University of Edinburgh

School of Law

Research Paper Series

No 2016/16

Doing the Right Thing with Traditional Knowledge in International Law: Lessons for the Climate Regime

Annalisa Savaresi

Research and Teaching Fellow
University of Edinburgh, School of Law
Annalisa.Savaresi@ed.ac.uk

This text may be downloaded for personal research purposes only. Any additional reproduction for other purposes, whether in hard copy or electronically, requires the consent of the author(s). If cited or quoted, reference should be made to the name(s) of the author(s), the title, the number, and the working paper series

© 2016 Annalisa Savaresi

Edinburgh School of Law Research Paper Series
University of Edinburgh

BENELEX Working Paper N. 8

Doing the Right Thing with Traditional Knowledge in International Law: Lessons for the Climate Regime

Annalisa Savaresi, University of Edinburgh (annalisa.savaresi@ed.ac.uk)

This paper is part of the project “BENELEX: Benefit-sharing for an equitable transition to the green economy - the role of law” (www.benelex.ed.ac.uk) which is funded by the European Research Council Starting Grant (November 2013-October 2018).

Doing the Right Thing with Traditional Knowledge in International Law: Lessons for the Climate Regime

Annalisa Savaresi*

ABSTRACT

This paper investigates the regulatory questions associated with the treatment of traditional knowledge in international law, providing a novel conceptualization of this complex subject matter, which lies at the intersection of environmental, human rights and intellectual property law. More specifically, the paper analyses how existing international instruments address the matter of traditional knowledge, systematically comparing the regulatory approaches they adopt, highlighting areas of overlap and potential synergies between them, as well as remaining gaps. This exercise is carried out with the objective of gauging the implications of extant international law for the incipient debate on traditional knowledge in the climate regime. While this debate has just begun, this paper reflects on the specific regulatory questions arising in relation to traditional knowledge in the climate regime, and on how they may be addressed in light of extant international law and practice.

* This paper is part of the project “BENELEX: Benefit-sharing for an equitable transition to the green economy - the role of law” funded by the European Research Council Starting Grant (November 2013-October 2018). The author is extremely grateful to the BENELEX team, Margherita Brunori and Saskia Vermeylen for insightful and thought-provoking comments.

1 Introduction: Traditional Knowledge and International Law

The recognition of the contribution of traditional knowledge to cultural identity, human well-being and the understanding and preservation of ecosystems has engendered a host of international legal developments. As a result, the matter of traditional knowledge is addressed in international instruments and processes dealing with issues as diverse as biodiversity,¹ cultural heritage,² desertification,³ food and agriculture,⁴ health,⁵ human rights⁶ and sustainable development.⁷

Contrariwise, even though scientists have increasingly recognized its importance as a means to assess, mitigate and adapt to climate alterations,⁸ the United Nations Framework Convention on Climate Change⁹ (UNFCCC) is the only ‘Rio Convention’¹⁰ not to mention traditional knowledge. This state of affairs has recently changed with the adoption of the Paris Agreement.¹¹ Building upon the practice of the climate regime’s treaty bodies,¹² the agreement acknowledges that adaptation should be based on and guided by, amongst other things, ‘traditional knowledge, knowledge of indigenous peoples and local knowledge

¹ Convention on Biological Diversity (Rio de Janeiro, 5 June 1992, in force 29 December 1993) 1760 UNTS 79 [‘CBD’] articles 8 (j) and 10 (c).

² UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (Paris, 18 March 2007, in force 20 October 2010) 2440 UNTS 311, preamble at 8.

³ UN Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (Paris, 14 October 1994, in force 26 December 1996) 1954 UNTS 3 [‘UNCCD’], article 18.2 (b).

⁴ International Treaty on Plant Genetic Resources for Food and Agriculture (Rome, 3 November 2001, in force 29 June 2004) 2400 UNTS 303 [‘ITPGR’], article 9.2 (a).

⁵ World Health Organization Declaration of Alma-Ata, International Conference on Primary Health Care, Alma-Ata, (6-12 September 1978), article VII.7.

⁶ United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007) UN Doc. A/RES/61/295 [‘UNDRIP’], article 31.

⁷ Rio Declaration on Environment and Development (21 December 1993) A/Res/48/190, Principle 22; and Agenda 21, in Report of the United Nations Conference on Environment and Development (3–14 June 1992) A/CONF.151/26/Rev.1 vol 1, 9, at 26.3 (a) (iii).

⁸ IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel of Climate Change*, (Cambridge University Press 2014), at 758, 765 and 766.

⁹ United Nations Framework Convention on Climate Change (New York, 9 May 1992; in force 21 March 1994) [‘UNFCCC’].

¹⁰ This term is commonly used to refer to the CBD, UNCCD and UNFCCC.

¹¹ Paris Agreement, Paris, 12 December 2015, not yet in force.

¹² Decision 1/CP.16, The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (2010) UN Doc. FCCC/CP/2010/7/Add.1, at 12; Decision 2/CP.17, Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (2011) UN Doc. FCCC/CP/2011/9/Add.1, at 93(b); Decision 18/CP.19, National Adaptation Plans, UN Doc. FCCC/CP/2013/10/Add.2/Rev.1, at 7; and Decision 4/CP.20, Report of the Adaptation Committee, UN Doc. FCCC/CP/2014/10/Add.2, at 4.

systems’.¹³ As a result of this recognition, various manifestations of traditional knowledge may find their way into a recently established international platform for the exchange of experiences and best practices for climate change adaptation and mitigation.¹⁴ The related documentation process is likely to raise multifaceted regulatory questions that have already beleaguered other international processes and instruments dealing with traditional knowledge. Experience with the implementation of these instruments suggests that the treatment of traditional knowledge is laden with complexities and risks.¹⁵

By its very nature, international law is unlikely to address all regulatory needs arising in relation to traditional knowledge, which are more expediently addressed at the national, subnational and local levels. Instead, international law can be expected to perform three main functions. The first is to provide an international framework of obligations that support the protection of traditional knowledge at the national, subnational and local levels, in line with best practices. The second is not to create perverse incentives to use traditional knowledge without due respect and recognition for the rights of its holders. The third is to provide international remedies to traditional knowledge holders who feel that their knowledge has been misused, which supplement those provided under domestic law. International law has not addressed these matters in an orderly or comprehensive manner. Instead, international instruments deal with traditional knowledge in a largely fragmentary and segmented fashion. As a result, there seems to be an overall lack of clarity on what doing the right thing with traditional knowledge actually entails.

Given the recent emergence of the question of the treatment of traditional knowledge in the climate regime, it seems timely to reflect on how international law addresses this complex and multifaceted subject, and the extent to which it performs the regulatory functions highlighted above. Thus far, little legal literature has attempted to systematically understand how

¹³ Paris Agreement, article 7.5. This paper will for the sake of expediency use the term ‘traditional knowledge’ to refer to all these terms, unless otherwise specified.

¹⁴ Decision 1/CP.21, Adoption of the Paris Agreement, UN Doc. FCCC/CP/2015/10/Add.1 (2016), at 136, where reference is also made to the ‘need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change.’

¹⁵ On these risks, see e.g. P. Hardison, ‘Report on Traditional Knowledge Registers (TKRs) and Related Traditional Knowledge Databases (TKDBs)’ (CBD Secretariat 2005); and Taubman, ‘Saving the Village: Conserving Jurisprudential Diversity in the International Protection of Traditional Knowledge’ in K.E. Maskus and J.H. Reichmann (eds), *International Public Goods and Transfer of Technology Under a Globalized Intellectual Property Regime* (Cambridge University Press 2005).

traditional knowledge is addressed across international law instruments and processes.¹⁶ Scholarly attention has mainly, although not exclusively,¹⁷ focused on how traditional knowledge may or may not be addressed by means of biodiversity¹⁸ and intellectual property law.¹⁹

This paper moves beyond a sectoral approach to provide a systematic analysis of *how* international law addresses traditional knowledge. This *de lege lata* analysis compares the regulatory approaches adopted by international instruments dealing with traditional knowledge, highlighting their overlaps and potential synergies, as well as remaining gaps in the law. The ultimate objective is to understand whether and how international law already performs the regulatory functions identified above, as well as remaining regulatory gaps and how they may be addressed *de lege ferenda* under the climate regime. No literature on this

¹⁶ One salient exception is L. Lixinski, *Intangible Cultural Heritage in International Law* (Oxford University Press 2013), who nevertheless does not address traditional knowledge *ex se*, but the related matter of intangible cultural heritage.

¹⁷ See for example: Coombe, 'Recognition of Indigenous Peoples' and Community Traditional Knowledge in International Law' 14 *St. Thomas Law Review* (2001) 275; Meyer, 'International Environmental Law and Human Rights: Towards the Explicit Recognition of Traditional Knowledge' 10 *Review of European Community and International Environmental Law* (2001) 37; C. Guneratne, *Genetic Resources, Equity and International Law* (Edward Elgar Publishing 2012); and Zuhre, *Global Governance of Traditional Knowledge and Its Justice Implications: A Case for an Alternative Approach* http://www.iss.nl/fileadmin/ASSETS/iss/Research_and_projects/Research_networks/ICAS/3-ICAS_CP_Aksoy.pdf (last visited 23 March 2016).

¹⁸ See for example: E.C. Kamau and G. Winter (eds), *Genetic Resources, Traditional Knowledge and the Law: Solutions for Access and Benefit Sharing* (Earthscan 2009); Singh Nijar, 'Incorporating Traditional Knowledge in an International Regime on Access to Genetic Resources and Benefit Sharing: Problems and Prospects' 21 *European Journal of International Law* (2010) 457; Bavikatte and Robinson, 'Towards a People's History of the Law: Biocultural Jurisprudence and the Nagoya Protocol on Access and Benefit Sharing' 7 *Law, Environment & Development* (2011) 35; and Singh Nijar, 'Traditional Knowledge Systems, International Law and National Challenges: Marginalization or Emancipation?' 24 *European Journal of International Law* (2013) 1205.

¹⁹ See for example Aoki, 'Neocolonialism, Anticommons Property, and Biopiracy in the (not-so-Brave) New World Order of International Intellectual Property Protection' 6 *Indiana Journal of Global Legal Studies* (1998) 11; Halewood, 'Indigenous and Local Knowledge in International Law: A Preface to Sui Generis Intellectual Property Protection' 44 *McGill Law Journal* (1999) 953; Downes, 'How Intellectual Property Could Be a Tool to Protect Traditional Knowledge' 25 *Columbia Journal of Environmental Law* (2000) 253; G. Dutfeld, *Intellectual Property Rights, Trade and Biodiversity: Seeds And Plant Varieties* (3 edition, World Conservation Union 2000); Cottier and Panizzon, 'Legal Perspectives on Traditional Knowledge: The Case for Intellectual Property Protection' 7 *Journal of International Economic Law* (2004) 371; Coombe, 'Protecting Traditional Environmental Knowledge and New Social Movements in the Americas: Intellectual Property, Human Right, or Claims to an Alternative Form of Sustainable Development' 17 *Florida Journal of International Law* (2005) 115; Gervais, 'Traditional Knowledge & Intellectual Property: A TRIPS-Compatible Approach' *Michigan State Law Review* (2005) 137; L. Whitt, *Science, Colonialism and Indigenous Peoples* (Cambridge University Press 2009); J. Curci, *The Protection of Biodiversity and Traditional Knowledge in International Law of Intellectual Property* (Cambridge University Press 2009); and L.R. Helfer and Graeme W Austin, *Human Rights and Intellectual Property: Mapping the Global Interface* (Cambridge University Press 2011); and P. Drahos and S. Frankel (eds), *Indigenous Peoples' Innovation Intellectual Property Pathways to Development* (The Australian National University E Press 2012).

issue presently exists.²⁰ The present paper therefore engages with these questions, identifying regulatory needs emerging in the context of the climate regime, as well as the means that may be deployed to address these.

The paper is structured in six parts. The introduction lays out the research questions addressed in the paper, positioning it in the context of existing scholarship on traditional knowledge. Section two introduces the definition and conceptualisation used to analyse the regulatory questions arising in relation to traditional knowledge. The following sections consider how international law has addressed these questions, distinguishing between developments occurred in environmental, cultural heritage and human rights law. Section five ascertains the implications of this body of law for the treatment of traditional knowledge under the climate regime. The conclusions offer some reflections on what international law-makers should do to do the right thing with traditional knowledge.

2 Defining Traditional Knowledge

Although traditional knowledge is mentioned in a plethora of international law instruments and processes, no dedicated treaty on the issue exists. Equally, there is no universally agreed definition of traditional knowledge in international law. This is due to the fact that in and of itself the notion of traditional knowledge is elusive, and largely depends on the context in which it is deployed and on the subjects and/or groups that may be identified as knowledge holders. By broad approximation, international law instruments use expressions such as ‘traditional knowledge’ ‘indigenous peoples’ knowledge’ or ‘local knowledge’ to refer to knowledge that is characterized by the subjects who hold it and by the process for its production, which is distinct from that associated with so-called ‘modern science’.²¹

²⁰ This specific aspect is not considered in the scholarly papers that have considered traditional knowledge in the context of the climate regime. See e.g.: J.W. Brewer and E.A. Kronk, *Guarding Against Exploitation: Protecting Indigenous Knowledge in the Age of Climate Change* (20 February 2015) <http://papers.ssrn.com/abstract=2567995> (last visited 7 August 2015), which narrowly focuses on indigenous peoples' knowledge; Williams and Hardison, ‘Culture, Law, Risk and Governance: Contexts of Traditional Knowledge in Climate Change Adaptation’ *Climatic Change* (2013) 531, which only focuses on adaptation; and Burkett, ‘Indigenous Environmental Knowledge and Climate Change Adaptation’ in R.S. Abate and E.A. Kronk (eds), *Climate Change and Indigenous Peoples: The Search for Legal Remedies* (Edward Elgar 2013), which focuses only on adaptation and indigenous peoples. None of these pieces, furthermore, takes into account developments that occurred with the adoption of the Paris Agreement.

²¹ In this regard, an indigenous peoples’ workgroup has noted: ‘Terms such as traditional knowledge are coined in non-indigenous academic and policy circles, and often do not fully reflect the ways in which indigenous communities refer to, or think of, their knowledge and lifeways. However, these terms may be helpful in providing agencies and researchers with greater understanding of issues that tribal people are facing regarding their own knowledge systems, climate impacts, and impacts to TKs resulting from climate initiatives.’

A more specific definition of traditional knowledge was recently discussed by the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES). The IPBES was established to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human wellbeing and sustainable development.²² Contrary to its counterpart under the climate regime – the Intergovernmental Panel on Climate Change (IPCC) – the IPBES has been tasked not only to carry out assessments, but also knowledge generation catalysis, policy support and capacity building.²³

The IPBES has grappled with the question of traditional knowledge pursuant to its mandate to ‘explore ways and means to bring different knowledge systems, including indigenous knowledge systems, into the science-policy interface.’²⁴ More specifically, the IPBES’ operating principles request it to ‘recognize and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems.’²⁵ In this context, the IPBES has decided²⁶ to rely upon Berkes’ widely cited scholarly definition, which describes traditional knowledge as ‘a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment.’²⁷ Berkes distinguishes traditional knowledge across four levels: empirical knowledge of animals, plants, soils and landscape; knowledge on resource management systems; institutions of knowledge, which frame the process of social memory, creativity and learning; and, finally, overarching cosmologies, which shape the perception of the environment of traditional knowledge holders²⁸ (Figure 1).

Climate and Traditional Knowledges Workgroup, *Guidelines for Considering Traditional Knowledges in Climate Change Initiatives* (2014), available online at: <http://climatetkw.wordpress.com/>, at iii, (last visited 23 April 2016).

²² IPBES, Functions, Operating Principles and Institutional Arrangements of IPBES, 21 April 2012, Panama City.

²³ Ibid., Appendix 1, at 1.

²⁴ Ibid., at 15(g).

²⁵ Ibid., at 2(d). For an early analysis, see Chiarolla and Savaresi, ‘Indigenous Challenges under IPBES: Embracing Indigenous Knowledge and beyond’ in M. Hrabanski and D. Pesche (eds), *The Intergovernmental Platform on Biodiversity and Ecosystem Service (IPBES): Challenges, Knowledge and Actors* (Earthscan 2016).

²⁶ IPBES, Consideration of Initial Elements: Recognizing Indigenous and Local Knowledge and Building Synergies with Science, EIPBES/1/INF/5 (2012), at 3.

²⁷ Tobin, ‘Redefining Perspectives in the Search for Protection of Traditional Knowledge’ 10 *Review of European Comparative & International Environmental Law* (2002) 1, at 7.

²⁸ Ibid., at 18.

Figure 1: The four levels of traditional knowledge, adapted from Berkes, *Sacred Knowledge*, Routledge, 2012, 3rd ed.

Berkes' conceptualization is admittedly a simplification of what ultimately is a very complex subject matter, and the author himself cautions that these 'levels' are interconnected and do not function in isolation.²⁹ Whilst other definitions of traditional knowledge could have been used,³⁰ for the present purposes Berkes' conceptualization seems particularly helpful to understand the way international law on traditional knowledge has developed. As this paper will show, in fact, few international law instruments address traditional knowledge uniformly, rather they discretely focus on some of the levels of knowledge identified in Berkes' conceptualization. For example, some international environmental instruments address only knowledge on non-human genetic resources, restricting access with the overarching objective of protection.³¹ Other international law instruments, conversely, focus on the diffusion of other forms of traditional knowledge (such as that on means to counter desertification),

²⁹ Ibid., at 18. See also Berkes, Colding and Folke, 'Rediscovery of Traditional Ecological Knowledge as Adaptive Management' 10 *Ecological Applications* (2000) 1251, at 1258.

³⁰ See for example those in Dutfield, 'TRIPS-Related Aspects of Traditional Knowledge' 33 *Case Western Reserve Journal of International Law* (2001) 233; and B. Tobin, *Why Customary Law Matters: The Role of Customary Law in the Protection of Indigenous Peoples' Human Rights* (2011) (PhD Dissertation), available at: <http://hdl.handle.net/10379/2730>, at 240, (last visited 26 April 2016).

³¹ Contractualization and propertization terminology is widely used in the literature to describe the approach of some international law instruments to traditional knowledge, see for example: Zuhre, *supra* note 17; Guneratne, *supra* note 17; C.B. Graber, 'Institutionalization of Creativity in Traditional Societies and in International Trade Law' (2011), available at: <http://papers.ssrn.com/abstract=1674272> (last visited 11 August 2015); and Lixinski, *supra* note 16.

creating obligations concerning documentation with the objective of promoting and expanding its use.³²

These international instruments invariably pursue the *protection* of traditional knowledge against misuse and other forms of misappropriation, typically by restricting access and use; and/or the *promotion* of the use of traditional knowledge, either to preserve it from extinction, or for the pursuit of global public goods, largely by means of documentation processes. Limited scholarly work has specifically investigated how international law pursues both these objectives.³³ Much literature has instead focused on intellectual property³⁴ and on means to protect traditional knowledge, paying limited attention to the means to promote its use to contribute to the pursuit of global public goods, such as tackling climate change.³⁵ This paper therefore analyses extant international law with the aim to better understand States' obligations in relation both to the protection and the promotion of the use of traditional knowledge, using the categories identified by Berkes as a conceptual aid to systematically identify the levels of traditional knowledge targeted in each instrument.

Dealing with traditional knowledge confronts law-makers with the challenge of balancing the need to preserve it with that of enabling its continued deployment and development and securing respectful interaction between traditional knowledge holders and third parties. (Free) prior informed consent (PIC) and fair and equitable benefit-sharing requirements are frequently used in international instruments to address these concerns. There is, nevertheless, a great degree of variation amongst international law instruments on whether and how these requirements are used, often with a remarkable lack of clarity as to the precise scope of States' obligations. This paper will assess how these tools are used across international instruments, in order to establish what obligations States have in this regard. Before proceeding with this analysis, however, it is necessary to clarify what the international climate

³² Comparative reflections on traditional knowledge documentation may be found in Hardison, *supra* note 15; and A. Merle *et al.*, 'The Role of Registers and Databases in the Protection of Traditional Knowledge: A Comparative Analysis' (UNU-IAS 2004) available at: <http://trove.nla.gov.au/version/21150498> (last visited 14 March 2016).

³³ While the tension between 'protection' and 'promotion' of traditional knowledge is highlighted in Coombe, *supra* note 17, at 276, the literature has predominantly focused on the matter of the protection, rather than on the promotion of traditional knowledge.

³⁴ See *supra* note 19.

³⁵ As noted in the report of the session 'Indigenous and Non-Indigenous Science in Collaboration for Our Common Future', Our Common Future under Climate Change Conference, UNESCO Headquarters, Paris 7-10 July 2015, on file with the author. The session was attended by representatives of indigenous peoples from various countries, as well as by the Special Rapporteur on the Rights for Indigenous Peoples.

regime says about traditional knowledge, the objectives it pursues and the levels of traditional knowledge that may fall within its scope.

A. Traditional Knowledge in the Context of the Climate Regime

The making of international environmental law and policy may be subdivided into four intertwining processes: issue definition, fact-finding, bargaining, and regime strengthening.³⁶ International climate change law on traditional knowledge is at the very beginning of this process and has barely entered a formal regulatory phase.

The definition and fact-finding processes were initiated by the inter-governmental scientific body entrusted to assist States in assessing the magnitude, timing and potential impacts of climate change, as well as possible response strategies³⁷ – the IPCC – in two main connections.³⁸ Firstly, the IPCC acknowledged that scientists increasingly rely on traditional knowledge holders' observations for the *assessment* of climate change, especially in vulnerable environments.³⁹ In this regard, the IPCC has noted that traditional knowledge is often neglected in climate change research, cautioning that it is under threat due both to climatic changes and to erosion associated with modern lifestyles and the assimilation of indigenous peoples.⁴⁰ Therefore, the IPCC has recommended knowledge partnerships between traditional knowledge holders and scientists,⁴¹ without however creating pathways to address this issue in its work.⁴² Using the categories reported in Figure 1, the IPCC seems to refer to the use of traditional *empirical knowledge*, on matters like plants, soils and landscape, as a source of data contributing to the process of observation and assessment of climate change.⁴³ Oftentimes, it will not be traditional knowledge *ex se* that is at issue in the

³⁶ As suggested in G. Porter, J. Welsh Brown and P.S. Chasek, *Global Environmental Politics* (Westview Press 2000), at 79.

³⁷ UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, A/RES/43/53 (1988), at 5.

³⁸ IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change Contribution* (Cambridge University Press 2007), at 138 and 673.

³⁹ For a summary of literature on this issue, see D.J. Nakashima *et al.*, *Weathering Uncertainty - Traditional Knowledge for Climate Change Assessment and Adaptation* (UNESCO and UNU 2012).

⁴⁰ IPCC, *supra* note 8, at 765.

⁴¹ See: UNFCCC Secretariat, Best practices and available tools for the use of indigenous and traditional knowledge and practices for adaptation, and the application of gender-sensitive approaches and tools for understanding and assessing impacts, vulnerability and adaptation to climate change, FCCC/TP/2013/11 (2013), at 8.

⁴² The IPCC has only co-convened an international expert meeting on 'Indigenous Peoples, Marginalized Populations and Climate Change: Vulnerability, Adaptation and Traditional Knowledge' on 19-21 July 2011 in Mexico City; and sponsored a meeting on 'Climate Change Mitigation with Local Communities and Indigenous Peoples: Practices, Lessons Learned and Prospects' on 26-28 March 2012, in Cairns, Australia.

⁴³ IPCC, *supra* note 8, at 765.

observation of climate change impacts, but rather observations concerning environmental changes made by traditional knowledge holders on the basis of traditional knowledge.⁴⁴ This knowledge is unlikely to be used or developed for commercial purposes. Yet the interaction between traditional knowledge holders and scientists may raise concerns with regard to the acknowledgement of the contributions of the former to the assessment process. So far, no specific guidance has been adopted on the use of traditional knowledge in IPCC assessments. This issue has instead been taken up by the IPBES (see section 3).

Secondly, the IPCC has recognized the role of traditional knowledge to increase adaptive capacity and reduce vulnerability to climate change, *aka climate change response measures*, measures adopted to address climate change at both the domestic and international levels.⁴⁵ Using the categories reported in Figure 1, it would seem that *empirical knowledge*, for example in relation to flood or drought resistant plant varieties, is just one potentially relevant form of traditional knowledge here. Another form of knowledge that is of great potential relevance is natural *resource management knowledge* on matters such as water and soils, as well as forms of technical and practical knowledge, for example on building techniques. Traditional knowledge on some of these matters is already addressed in extant international law. As this paper will show, the question arises as to whether or not these instruments already cover regulatory questions that may arise in relation to climate change response measures.

This question is ever more pressing after the adoption of the Paris Agreement, which potentially initiated a process to strengthen the ‘knowledge, technologies, practices and efforts of local communities and indigenous peoples’ related to climate change response measures.⁴⁶ As a result, one of the subsidiary bodies established under the UNFCCC, the Adaptation Committee, has recently undertaken an embryonic inventory of existing platforms fostering knowledge exchange on adaptation.⁴⁷ Another database has already been compiled on the basis of voluntary submissions by international organizations and research institutions on best practices and available tools for the use of traditional knowledge and practices for adaptation.⁴⁸ A third database collects examples of traditional knowledge associated with

⁴⁴ UNFCCC Secretariat, *supra* note 41, at 9.

⁴⁵ IPCC, *supra* note 8, at 758 and 766.

⁴⁶ Decision 1/CP.21, at 136.

⁴⁷ Revised Workplan of the Adaptation Committee for 2016–2018, not yet reported (2016).

⁴⁸ The database is available at: http://unfccc.int/adaptation/workstreams/nairobi_work_programme/items/7769.php (last visited 26 April 2016).

ecosystem-based approaches to adaptation submitted by State and non-State actors on a voluntary basis.⁴⁹ Parties to the climate regime have not adopted specific guidance concerning the compilation of these databases. An expert meeting⁵⁰ suggested that UNFCCC Parties adopt guidelines to mobilize traditional knowledge and link it with scientific knowledge in decision-making processes, in line with relevant international policies and best practices, and through processes that include knowledge holders.⁵¹ To date, this invitation has not been followed up.⁵²

More specific and concrete developments have occurred in relation to some climate change response measures. The matter of the use of traditional knowledge has been addressed in the context of measures to maintain and enhance the carbon storage capacity of forests in developing countries, commonly referred to with the acronym ‘REDD+’.⁵³ In this connection, UNFCCC guidance specifies that Parties should respect ‘the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples.’⁵⁴ In spite of this open-ended link with extant international law, the question of whether and how this law provides guidance adequate to address the regulatory questions that arise in relation to traditional knowledge in the climate regime remains.

In sum, various forms of traditional knowledge that fall within the first two levels identified in Berkes’ conceptualization are at play in the climate regime. The only embryonic regulatory developments in this regard seem largely geared to the *promotion* of the use traditional knowledge, not only as a means to *assess* climate change impacts, but also to design and implement *climate change response measures*. Instead, and contrary to experiences in other

⁴⁹ The database is available at: http://unfccc.int/adaptation/nairobi_work_programme/knowledge_resources_and_publications/items/6227.php (last visited 26 April 2016).

⁵⁰ UNFCCC Secretariat, *supra* note 41, at 10 and 20, respectively. The paper mentions: International Labour Organisation Convention 169 Concerning Indigenous and Tribal Peoples in Independent Countries (Geneva, 27 June 1989, in force 5 September 1991) ILO/C169 [‘ILO Convention No. 169’]; the CBD; the UNCCD; Convention for the Safeguarding of the Intangible Cultural Heritage, (17 October 2003, in force 20 April 2006), 2368 UNTS 1, [‘UNESCO Convention’]; Convention on the Protection and Promotion of the Diversity of Cultural Expressions; ITPGR; and UNDRIP.

⁵¹ *Ibid.*, at 25.

⁵² Decision 4/CP.20, at 4.

⁵³ The scope of REDD+ includes both activities aimed to reduce forest emissions (such as reduced deforestation, forest degradation and sustainable forest management, as well as activities aimed to increase forest carbon sequestration (such as afforestation and reforestation). See Decision 1/CP.16, at 70. See section 5.

⁵⁴ *Ibid.*, Appendix 1, at 2(c).

international environmental instruments, the matter of the protection of traditional knowledge from commercial exploitation has not surfaced in the climate regime.

While only limited regulatory developments have occurred in both connections so far, it is already possible to raise questions concerning the interplay between international climate change law and the vast body of international law on traditional knowledge. These questions centre around whether the climate regime raises regulatory needs that are additional to those already covered by extant instruments. If any such needs exist, the question is how they may be addressed. If they do not, then the question is what are the international law instruments that already address these regulatory needs. The obligations of States in this regard clearly depend on the traditional knowledge at stake and on the treaties that Parties to the climate regime have ratified. There is therefore much scope to analyse how international instruments deal with traditional knowledge, to understand what obligations States already have and potential synergies between them, as well as remaining gaps in the law. The next sections carry out this exercise and consider the international law applicable to traditional knowledge, the regulatory approaches it has adopted, the challenges it has faced and the solutions that have been adopted to address these.

3 Traditional Knowledge in International Environmental Law

The matter of traditional knowledge has been the subject of considerable regulatory developments in international environmental law, which, as a result, may be regarded as having reached an advanced stage of regime strengthening. Yet no unitary regulatory approach has emerged, and different international environmental law instruments treat traditional knowledge differently. International environmental law tends to focus on select ‘levels’ of traditional knowledge that are relevant to the pursuit of the treaties at hand. This section analyses these different approaches, the related law and its interplay. It begins with biodiversity law, moving then to consider developments occurring under the UN Convention to Combat Desertification (UNCCD), and closes with preliminary conclusions on the treatment of traditional knowledge in this subject area.

A. Convention on Biological Diversity

International biodiversity law is at an advanced stage of regime strengthening in relation to traditional knowledge. Amongst the Rio Conventions, the 1992 Convention on Biological Diversity (CBD) features the most advanced set of obligations concerning traditional knowledge. The related body of law has evolved as a result of the obligation to ‘*respect*,

preserve and maintain knowledge, innovations and practices of *indigenous and local communities* embodying traditional lifestyles *relevant* for the conservation and sustainable use of biological diversity and *promote* their wider application'.⁵⁵ Over the years the interpretation of this CBD provision has been fleshed out in a rather detailed body of hard and soft law developments.⁵⁶

The notion of traditional knowledge captured in the scope of the CBD is circumscribed to that which is 'relevant' for the conservation and sustainable use of biological diversity. This notion is broad, but clearly not all encompassing. Using the categories reported in Figure 1, traditional knowledge that is relevant for the purposes of the CBD is likely to be either *empirical* knowledge on matters such as animals, plants and landscapes; or *resource management knowledge* that is deployed to either conserve or sustainably use biodiversity, such as forest, soil and water management techniques.

The other distinguishing feature of the traditional knowledge falling within the scope of the CBD is the reference to 'indigenous and local communities embodying traditional lifestyles'. No definition of these terms has been adopted under the CBD.⁵⁷ This terminology has prompted some scholars to argue that the notion of traditional knowledge holders under the CBD leaves out individuals, as well as groups who are neither indigenous nor local,⁵⁸ and possibly also indigenous peoples and local communities who live in urbanized/western societies.⁵⁹ CBD Parties have never explicitly addressed this issue, but have emphasized that the knowledge of indigenous and local communities can be collectively or individually owned, and that it is the right of indigenous and local communities to identify the relevant knowledge holders.⁶⁰

⁵⁵ CBD article 8(j), emphasis added.

⁵⁶ Including a target in the strategic plan on biodiversity for the present decade: Decision X/2, The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, UNEP/CBD/COP/10/27 (2011), Target 18.

⁵⁷ For a reflection on the interpretation of these terms, see Savaresi, 'The International Human Rights Law Implications of the Nagoya Protocol' in E. Morgera, M. Buck and E. Tsioumani (eds), *The 2010 Nagoya Protocol on Access and Benefit-sharing in Perspective* (Martinus Nijhoff 2013). In relation to the use of the term 'indigenous peoples' in the context of the CBD, see Decision XI/14, Article 8(j) and related provisions, UN Doc. UNEP/CBD/COP/DEC/XI/14 (2012), at 18-19.

⁵⁸ Dutfield, *supra* note 30, at 240.

⁵⁹ See L. Glowka, Francoise Burhenne-Guilmin and Hugh Synge, *A Guide to the Convention on Biological Diversity* (IUCN 1994), at 11. Contra, see E. Morgera, E. Tsioumani and M. Buck, *Unraveling the Nagoya Protocol: A Commentary on the Nagoya Protocol on Access and Benefit-Sharing to the Convention on Biological Diversity* (Martinus Nijhoff 2014), at 25.

⁶⁰ As asserted in Decision X/42, The Tkarihwaïé:ri Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities Relevant to the Conservation and

As to its regulatory objectives, in principle the CBD aims both to *promote* as well as *protect* traditional knowledge falling within its scope.⁶¹ The CBD specifies that, subject to national legislation, the *promotion* of the use traditional knowledge must take place with the approval and involvement of its holders, and encourages the equitable sharing of resulting benefits.⁶² The CBD furthermore includes general obligations concerning the exchange of information⁶³ and cooperation in the development and use of indigenous and traditional technologies.⁶⁴ However, these provisions have been little implemented. Thus, for example, the CBD does not impose obligations on its Parties concerning the documentation of traditional knowledge. CBD Parties have not created a repository or database of traditional knowledge that is relevant for the purposes of the CBD, nor any international process to promote its use and exchange. This matter has been considered, and CBD Parties resolved not to proceed in this direction, leaving the issue of traditional knowledge documentation to the initiative of Parties and cultural heritage law (see section 4).⁶⁵ CBD Parties have nevertheless recognized that the documentation and recording of traditional knowledge ‘should primarily benefit indigenous and local communities’ and that ‘their participation in such schemes should be voluntary and not a prerequisite for the protection of traditional knowledge.’⁶⁶

Instead, CBD Parties have adopted soft law voluntary guidance on the respect of the cultural and intellectual heritage of indigenous and local communities⁶⁷ and on its incorporation as

Sustainable Use of Biological Diversity, which Provides for Prior Informed Consent and/or Approval and Involvement of Traditional Knowledge Holders, UN Doc. UNEP/CBD/COP/DEC/X/42 (2010), Annex, at 4 and 13.

⁶¹ CBD, article 8(j).

⁶² CBD, article 8(j). On the history of this provision, Dutfield argues that ‘while the 1992 CBD included some vague wording on protection of ‘traditional knowledge, innovations and practices,’ this was not so much through any widespread commitment on the part of governments to protect traditional knowledge in any effective manner. Instead, the wording in the CBD was the result of concerted pressure from NGOs whose influence was derived from the relatively open way the negotiating process was conducted.’ Dutfield, *supra* note 30, at 237.

⁶³ CBD, article 17.2.

⁶⁴ CBD, article 18.4.

⁶⁵ See for example, Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, Considerations for developing technical guidelines for recording and documenting traditional knowledge and the potential benefits and threats of such documentation, UN Doc. UNEP/CBD/WG8J/6/2/Add.3 (2009), at 5, where it is recognized that ‘the WIPO Traditional Knowledge Toolkit project, which aims to inform and empower holders of traditional knowledge to help them plan and make informed choices so that, if and when their traditional knowledge is documented, the outcomes serve their interests and agree with their community values, contains comprehensive considerations covering both potential benefits and threats of documenting traditional knowledge and, when completed, will meet the request of decision IX/13 C.’

⁶⁶ Decision X/43, Multi-year Programme of Work on the Implementation of Article 8(j) and Related Provisions of the Convention on Biological Diversity, UN Doc. UNEP/CBD/COP/DEC/X/43 (2010), at 24-25.

⁶⁷ Decision X/42, Preamble.

part of environmental, social and cultural impact assessment processes.⁶⁸ This guidance underscores that indigenous and local communities should have the opportunity to ‘actively participate’ in research that makes use of their traditional knowledge related to the objectives of the Convention, and ‘decide on their own research initiatives and priorities’ and ‘conduct their own research’, including building their own research institutions and the building of cooperation, capacity and competence.⁶⁹ This soft law guidance does not impose new obligations on Parties, and is rather meant to assist them in interpreting their existing obligations under the CBD.⁷⁰ Yet this guidance draws attention to the matter of empowerment of traditional knowledge holders. Mutually supportive interpretation with States’ human rights obligations arguably has the potential to fill guidance adopted under the CBD with more firm normative content (see section 4).

IPBES procedures for and approaches to working with indigenous and local knowledge systems make specific reference to CBD guidance on traditional knowledge and include both PIC and benefit-sharing requirements.⁷¹ While IPBES is breaking new ground in its effort to implement extant international guidance in the context of international assessment processes, it has so far mainly involved scientists who are experts on traditional knowledge, rather than traditional knowledge holders *ex se*.⁷² Unresolved questions concerning the means to empower traditional knowledge holders to directly contribute to assessment processes remain due to a shortage of resources, and, more generally, the fact that IPBES is not a documentation process, but is rather meant to rely upon extant traditional knowledge documentation.⁷³

⁶⁸ Decision VII/16, Article 8(j) and related provisions, UN Doc. UNEP/CBD/COP/DEC/VII/16 (2004), Annex, Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessments Regarding Sacred Sites and Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities, which Focus on How to Take into Account Traditional Knowledge, Innovations and Practices as Part of the Impact Assessment Processes and Promote the Use of Appropriate Technologies, at 64-66.

⁶⁹ CBD Decision X/42, Annex, at 25.

⁷⁰ As specified in CBD Decision X/42, Annex, at 1.

⁷¹ IPBES, Work on Indigenous and Local Knowledge Systems, IPBES/4/7 (2016), Annex, Draft Set of Approaches and Procedures for Working with Indigenous and Local Knowledge Systems, at A, 6 and 7. See also Knowledge, Information and Data Plan and Draft Strategy in IPBES, Update on Deliverable 1(d) Data and Knowledge, IPBES/3/INF/3 (2014), Annex I, at 9.

⁷² As reported for example in: IPBES Task Force on Indigenous and Local Knowledge Systems (ILK), Sub-group for the Pollination Assessment, ‘Indigenous and Local Knowledge about Pollination and Pollinators Associated with Food Production’ (UNESCO 2015) http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/IPBES_Pollination-Pollinators_Workshop.pdf, at 97 (last visited 25 March 2016).

⁷³ As emerged from the debate at ‘ESCom Series: IPBES and Science-policy-practice in Scotland’, Edinburgh Centre for Carbon Innovation, Edinburgh, 9 March 2015, notes on file with the author.

The pursuit of the *protection* of traditional knowledge falling within the scope of the CBD has led to more precise regulatory developments. The interpretation of Parties' CBD obligations has been the subject of much contention⁷⁴ and is in the process of further elucidation in the context of voluntary guidelines currently under negotiation.⁷⁵ These draft guidelines build upon earlier CBD guidance on traditional knowledge and identify mutually agreed terms between knowledge holders/owners and users as the means to define whether and how traditional knowledge may be accessed and used.⁷⁶

With regard to PIC,⁷⁷ existing CBD voluntary guidance had already underscored the need to ensure PIC at the disclosure of 'secret or sacred' knowledge,⁷⁸ and for activities/interactions occurring on or likely to impact on sacred sites and lands and waters traditionally occupied or used by indigenous and local communities and impacting upon specific groups.⁷⁹ Building upon this premise, the draft voluntary guidelines presently under negotiation specify that access to the traditional knowledge of indigenous peoples and local communities 'should be subject to [free,] prior informed consent [or approval and involvement] of the owners or holders of such traditional knowledge'⁸⁰ and that the provision of PIC does not lead to a transfer or ownership 'unless otherwise explicitly agreed.'⁸¹

With regard to benefit-sharing, existing CBD voluntary guidance had already asserted that indigenous and local communities ought to receive fair and equitable benefits for their contributions to activities/interactions related to biodiversity and associated traditional knowledge proposed to take place on, or which are likely to impact on, sacred sites and lands and waters traditionally occupied or used by indigenous and local communities.⁸² The draft voluntary guidelines presently under negotiation further add that indigenous peoples and local communities should receive fair and equitable benefits based on mutually agreed terms from

⁷⁴ On the debate concerning the meaning of this provision, see Morgera, Tsiumani and Buck, *supra* note 59, at 119-132.

⁷⁵ Recommendation 9/1, Voluntary Guidelines for the Development of Mechanisms, Legislation or Other Appropriate Initiatives to Ensure the [Free,] Prior Informed Consent [or Approval and Involvement] of Indigenous Peoples and Local Communities for Accessing Their Knowledge, Innovations and Practices, the Fair and Equitable Sharing of Benefits Arising from the Use and Application of Such Knowledge, Innovations and Practices Relevant for the Conservation and Sustainable Use of Biological Diversity and for Reporting and Preventing Unlawful Appropriation of Traditional Knowledge, UN Doc. UNEP/CBD/WG8J/REC/9/1 (2015) ['Recommendation 9/1'], Annex, at 14-18.

⁷⁶ Recommendation 9/1, Annex, at 25(g) and 19.

⁷⁷ CBD, article 8(j).

⁷⁸ CBD Decision VII/16, Annex, at 29.

⁷⁹ CBD Decision X/42, at 11.

⁸⁰ Recommendation 9/1, at 5.

⁸¹ *Ibid.*, Annex, at 9.

⁸² CBD Decision X/42, at 14.

the use of the traditional knowledge that they own or hold.⁸³ They define benefit-sharing as a means to recognize and strengthen the contribution of indigenous peoples and local communities to the conservation and sustainable use of biological diversity.⁸⁴ The sharing of benefits can be both monetary and non-monetary,⁸⁵ and should take place in ‘understandable and culturally appropriate formats’, with a view to ‘building enduring relationships, promoting intercultural exchanges, knowledge and technology transfer, synergies, complementarity and respect.’⁸⁶ In this connection, community protocols are singled out as a tool to ensure that interactions with scientists and policy-makers happen in a way that is both respectful and protective of traditional knowledge holders, including of their right not to interact at all.⁸⁷

The same regulatory approach was already enshrined in the Nagoya Protocol to the CBD on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.⁸⁸ This hard law development under the CBD was prompted by concerns associated with the unauthorized use of biological resources and/or associated traditional knowledge, and the patenting of inventions based on such knowledge or resources, without compensation. The rationale for addressing this particular kind of knowledge as a separate and self-standing issue chiefly relates to its potential for misappropriation, privatization and unjust enrichment, which are in turn associated with possible research and commercial purposes.⁸⁹ These risks raise the question of how to recognize and remunerate the contribution of traditional knowledge holders to commercial enterprises and research, for instance in the pharmaceutical and cosmetic sectors.

The notion of traditional knowledge falling within the scope of the Nagoya Protocol is therefore much narrower than that falling within the scope of the CBD. Drawing once more on the categories reported in Figure 1, what is at stake under the Nagoya Protocol are the clues that indigenous and local communities’ *empirical knowledge* of plants, animals and

⁸³ Recommendation 9/1, Annex, at 10.

⁸⁴ Ibid., Annex, at 11.

⁸⁵ Ibid., Annex, at 29.

⁸⁶ Ibid., Annex, at 25(d).

⁸⁷ Ibid., at 21.

⁸⁸ Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (Nagoya 29 October 2010, in force 12 October 2014) 30619 UNTS 27.

⁸⁹ The scope of the Nagoya Protocol does not encompass human genetic resources, nor, arguably, marine genetic resources beyond national jurisdictions. See Decision X/1, Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, UN Doc. UNEP/CBD/COP/10/27 (2010), at 5; and Charlotte Salpin, ‘The Law of the Sea: A before and an after Nagoya?’ in Morgera, Tsioumani and Buck, *supra* note 58.

their properties may provide on related genetic resources, which in turn may be exploited for scientific and/or commercial purposes. In this connection, some provisions in the Nagoya Protocol operate a distinction between the intent of use, distinguishing rights and obligations associated with commercial and non-commercial research,⁹⁰ although this difference is difficult to draw in practice.⁹¹

The regulatory approach of the Nagoya Protocol to this issue has been to restrict lawful access to traditional knowledge based on a regime characterized by contractualization hinging on mutually agreed terms between traditional knowledge holders and users. The Protocol carves out a role for national law-makers, imposing upon them the obligation to create an enabling regulatory environment for fair and equitable benefit sharing arrangements,⁹² the substance of which is left to bilateral negotiations between knowledge holders and providers.⁹³ This can be a double-edged sword given the power asymmetries between parties to the transaction. Community protocols are singled out as sources to be taken into consideration when implementing States' obligations in relation to traditional knowledge, and parties are requested to support their development.⁹⁴ The Nagoya Protocol therefore uniquely imposes specific obligations on its Parties concerning best practices in relation to traditional knowledge.

Furthermore, the Nagoya Protocol subjects the access to and use of traditional knowledge to a series of PIC and benefit-sharing conditions. On the one hand, the Protocol restricts the lawful use of traditional knowledge to instances where it has been obtained with the 'prior informed consent or approval and involvement' of knowledge holders, 'in accordance with' national legislation.⁹⁵ On the other hand, the Protocol requires that the benefits generated from the utilization of traditional knowledge be fairly and equitably shared with indigenous and local communities.⁹⁶ These benefits may be monetary and non-monetary in nature, encompassing elements as diverse as payments, food and livelihoods, as well as access to scientific

⁹⁰ Nagoya Protocol, article 8.

⁹¹ Elisa Morgera and Miranda Geelhoed, 'Consultancy on the Notion of "Utilisation" in the Nagoya Protocol and the EU ABS Regulation for the Upstream Actors' (2016) available at: <http://ec.europa.eu/environment/nature/biodiversity/international/abs/pdf/ABS%20Final%20Report%20upstream%20users.pdf>, at 19-20 (last visited 23 March 2016).

⁹² Nagoya Protocol, article 5(5) and 15-18.

⁹³ As argued also in Savaresi, *supra* note 57.

⁹⁴ Nagoya Protocol, article 12.

⁹⁵ Nagoya Protocol, article 7.

⁹⁶ Nagoya Protocol, article 5(5).

information.⁹⁷ In this context, benefit-sharing has been interpreted as a means to reward indigenous and local communities for their contributions to the creation of science, as well as to ensure that they partake in commercial revenues that may be derived from it.⁹⁸

To conclude, contractualization is the elected approach for the protection of traditional knowledge under the CBD. Even though the CBD does not require States to adopt community protocols, Parties' interpretative guidance flags their usefulness as a practice to enable the protection of the rights of traditional knowledge holders. Biodiversity negotiations have become a forum for representatives of traditional knowledge holders, and especially indigenous peoples, to engage in international policy making in ways that go beyond the standard practice of other multilateral environmental agreements.⁹⁹ Yet, some concerns have been expressed about the extent to which the CBD and the Nagoya Protocol align with States' obligations concerning the human rights of knowledge holders, especially with regard to PIC. CBD guidance has been criticized not only for its soft character,¹⁰⁰ but also for its excessive deference to national law,¹⁰¹ and its timid approach to the protection of the rights of indigenous peoples.¹⁰² While obligations concerning PIC are rather qualified under both the CBD and the Nagoya Protocol, their mutually supportive interpretation with human rights law could help address some of these concerns, as discussed in section 4.

B. The Role of Intellectual Property Law

The treatment of traditional knowledge under international biodiversity law partly overlaps in scope with that under intellectual property law. Since 2009, a World Intellectual Property Organization (WIPO) Committee has worked on an international instrument on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore. While these negotiations have not led to a formal outcome and remain ongoing at the time of writing, they are an important term of reference to understand the treatment of traditional knowledge in

⁹⁷ Nagoya Protocol, Annex.

⁹⁸ As argued in Morgera, Tsioumani and Buck, *supra* note 59, at 117-122; and Morgera, 'Justice, Equity and Benefit-Sharing under the Nagoya Protocol to the Convention on Biological Diversity' 24 *Italian Yearbook of International Law* (2015) 113.

⁹⁹ As highlighted for example in Morgera, Tsioumani and Buck, *supra* note 59, at 32.

¹⁰⁰ Harrop and J Pritchard, 'A Hard Instrument Goes Soft: The Implications of the Convention on Biological Diversity's Current Trajectory' 21 *Global Environmental Change* (2011) 474.

¹⁰¹ Lixinski, *supra* note 16, at 219.

¹⁰² See e.g. Dutfield, 'Protecting the Rights of Indigenous Peoples: Can Prior Informed Consent Help?' in R. Wynberg, D. Schroeder and R. Chennells (eds), *Indigenous Peoples, Consent and Benefit Sharing* (Springer 2009), at 55; Grand Council of the Crees (Eeyou Istchee) *et al.*, 'Nagoya Protocol on Access and Benefit Sharing: Substantive and Procedural Injustices relating to Indigenous Peoples' Human Rights' available at: http://www.ubcic.bc.ca/News_Releases/UBCICNews06061101.html#axzz1wzzjmEot (last visited 11 June 2015).

international biodiversity law.

Negotiations carried out in the context of WIPO focus largely on the *protection* of traditional knowledge. The scope of these negotiations is at the same time narrower and broader than that of the CBD. It is narrower, because it focuses only on intellectual property implications from the use of traditional knowledge. It is broader because it not only addresses traditional knowledge that is *relevant* for the conservation and sustainable use of biological diversity, but also other forms of traditional knowledge. The scope of the instrument potentially covers ‘know-how, skills, innovations, practices, teachings and learnings’ of ‘indigenous peoples’ ‘local communities’ and ‘states’ in fields such as agriculture, the environment, healthcare, medical knowledge, biodiversity, traditional lifestyles and natural resources, genetic resources, and know-how on traditional architecture and construction technologies.¹⁰³ Using the categories in figure 1, the scope of the WIPO negotiations therefore seems to encompass both *empirical* and *resource management knowledge*. Yet not all forms of traditional knowledge may be framed in terms of intellectual property rights.

Negotiations under WIPO have addressed the protection of traditional knowledge by distinguishing two issues. On the one hand, negotiations have looked into measures to prevent the acquisition of intellectual property rights by parties other than traditional knowledge holders through measures to improve the availability, searchability and exchangeability of traditional knowledge as prior art (so called ‘defensive’ protection).¹⁰⁴ On the other hand, WIPO negotiations have considered ways to use existing intellectual property, contractual rights or the development of *sui generis* rights to protect traditional knowledge by restricting its use, and by allowing traditional knowledge holders to claim compensation (so-called ‘positive’ protection).¹⁰⁵

In the first connection, WIPO negotiations have led to the establishment of a database for the voluntary compilation of existing registries of traditional knowledge and genetic resources.¹⁰⁶ Rather tellingly, the database includes only four registries, only one of which is international (see section C). Furthermore, a draft toolkit has been produced under the auspices of WIPO

¹⁰³ See Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (ICGRTKF), The Protection of Traditional Knowledge: Draft Articles WIPO/GRTKF/IC/28/5 (2014) [‘ICGRTKF Draft Articles’], at 5.

¹⁰⁴ ICGRTKF, Inventory of Existing Online Databases Containing Traditional Knowledge Documentation Data, WIPO/GRTKF/IC/3/6 (2002), at 6.

¹⁰⁵ See ICGRTKF Draft Articles, at 4.

¹⁰⁶ The database is available at: http://www.wipo.int/tk/en/resources/db_registry.html (last visited 26 April 2016).

providing guidance on how to undertake traditional knowledge documentation and address related intellectual property-related questions.¹⁰⁷ The toolkit does not advocate for the documentation of traditional knowledge, but rather elucidates modalities by which its registration and recording may be undertaken by a variety of actors, including traditional knowledge holders themselves. Although not formally adopted in the context of an intergovernmental process, the toolkit is an authoritative source of guidance on the documentation of traditional knowledge. The toolkit distinguishes traditional knowledge from ‘traditional cultural expression’, defined as ‘literary, artistic and musical productions,’ noting, nevertheless, that guidance on the documentation of the latter may be useful for the documentation of the former.¹⁰⁸ The toolkit emphasizes the need to be clear about the objectives pursued with documentation in order to identify the most appropriate means to carry it out.¹⁰⁹ The toolkit singles out the need to seek indigenous peoples and local communities’ PIC¹¹⁰ and to make clear benefit-sharing arrangements.¹¹¹ While the toolkit does not dwell on the normative origins of these requirements, it notes that States may have specific international obligations in this regard, flagging obligations in international biodiversity and human rights law instruments.¹¹²

In the second connection, WIPO negotiations have considered ways to protect traditional knowledge by means of intellectual property rights, but have struggled to agree on the means to do so. These negotiations have attempted to draw a distinction between the intent with which traditional knowledge is used, and have become entangled with dilemmas similar to those encountered under the Nagoya Protocol.¹¹³ While PIC and benefit-sharing requirements have also been suggested,¹¹⁴ it is still uncertain whether and how they will be included. Still, the fact that they are being considered supports the conclusion that these two requirements may be regarded as cross-cutting matters in international law on traditional knowledge.

¹⁰⁷ The toolkit is expected to be released as a WIPO publication later in 2016. The present analysis refers to the last consultation draft: WIPO Traditional Knowledge Documentation Toolkit, Consultation Draft, 2012, [‘WIPO Toolkit’].

¹⁰⁸ WIPO Toolkit, at 8 and 9.

¹⁰⁹ Ibid., at 22.

¹¹⁰ Ibid., at 24-26.

¹¹¹ Ibid., at 20.

¹¹² Ibid., at 24-26, where reference is made to: ILO Convention 169, the CBD and UNDRIP.

¹¹³ As reported in Antons, ‘Intellectual Property Rights in Indigenous Cultural Heritage’ in C. Beat Graber, K. Kuprecht and J.C. Lai (eds), *International Trade in Indigenous Cultural Heritage: Legal and Policy Issues* (Edward Elgar Publishing 2012), at 170.

¹¹⁴ The ICGRTKF Draft Articles, at 4, include the policy objective: ‘to [promote [the equitable sharing of benefits arising from their use with prior informed consent or approval and involvement or approval and involvement]/[fair and equitable compensation], as necessary; and].’

The problems associated with the use of intellectual property law as a means to protect traditional knowledge have been amply addressed in the literature.¹¹⁵ For the present purposes, it suffices to recall that intellectual property approaches to the protection of traditional knowledge have been criticized for prioritizing the commercialization of traditional knowledge over support for the social structures that enable its creation.¹¹⁶ Similarly to biodiversity law, representatives of indigenous peoples participate in WIPO negotiations as observers and are allowed to make contributions and proposals. In this context, indigenous peoples' representatives have objected to the separating out of elements of their cultures in order to frame them in the terms of intellectual property.¹¹⁷ Indigenous peoples have expressed concern that existing intellectual property mechanisms are inadequate, as they focus on protecting individuals rather than groups, and view intellectual property as alienable.¹¹⁸ At the same time, indigenous peoples have also rejected the 'public domain' status of traditional knowledge, arguing that it opens it up to misappropriation and misuse.¹¹⁹ These tensions mean that addressing traditional knowledge through intellectual property is a very complicated endeavour and, to date, WIPO negotiations have delivered little in the way of concrete results. The troubled history of these negotiations demonstrates that squaring traditional knowledge with intellectual property law raises considerable regulatory challenges. More generally, as seen also with biodiversity law, contractualization and propertization approaches to the protection of traditional knowledge are far from being unproblematic and raise a number of concerns that may, at least in part, be addressed through mutually supportive interpretation with human rights law (see section 4).

C. International Treaty on Plant Genetic Resources for Food and Agriculture

Yet another regulatory approach to the matter of traditional knowledge is encapsulated in the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR).¹²⁰ The ITPGR may be regarded as a *lato sensu* biodiversity treaty and is designed to be compatible

¹¹⁵ See *supra* note 19.

¹¹⁶ See, for example, Forsyth, 'Do You Want It Gift Wrapped?: Protecting Traditional Knowledge in the Pacific Island Countries' in P. Drahos and S. Frankel (eds), *Indigenous Peoples' Innovation Intellectual Property Pathways to Development* (The Australian National University E Press 2012), at 213.

¹¹⁷ As reported for example in Antons, *supra* note 113, at 158.

¹¹⁸ Human Rights Council, Promotion and Protection of the Rights of Indigenous Peoples with Respect to Their Cultural Heritage. Study by the Expert Mechanism on the Rights of Indigenous Peoples, UN Doc. A/HRC/30/53 (2015), at 59.

¹¹⁹ *Ibid.*, at 62.

¹²⁰ International Treaty on Plant Genetic Resources for Food and Agriculture (Rome, 3 November 2001, in force 29 June 2004) 2400 UNTS 303 ['ITPGR'].

with the CBD.¹²¹ Still, plant genetic resources for food and agriculture are considered a special case under the Nagoya Protocol.¹²² The rationale for a dedicated approach to these resources lies in their very nature and evolution over time. Because of the history of agriculture, in fact, plant genetic resources for food and agriculture are the result of evolutions that cannot be attributed to any single group or set of users. Furthermore, the continued use and exchange of plant genetic resources for food and agriculture is indispensable for crop improvements necessary to ensure food security.¹²³

In order to address these specific needs, the ITPGR has adopted a regulatory approach that arguably hinges on ‘stewardship’ and may be contrasted with the ‘ownership’ approach prevalent in the Nagoya Protocol.¹²⁴ The ITPGR has established a multilateral system for access and benefit-sharing derived from the utilization of a specific set of plant genetic resources.¹²⁵ This system automatically includes resources under the management and control of Parties and in the public domain,¹²⁶ as well as any contributions that farmers and other entities may voluntarily make, according to the terms of the standard Material Transfer Agreement adopted by the ITPGR Governing Body.¹²⁷ The ITPGR has furthermore established an innovative approach to the sharing of the benefits derived from the use of these resources that is multilateral rather than bilateral.¹²⁸ As a result, the payments collected from the commercial utilization of genetic resources are channelled into a fund to finance projects supporting farmers in developing countries to conserve crop diversity and adapt crops to changing needs and demands.¹²⁹

The ITPGR multilateral system does not address traditional knowledge as a self-standing issue. Rather, the treaty makes reference to the protection of traditional knowledge in the context of farmers’ right to participate in sharing benefits arising from the utilization of plant

¹²¹ As argued in Chiarolla, Louafi and Schloen, ‘An Analysis of the Relationship between the Nagoya Protocol and Instruments Related to Genetic Resources for Food and Agriculture and Farmers’ Rights’ in E. Morgera, M. Buck and E. Tsioumani (eds), *The 2010 Nagoya Protocol on Access and Benefit-sharing in Perspective* (Martinus Nijhoff 2013); and Morgera, Tsioumani and Buck, *supra* note 58, at 103.

¹²² For a detailed explanation of the interplay between the Nagoya Protocol and the ITPGR, see Morgera, Tsioumani and Buck, *supra* note 59, at 98-102.

¹²³ As reported in M. Schloen, S. Louafi and T. Dedeurwaerdere, Access and benefit-sharing for genetic resources for food and agriculture. Current use and exchange practices, commonalities, differences and user community needs. Report from a multi-stakeholder expert dialogue, CGRFA Background Study Paper no. 59 (2011).

¹²⁴ Chiarolla, Louafi and Schloen, *supra* note 121.

¹²⁵ These resources are identified in ITPGR Annex I.

¹²⁶ ITPGR, article 11.2

¹²⁷ ITPGR, article 11.3

¹²⁸ ITPGR, articles 10 and 13.

¹²⁹ ITPGR, article 18(4).

genetic resources for food and agriculture,¹³⁰ and, implicitly, in State obligations to promote or support farmers and local communities' efforts to manage and conserve plant genetic resources for food and agriculture.¹³¹ Similarly to the Nagoya Protocol, the traditional knowledge falling within the scope of the ITPGR may be categorized as *empirical knowledge* as per the categories in Figure 1.

The ITPGR does not require PIC in relation to farmers' contributions to the multilateral system.¹³² Rather, PIC is implicit in farmers' decision to voluntarily contribute materials.¹³³ The matter of traditional knowledge is more explicitly addressed in relation to benefit-sharing, as farmers are the beneficiaries of the multilateral system created by the ITPGR, which in turn may be viewed as a means to reward traditional knowledge holders, and incentivize and enable their continued contribution to the provision of a global public good.¹³⁴ Yet the fund has so far collected limited finances from voluntary contributions¹³⁵ and its benefits have arguably not trickled down to farmers.¹³⁶

Under the ITPGR, therefore, the matter of traditional knowledge is treated somewhat indirectly. The regulatory objective of the treaty is to ensure the continued improvement of plant genetic resources for food and agriculture and associated knowledge, and thus the provision of a global public good. In the economy of the treaty, the protection of traditional knowledge is ancillary to the pursuit of this public good. More specifically, the ITPGR implicitly pursues the objective of *promoting* the continued production and exchange of traditional knowledge, thereby enabling its contribution to a global public good. The approach to the promotion of the use of traditional knowledge under the ITPGR therefore radically differs in ethos from the WIPO negotiations, which are instead aimed at protecting the intellectual property rights of traditional knowledge holders, including related economic returns. Even the regulatory approach embedded in the ITPGR has not been exempt from

¹³⁰ ITPGR, articles 9.2 (b).

¹³¹ ITPGR, article 5.1(c).

¹³² As argued in Chiarolla, Louafi and Schloen, *supra* note 121, at 97.

¹³³ *Ibid.*, at 104.

¹³⁴ As argued in E. Tsioumani, *Exploring Benefit-Sharing from the Lab to the Land (Part I): Agricultural Research and Development in the Context of Conservation and Sustainable Use* (2014), available at: <http://papers.ssrn.com/abstract=2524337>, at 38 (last visited 8 November 2015).

¹³⁵ As reported in ITPGR Governing Body, Report on the Funding Strategy, T/GB-6/15/11 (2015).

¹³⁶ See, for instance, the statement presented by a coalition of civil society organizations at the fourth meeting of the Treaty's Governing Body in Bali, Indonesia (14-18 March 2011), as reported in Chiarolla, Louafi and Schloen, *supra* note 121. See also Kamau, 'The Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture: Lessons and Room for Development' in E.C. Kamau and G. Winter (eds), *Common Pools of Genetic Resources: Equity and Innovation in International Biodiversity Law* (Routledge, 2014), 343, at 362.

criticism however. It has been argued that the ITPGR has not prevented or sufficiently contrasted a predominantly intellectual property-oriented approach to plant genetic resources for food and agriculture and related traditional knowledge, and has not adequately secured the protection of farmers' rights.¹³⁷ Here too, international human rights law may arguably provide an aid to support the implementation of States' obligations, as will be discussed further in section 4.

D. United Nations Convention to Combat Desertification

The matter of traditional knowledge is also addressed in the third Rio Convention, the UNCCD. As in international biodiversity law, the treatment of traditional knowledge in the context of the UNCCD is at an advanced stage of development and regime strengthening. However, the UNCCD chiefly focuses on the *promotion* of the use of traditional knowledge related to the pursuit of the objective of the Convention, i.e. to tackle desertification. With reference to the categories in figure 1, a host of *resource management* and *empirical* knowledge are potentially relevant, and it is likely that some forms of traditional knowledge may fall within the scope of both the UNCCD and international biodiversity law.

Contrary to international biodiversity law, the UNCCD explicitly requires its parties promote and use relevant traditional knowledge, and make inventories of it.¹³⁸ Parties are furthermore required to 'exchange information on local and traditional knowledge'¹³⁹ in the context of desertification *assessment* processes, as well as to support research activities that protect, integrate, enhance and validate such knowledge.¹⁴⁰ These obligations include qualifiers specifying that the treatment of traditional knowledge is subject to Parties' 'respective national legislation and/or policies.'¹⁴¹ The UNCCD underscores the need to provide 'appropriate returns from the benefits derived from' assessment processes,¹⁴² as well as from any commercial utilization or technological development.¹⁴³

Similarly to the CBD and the Nagoya Protocol, the UNCCD envisions a contractual and bilateral approach to the access and sharing of benefits derived from the use of traditional

¹³⁷ Zuhre, *supra* note 17, at 13.

¹³⁸ UNCCD, article 18(2)a.

¹³⁹ UNCCD, article 16(g).

¹⁴⁰ UNCCD, article 17(c).

¹⁴¹ UNCCD articles 16(g), 17(c) and 18.2.

¹⁴² UNCCD, article 16(g).

¹⁴³ UNCCD, 17(c) and 18.2.

knowledge,¹⁴⁴ specifying that benefit-sharing take place ‘on an equitable basis’ and on ‘mutually agreed terms.’¹⁴⁵ The convention provides little clarity on who parties to such contractual arrangements may or should be. Unlike other international environmental instruments, the UNCCD does not single out specific groups of knowledge holders, such as ‘farmers’ (as in the ITPGR), or ‘indigenous and local communities embodying traditional lifestyles’ (as in the CBD).¹⁴⁶ The beneficiaries of these arrangements are generically identified as either the ‘local populations concerned’ or traditional knowledge ‘owners.’ Compared with other international environmental instruments, therefore, the scope of the UNCCD is seemingly undetermined.

In spite of these distinctions, there is clear resonance between language used in the CBD and the UNCCD. Indeed, the scope of these treaties in relation to traditional knowledge is likely to overlap. CBD obligations will therefore apply whenever the documentation processes under the UNCCD relate to traditional knowledge that is also relevant for the purposes of the CBD. The UNCCD does not make any reference, explicit or implicit, to traditional knowledge holders’ PIC. Rather, the convention merely requires the preparation of inventories to be undertaken ‘with the participation of local populations, and disseminate such information, where appropriate, in cooperation with relevant intergovernmental and non-governmental organizations.’¹⁴⁷ This language recalls the generic reference to the ‘involvement’ of traditional knowledge holders in the CBD and even falls short of the requirement of ‘approval.’ Yet an interpretation of UNCCD provisions in light of human rights law entails that, at least in some cases, free PIC will be a requirement for the lawful inclusion of traditional knowledge in inventories. Ultimately, PIC and benefit-sharing requirements derived from other sources of international law on traditional knowledge may be applicable in the context of the UNCCD, depending on treaty membership (see section 4). The implementation of UNCCD obligations in relation to traditional knowledge has led to numerous institutional and soft law developments, including the piloting of a knowledge broker portal to bridge existing information repositories.¹⁴⁸ Similarly to the assessment carried out under the IPBES, the implementation of UNCCD obligations has reportedly

¹⁴⁴ UNCCD articles 17(1)(c) and 18(2)(b).

¹⁴⁵ UNCCD articles 16(g), 17(c) and 18.2.

¹⁴⁶ UNCCD, articles 16(g) and 17(1)(c), which generically refer to ‘local populations’ and ‘knowledge owners’.

¹⁴⁷ UNCCD article 18.2(a).

¹⁴⁸ This portal is currently under development. See: <<http://www.unccd.int/en/programmes/Science/Knowledge-Management/Documents/SKBP%20prototype.pdf>>

suffered from a shortage of resources and traditional knowledge experts.¹⁴⁹

E. *Interim Conclusions*

This section has shown that no one size-fits-all approach to traditional knowledge exists in international environmental law, and that not all of the instruments analysed have achieved the same level of development. Different instruments have taken different regulatory approaches, whose rationale lies in the objectives pursued.

Promotion and protection objectives often coexist. Yet the predominance of one over the other tends to engender different regulatory outcomes. For example, while international biodiversity law is in principle concerned both with the protection and the promotion of the use traditional knowledge, the protection ethos has clearly been predominant under the CBD. A different ethos underpins the ITPGR, which has pioneered an architecture that enables the documentation of knowledge associated with a rather small pool of genetic resources. The UNCCD has established specific and pervasive documentation obligations upon its Parties, whereas some voluntary guidance on documentation processes has been produced also in the context of WIPO.

All instruments analysed in this section focus on sectors or segments of traditional knowledge that can be ascribed to the first two levels identified in figure 1. This sectoral approach is justified by the mandates of the instruments, none of which aims to protect or promote traditional knowledge *ex se*. Rather, international environmental instruments address traditional knowledge only insofar as it is relevant to achieving environmental objectives.

On the functions performed by international environmental law in relation to traditional knowledge, it seems possible to conclude the following. International environmental law has made some progress in creating obligations concerning the promotion and protection of traditional knowledge at the national, subnational and local levels. Guidance adopted under international biodiversity law has especially highlighted the role of community protocols in this connection. Not all international environmental law instruments explicitly require PIC. Benefit-sharing requirements, however, are mentioned in all international environmental law instruments, with some variations in relation to the identification of beneficiaries. Whilst biodiversity law singles out indigenous and local communities as traditional knowledge

¹⁴⁹ The matter is referenced to in the context of the Report of the Conference of the Parties on its twelfth session, UN Doc. ICCD/COP(12)/20/Add.1 (2015).

holders, the ITPGR refers only to farmers, and the UNCCD rather generically refers to ‘local communities’ and ‘knowledge owners.’ The identification of these subjects is left open-ended in all instruments and does not seem to have significant regulatory implications, perhaps with the sole exception of the ITPGR, which specifically identifies farmers in developing countries as the beneficiaries of its multilateral system.¹⁵⁰

More generally, international environmental law has not developed a uniform approach to preventing the misuse and misappropriation of traditional knowledge. While some hard law developments have occurred, not all traditional knowledge falling within the scope of international environmental law has been subjected to the same regime of protection. In this regard, the discriminating factor seems to be the nature of the knowledge at stake and the regulatory objectives pursued.¹⁵¹ In some instances, international environmental law adopts systems enabling tighter control over some forms of traditional knowledge, restricting who may access it and under what conditions in order to prevent exploitation without adequate benefits flowing to holders. Control can be achieved in different ways, but so far contractualization has been the predominant model. The Nagoya Protocol is the most sophisticated embodiment of this approach, whereas WIPO negotiations have borne no fruit in this regard as yet. In other instances, international environmental law envisions traditional knowledge as something that ought to flow into the public domain and become widely accessible in order to enable the pursuit of global public goods, such as combating desertification, or tackling food security. In these instances, international law instruments focus on establishing the means for promoting the use of traditional knowledge. Nevertheless, the modalities and procedures of documentation and exchange are of great importance, and different arrangements in this regard are possible, as illustrated by the differences between the ITPGR and the UNCCD. Soft law guidance adopted under the CBD has emphasized the need to empower traditional knowledge holders, but without specifying State obligations in this connection. Finally, international environmental law does not provide international remedies to traditional knowledge holders who feel that their knowledge has been misappropriated or

¹⁵⁰ ITPGR, article 18(4).

¹⁵¹ As also argued in Forsyth, *supra* note 116, at 210 and in Climate and Traditional Knowledge Workgroup, *supra* note 21, at 5, where it is noted: ‘TKs occupy a spectrum of beliefs and practices. At one end, they may be highly secret, sacred or culturally sensitive and held by only one or a few people with rules that strictly proscribe who may use them, how and when they be used, and for what purposes. At the other end, TKs may be widely shared with less restrictive rules on their use.’

otherwise misused.¹⁵²

The implementation of all the instruments analysed in this section has faced shortcomings. Documentation and diffusion processes encounter challenges associated with the identification of procedures and means to properly include and involve traditional knowledge holders. Instruments restricting access by means of contractualization meet with the dilemma of how to address power imbalances between traditional knowledge holders and users. A mutually supportive interpretation with human rights law may be helpful to address these shortcomings, as the next section explains.

4. Traditional Knowledge in Cultural Heritage and Human Rights Law

The matter of traditional knowledge has been addressed under both cultural heritage and human rights law in terms rather different to those deployed in international environmental law. Neither regime has in fact dealt with traditional knowledge as a self-standing issue. Therefore, unlike international environmental law, there are no specific hard or soft law developments in relation to traditional knowledge in either cultural heritage or human rights law. However, both regimes deal indirectly with traditional knowledge as part and parcel of the broader protection afforded to cultural heritage and culture/science respectively. The rationale for protection is radically different from that observed in international environmental law, where traditional knowledge is protected/promoted insofar as it is relevant for the achievement of the objectives of the various treaties, and is subjected to compatibility with objectives such as the conservation of biological diversity and its sustainable use, or the fight against desertification. In the cultural heritage and human rights context, the protection of traditional knowledge is *ex se a desideratum*.¹⁵³

Yet the protection and promotion of the use of traditional knowledge raise questions that lie at the intersection of environmental and human rights law. The matter of the interplay between these bodies of law is not new, and has been amply investigated in the literature.¹⁵⁴ In relation

¹⁵² As remarked also in CBD Decision XII/12, D, preamble.

¹⁵³ Even though it is subject to compatibility with the protection of other human rights. Human Rights Council, Report by the Independent Expert in the Field of Cultural Rights, UN Doc. A/HRC/17/38 (2011), at 64 and at 74.

¹⁵⁴ The literature on this issue is vast, see e.g. A.E. Boyle and M.R. Anderson, *Human Rights Approaches to Environmental Protection* (Oxford University Press 1998); Boyle, 'Human Rights or Environmental Rights? A Reassessment' 18 *Fordham Environmental Law Review* (2007) 471; D.K. Anton and D. Shelton, *Environmental Protection and Human Rights* (Cambridge University Press 2012); D. Shelton, *Human Rights and the Environment* (Edward Elgar 2011); Boyle, 'Human Rights and the Environment: Where Next?' 23 *European Journal of International Law* (2012) 1; J.H. Knox, *Diagonal Environmental Rights* (2008),

to traditional knowledge, this work suggests that States' obligations under these two bodies of law should be seen as two sides of the same coin. Indeed, general rules on the interpretation of international law suggest that, when faced with 'implementation conflicts' –i.e. conflicts engendered by the implementation of perfectly compatible treaty obligations¹⁵⁵ States should interpret their obligations in such a way as to support, rather than conflict with, the objectives of relevant international conventions and agreements.¹⁵⁶ This section therefore analyses the protection of traditional knowledge under cultural heritage and human rights law with a view to ascertaining its potential for mutual supportive interpretation with international environmental law.

A. Cultural Heritage Law

Traditional knowledge is widely understood to be a component of intangible cultural heritage.¹⁵⁷ The latter is the subject of a dedicated international law instrument, the UN Educational, Scientific and Cultural Organization Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO Convention). The Convention aims to protect intangible cultural heritage,¹⁵⁸ which is defined as 'the practices, representations, expressions, *knowledge*, skills—as well as the instruments, objects artefacts and cultural spaces associated therewith—that *communities*, *groups* and, in some cases *individuals* recognize as part of their cultural heritage.'¹⁵⁹ This definition includes knowledge and practices concerning nature.¹⁶⁰ Therefore, even though not all forms of intangible cultural heritage are traditional knowledge, many forms of *empirical* and *resource management knowledge* falling within the scope of the international environmental law instruments analysed in section 3 may also fall within the

available at: <http://papers.ssrn.com/abstract=1134863> (last visited 28 October 2014); J.H. Knox, 'Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment. Individual Report on Global and Regional Environmental Agreements' (Office of the United Nations High Commissioner for Human Rights 2013).

¹⁵⁵ This term is used to refer to conflicts that are engendered by the implementation of perfectly compatible treaty obligations. See R. Wolfrum and N. Matz, *Conflicts in International Environmental Law* (Springer 2003), at 24 and 96.

¹⁵⁶ Vienna Convention on the Law of Treaties (Vienna, 23 May 1969), 8 International Legal Materials, 679 (entered into force: 27 January 1980) Article 31.3(c); and ILC, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law. Report of the Study Group of the International Law Commission* (Geneva, 2006), at 410-480. The application of this approach is suggested in A. Savaresi, *The Emergence of Benefit-Sharing under the Climate Regime. A Preliminary Exploration and Research Agenda* (2014) available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2524335, at 4 and 14 (last visited 8 January 2015).

¹⁵⁷ See e.g. Expert Mechanism on the Rights of Indigenous Peoples, *supra* note 118, Annex, at 1.

¹⁵⁸ UNESCO Convention, article 1.

¹⁵⁹ UNESCO Convention, article 2, emphasis added.

¹⁶⁰ UNESCO Convention, article 2.2.

scope of the UNESCO Convention.¹⁶¹ The scope of the UNESCO Convention is in this connection much broader than that of international environmental law, and potentially encompasses all levels of traditional knowledge identified in figure 1.

The UNESCO Convention safeguards intangible cultural heritage by focusing on the conditions that enable its continued provision, rather than on means to regulate access or ownership. Like other UNESCO instruments, the Convention confines itself to creating a system of international obligations to document cultural heritage by means of lists, with the aim of conferring international visibility and thus contributing to its safeguarding.¹⁶² Therefore the regulatory objective is the *protection* of traditional knowledge, rather than the promotion of its use. Similarly to the UNCCD, the UNESCO Convention approaches this matter by imposing upon its Parties an obligation to develop inventories of intangible cultural heritage present in their territory. Contrary to the UNCCD, however, the compilation of inventories is not aimed at the pursuit of global public goods, other than the preservation of traditional knowledge itself, as part of cultural heritage.

In this connection, the UNESCO Convention does not explicitly require PIC, but only that the identification and stewardship of heritage be carried out with the ‘participation of communities, groups and relevant non-governmental organizations.’¹⁶³ Parties should furthermore ensure that access to intangible cultural heritage is in line with customary practices governing access to specific aspects of such heritage.¹⁶⁴ These provisions have subsequently been interpreted in guidance concerning the implementation of the Convention as a free PIC requirement.¹⁶⁵ Human rights bodies have underscored how these provisions ought to be regarded as an ‘entry point’ for a ‘human-rights based’ approach to the protection of intangible cultural heritage¹⁶⁶ and that no inscription on UNESCO lists should be granted without the free PIC of concerned communities.¹⁶⁷

¹⁶¹ Both forms of empirical knowledge, like practices and know-how concerning tree species, and resource management knowledge, like the cultivation of mastic, have already included in the protection lists under the UNESCO Convention.

¹⁶² As observed also in Francioni, ‘Cultural Heritage’, *Max Planck Encyclopedia of Public International Law* (2013).

¹⁶³ UNESCO Convention, articles 11(b) and 15.

¹⁶⁴ *Ibid.*, article 13(d)(ii))

¹⁶⁵ Operational Directives for the Implementation of the Convention for the Safeguarding of the Intangible Cultural Heritage, 2014, Chapters I and III.

¹⁶⁶ Independent Expert in the Field of Cultural Rights, *supra* note 154, at 23.

¹⁶⁷ *Ibid.*, at 80; and Expert Mechanism on the Rights of Indigenous Peoples, *supra* note 118, Annex, at 12.

Equally, the UNESCO Convention does not make any explicit reference to benefit-sharing. Nevertheless the guidance concerning its implementation encourages Parties to ensure that communities, groups and individuals concerned ‘benefit from the actions taken to raise awareness about their intangible cultural heritage’.¹⁶⁸ This generic reference does not go so far as to require specific contractual arrangements to assert ownership and control over the use of traditional knowledge, as, for example, references in international biodiversity law do.

The matter of the protection of cultural heritage is of particular importance with reference to indigenous peoples. The issue was first considered in 1995, when the Special Rapporteur on the Prevention of Discrimination and Protection of Minorities prepared Draft Principles and Guidelines on the Protection of the Heritage of Indigenous Peoples.¹⁶⁹ The principles were drafted to tackle indigenous peoples’ concerns that extant international instruments did not adequately protect their rights.¹⁷⁰ In 2005, the UN Commission on Human Rights considered the matter again, underscoring the need to complement processes dealing with traditional knowledge under WIPO and the CBD with a human rights-based approach to the protection of indigenous peoples’ cultural heritage, and to restrict access to instances where free PIC is given.¹⁷¹

In 2015 the Expert Mechanism on the Rights of Indigenous Peoples recommended that States re-visit the Draft Principles and Guidelines for the Protection of the Heritage of Indigenous Peoples, with a view to the possibility of adopting them as an instrument.¹⁷² The Mechanism specifically recommended that States recognize indigenous peoples’ right to control and benefit from their cultural heritage, including traditional knowledge.¹⁷³ It also noted that extant international law does not adequately protect the cultural heritage of indigenous peoples, emphasizing that the sectoral and fragmented approaches to the protection of cultural

¹⁶⁸ Operational Directives for the Implementation of the Convention for the Safeguarding of Intangible Cultural Heritage, 2014, at 101(d).

¹⁶⁹ Draft Principles and Guidelines on the Protection of the Heritage of Indigenous Peoples, elaborated by Mrs. Erica-Irene Daes, Special Rapporteur of the Sub-Commission on the Promotion and Protection of Human Rights, E/CN.4/Sub.2/1995/26 (1995).

¹⁷⁰ As reported for example in Wiessner, ‘Culture and the Rights of Indigenous Peoples’ in A. Vrdoljak (ed), *The Cultural Dimension of Human Rights* (Oxford University Press 2013), at 136-7.

¹⁷¹ UN Commission on Human Rights, Review of the Draft Principles and Guidelines on the Heritage of Indigenous Peoples. Expanded working paper submitted by Yozo Yokota and the Saami Council on the substantive proposals on the draft principles and guidelines on the heritage of indigenous peoples, UN Doc. E/CN.4/Sub.2/AC.4/2005/3 (2005), at 6 and 7-11.

¹⁷² Expert Mechanism on the Rights of Indigenous Peoples, *supra* note 118, Annex, at 11.

¹⁷³ *Ibid.*, Annex, at 17.

heritage in extant international law do not fit with those of indigenous peoples.¹⁷⁴

In sum, international cultural heritage law establishes obligations concerning the documentation of cultural heritage, which encompasses traditional knowledge. While the UNESCO Convention does not make reference to free PIC and benefit-sharing, some reference to both has been made in guidance subsequently adopted by its Parties. Human rights law has been pointed to as an important element to address the perceived shortcomings of cultural heritage law in this connection. International human rights bodies have underscored synergies between these bodies of law, especially but not only in relation to indigenous peoples. The next section considers the concrete role that human rights law may play in this regard.

B. Human Rights Law

The protection of traditional knowledge in human rights law is a-specific and results from the interplay of a series of rights that centre on culture. The protection of culture is at the heart of a series of human rights,¹⁷⁵ including the freedom of thought, conscience and religion;¹⁷⁶ freedom of expression;¹⁷⁷ and the prohibition of discrimination.¹⁷⁸ The right to culture is furthermore enshrined in a dedicated human right, which is protected under both foundational international human rights treaties.¹⁷⁹ These obligations take on specific nuances in relation to the protection of the rights of indigenous peoples. Therefore, this section first analyses how traditional knowledge is protected under the right to culture, then focuses on the rights of indigenous peoples. This section also considers how the procedural guarantees in relation to participation, access to information and access to justice enshrined in human rights law may be applied in the context of traditional knowledge. These guarantees have already been used in practice to support the implementation of environmental laws at the international, regional and domestic levels.¹⁸⁰ There is no reason why this should not be the case in relation to the

¹⁷⁴ Ibid., at 8 and 24.

¹⁷⁵ In this sense, see also ACHPR, *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya*, Communication No. 276/2003, at 241.

¹⁷⁶ International Covenant on Civil and Political Rights (New York, 16 December 1966, in force 23 March 1976), 999 UNTS 171 [‘ICCPR’], article 18.

¹⁷⁷ ICCPR, article 19.

¹⁷⁸ ICCPR, article 26.

¹⁷⁹ ICCPR, article 27; and International Covenant on Economic, Social and Cultural Rights (New York, 16 December 1966, 3 January 1976) 993 UNTS 3 [‘ICESCR’], article 15.

¹⁸⁰ As reported in Human Rights Council, Independent Expert on the issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment. Mapping Report, UN Doc. A/HRC/25/53 (2013).

international instruments analysed in section 3.¹⁸¹ This section therefore explores the potential for mutually supportive interpretation of States' obligations associated with traditional knowledge under international human rights and environmental law.

1. *The Right to Culture*

The right to culture encompasses 'customs and traditions through which individuals, groups of individuals and communities express their humanity and the meaning they give to their existence, and build their world view representing their encounter with the external forces affecting their lives.'¹⁸² In this regard, international human rights bodies have cautioned that the concept of culture is not a 'series of isolated manifestations or hermetic compartments', but, rather, an 'interactive process whereby individuals and communities, while preserving their specificities and purposes, give expression to the culture of humanity'.¹⁸³ This understanding of culture, and of related traditional knowledge, seemingly encompasses all of the levels identified in figure 1.

The protection of traditional knowledge under the right to culture is implicit in States' negative obligations concerning non-interference with the exercise of cultural practices and access to cultural goods and services, as well as positive obligations concerning participation in, facilitation and promotion of cultural life, and access to and preservation of cultural goods. As an expression of culture, traditional knowledge is therefore the subject of both negative and positive obligations that are centred mainly, though not exclusively, on *protection*.

Under the International Covenant on Civil and Political Rights (ICCPR),¹⁸⁴ the right to culture is associated with the maintenance of a certain way of life and the use of land resources.¹⁸⁵ Over the years a body of guidance and practice has emerged in relation to indigenous peoples' free PIC.¹⁸⁶ Yet the right to culture does not solely concern indigenous peoples, but generically extends to all 'minorities'.

Under the International Covenant on Economic, Social and Cultural Rights (ICESCR)¹⁸⁷

¹⁸¹ As also suggested in Savaresi, *supra* note 57.

¹⁸² UN Committee on Economic, Social and Cultural Rights, General Comment No. 21, UN Doc. E/C.12/GC/21 (2009), at 13.

¹⁸³ *Ibid.*, at 12.

¹⁸⁴ ICCPR, article 27.

¹⁸⁵ Human Rights Committee, General Comment No. 23, UN Doc. CCPR/C/21/Rev.1/Add.5 (1994), at 7.

¹⁸⁶ As suggested, for example, in International Law Association, 'Sofia Conference Report. Rights of Indigenous Peoples' (2012), at 17.

¹⁸⁷ ICESCR, article 15.

States' obligations in relation to the right to culture have been articulated around the requirements to respect, protect, and fulfil. The obligation to respect requires States to refrain from interfering, directly or indirectly, with the right to access and enjoy cultural heritage, while the obligation to protect requires that they prevent third parties from interfering with that right.¹⁸⁸ The obligation to fulfil requires States to take appropriate measures for the full realization of the right to access and enjoy cultural heritage by all, and for improving the conditions under which this right can be enjoyed.¹⁸⁹

The Independent Expert in the Field of Cultural Rights has furthermore noted how effective remedies, including judicial ones, should be made available to individuals and communities who feel that their cultural heritage is not fully respected and/or protected, or that their right of access to and enjoyment of cultural heritage has been infringed upon.¹⁹⁰ In at least one instance, an international human rights body has sanctioned a lack of adequate protection of the right to culture, making specific reference to traditional knowledge.¹⁹¹ The right to culture therefore has the potential to complement the protection of traditional knowledge under other international instruments by providing an entry point to complain about misuses and misappropriation of traditional knowledge and report unauthorized access, and thus access to remedies. Yet very limited practice on the use of the right to culture in this sense exists.

These guarantees for protection may also be derived from the combined interpretation of international, regional and national human rights provisions concerning the right to culture and procedural rights on access to justice and remedy.¹⁹² In particular, human rights law requires States to make available domestic law remedies, including judicial remedies, to concerned individuals and communities who feel that their culture is either not fully respected and protected or that their right of access and enjoyment is being infringed.¹⁹³ Periodic reporting to human rights treaty bodies on actions taken to ensure the full participation of concerned individuals and communities, as well as measures taken, can also play an important role in supplementing and complementing States' obligations under international

¹⁸⁸ General Comment No. 21, at 50.

¹⁸⁹ Ibid., at 6.

¹⁹⁰ Independent Expert in the Field of Cultural Rights, *supra* note 166, at 64 and at 80(I).

¹⁹¹ Concluding Observations of the Committee on Economic, Social and Cultural Rights: Russian Federation, UN Doc. E/C.12/RUS/CO/5 (2011), at 34, where the Committee recommended that the State party draft law including 'clear and precise norms for the effective protection of the right of indigenous peoples in the North, Siberia and the Far East, to their ancestral lands, natural resources and cultural heritage, including protection of their intellectual property rights to their works which are an expression of their *traditional* culture and *knowledge*.'

¹⁹² As argued also in Savaresi, *supra* note 57.

¹⁹³ Independent Expert in the Field of Cultural Rights, *supra* note 166, at 80(I).

environmental law.¹⁹⁴

Taken together, these elements are an important aid to interpret States' obligations under the sectorial instruments addressing traditional knowledge analysed in section 3. For example, when one considers the matter of bilateral contracts negotiated in the context of the Nagoya Protocol, the obligations of State Parties to human rights instruments are arguably not adequately fulfilled by the establishment of means to negotiate mutually agreed terms for access and benefit-sharing alone. Instead, States' obligations also encompass a duty of supervision over contracts on traditional knowledge, such as those envisioned under biodiversity law, as well as the provision of remedies in cases of alleged violations of procedural and substantive rights resulting from these contractual relations.¹⁹⁵

The interpretation of States' human rights obligations associated with the right to culture also encompasses specific free PIC and benefit-sharing elements. With regard to free PIC, the Independent Expert in the Field of Cultural Rights has underscored how *all* concerned *communities* and relevant *individuals* should be consulted and invited to actively participate in the identification, selection, classification, interpretation, preservation/safeguarding, stewardship and development of cultural heritage.¹⁹⁶ These obligations are crucial in relation to all processes concerning the documentation of traditional knowledge. Obligations associated with the right to culture include seeking the free PIC of source communities before adopting measures concerning their cultural heritage, while professionals should build relationships with the communities and peoples whose cultural heritage they are the repositories of, and respect their contributions regarding the significance, interpretation, sharing and display of such heritage.¹⁹⁷ Furthermore, researchers should ensure the free PIC of the communities and peoples whose cultural heritage they desire to investigate at all stages of research and dissemination.¹⁹⁸ There are clear overlaps with States' obligations associated with the documentation of traditional knowledge under the UNESCO Convention and the UNCCD. Nevertheless, there are limitations to the role international human rights law can play in this connection, which depend on treaty membership. Only States that have ratified human rights treaties will be subjected to the obligations associated with the protection of the

¹⁹⁴ As suggested in Independent Expert in the Field of Cultural Rights, *supra* note 166, at 64 and at 80(n).

¹⁹⁵ As argued also in Savaresi, *supra* note 57.

¹⁹⁶ *Ibid.*, at 80(c).

¹⁹⁷ *Ibid.*, at 80(g).

¹⁹⁸ *Ibid.*, at 80(h).

right to culture.

With regard to benefit-sharing, the right to culture includes that to benefit from cultural heritage and the creation of others.¹⁹⁹ While this right broadly resonates with benefit-sharing requirements in the international environmental instruments analysed above, it also raises potential conflicts regarding the restriction of access that underlies some of those same instruments. The Committee on Economic, Social and Cultural Rights has in this connection cautioned against the adverse consequences of globalization and the undue privatization of goods and services,²⁰⁰ and thus the risks associated with propertization regimes. The Independent Expert in the Field of Cultural Rights has nevertheless recognized that varying degrees of access and enjoyment of cultural heritage may be recognized, taking into consideration the diverse interests of individuals and communities, depending on their relationship to specific forms of cultural heritage.²⁰¹

2. *Indigenous Peoples*

Indigenous peoples enjoy special protection in human rights law²⁰² and special status in international human rights institutions and law-making, with prerogatives that are not normally bestowed on other non-State actors.²⁰³ Indigenous peoples' rights build on general human rights obligations²⁰⁴ with specific nuances.²⁰⁵ International and regional human rights bodies have recognized the central role of culture in the preservation and advancement of the identity and collective rights of indigenous peoples, as well as of all individual rights of their members.²⁰⁶ In this regard, the human rights of indigenous peoples assume a markedly cultural connotation.²⁰⁷ International human rights bodies have recognized States' positive

¹⁹⁹ Ibid., at 79.

²⁰⁰ General Comment No. 21, at 50.

²⁰¹ Ibid.

²⁰² The issue is widely addressed in the literature and in a report by the International Law Association, *supra* note 186.

²⁰³ Charters, 'A Self-Determination Approach to Justifying Indigenous Peoples' Participation in International Law and Policy Making' 17 *International Journal on Minority and Group Rights* (2010) 215.

²⁰⁴ As argued in the Report of the Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people, S. James Anaya, Promotion and Protection of All Human Rights, Civil, Political, Economic, Social and Cultural Rights, Including the Right to Development (2008) UN Doc. A/HRC/9/9, 40.

²⁰⁵ Expert Mechanism on the Rights of Indigenous Peoples, *supra* note 118, Annex, at 6, where it is argued that human rights law is a congenial means to address indigenous peoples' claims over the protection of traditional knowledge.

²⁰⁶ UNDRIP, in particular articles 5, 8, and 10–13; ILO Convention No. 169, in particular articles 2, 5, 7, 8, and 13–15. See also General Comment No. 21, at 36; Expert Mechanism on the Rights of Indigenous Peoples *supra* note 118, at 6–7; ACHPR, *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya*, Communication No. 276/2003, at 241.

²⁰⁷ As argued in Scott and Lenzerini, 'International Indigenous and Human Rights Law in the Context of Trade in Indigenous Cultural Heritage' in C. Graber, K. Kuprecht and J. Lai (eds), *International Trade in*

duties to protect indigenous peoples' cultural rights, as well as their rights in relation to their traditional lands, territories, resources and activities.²⁰⁸ They have furthermore underscored the need to include indigenous peoples in decisions that affect them,²⁰⁹ and to interpret the right to culture consistently with indigenous peoples' right to self-determination.²¹⁰ Specific links have been drawn between free PIC, benefit-sharing and the right to culture, as well as the right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author.²¹¹

In relation to the latter, human rights bodies have highlighted indigenous peoples' right to maintain, control, protect and develop their cultural heritage, traditional knowledge and cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including 'human and genetic resources, seeds, medicines and knowledge of the properties of fauna and flora.'²¹² Similarly, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) makes reference to indigenous peoples' right to 'maintain, control, protect and develop' traditional knowledge, as well as 'manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts.'²¹³ Thus, there appear to be clear overlaps between the protection of indigenous peoples' traditional knowledge under human rights law and that under the international law instruments analysed in sections 3 and 4. In this regard, human rights bodies have cautioned against a fragmented approach to the protection of traditional knowledge, calling instead for a holistic approach.²¹⁴

In relation to the right to culture, human rights bodies have established a link between the need to respect and protect indigenous peoples' traditional knowledge, and protection from the illegal or unjust exploitation of their lands, territories and resources by State entities or private or transnational enterprises and corporations.²¹⁵ Great prominence has been given to

Indigenous Cultural Heritage (Edward Elgar Publishing 2012), at 75; and A. Xanthaki, *Indigenous Rights and United Nations Standards* (Cambridge University Press 2007), at 282.

²⁰⁸ *Lubicon Lake Band v. Canada*, Communication No. 167/1984 (1990), at 32.2.

²⁰⁹ *Poma Poma v. Peru*, Communication No. 1457/2006 (2009), at 7.7.

²¹⁰ ICCPR article 1, and *Mahuika v. New Zealand*, Communication No. 547/1993 (2000).

²¹¹ ICESCR, article 15, paragraph 1(c); and General Comment No. 17 (2005), at 32.

²¹² ICESCR, article 15, paragraph 1(a); and General Comment No. 21, at 37.

²¹³ UNDRIP, Article 31.

²¹⁴ See Expert Mechanism on the Rights of Indigenous Peoples *supra* note 118, at 24 and Annex, at 7.

²¹⁵ General Comment No. 21, at 27 and 55(e).

indigenous peoples' right to free PIC with regard both to cultural heritage²¹⁶ and traditional knowledge.²¹⁷ Indigenous peoples' right to free PIC has, according to some, become part of customary international law,²¹⁸ together with their right to the recognition and preservation of their cultural identity.²¹⁹ While this view is not unanimously shared, it is beyond doubt that free PIC requirements in relation to the use of traditional knowledge are widespread,²²⁰ and have increasingly been recognized in the practice of development assistance,²²¹ as well as in standards adopted in connection with some climate change response measures.²²² With regard to benefit-sharing, human rights bodies have emphasized the need to ensure indigenous peoples' right to control and benefit from their cultural heritage.²²³ This matter, however, has received comparatively little attention in the practice of human rights bodies.²²⁴

C. *Interim Conclusion*

International cultural heritage and human rights law both indirectly address the treatment of traditional knowledge, and potentially cover all four levels identified in Figure 1. Their

²¹⁶ ILO Convention No. 169, article 6(a). See also UNDRIP, article 19; and Expert Mechanism on the Rights of Indigenous Peoples *supra* note 118, Annex, at 12.

²¹⁷ See also Expert Mechanism on the Rights of Indigenous Peoples, Advice No. 3: Indigenous Peoples' Languages and Cultures, UN Doc. A/HRC/21/53(2012), at 12: 'This right includes duties to obtain indigenous peoples' free, prior and informed consent when developing and implementing laws and policies related to indigenous languages and cultures, including to promote indigenous peoples' control over the development of their languages and cultures and their *traditional knowledge*.'

²¹⁸ International Law Association, The Hague Conference Report, Rights of Indigenous Peoples (2010), at 51.

²¹⁹ *Ibid.*, at 17.

²²⁰ See the review of practice included in UN-REDD Programme, 'Legal Companion to the UN-REDD Programme Guidelines on FPIC' (2012), available at: http://www.unredd.net/index.php?view=document&alias=8792-legal-companion-to-the-un-redd-programme-guidelines-on-fpic-8792&category_slug=legal-companion-to-fpic-guidelines-2655&layout=default&option=com_docman&Itemid=134 (last visited 22 March 2016).

²²¹ See for example International Finance Corporation, Performance Standard 7 – Indigenous Peoples (2012), at 16, which requires free PIC whenever the commercial use of Indigenous Peoples' cultural resources is at stake. For an analysis, see e.g. Dutfield, *supra* note 102; Barstow Magraw and Baker, 'Globalization, Communities and Human Rights: Community-Based Property Rights and Prior Informed Consent' 35 *Denver Journal of International Law and Policy* (2006) 413; McKay, 'Indigenous Peoples' Right to Free, Prior and Informed Consent and the World Bank's Extractive Industries Review' 4 *Sustainable Development Law & Policy* (2004) 44; and Lenzerini, 'Sovereignty Revisited: International Law and Parallel Sovereignty of Indigenous Peoples' 42 *Texas International Law Journal* (2006) 155.

²²² See for example UN-REDD Programme, 'Guidelines on Free, Prior and Informed Consent' available at: http://www.un-redd.org/Launch_of_FPIC_Guidelines/tabid/105976/Default.aspx, at 27 (last visited 25 May 2015).

²²³ ICESCR, article 15, paragraph 1(c); and General Comment No. 17 (2005), at 32: 'States parties should respect the principle of free, prior and informed consent of the indigenous authors concerned and the oral or other customary forms of transmission of scientific, literary or artistic production; *where appropriate, they should provide for the collective administration by indigenous peoples of the benefits derived from their productions*' (emphasis added). See also Expert Mechanism on the Rights of Indigenous Peoples, *supra* note 118, Annex, at 17 and 20. Similar obligations are arguably implicit in ILO Convention 169, article 15 and UNDRIP, article 31.

²²⁴ As argued in Morgera, 'Fair and Equitable Benefit-sharing at the Crossroads of the Human Right to Science and International Biodiversity Law' 4 *Laws* (2015) 803.

approaches, however, differ markedly. International cultural heritage law has given little consideration to questions of access to traditional knowledge, focussing rather on its documentation. Documentation is aimed at the preservation of traditional knowledge in and of itself, as part of cultural heritage, and not at the pursuit of other global public goods, such as those identified in the instruments analysed in section 3. Intriguingly, the regulatory objective pursued is the protection of traditional knowledge, rather than the promotion of its use, thus marking a significant difference with the ethos of documentation under the UNCCD.

Conversely, international human rights law protects traditional knowledge in an all-encompassing fashion, regardless of the reason for which it is being collected or used. It imposes obligations on Parties that are relevant to both the promotion of use and the protection of traditional knowledge at the national, subnational and local levels. Depending on treaty membership, the wide-ranging obligations associated with the right to culture cover all traditional knowledge holders, but are especially pervasive in relation to indigenous peoples.

For States that are Parties to human rights treaties, the correct approach is to interpret obligations under international environmental instruments dealing with traditional knowledge in light of, rather than in conflict with, human rights law. In other words, for these States interpreting their obligations under international environmental law in light of human rights law is not just an option, but also a matter of legal obligation. With regard to free PIC, the interpretation of States' obligations under human rights instruments seems to leave little doubt that free PIC is required both for access to and the treatment of traditional knowledge.²²⁵ A mutually supportive interpretation of international human rights and environmental law obligations would suggest that free PIC is a requirement in connection with the use of traditional knowledge in the design and implementation of measures falling within the scope of the environmental instruments analysed in this paper. On benefit-sharing, it seems possible to argue that a mutually supportive interpretation of human rights and environmental law obligations leads to positive obligations to oversee contractual arrangements related to the access and use of traditional knowledge and provide means to temper power imbalances amongst parties.²²⁶

²²⁵ ICESCR, article 15, paragraph 1(c); and Independent Expert in the Field of Cultural Rights *supra* note 166, at 80.

²²⁶ As argued also in Savaresi, *supra* note 57, at 54.

More generally, international human rights law seems to complement the protection of traditional knowledge in other international law instruments in three main connections. Firstly, it provides obligations on the inclusion of traditional knowledge holders in documentation processes, including their empowerment to carry out documentation processes if they so wish. Secondly, it requires that the outcomes of such processes align with the substantive rights of traditional knowledge holders. This includes, for example, the right to be recognized as contributors in science creation and assessment processes. Finally, human rights law may provide access to remedies at the domestic and, potentially, the international level regarding complaints over breaches of traditional knowledge holders' rights. Thus, while international human rights law has not developed specific tools to prevent the misuse and misappropriation of traditional knowledge, it uniquely provides international remedies that may be used by traditional knowledge holders who feel their knowledge has been misappropriated or otherwise misused. These remedies are no silver bullet, and are limited in their capacity to redress human rights abuses and ultimately address their root causes.²²⁷ Furthermore, human rights law has so far been only sporadically used for the protection of traditional knowledge. Moving forward, however, it seems possible to make greater use of existing international human rights law as a means to address the regulatory needs arising in relation to the protection of traditional knowledge in international environmental law. In this regard, the potential to apply international human rights law across the board appears underexplored and meritorious of further reflection. Some suggestions on how this potential may be exploited are provided in the conclusions.

5. Traditional Knowledge and International Climate Change Law

The matter of traditional knowledge is barely addressed in the climate regime in an explicit way. Yet some interim reflections may be drawn from the sparse references to traditional knowledge in the climate regime in light of extant international law, with a view to understanding whether there are any regulatory needs that are additional to those already covered by other instruments.

²²⁷ For a critique of the human rights edifice, see for example: Kennedy, 'Challenging Expert Rule: The Politics of Global Governance' 27 *Sydney Law Review* (2005) 5; and Koskenniemi, 'Human Rights Mainstreaming as a Strategy for Institutional Power' 1 *Humanity: An International Journal of Human Rights, Humanitarianism, and Development* (2010) 47; and Griffins, 'Relativity and Ethnocentricity of Human Rights' in C.S. Rowan, M. Liao and M. Renzo (eds), *Philosophical Foundations of Human Rights* (Oxford University Press 2015).

In relation to the objective to *protect*, the analysis carried out in this paper indicates that the treatment of traditional knowledge in the context of the climate regime is unlikely to raise regulatory questions concerning the commercial exploitation of traditional knowledge that are not already covered by other international processes and instruments. In other words, the use of traditional knowledge in relation to climate change is unlikely to raise regulatory questions on, for example, access to traditional knowledge on genetic resources, which are not addressed in international biodiversity law. International biodiversity law has in this connection a *lex specialis* character that is likely to prevail over more general obligations that State Parties may have. The discriminating factor would be the kind of traditional knowledge at stake (i.e. knowledge associated with genetic resources) and treaty membership (CBD, Nagoya Protocol and/or ITPGR). As a result, there would seem to be little need for international climate change law to duplicate regulatory efforts undertaken under other international instruments. The task would rather be to build linkages between obligations under applicable instruments (for States that are Parties to these treaties) and to raise Parties' awareness of these.

The situation is very different in relation to the objective to *promote* the use of traditional knowledge both in the assessment of, as well as in the design and implementation of measures to prevent and tackle climate change. The regulatory questions emerging in this connection differ in nature for assessment processes and climate change response measures.

Assessment processes are not *ex se* about the documentation of traditional knowledge, yet they rely upon interaction between scientists and traditional knowledge holders, and some form of documentation. While the international climate regime does not at present include obligations concerning the documentation of traditional knowledge, these may follow from recent developments. Should this be the case, Parties to the climate regime will be faced with regulatory questions similar to those that have confronted Parties to the UNCCD and the UNESCO Convention. The practice under these instruments is therefore an important term of reference to understand how international obligations on traditional knowledge documentation may be crafted as well as perceived shortcomings. The scope of these instruments is also likely to overlap with that of the climate regime, depending on the traditional knowledge at stake. It will therefore be important to understand how and to what extent the legal obligations enshrined in the UNCCD and the UNESCO Convention may already address questions on the documentation of traditional knowledge that may arise in the climate regime, and what outstanding regulatory needs there may be.

Treaty bodies of the climate regime have claimed that there is an overall lack of guidance concerning the inclusion of traditional knowledge in the assessment of climate change. This impression is generally corroborated by the analysis carried out in this paper. While some guidance on assessment processes exists, it is rather limited in scope. It would therefore seem appropriate for Parties to the climate regime to adopt specific guidance concerning the involvement of traditional knowledge holders in climate change assessment. In this regard, both international human rights law²²⁸ and voluntary guidance adopted under international biodiversity law emphasize the need for PIC, benefit-sharing, and traditional knowledge holders' active participation in research.²²⁹ Together these elements suggest that there seems to be some convergence on the need to empower traditional knowledge holders in science creation and assessment processes. The practice of the IPBES has evidenced the need for adequate finance and capacity-building to enable greater and better interaction between traditional knowledge holders and scientists. An interpretation of States' obligations concerning climate change research and related cooperation²³⁰ in light of international human rights obligations relevant to traditional knowledge arguably requires Parties to the climate regime to enable traditional knowledge holders' involvement in science creation and assessment processes. This interpretation remains to be tested. Yet developments initiated with the adoption of the Paris Agreement may pave the way to greater State cooperation on this issue and elucidation of what their obligations in this connection may be.

The picture is less blurry with regard to the role of traditional knowledge in the design and implementation of *climate change response measures*, whether they concern mitigation or adaptation. Traditional knowledge on these matters is already addressed in extant international law. Ample practice on the interplay between international human rights and environmental law already exists in relation to public participation, access to information and access to justice. The question is to determine which of these obligations apply in relation to treatment of traditional knowledge. As this paper has shown, international biodiversity law provides voluntary guidance on the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities. This guidance suggests that States are meant to take into account the

²²⁸ ICESCR, article 15, paragraph 1(c); and General Comment No. 17 (2005), at 32; and UNDRIP, Article 31.

²²⁹ CBD Decision X/42, Annex, at 25.

²³⁰ UNFCCC, Article 5, on research and systematic observation of climate change, and cooperation in this regard; and Paris Agreement Article 7.7, on cooperation on adaptation.

traditional knowledge, innovations and practices of indigenous and local communities as part of impact-assessment processes, placing great emphasis on PIC and benefit-sharing.²³¹ This paper has nevertheless also shown that, with regard to free PIC, international biodiversity law leaves a wide margin of appreciation to national law-makers. With regard to benefit-sharing, international biodiversity law does not specifically impose clear-cut obligations upon States to grapple with contractual imbalances between traditional knowledge holders and users. Furthermore, the scope of the use of traditional knowledge in the climate regime goes beyond instances where sacred sites and lands and waters traditionally occupied or used by indigenous and local communities are at stake. An interpretation of States' obligations oriented towards systemic integration may help address these gaps.

The interplay between human rights law and other areas of the law depends on treaty membership and rules concerning the relationship between treaties. The climate regime is fairly unique in international environmental law, as it includes a specific reference to the fact that Parties should respect, promote and consider their 'respective obligations' on human rights and the rights of indigenous peoples and local communities when taking action to address climate change.²³² While such a reference does not have the effect of imposing new human rights obligations on Parties to the climate regime, it draws attention to the need to comply with existing ones.²³³ So, even though the Parties to the climate regime are yet to draw up a dedicated legal framework on traditional knowledge, and may never do so, the climate regime already provides entry points to consider States' extant obligations under international human rights law.

Developments in the context of REDD+ indicate that Parties' already share this understanding. REDD+ safeguards are laden with implications on the interplay between international law obligations.²³⁴ Their reference to the fact that REDD+ actions should 'complement' or be 'consistent with' the objectives of 'relevant international conventions and agreements'²³⁵ is a significant piece of interpretative guidance concerning the relationship

²³¹ Decision VII/16, Annex, at 29.

²³² Paris Agreement, Preamble and Decision 1/CP.16, at 8, according to which: 'Parties should, in all climate change related actions, fully respect human rights.'

²³³ Savaresi, 'The Paris Agreement: A New Beginning?' 34 *Journal of Energy and Natural Resources Law* (2016) 1.

²³⁴ As argued in Savaresi, 'The Role of REDD in Harmonising Overlapping International Obligations' in E. Hollo, K. Kulovesi and M. Mehling (eds), *Climate Change and the Law. A Global Perspective* (Springer 2013); and Savaresi, 'The Legal Status and Role of Safeguards' in C. Voigt (ed), *Research Handbook on REDD+ and International Law* (Edward Elgar Publishing 2016).

²³⁵ Decision 1/CP.16, Appendix I, at 2(a).

between UNFCCC Parties' international obligations concerning REDD+ and those embedded in other instruments. Rather than attempting to renegotiate what has already been agreed in other fora, UNFCCC Parties simply recall existing law. As a result, REDD+ safeguards are linked with existing bodies of laws concerning traditional knowledge. There are two separate orders of considerations to be made in this connection.

On the one hand, virtually all developing country Parties to the UNFCCC eligible to participate in REDD+ have ratified some human rights treaties.²³⁶ A mutually supportive interpretation of UNFCCC Parties' obligations on traditional knowledge with those under other relevant instruments arguably entails seeking free PIC in line with obligations under human rights treaties that any given UNFCCC Party has ratified.²³⁷ This interpretative guidance has already been followed by at least one international agency, which has specifically adopted a human rights-based approach to REDD+,²³⁸ including guidance on free PIC as interpreted by international and regional human rights bodies.²³⁹

On the other hand, the traditional knowledge that may be relevant for REDD+ activities may also fall within the scope of the CBD. This is the case with regard to knowledge on forests and their management, which may be used for the verification of forest stocks and the design of REDD+ policies. CBD obligations complement those under the climate regime, providing guidance that is both 'relevant' and has been adopted under an instrument ratified by virtually all Parties to the UNFCCC.²⁴⁰ Indeed, the CBD COP has emphasized the potential for its guidance to assist UNFCCC Parties in the implementation of REDD+ activities.²⁴¹ Whether and how this guidance will be taken into account in practice remains to be seen.²⁴² It nevertheless seems clear that, at least in connection with REDD+, international climate

²³⁶ Virtually all developing country Parties to the UNFCCC eligible to participate in REDD+ have ratified the International Covenant on Civil and Political Rights, and the International Covenant on Economic, Social and Cultural Rights. Several have also ratified regional human rights treaties.

²³⁷ As argued also in Savaresi, 'The Legal Status and Role of Safeguards', *supra* note 234; and Savaresi, 'The Role of REDD in Harmonising Overlapping International Obligations', *supra* note 234.

²³⁸ UN-REDD, Social and Environmental Principles and Criteria (2012), at 2-3.

²³⁹ UN-REDD, Guidelines on Free, Prior and Informed Consent (2013).

²⁴⁰ As argued also in Savaresi, 'The Role of REDD in Harmonising Overlapping International Obligations', *supra* note 234.

²⁴¹ Decision XI/19, Biodiversity and Climate Change Related Issues, UN Doc., UNEP/CBD/COP/DEC/XI/19 (2012), Annex, at 13. For a detailed review, see Savaresi, 'Reducing Emissions from Deforestation in Developing Countries under the United Nations Framework Convention on Climate Change. A New Opportunity for Promoting Forest Conservation?' in F. Maes *et al.* (eds), *Biodiversity and Climate Change: Linkages at International, National and Local Levels* (Edward Elgar 2013).

²⁴² A. Savaresi, 'The Operationalization of Benefit-Sharing in REDD+' available at: <http://www.benelexblog.law.ed.ac.uk/2014/07/04/the-operationalization-of-benefit-sharing-in-redd/> (last visited 10 August 2014).

change law provides guidance on how to address the matter of traditional knowledge by making reference to other bodies of international law. As far as other sectors of climate change action are concerned, the entry point provided by the references to human rights in the climate regime mentioned above would need to be relied on, as well as general rules concerning the interpretation of international law, especially those on systemic integration.

6. Conclusions: Doing the Right Thing

This paper has distilled the regulatory questions emerging in relation to the treatment of traditional knowledge in international law. It has shown that international law on this issue is at various stages of development. While international law is unlikely by its very nature to provide all the answers to the regulatory questions arising in connection with traditional knowledge, existing instruments provide some obligations that support the protection of traditional knowledge at the national, subnational and local levels. International biodiversity law is a crucial term of reference in this regard, and has made considerable strides in identifying best practices and voluntary guidance, which in some cases has solidified in hard law obligations. International law has also made some effort to avoid the creation of perverse incentives concerning the misuse and misappropriation of traditional knowledge. Yet regulatory developments in this regard have been patchy and context specific. Finally, international law provides few remedies to traditional knowledge holders who feel that their knowledge has been misappropriated or otherwise misused. Human rights law may lend itself to this purpose, but its potential largely remains to be tested in practice.

De lege lata, therefore, doing the right thing with traditional knowledge in international law depends on two main variables. The first is the objective that is being pursued. The evolution of international law on traditional knowledge has been characterized by a tension between ensuring its contribution to the provision of global public goods, and the need to protect the rights of its holders. This paper has shown that international law has dealt with these objectives in a fragmented manner. Benefit-sharing and free PIC requirements are the *fil rouge* running through this body of law. The fact that they are considered across international instruments demonstrates that there is significant consensus that these two issues need to be addressed. Yet the question of how is significant. Free PIC and benefit-sharing obligations are context-specific and depend on the traditional knowledge and traditional knowledge holders at stake.

The second, and very much related, variable is that of States' existing obligations. As is often the case with international law, the regulatory picture emerging from the interplay between instruments is composite. There is a need to explore the potential for interpreting extant international law on traditional knowledge ways that are mutually supportive. This potential is particularly evident in relation to the interplay between international human rights and environmental law obligations. Ultimately, the implications of extant international law on traditional knowledge for the climate regime depend on a host of considerations that relate to treaty membership and the interpretation of norms governing the relationship between treaties.

De lege ferenda, the analysis carried out in this paper suggests that Parties to the climate regime should consider adopting guidelines in relation to the use of traditional knowledge in scientific assessment and documentation processes. For the time being, little has been done in this direction. Existing international law should assist Parties to the climate regime as they attend to this complex task. A blanket import of guidance adopted under other instruments into the climate regime is unlikely, both because of considerations related to treaty membership, as well as because of a lack of political will to set a precedent in this regard.²⁴³

In terms of international law-making, Parties to the climate regime are therefore at a crossroads. They may decide to stick with the *status quo* and avoid elaborating specific guidance on traditional knowledge. Alternatively, and similarly to what happened with REDD+, they may make reference to guidance and obligations under other international processes. Finally, they may decide to embrace the challenge and engage in drafting guidance or even obligations on the use of traditional knowledge for purposes associated with the climate regime. The role of the climate regime on this issue is largely residual, and would need to build on extant international law, whenever relevant, without duplicating efforts made under other instruments. If and when Parties to the climate regime decide to attend to this

²⁴³ On cooperation between the UNFCCC and the CBD, see: van Asselt, 'Managing the Fragmentation of International Environmental Law: Forests at the Intersection of the Climate and Biodiversity Regimes' 44 *New York University Journal of International Law and Politics* (2012) 1205, where the author quotes as an example the fact that Australia has expressed the view that the CBD and the UNCCD do not have a legitimate role in climate change mitigation. Compare UNFCCC SBSTA, 'Views on the Paper on Options for Enhanced Cooperation among the Three Rio Conventions, Submissions from Parties,' UN Doc. FCCC/SBSTA/2006/MISC.4 (2006), submission by Australia, at 5. Along similar lines, see Brazil's submission on REDD+, noting that: 'discussions regarding non-carbon benefits should be fully *consistent* with the respective mandates of each international regime, while preserving the *primacy* of UNFCCC over REDD+.' See Views on the issues referred to in decision 1/CP.18, paragraph 40. Submissions from Parties and admitted observer organizations, UN Doc. FCCC/SBSTA/2014/MISC.4 (2016), at 3–4 (emphasis added).

complex task, the instruments reviewed in this paper will doubtlessly provide either an expedient point of departure, or a necessary term of reference.