the IACtHR with regard to community development funds as compensation for material and immaterial damage, being ‘additional to any other benefit present and future that communities are owed in relation to the general obligations of development of the State’. IACtHR, \textit{Case of the Community Garífuna Triunfo de la Cruz and Its Members v. Honduras}, Judgment (Merits, Reparations and Costs), 8 October 2015, para. 295; IACtHR, \textit{Case of Garífuna Punta Piedra Community and Its Members v. Honduras}, Judgment (Preliminary Objections, Merits, Reparations and Costs), 8 October 2015, para. 332; IACtHR, \textit{Case of the Kaliña and Lokono Peoples v. Suriname}, Judgment (Merits, Reparations and Costs), 25 November 2015, para. 295.
In both international biodiversity law and international human rights law, therefore, certain forms of benefits to be shared may serve to empower and share authority with communities on environmental protection, natural resource management, and development.\textsuperscript{168} Empirical evidence, however, has shown that genuine shifts of rights and authority over natural resources to communities through benefit sharing have not occurred.\textsuperscript{169} In addition, concerns have been raised that benefit sharing could be misused to ‘renegotiate’ communities’ human rights or put a price tag on them.\textsuperscript{170} In effect, the legal and other guarantees that are necessary to prevent or minimize these risks have not yet been analysed. In principle, benefit sharing is expected to operate as an add-on (a safeguard) to relevant human rights, but there is little guidance other than engaging in good faith, consensus-based negotiations with communities.\textsuperscript{171} More study is needed on the interactions between benefit-sharing and procedural rights (access to information, decision making, and justice)\textsuperscript{172} and legal empowerment approaches.\textsuperscript{173} In addition, considering the reality of many (developed and developing) countries where natural resource-related rights are not settled, recognized, or documented, it remains to be ascertained whether, and under which conditions, benefit sharing may act as a pragmatic process to gradually create the infrastructure necessary for the full recognition, documentation, and protection of human rights.

\textbf{C Triggers}

As anticipated, the activities that trigger benefit-sharing obligations are bioprospecting, certain natural resource use and environmental protection measures, and the production of knowledge. With regard to inter-state benefit sharing, obligations were originally attached to the use of natural resources under the common heritage regime, which – together with most developed benefit-sharing mechanisms now related to bioprospecting – are the most well-studied cases. However, there seems to be an ongoing and under-studied expansion of international regimes that may embody inter-state benefit sharing, by way of interpretation, in relation to other natural resources that are subject to different international limitations to the rights of states (shared natural resources or the common concern of mankind).\textsuperscript{174} With regard to intra-state benefit sharing, benefit-sharing obligations have been triggered by almost any use of natural

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\textsuperscript{168} Empowerment was linked to benefit sharing in the \textit{Endorois} decision, supra note 8, para. 283. Benefit sharing is considered ‘effectively expand[ing] on the principle of effective participation’, by Pentassuglia, ‘Towards a Jurisprudential Articulation of Indigenous Land Rights’, 22 \textit{EJIL} (2011) 165, at 176.


\textsuperscript{170} The concern has been raised by Orellana, supra note 164, at 847.

\textsuperscript{171} See note 15 in this article.


\textsuperscript{173} This is particularly the case of the ‘community protocols’ for which an international obligation to support has been included in the Nagoya Protocol, supra note 1, Art. 12(3)(a).

\textsuperscript{174} Birnie, Boyle and Redgwell, supra note 51, at 190ff.
\end{flushright}
resources or any environmental protection measure that may negatively impact on the international human rights of indigenous peoples and local communities, both under international biodiversity and human rights law, with little attention paid so far to the possible cross-fertilization between the two. Finally, with regard to the production of knowledge, this not only has been pre-eminently the traditional knowledge of indigenous peoples and local communities but also extends to other forms of knowledge in the context of the human right to science.

1 Inter-State Benefit Sharing

Originally, inter-state benefit sharing was part of the common heritage regime. Thus, it was associated with natural resources that cannot be appropriated to the exclusive sovereignty of states, that must be conserved and exploited for the benefit of mankind, without discrimination and for peaceful purposes, and that are subject to international management. While several commentators saw benefit sharing from minerals in the Area as the most controversial element of common heritage, and, as such, responsible for the very cautious use of this principle in international law, the uptake of benefit sharing as a self-standing approach in the international regime on bioprospecting has proven that the concept is capable of adapting to the legal specificities of genetic resources under the sovereignty of third countries (under the Nagoya Protocol) or being held in trust by an international network of collections (under the ITPGRFA). Benefit sharing has now come full circle. Its normative development under the ITPGRFA and the Nagoya Protocol is likely to influence the further development of the law of the sea with regard to living resources in areas beyond national jurisdiction.

More recently, benefit sharing has surfaced in other areas of international environmental law through interpretation. This is the case of regimes applying to shared natural resources and to environmental matters of common concern to mankind. With regard to the former, benefit sharing in the international law on transboundary watercourses has been seen as an extension of the general principle of equitable and reasonable utilization, challenging inter-state cooperation as it has traditionally

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176 In effect, UNCLOS already included other articulations of benefit sharing related to resources outside of the common heritage regime. UNCLOS, supra note 6, Art. 82(1), (4). It has also been argued that benefit sharing is foreseen in the regulation of marine scientific research under UNCLOS: see generally Salpin, ‘The Law of the Sea: A Before and an After Nagoya?’ in Morgera, Buck, and Tsioumani, supra note 31, 149.

177 In the context of the negotiating process launched by GA Res. 69/292, 6 July 2015, on the development of an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction. See note 77 in this article.

focused on purely quantitative allocations of water. Accordingly, benefit sharing has led to a consideration of more sophisticated forms of inter-state cooperation that factor in non-water-related benefits (economic, socio-cultural, and broader environmental benefits) arising from the enhanced stewardship of a shared watercourse, which would normally be undertaken by an upstream state. Water lawyers and practitioners are increasingly looking into this development, but they have not fully investigated cross-fertilization with international biodiversity law in this regard. Interactions between inter-state and intra-state benefit sharing remain to be explored in consideration of the role of communities in the conservation of inland water ecosystems and related traditional knowledge, and so do possible synergies and tensions with the human right to water.

In addition, an argument appears to be put forward that inter-state benefit sharing is relevant in the context of those international environmental regimes whose object is characterized as a common concern of mankind and that routinely include financial assistance and technology transfer obligations. This interpretation emerges from international human rights processes such as the ongoing international effort to define a ‘human right to international solidarity’ and the long-standing efforts to clarify the controversial right to development. It is also the case of recent efforts to conceptually clarify the human right to science with regard to technology transfer. Leaving aside the debate on the value of solidarity rights, these efforts express a discontent about the current level of cooperation under international environmental law, particularly the international climate change regime, and arguably make recourse to benefit sharing to bring about a partnership in implementing financial and technological solidarity obligations. However, there is no explicit reference to intra-state benefit sharing in the international climate regime and little practice in international biodiversity law in this regard. Thus, it remains to be clarified whether relying on the concept of

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186 E.g., CBD, Technology Transfer Work Programme, Decision VII/29 (2004), paras 3.2.8, 3.2.9.
benefit sharing through a human rights lens may be useful as an analytic tool, if not an obligation, for deepening the understanding of the content of, and consequences of non-compliance with, the international provisions on finance, technology, and capacity building or even to inject a different dynamic in ongoing negotiations such as those on climate change.  

2 Intra-State Benefit Sharing

The activities that trigger intra-state benefit sharing are the exploitation of natural resources or the creation of environmental protection measures in, or affecting, the lands of indigenous peoples and local communities and the use of their traditional knowledge. The rationale, however, differs in international biodiversity law (ecosystem stewardship) and international human rights law (human rights to property and culture), which can be explained in light of the different objectives and scope of these areas of international law.

Under the CBD, it is through interpretation in relation to the ecosystems approach that benefit sharing has been developed as an incentive for the good management practices of indigenous and local communities as well as of other stakeholders who are responsible for the production and sustainable management of ecosystem functions. This has provided the conceptual departure point for developing soft law guidance on intra-state benefit sharing both with regard to natural resource use and with regard to conservation measures (protected areas and climate change response measures).

It has also led to the development of a specific benefit-sharing obligation owed to communities as stewards of genetic resources ‘held by them’ under the Nagoya Protocol.

On the human rights side, regional case law has built on the ILO Convention No. 169 to clarify that benefit sharing is triggered by the exploitation of traditionally owned lands and natural resources necessary for the survival of indigenous and tribal peoples or by the establishment of environmental protection measures negatively affecting them. Other human rights processes have increasingly relied upon this interpretation.

Benefit sharing has been invoked in relation to indigenous peoples’ right to property

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190 E.g., Addis Ababa Principles and Guidelines, supra note 123, Annex II: Practical Principle 12.

191 CBD, Work Programme on Protected Areas, supra note 76, Annex, paras 2(1), 2(1)(4) (while the latter refers to both benefit sharing and cost sharing, the focus on benefit sharing is clarified in CBD, Decision IX/18 (2008), preamble para. 5.

192 This would be, e.g., the justification for CBD, REDD+, Decision XI/19 (2012).

193 Nagoya Protocol, supra note 1, Art. 5(2): Morgera, Tsioumani and Buck, supra note 17, at 117–126.

194 Saramaka, supra note 2: Endorois, supra note 8; Garifuna Triunfo de la Cruz, supra note 167; Garifuna Punta Piedra, supra note 167; Kaliña and Lokono, supra note 167.

and natural resources, culture and non-discrimination, and their right to development, as well as in the context of large-scale investments in farmland impacting on the right to food. Overall, however, limited attention has been paid specifically to benefit sharing in human rights policy and academic circles, possibly because it is seen as an ‘additional safeguard’ to the complex and still unsettled notion of free prior informed consent (FPIC). Therefore, much remains to be clarified about the interactions between benefit sharing and FPIC. On the one hand, benefit sharing may serve as a condition for the granting of FPIC, thereby contributing to culturally appropriate and effective consultations and affecting the scope of environmental and socio-cultural impact assessment. On the other hand, benefit sharing may represent the end result of an FPIC process, thereby providing concrete expression of the accord granted by indigenous peoples on the basis of their own understandings and preferences. It also remains to be determined whether benefit sharing could be required when FPIC is not. With regard to traditional knowledge, a qualified obligation to encourage intra-state benefit sharing in the CBD has been interpreted through a series of COP decisions to apply more broadly to communities’ customary sustainable use of biological resources across all of the Convention’s thematic areas of work. This interpretation has developed into a binding obligation under the Nagoya Protocol in relation to traditional knowledge that is more narrowly construed as being ‘associated with genetic resources’. While it has been acknowledged in a human rights context


196 UNPFII, supra note 165, para. 27; Saramaku, supra note 2, para. 138.
197 Rapporteur on Indigenous Peoples’ Rights, supra note 166, paras 50–52.
198 Endorois, supra note 8, paras 294–295.
200 Rapporteur on Indigenous Peoples’ Rights, supra note 15, para. 52 (emphasis added).
201 E.g., the lengthy monograph by E. Desmet, Indigenous Rights Entwined with Nature Conservation (2011) does not mention benefit sharing.
203 Rapporteur on Indigenous Peoples’ Rights, supra note 15, para. 43.
205 CBD, supra note 1, Art. 8(j). This understanding can also be found in other legal developments contemporary to the CBD, such as Agenda 21, supra note 111, paras 15(4)(g), 15(5)(e).
206 CBD, supra note 1, Art. 10(c).
208 Nagoya Protocol, supra note 1, Arts 5(5), 7. See discussion in Morgera, Tsoumian and Buck, supra note 17, at 126–130. See also benefit sharing from farmers’ traditional knowledge, a combined reading of the ITPRGF A, supra note 1, Arts 9(2)(a), 13(3), as discussed by Tsoumian, supra note 137.
that benefit sharing is also called for when the traditional knowledge of indigenous peoples is at stake.\textsuperscript{209} There has been no elaboration in this connection by human rights bodies.\textsuperscript{210} This gap has been recognized by CBD parties, who initiated a process to develop international guidelines on prior informed consent and on benefit sharing from the use of traditional knowledge in late 2014.\textsuperscript{211}

In addition, because of the political emphasis placed on bio-piracy as the unlawful use of traditional knowledge for commercial innovation purposes, little attention has been paid to benefit sharing from the non-commercial use of traditional knowledge, including pure research aimed at providing global benefits (such as advancing climate science).\textsuperscript{212} Although the CBD text itself does not distinguish between commercial and other utilization of traditional knowledge, other international legal materials expressly link benefit sharing to commercial use.\textsuperscript{213} The issue has been treated with extreme caution by the CBD COP through a voluntary ‘code of ethical conduct’, which is not intended to ‘interpret the obligations of the CBD’.\textsuperscript{214} A systematic reading of the Nagoya Protocol, however, would rather point to an obligation to share (arguably non-monetary) benefits arising from non-commercial research on traditional knowledge, including when the research is meant to contribute to the global goal of conserving biodiversity.\textsuperscript{215} The development of guidelines under the CBD may contribute to clarify the benefit-sharing obligations arising under the Convention and the Protocol with regard to different uses of traditional knowledge.\textsuperscript{216}

Finally, it should be noted that intra-state benefit-sharing requirements related to the use of natural resources and traditional knowledge have been increasingly reflected in the standards of international development banks.\textsuperscript{217} The requirements

\textsuperscript{209} UNPFII, \textit{supra} note 165, para. 27.
\textsuperscript{210} In comparison to the Nagoya Protocol, neither the ILO Convention No. 169, \textit{supra} note 1, or the UNDRIP, \textit{supra} note 92, link benefit sharing and traditional knowledge. Committee on Economic, Social and Cultural Rights (CESCR), General Comment No. 21, UN Doc. E/C.12/GC/21 (2009), para. 37, refers to prior informed consent but not to benefit sharing, with regard to traditional knowledge. See Morgera, Tsioumani and Buck, \textit{supra} note 17, at 127–130; Craig and Davies, ‘Ethical Relationship for Biodiversity Research and Benefit-sharing with Indigenous Peoples’, 2 \textit{Macquarine Journal of International and Comparative Environmental Law} (2005) 31.
\textsuperscript{211} CBD, Decision XII/12D (2014), preambular paras 2, 4.
\textsuperscript{212} Consider, e.g., Intergovernmental Panel on Climate Change, ‘Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change’ (2007), at 138, and 673; Paris Agreement, Decision 1/CP.21 (2016), Art. 7(5); UNESCO Declaration on Bioethics and Human Rights (2005), Art. 17.
\textsuperscript{214} CBD, Tkarihwaïé:ri Code, \textit{supra} note 127, paras 1, 14.
\textsuperscript{215} Nagoya Protocol, \textit{supra} note 1, Art. 8(a), read with Article 5 and Annex, and Articles 16–17. See Morgera, Tsioumani and Buck, \textit{supra} note 17, at 179–184.
\textsuperscript{216} CBD, Decision XII/12D, \textit{supra} note 211, refers to ‘use and applications’ of traditional knowledge. See discussion in Morgera, \textit{supra} note 36, at 821–825
of international climate initiatives\textsuperscript{218} and guidelines on land tenure and agricultural investment.\textsuperscript{219} A further conceptual aspect that remains to be teased out in this connection is the linkage between benefit sharing and land tenure, including as an essential pre-condition for the protection and preservation of traditional knowledge,\textsuperscript{220} against the background of the growing relevance of international human rights and investment treaties for land disputes.\textsuperscript{221}

D Beneficiaries

Besides reiterating that benefit-sharing targets state and/or non-state actors, it is difficult to derive a common core with regard to its beneficiaries. The difficulty derives both from the variety of activities that trigger benefit sharing and from the uneven development of sharing modalities in relation to underlying global benefits (and possibly the tensions between the role of ecosystem stewards and the vulnerable in the ecosystem services discourse).\textsuperscript{222} It may be argued that benefit sharing primarily (albeit, not exclusively) targets vulnerable beneficiaries, notably developing countries, indigenous peoples, and local communities. It should also be noted that these conceptual difficulties add to the immense practical challenges in the contextual identification of beneficiaries within groups (of state or non-state actors) that are non-homogenous and whose circumstances vary significantly across time and space. In this connection, the identification of beneficiaries and the connected risks of exclusion are tightly linked to the concerted and dialogic process of sharing discussed above and to the purposes of realizing fairness and equity discussed below.

1 Inter-State Dimension

The international treaties that include intra-state benefit-sharing obligations refer to beneficiaries in different terms, although they all place special emphasis on developing countries. Under UNCLOS, benefits should be shared with humankind without discrimination but ‘taking into particular consideration the interests and needs of developing States’.\textsuperscript{223} Similarly, the ITPGRFA foresees benefit sharing with all parties, specifically pointing to developing countries as beneficiaries of technology transfer, capacity building, and the allocation of commercial benefits.\textsuperscript{224} Along similar lines, under the CBD and the Nagoya Protocol, beneficiaries are the ‘provider countries’ with the understanding that all countries can be both users and providers of genetic resources,\textsuperscript{225} but provisions on technology transfer, funding, and sharing of

\textsuperscript{218} Notably climate finance and REDD. See note 9 in this article; Savaresi, \textit{supra} note 187.

\textsuperscript{219} VGGT, \textit{supra} note 6; CFS, \textit{supra} note 24.

\textsuperscript{220} CBD, Tkarihwa~:\textit{ri Code, supra} note 127, paras 17–19; CESCR, \textit{supra} note 210, paras 36, 50(c).


\textsuperscript{222} See sections 3.A and 3.A.1 in this article.

\textsuperscript{223} UNCLOS, \textit{supra} note 6, Arts 140, 160(2)(f)(i).

\textsuperscript{224} ITPGRFA, \textit{supra} note 1, Art. 13(2)(b)(ii–iii), 13(2)(c), 13(4).

\textsuperscript{225} CBD, Decision VII/19 (2004), 16th preambular recital.
biotechnological innovation specifically target developing countries.  Once again, the question of whether and how benefit sharing adds, or otherwise relates, to the common but differentiated responsibility principle comes to the fore.

2 Intra-State Dimension

In both international biodiversity and human rights law, intra-state benefit sharing most clearly targets indigenous and tribal peoples as beneficiaries. The CBD and its Nagoya Protocol also refer to local communities – a category of unclear status in international human rights law that could apply to a variety of groups benefiting from the protection of human rights of general application (such as those related to property, subsistence, and culture), which may be negatively affected by interferences with their customary relations with land and natural resources. Along similar lines, the ITPGRFA considers ‘farmers’ to be beneficiaries, and recent international soft law initiatives have expanded the meaning of beneficiaries to include ‘tenure right holders’ (that is, those having a formal or informal right to access land and other natural resources for the realization of their right to an adequate standard of living and well-being) and small-scale fishing communities. The latter, incidentally, appears to point to the emergence of intra-state benefit sharing under the law of the sea.

As highlighted above with regard to benefits and triggers, the approach of international environmental law to intra-state benefit sharing differs in terms of emphasis and rationale from that emerging under human rights law. Thus, it remains to be clarified whether, in addition to applying to non-indigenous, traditional rural communities (be they in the North or South), intra-state benefit sharing also applies to non-traditional communities that may collectively manage natural resources (commons) or to

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226 CBD, supra note 1, Arts 16(3), 19(1–2), 20(5), (7); Nagoya Protocol, supra note 1, Arts 8(a–b), 22–23, 25(3–4).
227 CBD, supra note 1, Art. 8(j); Nagoya Protocol, supra note 1, Art. 5(2), (5); ILO Convention No. 169, supra note 14, Art. 15(2): Saramaka, supra note 2; Endorois, supra note 8.
228 Morgera, Tsioumani and Buck, supra note 17, at 383.
229 A. Bessa, ‘Traditional Local Communities in International Law’ (PhD dissertation, European University Institute, 2013); inconclusive CBD, Decision XI/14 (2012).
231 ITPGRFA, supra note 1, Art. 9.2: see Tsoumani, supra note 137. Note also the on-going international process to draft a Declaration on the Rights of Peasants and Other People Working in Rural Areas, UN Doc. A/HRC/WG.15/1/2 (2013).
232 VGGT, supra note 6, Art. 8.6.
234 Note that intra-state benefit sharing could also arise in the context of the negotiations on marine biodiversity in areas beyond national jurisdiction with regard to the use of traditional knowledge (see note 177 in this article). Submission from the Federated States of Micronesia, 14 March 2016, para. 8, available at www.un.org/depts/los/biodiversity/prepcom_files/Federated_States_of_Micronesia.pdf (last visited 12 April 2016).
235 See generally B. Weston and D. Bollier, Green Governance: Ecological Survival, Human Rights and the Law of the Commons (2013); for a specific consideration from a benefit-sharing perspective, see Tsoumani, supra note 137.
individual holders of human rights (such as adequate housing, water, and sanitation) that may be negatively affected by environmental measures.\textsuperscript{236} In addressing these questions, it should also be kept in mind that the choice of market-based, right-based, or project-based approaches to pursue intra-state benefit sharing has a bearing on the identification of the beneficiaries.\textsuperscript{237}

\section*{E Fairness and Equity}

Benefit sharing is accompanied by the qualification ‘equitable’\textsuperscript{238} or ‘fair and equitable’\textsuperscript{239} under all of the treaties referring to it, with the exception of the ILO Convention No. 169. Nonetheless, with regard to the latter, the Committee on the Elimination of Racial Discrimination, the UN Permanent Forum on Indigenous Issues and the Inter-American Court of Human Rights have also referred to equitable benefit sharing.\textsuperscript{240} Consequently, former UN Special Rapporteur Anaya has concluded that ‘there is no specific international rule that guarantees benefit sharing for indigenous peoples, aside from the consideration that such sharing must be “fair and equitable”’.\textsuperscript{241} Thus, it is argued that the rationale for the emergence of benefit sharing in international law is the operationalization of equity. In other words, benefit sharing should be counted among the specific principles deriving from equity as a general principle of international law, which serves to balance competing rights and interests\textsuperscript{242} with a view to integrating ideas of justice into a relationship regulated by international law.\textsuperscript{243} The value of benefit sharing should therefore be assessed by the same token used for other equitable principles – their capacity in providing ‘new perspectives and potentially fresh solutions to tricky legal problems’ to the benefit of all, not just to the advantage of the powerful.\textsuperscript{244}

International treaties that contain benefit sharing, however, leave the specific determination of what is fair and equitable to successive multilateral negotiations (in the context of multilateral benefit-sharing mechanisms) and contextual negotiations,

\begin{thebibliography}{99}
\bibitem{236} This seems to be the case in renewable energy projects. See discussion in Savaresi, supra note 187, with regard to Report of the Special Rapporteur on Adequate Housing as a Component of the Right to an Adequate Standard of Living, and on the Right to Non-Discrimination in this Context, UN Doc. A/64/255 (2009), at 47, 71; Special Rapporteur on the Right to Water, Climate Change and the Human Rights to Water and Sanitation, Position Paper, available at \url{www.ohchr.org/Documents/Issues/Water/Climate_Change_Right_Water_Sanitation.pdf} (last visited 12 April 2016), at 5–6.
\bibitem{237} These questions are particularly clear in the realm of agriculture and food. Tsioumani, supra note 137.
\bibitem{238} UNCLOS, supra note 6, Art. 140; CBD, supra note 1, Art. 8(j).
\bibitem{239} CBD, supra note 1, Arts 1, 15(7); ITPGRFA, supra note 1, Arts 1, 10(2), 11(1); Nagoya Protocol, supra note 1, Arts 1, 5.
\bibitem{241} Indigenous Peoples’ Rights Report, supra note 22, paras 67, 76–78.
\bibitem{243} Klager, \textit{Fair and Equitable Treatment in International Investment Law} (2013), at 130.
\bibitem{244} Burke, supra note 242, at 250–251.
\end{thebibliography}
including contractual ones in the context of bilateral inter-state benefit sharing and of intra-state benefit sharing. Thus, it may be necessary to rely on legal theory to further investigate this tenet of the proposed conceptualization. Building upon Roland Klager’s insightful interpretation\(^{245}\) of Thomas Franck’s seminal work on equity in international law,\(^{246}\) it can be argued that the use of the two expressions ‘fair and equitable’ serves to make explicit both procedural dimensions of justice (fairness) that determine the legitimacy of certain courses of action as well as the substantive dimensions of justice (equity).\(^{247}\) And while these are inextricably linked notions, they also point to an inherent tension: fairness supports stability within the legal system (predictable and clear procedures), whereas equity tends towards change (recognition or enhanced realization of rights and the (re-)allocation of power over resources).\(^{248}\)

This tension can only be resolved through a ‘fairness discourse’ – a negotiation ‘premised on the moderate scarcity of the world’s resources and existence of a global community sharing some basic perceptions of what is unconditionally unfair’ and that at the very least allows for ‘meaningful scrutiny of whether or not a certain conduct is ultimately fair’.\(^{249}\) Within this discourse, two substantive conditions apply for determining what would be unconditionally unfair. First, a no-trumping condition, whereby no participant can make claims that automatically prevail over the claims made by other participants.\(^{250}\) And this condition notably applies also to claims based on national sovereignty, thereby overriding presumptions in favour of the states.\(^{251}\) Second, a maximum condition, whereby inequalities in the substantive outcome of the discourse (thus, the sharing of benefits) are only justifiable if they provide advantages to all participants.\(^{252}\) In the words of Klager, therefore, the use of the expression ‘fair and equitable’ is ‘an invitation by international law-makers to proceed by way of a fairness discourse based on a Socratic method’.\(^{253}\) This argument resonates with the earlier finding that ‘sharing’ conveys the idea of a concerted and dialogic process aimed at reaching consensus.

It should be further emphasized that similarly to other equitable principles, fair and equitable benefit sharing is open-textured and evolutionary.\(^{254}\) As such, while it does not open the door to subjective notions of justice,\(^{255}\) it may be filled with content by establishing a linkage with different international legal sub-systems (through

\(^{245}\) Klager, \textit{supra} note 243, at 141–152.

\(^{246}\) Franck, \textit{Fairness in International Law and Institutions} (1995).

\(^{247}\) Klager, \textit{supra} note 243, at 141.

\(^{248}\) \textit{Ibid.}, at 121, 123, 130.

\(^{249}\) \textit{Ibid.}, at 144.

\(^{250}\) \textit{Ibid.}, at 163.

\(^{251}\) Burke, \textit{supra} note 242, at 250.

\(^{252}\) Klager, \textit{supra} note 243, at 145.

\(^{253}\) \textit{Ibid.}, at 146.


\(^{255}\) It is not an expression of equity as decisions to be taken \textit{ex aequo et bono}. Statute of the International Court of Justice 1945, 1 UNTS 993, Art. 38(2).
systemic integration or mutually supportive law-making). In this connection, it is instructive to consider the evolution of the similarly worded notion of fair and equitable treatment in international investment law, for which the meaning of ‘fair and equitable’ was – similarly to benefit sharing – not clarified in the relevant treaties. International adjudication has instead fleshed out fair and equitable treatment by relying on international human rights law notions such as procedural fairness, non-discrimination, and proportionality. The incipient cross-fertilization between international biodiversity and human rights law in relation to benefit sharing may, along similar lines, be part of a ‘global discursive practice of mutual learning’ with regard to equity and fairness that has so far elicited little attention across different areas of international law and legal scholarship.

4 Research Agenda

The present analysis has provided a tool for a more systematic study of the emergence and evolution of fair and equitable benefit sharing in different areas of international law. Taking treaty law as a basis, it has delineated a concept that could facilitate research across a variety of international and transnational legal materials, while allowing for the appreciation of differences in the context of varying logics of different areas of international law. Fair and equitable benefit sharing has thus been conceptualized as the concerted and dialogic process aimed at building partnerships in identifying and allocating economic, socio-cultural and environmental benefits among state and non-state actors, with an emphasis on the vulnerable. Even in the context of bilateral exchanges, fair and equitable benefit sharing encompasses multiple streams of benefits of a local and global relevance, as it aims to benefit a wider group than those actively or directly engaged in bioprospecting, natural resource management, environmental protection, or use of knowledge where a heightened and cosmopolitan form of cooperation is sought.

As a springboard for future research, this concept could suggest the need to revisit questions about the functions of equity in international law. In particular, it provides a relatively untested ground to better understand the interactions between intra-generational equity – a relatively recent and still unsettled concept in international law – and inter-generational equity. It also feeds an original reflection within the
well-established debate on human rights\textsuperscript{263} and the environment.\textsuperscript{264} The opportunities for cross-compliance that synergize the normative detail of international biodiversity law and the justiciability of international human rights are still to be critically assessed. As are the tensions between different premises and interpretative approaches in these two areas of law, including in light of perceived ‘unrealistic expectations regarding the conservationist behavior of indigenous peoples [that] may have detrimental consequences for the recognition and respect of their rights’.\textsuperscript{265} In addition, as clearly demonstrated by the debate on IPRs, international economic law may provide opportunities and challenges to the realization of fair and equitable benefit sharing both from an environmental and human rights perspective.\textsuperscript{266} In particular, the growing relevance of fair and equitable benefit sharing to natural resource use, including in relation to the responsibility of businesses to respect human rights, underscores the need to fully investigate opportunities and tensions with international investment law.\textsuperscript{267}

Finally, the proposed concept opens up for investigating the status of benefit sharing in general international law. Based on its treaty formulations, it has been argued that in certain sectors it has developed into a customary norm.\textsuperscript{268} However, across sectoral regimes, it is to be clarified whether, particularly because of its flexibility, fair and equitable benefit sharing is emerging as a general principle of international law that may be derived from converging international – rather than national – legal developments.\textsuperscript{269} Indeed, if it is evolving into a principle that may affect the exercise of states’ discretionary powers in relation to the development, interpretation, and application of international law in the absence of an applicable treaty basis,\textsuperscript{270} the technical and practical questions raised by the present conceptualization should be addressed in earnest.


\textsuperscript{265}Desmet, \textit{supra} note 201, at 41.


\textsuperscript{267}Benefit sharing and investment have, for the time being, only been researched in the context of bioprospecting. J. Viñuales, \textit{Foreign Investment and the Environment in International Law} (2012), chapter 8.

\textsuperscript{268}With regard to mining in the Area, see Harrison, \textit{supra} note 107, at 7–9; with regard to bioprospecting, see Pavoni, ‘Biodiversity and Biotechnology: Consolidation and Strains in the Emerging International Legal Regimes’, in Francioni and Scovazzi, \textit{supra} note 258, 29.

\textsuperscript{269}Wolfrum, ‘General International Law’, \textit{supra} note 256, paras 33–36, who calls for a comparison of relevant international materials to that end.

\textsuperscript{270}Boyle and Chinkin, \textit{supra} note 74, at 222–225.