

Forthcoming in Emma Lees & Jorge Vinuales, *Oxford Handbook of Comparative Environmental Law* (OUP)

Chapter 29

ENVIRONMENTAL PRINCIPLES ACROSS JURISDICTIONS: LEGAL CONNECTORS AND CATALYSTS

Eloise Scotford*

Contents:

- I) Overview
 - II) Environmental principles as legal connectors
 - 1. Introduction
 - 2. Connection through soft law instruments
 - 3. Connection through judicial dialogue
 - 4. Connection through legal scholarship
 - III) Environmental principles as legal catalysts
 - 1. Introduction
 - 2. The European Union
 - 3. India
 - 4. Brazil
 - 5. New South Wales (Australia)
 - IV) Concluding remarks
 - V) Select bibliography
-

I) OVERVIEW

In thinking about the comparative law dimensions of environmental law, environmental principles stand out as beacons of interest and possibility. Environmental principles provide focal points for connecting jurisdictions and legal cultures around environmental issues in at least three ways. They are prevalent in international soft law instruments concerning environmental protection, as well as increasingly in national legal instruments; they form part of judicial exchanges of ideas in environmental disputes across jurisdictions; and they support an increasingly vibrant and connected scholarly global discourse concerning environmental law and its foundations. However, whilst environmental principles can act as legal connectors across jurisdictions, reflecting the inherent nature of environmental law as a transnational

* Professor of Law, Faculty of Laws, University College London, United Kingdom.

enterprise, these connections are subtler than simply representing the emergence of a common set of identical legal phenomena globally. This is because environmental principles – such as the precautionary principle, the polluter pays principle, the principle of sustainable development, and the principle of intergenerational equity – are flexible concepts that are differently endorsed as legal ideas across jurisdictions. Isolating environmental principles as a target for analysis is thus not straightforward – various legal instruments and scholarly works indicate that different groups of environmental principles are the ‘core’ group of principles to define environmental law, to articulate its foundations, to reflect its principal policy goals, or to overcome its challenges.

In light of this complexity, the chapter focuses on environmental principles as a general phenomenon in environmental law. It focuses not on a fixed set of environmental principles but on the idea of environmental principles as presenting a collective cornerstone for environmental law in some way. The chapter does however restrict analysis to principles of substantive environmental policy, and does not address ‘procedural’ environmental principles such as environmental impact assessment in any depth. This is partly to limit the contribution to a reasonable scope but also reflects the dominant approach to grouping these principles in environmental law scholarship and legal compendia of environmental principles to date.¹

Another feature of environmental principles that compounds their elusiveness legally is their general formulation and concomitant ambiguity of meaning. Environmental principles legally fall within a ‘category of concealed multiple reference’,² capable of adapting differently to various legal institutional and doctrinal environments. Beyond their endorsement of ideas of environmental protection policy, the flexibility of environmental principles is what makes them so popular and legally prevalent across jurisdictions. A number of jurisdictions have seen innovative and bold legal developments concerning environmental principles – in constitutional frameworks, in legislation, and in judicial reasoning. The European Union (EU), France, India, Brazil, and different states in Australia stand out as prominent examples.³

¹ Eg Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (OUP 2002) 1-2 (examining the precautionary principle, principle of prevention and polluter pays principle as the ‘three foremost environmental principles’ amongst a number of principles whose ‘disparity leads to perplexity’); UNEP, *Judicial Handbook on Environmental Law* (UNEP 2005) (presenting the principles of prevention, precaution, polluter pays, and environmental justice and equity as the ‘common core of [environmental] law and policy most relevant to the world’s judiciary’). However, the grouping of ‘principles’ included in different instruments and works can include many different kinds of ideas and is often wide-ranging: eg Alhaji B M Marong, ‘From Rio to Johannesburg: Reflections on the Role of International Legal Norms in Sustainable Development’ (2003) 16 *Geo Int’l Envtl L Rev* 21, 59-64 (identifying a variety of groupings of principles said to constitute ‘legal principles of sustainable development’) and see the discussion of the Rio Declaration below nn 17-22 and accompanying text.

² Julius Stone, *Legal System and Lawyers’ Reasoning* (Stanford University Press 1964) 246. The connection between amorphous ideas like environmental principles and Stone’s legal categories of ‘illusory reference’ was made in the editorial introduction to Paul Martin and others (eds), *The Search for Environmental Justice* (Edward Elgar 2015) 2.

³ There are other notable jurisdictions in which environmental principles play significant legal roles (eg Pakistani courts adopting the precautionary principle to interpret the Pakistan constitution: *Zia v WAPAD* PLD 1994 SC 693 [8]), not to mention the international legal jurisprudence that has

The chapter will show how legal developments in these jurisdictions – focusing on India, Brazil, the EU, and New South Wales – involve environmental principles acting as catalysts for legal evolution, within the institutional contexts and doctrinal environments of the particular legal cultures involved. This catalysing effect is often boosted by judicial observation of legal developments concerning environmental principles in other jurisdictions, although not always, and it demonstrates the potential of environmental principles to break new paths of legal reasoning within legal systems, including in light of their nominal connections to similarly named principles in other legal environments.

Whilst environmental principles can act as important catalysts for legal development, there is a need for methodological care in analysing these legal phenomena across jurisdictions. Similarly named principles in different legal contexts are not equivalent legal ideas and a keen awareness of legal culture is required in thinking about how environmental principles are penetrating, emerging from and informing legal orders. The chapter concludes that environmental principles are innovative and legally exciting concepts in many legal contexts, which can connect, catalyse and inspire legal thinking in relation to environmental problems across jurisdictions, but they are also concepts that require legal care in their analysis across complex legal landscapes.

II) ENVIRONMENTAL PRINCIPLES AS LEGAL CONNECTORS

1. Introduction

The idea of *legal connection* is important in thinking about environmental principles across legal orders.⁴ This is because environmental principles are not firmly established doctrinal legal principles that reside neatly across the ‘Westphalian duo’ of international and national legal orders.⁵

Despite their prevalence in international instruments,⁶ it is a mistake to think of environmental principles as concepts that are created and defined by public international law that trickle down into national legal systems for implementation.⁷

developed around certain principles, eg *Pulp Mills (Argentina v Uruguay)* [2010] ICJ Rep 14 [178] (concerning the role of ‘sustainable development’ in international law).

⁴ This terminology is deliberately different from legal ‘diffusion’ (eg William Twining, ‘Social Sciences and Diffusion of Law’ (2005) 32 *JL & Soc* 203), which is associated with globally linked legal ideas but implies something common or similar is spread or transposed. No commonality for environmental principles as legal ideas can be assumed, beyond their common nomenclature, nor can their emergence be predominantly framed as a simple migration of ideas from one context to another.

⁵ Alan Buchanan, ‘“Rawls’ Law of Peoples: Rules for a Vanished Westphalian World’ (2000) 111 *Ethics* 697.

⁶ For a survey of such instruments, see n 23.

⁷ Cf Ben Boer, ‘Institutionalising Ecologically Sustainable Development: The Roles of National, State, and Local Governments in Translating Grand Strategy into Action’ (1995) 31 *Willamette L Rev* 307; Brian Preston, ‘Leadership by the Courts in Achieving Sustainability’ (2010) 27 *EPLJ* 321. Fajardo del Castillo more aptly describes environmental principles as ‘connecting vessels of domestic law and international law, and ... also in the relations between international environmental law and general international law, or other specialist fields of international law’: Teresa Fajardo del Castillo,

They are not akin to universal human rights or international laws of the sea, which are firmly rooted in international law and have established legal identities in national legal systems as a result.⁸ Environmental principles are subtler norms that have developed in a non-linear fashion within and across states. They are flexible normative vessels that have been devised often for pragmatic and political reasons in different political and legal cultures, creating questions more than providing answers about their legal meanings and relevance. At most, we can generalize that environmental principles – such as the precautionary principle, polluter pays principle, principle of intergenerational equity, sustainable development principle, and principle of integration – are generally expressed environmental policy ideas that have a common nomenclature (although not a common grouping)⁹ and which are increasingly implicated in legal orders globally. As a general rule, environmental principles have no predetermined definitions or fixed legal roles as universal phenomena. On the contrary, their open formulation gives rise to definitional flexibility and their primary role as expositions of policy ideas – to promote precautionary approaches to risk (the precautionary principle) or to resolve environmental problems at source rather than downstream (the principle of rectification at source), for example – can militate against recognizing them as legal norms at all.¹⁰

Despite these features, environmental principles are increasingly taking hold in legal orders in a variety of ways. Furthermore, their flexibility as normative concepts allows them to facilitate legal connections across legal orders in a range of non-formal ways. This part explores this ‘globalising’ dimension of environmental principles as legal ideas¹¹ – investigating how they are developing as legal connectors across legal orders without constituting formal and universal norms of public international law.

2. Connection through soft law instruments

The first manifestation of the roles of environmental principles as legal connectors can be seen through their proliferation in soft law instruments. Whilst some individual environmental principles qualify as principles of customary international law – notably

‘Environmental Law Principles and General Principles of International Law’ in Kramer & Orlando, *Principles of Environmental Law* (Edward Elgar 2018, forthcoming).

⁸ Environmental principles might be seen as an alternative form of norm whilst there is no settled internationally recognized right to a clean or healthy environment: Kramer & Orlando, ‘Introduction’, *ibid.*

⁹ That is, different groups of environmental principles appear in legal instruments in different legal contexts.

¹⁰ Most notably, the Dworkinian model of legal principles explicitly contrasts principles from policy: Ronald Dworkin, *Taking Rights Seriously* (2nd edn, Duckworth 1978) 82-84.

¹¹ The globalising evolution of environmental principles reflects William Twining’s observations that globalization, as a legal phenomenon, involves much more complicated relationships and interactions than a simple vertical hierarchy of legal norms from the international plane to the national or local: William Twining, ‘Globalisation and Comparative Law’ in Esin Öricü and David Nelken (eds), *Comparative Law: A Handbook* (Hart 2007). See also Paul Schiff Berman, ‘The Evolution of Global Legal Pluralism’, in Roger Cotterrell & Maksymilian Del Mar (eds), *Authority in Transnational Legal Theory: Theorising Across Disciplines* (Edward Elgar 2016).

the principle of prevention and elements of sustainable development¹² – the idea of environmental principles constituting a recognised collection of substantive environmental policy norms has to date only found favour in international soft law instruments. States have made non-binding commitments to various sets of environmental principles in a succession of international instruments, developing a pattern of such principles acting as codes of agreement and symbols of aspiration in different environmental contexts.

The most prominent example of this is the 1992 Rio Declaration on Environment and Development,¹³ which represents a watershed statement – but also a compromised legal agreement¹⁴ – in relation to sustainable development. Notably, it built on the 1987 Brundtland Report,¹⁵ which represented the first international statement concerning sustainable development, again in the form of a soft law agreement agreed at the United Nations-sponsored World Commission on Environment and Development. The Brundtland Report set out the first international consensus on sustainable development as a global goal, and contained an annex of ‘legal principles’ concerning environmental protection and sustainable development, which set the scene for the Rio principles to come.¹⁶ The subsequent Rio Declaration contains 27 principles that are a mixture of goals concerning environment and development issues,¹⁷ agreements to develop laws and regulations at national level,¹⁸ principles of customary international law,¹⁹ principles of environmental policy, and commonly recognised environmental rights and procedures.²⁰ Within these Rio principles are a range of policy approaches that are

¹² *Iron Rhine Arbitration, Belgium/Netherlands*, Award, ICGJ 373 (PCA 2005) (prevention); Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (3rd ed, CUP 2012, 206-217) (sustainable development).

¹³ United Nations Conference on Environment and Development, ‘Rio Declaration on Environment and Development’ (14 June 1992) UN Doc A/CONF.151/26 (Vol I) 31 ILM 874 (1992) (‘Rio Declaration’).

¹⁴ The prior Brundtland Report had called for an international charter to ‘prescribe new norms for... state behaviour to maintain livelihoods and life on a shared planet’: World Commission on Environment and Development, ‘Report of the World Commission on Environment and Development: Our Common Future’ (20 March 1987) UN Doc A/42/427 (‘Brundtland Report’) 332.

¹⁵ As well as the Stockholm Declaration 1972 (United Nations Environment Programme, ‘Declaration of the United Nations Conference on the Human Environment’ (16 June 1972) UN Doc A/CONF.48/14, 11 ILM 1461 (1972)) and UN World Charter for Nature 1982 (28 October 1982) UN Doc A/RES/37/7.

¹⁶ Brundtland Report (n 14) Annexe 1.

¹⁷ Such as recognizing that humans are the ‘centre of concerns for sustainable development’, recognizing the interdependence of peace, development and environmental protection, promoting an international economic system that leads to economic growth but also addresses environmental degradation, and ensuring the full participation of women, young people and indigenous communities in achieving sustainable development: Rio Declaration (n 13) principles 1, 12, 20-22, 25.

¹⁸ eg *ibid* principle 11 (states to enact ‘effective environmental legislation’); principle 13 (states to develop national law on liability and compensation for victims of environmental damage).

¹⁹ *ibid* principle 2 (sovereign right to exploit natural resources and responsibility not to cause damage to other States); principle 18 and 19 (cooperation in relation to transboundary environmental harm); principle 27 (co-operation generally).

²⁰ eg *ibid* principle 10 (access to information and rights of participation in environmental decision-making for individuals, supported by access to judicial and administrative proceedings); principle 17 (environmental impact assessment).

generally articulated as ‘environmental principles’,²¹ including a formulation of the precautionary principle in Article 15; the polluter pays principle in Article 16; the principle of intergenerational equity in Article 3; and the integration principle in Article 4. Furthermore, all the Rio principles, as a group, constitute a manifesto for sustainable development, sometimes also referred to as the ‘principle’ of sustainable development. The varied form of these Rio Declaration principles shows they were not designed solely as a specific set of ‘environmental principles’. Indeed, they each represent very different ideas about, and approaches to, environmental protection, with varying histories as policy ideas,²² and many of the Rio Principles are not commonly identified as ‘environmental principles’ in legal scholarship or national legal developments. Rather, the Declaration represents a symbolic incarnation of certain environmental principles as a group (within a group), promoting the identification of certain policy principles as ‘environmental principles’ in a transnational and quasi-legal context.

The momentum of the Rio Declaration, and the international drive for the normativity of environmental principles, has continued with subsequent efforts to formulate further international statements of environmental principles. These include updated UN-sponsored soft law agreements on sustainable development,²³ and expert formulations of internationally-recognised environmental law principles,²⁴ including most recently (at the time of writing) the preliminary draft Global Pact for the Environment.²⁵ The draft Pact lists a new grouping of environmental principles, ‘applicable to the wide sphere of the environment... each devoted to one aspect of international law and development – most of which enjoy consensus’,²⁶ and it represents a reinvigorated quest for their formal international legal recognition. The proponents of the draft Pact aim to overcome the limitations of the Rio Declaration as a soft law instrument and to create a treaty that will become the ‘cornerstone of international environmental law’ which will ‘trigger a legislative and jurisprudential

²¹ The Rio principles are not only concerned with environmental goals, but economic and social goals as well.

²² eg the polluter pays principle originated as an OECD policy idea (1972 Council Recommendation on Guiding Principles concerning International Aspects of Environmental Policies, OECD, C(72) 128 final) and the precautionary principle had established itself in certain national legal orders (notably German law) well before the Rio Declaration (de Sadeleer (n 1) 125-129).

²³ World Summit on Sustainable Development, ‘Johannesburg Declaration on Sustainable Development’ (4 September 2002) UN Doc A/CONF.199/20; UN Conference on Sustainable Development, ‘The Future We Want – Outcome Document’ (27 July 2012) A/RES/66/288 [15]; UN Summit for the Adoption of the Post-2015 Development Agenda, ‘Transforming our World: the 2030 Agenda for Sustainable Development’ (25 September 2015) A/RES/70/1 (although this agreement focused on establishing sustainable development ‘goals’).

²⁴ ‘ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development’ (9 August 2002) UN Doc A/CONF.199/8; IUCN 1st World Congress on Environmental Law, ‘IUCN World Declaration on the Environmental Rule of Law’ (April 2016, Rio de Janeiro), available <http://web.unep.org/environmentalgovernance/erl/iucn-world-declaration-environmental-rule-law> (accessed 31 January 2018) (whilst these are recognized as a precursor to the Draft Global Pact for the Environment, they again contain a different albeit overlapping set of principles).

²⁵ ‘Project: Global Pact for the Environment’ (La Sorbonne, 24 June 2017), available at <http://pactenvironment.org/global-pact-for-the-environment-projet-2/> (accessed 31 January 2018).

²⁶ Laurent Fabius, President of the Pact’s Expert Group, speech launching the draft Global Pact for the Environment (Sorbonne University, 24 June 2017).

dynamic in each State Party'.²⁷ Again, however, this instrument contains a different, reconfigured grouping of environmental principles and related environmental norms, both refining and diverging from previous soft law instruments on sustainable development,²⁸ and highlighting the unsettled and evolving status of environmental principles as a group of internationally recognised ideas.

To date, the Rio Declaration and its successor soft law instruments have been impactful in building normative connections across legal cultures around its sustainable development agenda and its environmental principles in particular. A transnational lexicon of environmental principles in policy and increasingly legal contexts has been triggered.²⁹ These developments often refer to the Rio Principles as inspiration, or are otherwise linked to the development of international sustainable development principles.

For example, the Australian 'ESD [Ecologically Sustainable Development] process' – a national government policy process triggered by the Brundtland Report but also initiated for reasons of domestic policy³⁰ – resulted in a 1992 National Strategy on Ecologically Sustainable Development, which contained a range of policy principles (including integration, intergenerational equity, and conservation of biological diversity) that were partly influenced by the concurrent Rio process.³¹ These principles have subsequently been adopted in legislative form in key Australian environmental statutes,³² and Australian judicial decisions recognise their roots in the Rio Declaration.³³

In France, the development of an Environmental Code in 2000 sought to summarize and standardize principles of environmental law in general legal provisions, and articulated four key environmental principles – the precautionary principle, the principle of preventive and corrective action, the polluter pays principle, and the principle of participation – that 'inspire' the protection, enhancement and management of the natural environment 'within the framework' of applicable French laws.³⁴ These

²⁷ 'The Reasons for the Pact': <http://pactenvironment.org/aboutpactenvironment/les-raisons-du-pacte/> (accessed 31 January 2018).

²⁸ Eg new provisions appear (eg art 1 on the universal right to an ecologically sound environment, art 2 on the universal duty to take care of the environment, art 12 on environmental education, art 14 on the role of non-state actors and sub-national entities), some principles are newly articulated (eg art 5 on prevention, including EIA within it), some established principles of international environmental law are absent (eg Rio principle 18 on cooperation in a transboundary context).

²⁹ See Eloise Scotford, *Environmental Principles and the Evolution of Environmental Law* (Hart 2017) 70-76.

³⁰ For more detail, see *ibid* 99-101.

³¹ See also the *Australian Intergovernmental Agreement on the Environment*, also agreed in 1992, to allocate policymaking responsibilities between the Australian federal and state governments, and which contained a set of 'principles of environmental policy' that closely resembled many of those principles found in the Rio Declaration and Brundtland Report. See *ibid* 101-106.

³² See nn 44-45.

³³ Eg *Leatch v Director General of National Parks and Wildlife Service* (1993) 81 LGERA 270 (establishing the precautionary principle as a relevant legal consideration in certain environmental decision-making).

³⁴ Environmental Code 2000 (France), article L110-1.

overarching, legally relevant principles in French law are said to have been inspired by similar Rio Principles,³⁵ albeit that they have different wordings.

At a supranational level, in European Union law, fundamental Treaty articles concerning sustainable development were introduced in both the Treaty on European Union (TEU) and Treaty on the Functioning of the European Union (TFEU) following the Rio Declaration.³⁶ For example, Article 11 TFEU now provides a legally binding obligation to integrate environmental protection into all EU policymaking in the following terms: '[e]nvironmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development.'

From these kinds of examples across jurisdictions, it is tempting to conclude that a customary form of international law has been generated, with environmental principles being incrementally established as common legal principles globally, growing from their origins in international soft law instruments. Ben Boer refers to the 'globalisation' and 'internationalisation' of environmental law, with common approaches and principles developed and transferred from one international convention to the next and being absorbed into national law.³⁷

However, the legal connections formed by the Rio environmental principles are not so settled or robust. Whilst certain principles have obtained the status of customary international law, as indicated above, this has not been through a process of top-down adoption of environmental principles from international instruments. Each principle recognised in international environmental law has had its own unique, contingent journey to develop a pattern of state practice,³⁸ and many environmental principles are far from reaching this recognised status in international law. Scholars of public international law have suggested that most oft-discussed environmental principles, such as the precautionary principle and polluter pays principle, are 'twilight norms' or that they represent a modern and different international law.³⁹ The very features of environmental principles that make them effective legal connectors – their aspirational force, generality and flexibility – also undermine their potential character as universal

³⁵ Mathilde Hautereau-Boutonnet & Jean-Christophe Saint-Pau (eds), *L'Influence du Principe de Précaution en Droit de la Responsabilité Civile et Pénale Comparé* (Mission de Recherche Droit & Justice 2016) 493.

³⁶ Treaty of Amsterdam, amending the Treaty on the European Union, the Treaties Establishing the European Communities and Related Acts [1997] OJ C340, art 12; now TFEU, art 11; TEU, recital 9, art 3(3), art 3(5), art 21(2)(f). In 2000, the principle of sustainable development was then included in Article 37 of the Charter of Fundamental Rights of the European Union ([2000] OJ C364/1).

³⁷ Ben Boer, 'The Rise of Environmental Law in the Asian Region' (1999) 32 *U Rich L Rev* 1503, 1508-9.

³⁸ Jorge E Viñuales, 'The Rio Declaration on Environment and Development: A Preliminary Study' in Jorge E Viñuales (ed), *The Rio Declaration on Environment and Development: A Commentary* (OUP 2015).

³⁹ Ulrich Beyerlin, 'Different Types of Norms in International Environmental Law: Policies, Principles and Rules' in D Bodansky, J Brunnée and E Hey (eds), *The Oxford Handbook of International Environmental Law* (OUP 2007) 426; Daniel Bodansky, 'Customary (and Not So Customary) International Environmental Law' (1995) 3 *Ind J Global Legal Stud* 105.

legal concepts across different jurisdictions and legal systems.⁴⁰ They are found in instruments of soft law for a reason. They are the product of pragmatism, compromise and approximated visions of sustainable development and environmental protection that fall short of uniform and binding legal consensus.⁴¹ Furthermore, the groups of environmental principles that are picked up in different national and transnational contexts vary, with new principles altogether being incorporated in some instruments or bodies of case law.⁴² In the example of the French Environmental Code above, we see four principles promoted as relevant to their body of national law, including the ‘principle of participation’. By contrast, in the Australian context, following the ESD process described above,⁴³ a different grouping of ESD principles have been introduced as prescribed statutory purposes of environmental legislation at both state and federal levels, usually comprising: the integration principle,⁴⁴ the precautionary principle, the polluter pays principle (or a wider principle promoting ‘improved valuation, pricing and incentive mechanisms’),⁴⁵ the principle of intergenerational equity, and the conservation of biological diversity and ecological integrity.

These different groupings of environmental principles show that their legal evolution is idiosyncratic in different contexts and that the Rio Declaration is not a comprehensive blueprint for these principles.⁴⁶ These varying groupings also highlight how the process of developing environmental principles in national and regional contexts has not simply been one of the Rio Declaration trickling down into national law. Whilst the Rio Declaration did inspire policy and legal developments – and was intended to do so⁴⁷ – environmental principles have also evolved autonomously in some legal contexts,⁴⁸ via dialogical processes with the international sustainable agenda in

⁴⁰ de Sadeleer also argues that environmental norms have become more uncertain due to the ‘shattering of traditional legal boundaries’, increasing regulatory flexibility, and uncertain scientific information: de Sadeleer (n 1) 255-258.

⁴¹ Dinah Shelton argues that soft law instruments have proliferated for a range of reasons, including the bureaucratization of international institutions; the unwillingness of states to commit to hard law; and the ‘growing strength and maturity of the international system’ so that some relations between states can be governed by etiquette, discourse or informal commitments rather than ‘law’. In the case of environmental principles, their flexible and open-ended formulations also make them convenient vehicles for pragmatic compromise, and they may mean different things to different parties agreeing to them: de Sadeleer (n 1) 259 (‘They inevitably facilitate the adoption of reforms that do not dare proclaim their true nature’).

⁴² Eg the principles of substitution and proximity in EU law; or the principle of resilience in the draft Global Pact (n 25, art 16).

⁴³ See nn 30-31 and accompanying text.

⁴⁴ As variously defined in this context: ‘decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations’ (Environment Protection and Biodiversity Conservation Act 1999 (Cth) (‘EPBC Act’) s 3A(a)); ‘ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision-making processes’ (Protection of the Environment Administration Act 1991 (NSW) (‘POEA Act’) s 6(2)).

⁴⁵ Eg EPBC Act, s 3A(e); cf POEA Act, s 6(2)(d). These variations go well beyond Rio Principle 16 which is concerned with the internalization of environmental costs.

⁴⁶ This is even at the international level, as the recent Draft Global Pact illustrates: above n 25.

⁴⁷ Rio Declaration (n 13) principle 11; UNCED, *Agenda 21*, UN Doc A/CONF.151/PC/100/Add.1 (1993).

⁴⁸ Eg see nn 22, 42 above.

others,⁴⁹ and then along independent paths once the global influence triggered their existence in different national and supranational settings, as explored further in Part III below.

Rather than presenting a uniform global normative framework,⁵⁰ it is the idea of ‘environmental principles’ that has become powerful legally.⁵¹ Their symbolic force as quasi-legal norms,⁵² along with their flexibility and definitional ambiguity, allows environmental principles to have ‘resonance, power and creativity’ as they evolve and apply across contexts, transcending conventional patterns of international norm development.⁵³ De Sadeleer identifies environmental principles as ‘post-modern’ norms, or ‘directing principles’, that ‘construct the bridges needed to provide rationality to a [global environmental law] system characterized by multiplicity rather than unity’.⁵⁴ Whilst these non-conventional features of environmental principles can also render environmental principles vulnerable to competing interpretations, indeterminacy, and even bad faith application, they are the essence of their character as legal connectors.

To exemplify this phenomenon, take the precautionary principle. Principle 15 of the Rio Declaration refers to a ‘precautionary approach’ whereby scientific uncertainty should not justify the postponement of cost-effective preventive action. This version of the precautionary principle has been referenced in national policy and legal contexts as being related to, or inspiration for, localized versions of the principle.⁵⁵ Having said that, the principle has also developed autonomously in some legal settings,⁵⁶ and has a wide range of meanings in different contexts.⁵⁷ This definitional variation can be seen

⁴⁹ Eg in the EU context, the 5th Environmental Action Programme explained how the evolving EC sustainable development agenda in 1992 aimed both to build on the Brundtland Report principles and also to contribute to the outcomes of the 1992 WCED conference that led to the Rio Declaration: 5th EC Environmental Action Programme, ‘Towards Sustainability: A European Community Programme of Policy and Action in Relation to the Environment and Sustainable Development’ [1993] OJ C138/5.

⁵⁰ cf Tseming Yang and Robert V Percival, ‘The Emergence of Global Environmental Law’ (2009) 36 Ecology LQ 615.

⁵¹ As Gilhuis puts it, ‘principles are in the air’ (Piet Gilhuis, ‘The Consequences of Introducing Environmental Law Principles in National Law’ in M Sheridan and L Lavrysen (eds), *Environmental Law Principles in Practice* (Bruylant, Brussels 2002) 45).

⁵² Alhaji Marong finds the distinction between legal and non-legal norms to be ‘largely rhetorical’ in relation to environmental principles: Marong (n 1) 60-61.

⁵³ Robert W Kates, Thomas M Parris, Anthony A Leiserowitz, ‘What is Sustainable Development? Goals, Indicators, Values and Practice’ (2005) 47(3) *Environment: Science and Policy for Sustainable Development* 8, 20.

⁵⁴ de Sadeleer (n 1) 261 and part II generally. He explains that directing principles ‘serve to reconcile differing legal systems’ that multiply and intersect, playing ‘an important role in maintaining the links among weakly structured networks, ensuring the practical effectiveness of the legal system as a whole’ (ibid 250).

⁵⁵ Eg UK Interdepartmental Liason Group on Risk Assessment, ‘The Precautionary Principle: Policy and Application’ (2002), available at <http://www.hse.gov.uk/aboutus/meetings/committees/ilgra/pppa.htm> (accessed 5 February 2016); see nn 31-35 and accompanying text.

⁵⁶ See n 22.

⁵⁷ The definition of the precautionary principle is notoriously contested: Ole Pedersen, ‘From Abundance to Indeterminacy: The Precautionary Principle and its Two Camps of Custom’ (2014) 3(2) TEL 323, 470-478.

across different international conventions. In contrast to Rio Principle 15, the UN Framework Convention on Climate Change elaborates that anticipatory and preventive measures should be taken to mitigate climate change (not all versions of the precautionary principle require preventive action to be taken),⁵⁸ whilst the Cartagena Protocol on Biosafety provides a comprehensive regime for the transfer, handling and use of living modified organisms ‘in accordance with the precautionary approach’.⁵⁹ Indeed, Jonathan Weiner highlights over 50 incarnations of the principle in international law instruments.⁶⁰ At the national level, we see expressions of the precautionary principle that seem very similar to the Rio Declaration but also introduce new ideas,⁶¹ as well as more general statements of the principle that are open to interpretation within a particular regulatory and legal community.⁶² Even within a single body of jurisprudence interpreting and applying the principle, inconsistent versions of the precautionary principle can be applied in different regulatory scenarios.⁶³

These different formulations of the precautionary principle show that it is not a single normative standard, rather it is an approach to regulating risk that can manifest in different ways, more or less specific, depending on the nature of the risk, the form of regulation adopted, and the particular legal setting. Furthermore, it is a highly politicized concept that can lead to polemic arguments about its role in decision-making based on extreme definitions of the principle.⁶⁴ In short, the principle leaves room for debate, divergence, and disagreement over how it is to be defined and employed within specific contexts. At the same time, the common nomenclature of the ‘precautionary principle’, and its prominent profile in the Rio Declaration, provides inspiration and legitimacy for the introduction and development of this type of regulatory approach, which is increasingly formulated in national and supranational legal architectures.

3. Connection through judicial dialogue

One prominent way that environmental principles serve as inspiring and legitimizing legal connectors across jurisdictions is through transnational judicial dialogue. This type of connectivity has occurred in both ‘non-adjudicative’ judicial discussion and formal judgments.⁶⁵ In different ways, these are explicit and public statements

⁵⁸ United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) (1992) 31 ILM 851, art 3(3).

⁵⁹ Cartagena Protocol on Biosafety (adopted 29/1/2000, entered into force 11/9/2003) (2000) 39 ILM 1027, art 1.

⁶⁰ Jonathan B Weiner, ‘Precaution’, in D Bodansky, J Brune and E Hey (eds), *The Oxford Handbook of International Environmental Law* (OUP 2007) 601.

⁶¹ eg Environmental Code 2000 (France) art L110-1 (including a requirement of best available techniques), or extra requirements in NSW POEA Act, s 6(2)(a) (requiring risk-weighted assessment of options and ‘careful evaluation’ to avoid damage).

⁶² eg TFEU, art 191(1) (referring simply to the ‘precautionary principle’ as one of four environmental principles on which EU environmental policy ‘shall be based’).

⁶³ eg regulation of pharmaceutical substances compared with the protection of habitats in EU law: see n 139.

⁶⁴ Cass Sunstein, *Laws of Fear: Beyond the Precautionary Principle* (CUP 2005).

⁶⁵ Toby Goldbach highlights the complexity of describing judges’ work outside the courtroom, and argues that much of this ‘non-adjudicative’ work should be categorized as ‘judicial’ activity (rather

connecting and encouraging legal efforts to recognise or apply certain environmental principles across different legal systems, beyond the formal structures of international law. These judicial connections are notable both for their legal endorsement of environmental principles internationally and the tensions that they navigate. In particular, judicial dialogue supporting environmental principles as global legal phenomena confronts a fundamental tension between the role of courts in upholding the rule of law and the policy-based nature of environmental principles. Environmental principles present generally stated social goals, representing contestable socio-political positions on environmental issues, which are arguably more appropriately discussed and applied in political rather than in legal fora.⁶⁶ Furthermore, transnational judicial cross-pollination of environmental principles must navigate the variety of legal cultures in which environmental principles might operate as legal phenomena.

In terms of non-adjudicative, transnational judicial discussion endorsing environmental principles as connected legal ideas across jurisdictions, two high profile examples are the 2002 *Johannesburg Principles on the Role of Law and Sustainable Development* and the 2005 *Judicial Handbook on Environmental Law*.⁶⁷ These documents are both UNEP-sponsored initiatives responding to the Rio Declaration and its follow-on international environmental and development efforts. The *Johannesburg Principles* were drawn up by the Global Judges Symposium alongside the 2002 Johannesburg Declaration on Sustainable Development,⁶⁸ which supported and built on the Rio Declaration 10 years later. These judicially endorsed principles contain a commitment to adhere to the Rio Principles, which ‘lay down the basic principles of sustainable development’. Furthermore, they contain:

‘A full commitment to contributing towards the realization of the goals of sustainable development through the judicial mandate to implement, develop and enforce the law, and to uphold the Rule of Law and the democratic process’.⁶⁹

This general but weighty language contains a conundrum about recognising environmental principles as common global legal commitments. Environmental principles are not formulated as rules of law but as policies of environmental protection, which are not (yet) fully endorsed by any formal instrument of international law, albeit that some individual principles are recognised, or arguably recognised, as norms of customary international law. The judicial statement here both recognises the importance of the (not yet legally substantiated) international sustainable development

than the commonly used term ‘extra-judicial’) even if not directly related to a particular case being judged, particularly for seeing the breadth of processes involved in ‘judicial lawmaking’ and the ‘judicialization of politics’: Tony S Goldbach, ‘From the Court to the Classroom: Judges’ Work in International Judicial Education’ (2016) *Cornell Int’l LJ* 617, 633-634.

⁶⁶ This kind of justiciability question also arises in relation to legal disputes involving climate change policy. See Elizabeth Fisher, Eloise Scotford, and Emily Barritt, ‘The Legally Disruptive Nature of Climate Change’ (2017) 80(2) *MLR* 173, 180 and generally.

⁶⁷ UNEP, ‘Johannesburg Principles on the Role of Law and Sustainable Development’, Global Judges Symposium (Johannesburg, South Africa, 18-20 August 2002); UNEP, *Judicial Handbook on Environmental Law* (UNEP 2005).

⁶⁸ UN World Summit on Sustainable Development, *Johannesburg Declaration on Sustainable Development* (4 Sept 2002) A/CONF.199/20.

⁶⁹ Johannesburg Principles (n 67).

agenda, and offers support for it through the ‘judicial mandate to implement, develop, and enforce the law’. This commitment presents an institutional tension as judges seek to endorse environmental policy positions, which do not have settled or agreed international normative identities, through their judicial functions, particularly in ‘developing’ the law. How controversial this is – as a matter of constitutional principle or legal doctrine – will depend on the legal and political traditions of the different jurisdictions from which these judges come, and on the extent to which environmental policy positions are already endorsed in national legislation or constitutions. This general judicial commitment is perhaps an unsurprising development in so far as soft law mechanisms, such as the Rio Declaration, proliferate, but it is legally unusual and raises questions about the ‘judicialization of politics’ under the guise of a commitment to the rule of law.⁷⁰

The subsequent *Judicial Handbook on Environmental Law* sought to confront this conundrum more directly. The *Handbook* was developed in 2005 by a group of environmental judges from across the world and aims to ‘identify a common core of law and policy most relevant to the world’s judiciary’.⁷¹ This exercise was justified in light of the fact that

‘[previous] decades of legal developments have led to the emergence of basic principles of environmental protection that are recognized in international and national law, which have in turn informed the development of environmental law by giving meaning to concepts not yet contained in formal legal instruments.’⁷²

On this basis, the Handbook explores four ‘key environmental principles [that have] developed over the past several decades’:⁷³ prevention, precaution, polluter pays, and environmental justice and equity. This collaborative judicial effort seeks to recognize that these particular environmental principles are increasingly common and legally relevant across international and national legal systems, even though they are ‘not yet contained in formal [international] legal instruments’. This judicial endorsement further recognises their global legal relevance, but also acknowledges that, whilst these environmental principles are ‘influential’ in most legal systems, they ‘sometimes may be applied differently’.⁷⁴ Again, judicial support for these principles recognises the role of environmental principles as legal connectors that ‘can offer insight into the purpose and thrust of the various legal mechanisms that have been built upon them’ across legal systems.⁷⁵ At the same time, it recognises that they are unusual creatures as principles of environmental policy that do not constitute binding legal commitments internationally and which must be accommodated within different legal orders. More recent judicial activity supporting international statements of environmental principles has been collaborative, with prominent environmental law jurists acting as participants in conferences and expert groups that have generated soft law statements of

⁷⁰ See Goldbach (n 65).

⁷¹ *Judicial Handbook* (n 1), introduction by Klaus Toepfer, iv.

⁷² *ibid* 19.

⁷³ *ibid* 22.

⁷⁴ *ibid* 22.

⁷⁵ *ibid* 21.

environmental principles – including the IUCN World Declaration on the Environmental Rule of Law⁷⁶ and the Draft Global Pact for the Environment discussed above.⁷⁷ These developments show that judges are significant actors in the ‘transnational processes’ that are driving the normative development of environmental principles.⁷⁸

The second way in which judicial dialogue fosters the role of environmental principles as legal connectors is through legal judgments. This aspect is further explored in Part B below, but, briefly, judicial reasoning in some cases appeals to the use of environmental principles in other jurisdictions – whether referring to their presence in international soft law instruments or in judicial reasoning by other courts – to support the development of legal reasoning based on or influenced by environmental principles. A prominent example is the Indian Supreme Court decision of *Vellore Citizens Welfare Forum v Union of India*, in which Justice Kuldip Singh (for the Court) recognised that the precautionary principle and polluter pays principle were ‘part of the law of the country’, having first recognised that these were part of a group of ‘salient principles’ of sustainable development ‘culled out from the Brundtland Report and other international documents’.⁷⁹ This appeal to international soft law was significant in the Court’s reasoning which went on to find that the Indian constitution and domestic statutes also reflected these principles (even though they were not explicitly named in these domestic instruments), allowing the court to define and apply the principles in this case concerning pollution arising from tanneries in the state of Tamil Nadu. This case has been criticised by academics for the quality and nature of its legal reasoning, as discussed below,⁸⁰ but it is noteworthy for its appeal to international sustainable development instruments in connecting and justifying the Court’s reasoning based on environmental principles.

Another example of transnational judicial inspiration in developing reasoning based on environmental principles can be seen in the New South Wales Land and Environment Court (NSWLEC) decision of *Telstra Corporation Ltd v Hornsby Shire Council*.⁸¹ This decision was a landmark development in the Court’s reasoning based on the precautionary principle. The precautionary principle is found in New South Wales legislation, defining ‘ecologically sustainable development’ (‘ESD’) along with

⁷⁶ This recognizes the ‘essential role that judges and courts play in building the environmental rule of law through the effective application of laws at national, sub-national, regional, and international levels’: IUCN World Declaration (n 24) preamble. Notably this Declaration was accompanied by the establishment of the Global Judicial Institute for the Environment, formalizing a forum for ‘international convergence of judges and environmental law’: <https://www.iucn.org/commissions/world-commission-environmental-law/events/27-29-april-2016-world-environmental-law-congress> (accessed 15 December 2017).

⁷⁷ Above n 25 and accompanying text.

⁷⁸ Peer Zumbansen, ‘Lochner Disembedded: The Anxieties of Law in a Global Context’ (2013) 20 *Indiana Journal of Global Legal Studies* 29, 57ff; cf Goldbach (n 65) (suggesting that judges have not yet been recognized as significant actors in transnational norm development).

⁷⁹ *Vellore Citizens Welfare Forum v Union of India* AIR 1996 SC 2715

⁸⁰ See below nn 151-152 and accompanying text.

⁸¹ [2006] NSWLEC 133; (2006) 67 NSWLR 256.

other environmental principles.⁸² The principle was applied in this case as a legally relevant consideration that informed the ‘public interest’,⁸³ which was required to be considered under the NSW planning statute at issue. In this case, the Court was deciding a merits appeal from a local authority planning decision, which had refused to approve the construction of a mobile phone tower in a residential area on the basis of suggested harm to human health and the precautionary principle in particular. The judgment is not notable for finding that the precautionary principle was a legally relevant consideration in this type of administrative decision-making – this had been previously established⁸⁴ – but for prescribing *how* the principle should be applied in making planning decisions. Chief Judge Preston set out in detail how the principle should be applied, appealing *inter alia* to judgments in other jurisdictions (including the India, Pakistan, New Zealand, the European Union, and the European Free Trade Association) as well as international sustainable development instruments concerning environmental principles to support his reasoning. This is a meticulously reasoned judgment that represents a significant doctrinal innovation in its substantive application of the precautionary principle, relying partly on transnational developments to justify its reasoning. It was not the precise details of those transnational legal developments that dictated how the Court reasoned in this case,⁸⁵ but the momentum of legal developments relating to the precautionary principle (and ESD principles generally) globally that supported the NSWLEC in this instance of legally applying an environmental principle. Preston CJ explicitly acknowledges the significance of this jurisdictional effort in supporting a broader ‘paradigm shift [to a world] where a culture of sustainability extends to institutions, private development interests, communities and individuals’.⁸⁶

These examples of legal reasoning show how environmental principles can act as powerful legal connectors through court judgments,⁸⁷ offering support for legal reasoning, even when the legal materials and issues are quite different in the specific cases involved. Appeal to a broader global sustainable development agenda, reflected in environmental principles, is used to justify reliance on environmental principles in legal reasoning in particular jurisdictional contexts. These developments highlight that environmental principles are not uniform legal ideas to be applied across legal institutions globally, since they must operate in very different legal environments – the constitutional framework for environmental principles in the Indian case *Vellore* above is very different from the detailed planning legislation that the NSWLEC had interpret

⁸² POEA Act, s 6(2); see above n 45.

⁸³ Environmental Planning and Assessment Act 1999 (NSW) s 79C(1)(e).

⁸⁴ *BGP Properties v Lake Macquarie CC* [2004] NSWLEC 399; (2004) 138 LGERA 237 [108].

⁸⁵ As I have written elsewhere, that would be impossible, since these different sources highlighted different aspects and interpretations of the principle’s meaning and application: Scotford (n 29) 233.

⁸⁶ *Telstra* (n 81) [120].

⁸⁷ There are other examples, eg *AP Pollution Control Board v Nayudu* AIR 1999 SC 812 (India, principle of intergenerational equity); *Fishermen and Friends of the Sea v The Minister of Planning, Housing and the Environment* (Trinidad and Tobago) [2017] UKPC 37 (UK Privy Council, polluter pays principle).

in applying ESD principles in the *Telstra* decision.⁸⁸ Nonetheless, environmental principles can be powerful ideas that link, support, and trigger judicial reasoning relating to environmental protection.

4. Connection through legal scholarship

A third way in which environmental principles act as legal connectors is through environmental law scholarship. A significant body of academic writing has developed – in textbook writing, monographs, and journal articles – in which environmental principles are presented as global conceptual centrepieces for the subject of environmental law.⁸⁹ In part, this scholarship is responding to the soft law and judicial developments outlined above, but there are more fundamental reasons for the scholarly preoccupation with environmental principles. These reasons relate both to the perceived need for environmental law to tackle environmental problems, and to the legal problems that environmental law faces as a discipline.⁹⁰

In terms of representing legal solutions to *environmental* problems, environmental principles represent a powerful lexicon and conceptual vehicle for scholars who adopt a purposive approach to environmental law. In recognising the urgency and scale of environmental problems, scholars call for legal innovations to address them and to bring about a paradigm shift of behaviour within society.⁹¹ Such legal innovations include environmental principles, which might act as a bridge between good environmental outcomes and the legal rules and decision-making that will deliver them.⁹² In this way, scholars are highlighting the instrumental importance of legal structures and norms for bringing about social change to promote environmental outcomes. Environmental principles are seen to have legal roles in ‘structuring institutions and decision-making processes’ to achieve the environmental goals embodied in environmental principles as policy ideas.⁹³ Environmental principles should not be mere ‘motherhood’ statements,⁹⁴ but normative concepts that close the

⁸⁸ Not to mention the jurisdictions of these two courts being very different.

⁸⁹ For a survey of this scholarship, see Scotford (n 29) 8, and more recently Kramer & Orlando (n 7) with their ‘Encyclopedia’ of scholarly analysis of environmental principles internationally.

⁹⁰ These two types of reasons for the popularity of environmental principles in environmental law scholarship are outlined at length in Scotford (n 29) ch 2, along with historical reasons that led to environmental principles being established as the ‘lingua franca’ of environmental law scholars.

⁹¹ Eg Ben Boer, ‘Implementation of International Sustainability Imperatives at a National Level’ in K Ginther, E Denters and P de Waart (eds), *Sustainable Development and Good Government* (Martinus Nijhoff Publishers 1995) 117-118; Nicholas A Robinson, ‘Evolved Norms: A Canon for the Anthropocene’ in Christina Voigt (ed) *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (CUP 2013).

⁹² Eg Jonathan Verschuuren, ‘Sustainable Development and the Nature of Environmental Legal Principles’ (2006) 9(1) *Potchefstroom Electronic Law Journal* 17 (environmental principles are the ‘necessary medium for ideals of sustainable development to find their way into concrete rules’). See also Andrea Ross, *Sustainable Development Law in the UK: From Rhetoric to Reality* (Routledge 2011); Kramer & Orlando (n 7), ‘Introduction’.

⁹³ Susan Smith, ‘Ecologically Sustainable Development: Integrating Economics, Ecology, and Law’ (1995) 31 *Willamette L Rev* 261, 266.

⁹⁴ David Farrier and Elizabeth Fisher, ‘Reconstituting Decision Making Processes and Structures in Light of the Precautionary Principle’ (1993, Institute of Environmental Studies, The University of New South Wales) 229.

‘gap between political rhetoric and practical action’.⁹⁵ Environmental principles are seen as particularly well suited to this task, since they can reflect the ‘interdependent, holistic and global dimension of environmental issues’.⁹⁶ This approach reflects the transnational judicial ambitions outlined above to weave values that support environmental protection ‘into the fabric of our societies’ through the institutional roles of judges,⁹⁷ ‘particularly through applying principles of sustainable development’.⁹⁸ It also reflects the global ambitions for environmental principles in the international soft law instruments outlined above.⁹⁹

The vision of environmental principles as legal vehicles for social change is not purely instrumental. For some scholars, there is a strong ethical and jurisprudential basis for the role of environmental principles as socially transformative legal concepts. In this way, Klaus Bosselmann presents an ethical case for the ‘legal principle’ of sustainability.¹⁰⁰ From ethical roots in ecocentrism, Bosselmann argues that ‘[t]he principle of sustainability sets jurisprudence and law-making institutions on a new path’ to restoring and maintaining the integrity of the Earth’s ecological systems.¹⁰¹ He argues for a ‘global law’ of sustainability,¹⁰² accommodating ecological citizenship across legal systems as the global environment is perceived as ‘our common home’.¹⁰³

Environmental principles are not only adopted by environmental law scholars as a connected response to environmental problems globally, they also feature as a common scholarly approach to *legal* problems in environmental law.¹⁰⁴ This can be seen in three different ways. First and foremost, environmental law scholars argue that environmental principles can legitimise the subject of environmental law and overcome its perceived immaturity as a discipline.¹⁰⁵ Thus, environmental principles, recognised as ‘legal principles’, can cast environmental law in the mould of other legal subjects, which have strong philosophical or doctrinal traditions of legal principles as core legal norms. This approach is seen when scholars present environmental principles as ‘legal principles’ in the Anglo-American tradition of Dworkinian principles that inform

⁹⁵ Marong (n 1) 49.

⁹⁶ Kramer & Orlando (n 7), ‘Introduction’.

⁹⁷ UNEP, *Global Judges Programme* (2005), message of Klaus Toepfer.

⁹⁸ Brian Preston, ‘The Role of the Judiciary in Promoting Sustainable Development: The Experience of Asia and the Pacific’ (2005) 9(2) *Asia Pac J Envtl L* 109, 211 (arguing that individual judges around the world should thereby ‘each work towards the common goal of achieving an environmentally sustainable future’).

⁹⁹ See section II(2). In the accumulation of soft law statements on environmental principles, they are seen as ‘innovative legal tools’ for the ‘progressive development of legal and policy regimes for the conservation and sustainable use of nature at all governance levels’ (IUCN World Declaration (n 24) preamble).

¹⁰⁰ Klaus Bosselmann, *The Principle of Sustainability: Transforming Law and Governance* (Ashgate 2008).

¹⁰¹ *ibid* 7.

¹⁰² *ibid* 4.

¹⁰³ *ibid* 7.

¹⁰⁴ For a deeper analysis of this proposition, see Scotford (n 29) 40-50.

¹⁰⁵ On the perceived immaturity of environmental law, see Elizabeth Fisher, Bettina Lange, Eloise Scotford and Cinnamon Carlarne, ‘Maturity and Methodology: Starting a Debate about Environmental Law Scholarship’ (2009) 21(2) *JEL* 213

judicial reasoning or rationalise bodies of law,¹⁰⁶ or in terms of EU law or public international law doctrine, identifying environmental principles as ‘general principles’ of law within those particular bodies of law.¹⁰⁷ In each case, environmental principles are identified and characterised according to pre-existing legal models of principles, thereby legitimising environmental principles as relevantly ‘legal’ and recognising them as foundational to different bodies of law. Whilst there are some reasons to support the framing of environmental principles in this way,¹⁰⁸ there are also inconsistencies between the observed legal roles of environmental principles and these established models of principles.¹⁰⁹

Scholars also envisage legitimising legal roles for environmental principles beyond fitting existing models of principles within established fields of law. Environmental principles are seen as legal solutions to the considerable methodological challenges faced by environmental law as a field of practice and inquiry. Thus, environmental principles are thought to provide a central stabilising frame for the fragmented and rapidly developing body of rules that comprise environmental law, serving to rationalise the subject and provide a basis for its evaluation.¹¹⁰ They might also provide a bridge to other disciplines of knowledge, overcoming the inherent interdisciplinarity of environmental law.¹¹¹ And, most relevantly for their role as global legal connectors, environmental principles might overcome problems of studying laws in multiple jurisdictions – an inevitable challenge in relation to environmental problems that are collective and often transboundary in nature – by providing a common legal reference point between jurisdictions.¹¹² In these different senses, environmental principles are seen as core concepts in environmental law, bolstering the legitimacy of the subject in light of its considerable methodological challenges.

Beyond these legal roles for environmental principles in legitimising environmental law, both on conventional legal grounds or through representing conceptual solutions to fundamental challenges in studying the subject, some scholars present environmental principles as constituting or representing a new legal order for environmental issues. In both pragmatic or theoretical terms, some scholars accept that environmental law needs to be legally redefined to adapt to the environmental problems with which it is concerned, or to pursue fundamental ecological ideals. In both these

¹⁰⁶ eg Michael Doherty, ‘Hard Cases and Environmental Principles: An Aid to Interpretation?’ (2004) 3 *YEEL* 57.

¹⁰⁷ eg Marong (n 1) 57-8.

¹⁰⁸ In some judicial reasoning, for example, environmental principles are used in the style of Dworkinian principles to guide reasoning, both in interpreting uncertain rules and otherwise filling gaps in legal reasoning, particularly by refining the purposes of environmental law and employing these to resolve legal issues. See further Doherty (n 106) 60-67; Scotford (n 29) ch 4.

¹⁰⁹ This can be seen, for example, in cases where the same environmental principle is used differently to inform rules within the same jurisdiction depending on the regulatory context (see n 139), or where environmental principles are used for functions in legal reasoning not contemplated by established models of legal principles: see Scotford (n 29) chs 4-6.

¹¹⁰ de Sadeleer (n 1); Verschuuren (n 92) 39.

¹¹¹ Andreas Philippopoulos-Mihalopoulos, *Absent Environments: Theorising Environmental Law and the City* (Routledge-Cavendish 2007) 136; Bosselmann (n 100) 43.

¹¹² eg Preston (n 7) 4.

ways, scholars have relied on environmental principles to redefine environmental law. Thus, on pragmatic grounds, Dan Tarlock argues that the ‘extremely complex and evolving moral and scientific nature of environmental problems ensures that... environmental law will be a law about the *process of decision*, rather than a process of evolving *decision rules*’, outlining a series of ‘candidate principles of law’ that have emerged in recent times to act as ‘rebuttable presumptions’ in a reflexive vision of environmental decision-making.¹¹³ Other scholars adopt a theoretical standpoint for (re)defining environmental law on the basis of environmental principles, whether in recognising that environmental law already constitutes a new form of legal order based on environmental principles as novel legal norms,¹¹⁴ or that the subject should be fundamentally reoriented on the basis of legal principles such as sustainability and intergenerational equity in order to pursue ideal outcomes of ecological sustainability.¹¹⁵

All these legal roles for environmental principles endorsed in academic scholarship – whether in addressing environmental problems or legal problems – show that there is a significant appetite for conceptual, practical and theoretical ideas in the subject, which environmental principles are often thought to satisfy. Much scholarly hope is placed in environmental principles. As I have previously argued,¹¹⁶ this hope can be misplaced, whether because there are no universal legal identities for environmental principles across all jurisdictions and legal cultures – historically, conceptually, or in terms of comparative law methodology;¹¹⁷ or because legal concepts and methodologies from other legal subjects are not applied with care; or because there are dangers in asserting the instrumental operation of environmental principles in achieving positive environmental outcomes through their sheer normative force.¹¹⁸ However, this weighty body of scholarly endorsement of environmental principles does reflect something important about the legal role of environmental principles in environmental law. Again, environmental principles provide a common discourse, connecting queries, concerns, and issues relating to the study of environmental law. They represent allied frustrations, challenges, and ambitions for the subject. The persistent appeal to recognised bodies of environmental principles – even if not always to an identical grouping of principles – shows that environmental law scholars are seeking external frameworks, normative ideas, and centralising concepts to stabilise the subject, to overcome methodological challenges, or to offer familiar policy bases for institutional responses to the complex environmental problems faced by the subject.

¹¹³ A Dan Tarlock, ‘Is There a There There in Environmental Law?’ (2004) 19 J Land Use & Envtl L 213, 219-220.

¹¹⁴ de Sadeleer’s (n 1); see n 54 and accompanying text.

¹¹⁵ Eg Bosselmann (n 100). See also many of the contributions in in Christina Voigt (ed), *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (CUP 2013).

¹¹⁶ Scotford (n 29) 51-64.

¹¹⁷ Pierre Legrand, ‘What “Legal Transplants?”’ in D Nelken and J Feest (eds), *Adapting Legal Cultures* (Hart Publishing 2001).

¹¹⁸ Instrumental thinking that environmental principles as legal tools can facilitate solutions to environmental problems often fails to acknowledge the ‘complexity of the legal institutions, ideas and processes involved’: Fisher et al (n 105) 234.

The risk in doing so is that scholars seek to tame the untameable,¹¹⁹ and that they overlook the complexities of mapping the subject across multiple dimensions.¹²⁰ When appraising the legal roles of environmental principles globally, scholars are confronted with a highly complex legal terrain – they are looking not only across different jurisdictions, but also across a variety of histories, types of norm, constitutional and doctrinal traditions, socio-political factors, actors, institutions, and so on. It is in fact the richness and distinctiveness of the legal environments in which environmental principles take on legal roles that can lead to innovative legal developments.

III) ENVIRONMENTAL PRINCIPLES AS LEGAL CATALYSTS

1. Introduction

This part examines some of these rich and distinctive legal environments to show how environmental principles are playing interesting and innovative legal roles in different legal cultures. It highlights examples from different jurisdictions around the world,¹²¹ which demonstrate two things about the legal roles being played by environmental principles.

First, environmental principles often act as catalysts for legal innovation, offering a basis for new legal reasoning concerning environmental protection. To this extent, environmental principles are presenting a transnational legal phenomenon as agents for legal development. Having said that, environmental principles do not always perform legal roles, whether because their policy-based nature means legal arguments based on principles are not available,¹²² or because the legal culture is not (yet) receptive to environmental principles playing roles in legal argument.¹²³

Second, legal innovations concerning environmental principles are not identical, meaning that the legal functions performed by environmental principles across jurisdictions – and the legal worth of environmental principles – cannot be understood in simple terms. If environmental principles are thought only to be useful if they act as legal grounds for invalidating legislation, for example, the complexity of their actual legal roles will be overlooked and the basis of their value miscalculated. In ‘translating’ environmental principles from ‘political slogans to legal rules’,¹²⁴ the idiosyncrasies of legal cultures and their legal interpretive ‘communities’¹²⁵ – particularly courts – are determinative.

¹¹⁹ Fisher et al (n 105) 220.

¹²⁰ *ibid.*

¹²¹ For a 2011 compendium of court judgments around the world involving certain environment principles, see Rajendra Ramlogan, *Sustainable Development: Towards a Judicial Interpretation* (Martinus Nijhoff Publishers 2011).

¹²² eg Case C-379/92 *Re Peralta* [1994] ECR I-3453 in EU law.

¹²³ eg in UK law, *R v Secretary of State for Trade and Industry, ex parte Duddridge*, *The Times* 26 October 1995 (CA); [2007] 1 WLR 1780.

¹²⁴ de Sadeleer (n 1).

¹²⁵ Roger Cotterrell, ‘Is there a Logic of Legal Transplants?’ in David Nelken and Johannes Feest (eds), *Adapting Legal Cultures* (Hart 2001) 80-81.

Exploring these different examples takes us beyond wondering if and when environmental principles will become ‘legally binding norms’ to appraising their different normative roles.¹²⁶

2. The European Union

The European Union¹²⁷ provides a good example of the complexity and contingency of legal roles played by environmental principles. In this legal context, six environmental principles play a key role in the constitutional treaties and the EU legislative framework, both in relation to environmental policy and beyond it.¹²⁸ These environmental principles are central to the EU’s environmental legislative agenda and reflect an ambition to incorporate considerations of environmental protection and sustainable development into all areas of EU policy. Many EU legislative provisions reflect and reference these principles.¹²⁹ Alongside this, innovative and distinctive legal dimensions of these principles have developed in the reasoning of the Court of Justice of the European Union (CJEU). In particular, the CJEU employs EU environmental principles to interpret ambiguous legislation,¹³⁰ to inform legal tests for reviewing EU measures,¹³¹ and to generate new tests of legal review.¹³² In so doing, environmental principles are catalysing legal change in a variety of ways when existing rules or doctrines are insufficient (or perceived to be insufficient) to resolve legal disputes before the Court.

The most notable way in which environmental principles are acting as legal catalysts is in developing new tests for administrative review. The precautionary principle in particular has spawned a new body of EU administrative review doctrine, with the CJEU developing a suite of review tests for determining whether decision-making based on the precautionary principle is properly undertaken by public bodies acting within the scope of EU law. The precautionary principle is not used as an independent ground of review in this respect – it is not a ‘general principle of EU law’ or a ‘fundamental right’ in EU law terms¹³³ – however, once administrative decisions

¹²⁶ The preoccupation with policy positions becoming ‘legally binding’ in the environmental domain is not limited to environmental principles: Dan Bodansky, ‘The Legal Character of the Paris Agreement’ (2016) 25(2) RECIL 142.

¹²⁷ On the EU context, see the contribution of M Gehring, E Lees and F-K Phillips in this volume.

¹²⁸ Thus the preventive principle, precautionary principle, polluter pays principle, and the principle of rectification at source are prescribed foundations of EU environmental policy (Article 191(2) TFEU), whilst the principle of sustainable development and the integration principle are overarching provisions for EU law as a whole (see n 36).

¹²⁹ eg Council & Parliament Regulation (EC) 2006/1907 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) art 1(3) (precautionary principle); Council & Parliament Directive (EC) 2008/98 on waste and repealing certain Directives [2008] L312/3, recital 30, arts 4(2), 14(1) (precautionary principle, preventive principle, polluter pays principle).

¹³⁰ eg Case C-127/02 *Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels* [2004] ECR I-7405. See further Scotford (n 29) 147-161.

¹³¹ eg Case C-504/04 *Agrarproduktion Staebelow v Landrat des Landkreises Bad Doberan* [2006] ECR I-679. See further Scotford (n 29) 161-192.

¹³² eg Case T-13/99 *Pfizer Animal Health SA v Council* [2002] ECR II-3305. See further Scotford (n 29) 171-176.

¹³³ See Takis Tridimas, ‘Fundamental Rights, General Principles of EU Law, and the Charter’ (2014) 16 *Cambridge Yearbook of European Legal Studies* 361.

are taken on the basis of the principle, there is now a body of doctrine establishing valid decision-making based on the principle.¹³⁴

Notably, there is no single model of employing environmental principles in EU legal reasoning, and their use can be controversial, whether because of the substantive meanings given to environmental principles in interpreting EU measures,¹³⁵ because of how existing doctrine is applied,¹³⁶ because of the nature of the cases in which appeals to the principles are made,¹³⁷ or due to the basic fact that legal reasoning is being adapted to promote certain environmental protection outcomes through the use of principles.

Furthermore, there are significant constraints limiting the CJEU's legal use of principles, arising from the Court's jurisdiction,¹³⁸ from the relevant regulatory context (the same principle can be employed differently in different EU regulatory contexts),¹³⁹ and from the CJEU's constitutional role. In the latter sense, the CJEU generally only relies on environmental principles to develop reasoning where the public decision-making under review was first based – explicitly or implicitly – on one of the principles as a constitutionally prescribed basis of EU environmental policy.¹⁴⁰

3. India

The EU approach to judicial reasoning and environmental principles can be contrasted with the experience in India,¹⁴¹ where the Supreme Court has actively developed a form of quasi-rights review based on environmental principles in its constitutional jurisprudence. In contrast to the EU position, there are no explicit references to environmental principles in the Indian constitution, but the Court has interpreted Article 21 of the Constitution, guaranteeing protection of life and personal liberty, as a basis

¹³⁴ See Case T-257/07 *France v Commission* [2011] ECR II-05827 and Scotford (n 29) 178-184.

¹³⁵ Due to the ambiguous meanings of environmental principles, their use to interpret measures or inform legal tests still requires choices to be made as to their meaning in particular cases and these choices might not be self-evident, eg the use of the preventive and precautionary principles to inform the definition of waste reflects one vision of environmental protection that is contestable: see Eloise Scotford, 'Trash or Treasure: Policy Tensions in EC Waste Regulation' (2007) 19(3) JEL 367.

¹³⁶ Case C-2/90 *Commission v Belgium (Walloon Waste)* [1992] ECR I-4431. See Francis Jacobs, 'The Role of the European Court of Justice in the Protection of the Environment' (2006) 18 JEL 185.

¹³⁷ The precautionary principle in particular is implicated in inherently controversial cases of risk regulation.

¹³⁸ The CJEU's jurisdiction is limited to cases concerning interpretation of EU law and the legality of acts of EU institutions and of Member States acting within the scope of EU law: TFEU, arts 258, 263, 267.

¹³⁹ eg *Waddenzee* (n 130) involves a 'strong' application of the precautionary principle in the nature conservation context, preventing action where proof of absence of harm is not available, whereas the principle has been construed differently in other regulatory contexts: cf *France v Commission* (n 134).

¹⁴⁰ See generally Scotford (n 29) ch 4. This means that standalone arguments challenging administrative decision-making on the basis of environmental principles are generally not accepted (cf Case T-229/04 *Sweden v Commission* [2007] ECR II-2437). A similar constraint applies to the 'principle' of integrating a high level of environmental protection into EU policies in Article 37 of the Charter: Charter of Fundamental Rights of the European Union [2012] OJ C326/391, art 52(5). See further Eloise Scotford, 'Environmental Rights and Principles in the EU Context: Investigating Article 37 of the Charter of Fundamental Rights' in Sanja Bogojević and Rosemary Rayfuse (eds), *Environmental Rights — in Europe and Beyond* (Hart 2018, forthcoming).

¹⁴¹ On the case of India, see the contribution of B Desai and B K Sidhu in this volume.

for incorporating a number of environmental principles into Indian law. In particular, the Court accepts that the principle of sustainable development, the precautionary principle, the polluter pays principle, and the principle of intergenerational equity are part of Indian law and its constitutional framework, relying on international soft law developments to support this reasoning.¹⁴²

As a result, there have been high profile decisions in which the Court has required private compensation and public action in relation to environmentally degrading activities,¹⁴³ including requiring the establishment of new administrative regimes, where it has found that environmental principles have not been complied with.¹⁴⁴ The remedial powers of the Court have been generously exercised in these cases to give meaning to applicable environmental principles and to implement them in concrete cases. In this way, environmental principles can be seen as catalysts for radical legal developments in the Indian context. Notably, these developments have been part of a legal culture in which the Supreme Court has actively sought to compensate for weak executive structures and enforcement practices, introducing a raft of substantive and procedural legal innovations to uphold widely construed rights of citizens, particularly in the environmental sphere.¹⁴⁵

In this context, use of environmental principles in judicial reasoning has now entered the legal mainstream in India, with the National Green Tribunal (NGT), established in 2010, taking over most environmental cases and being required by legislation to apply the principle of sustainable development, precautionary principle, and polluter pays principle, albeit within the defined jurisdictional remit of the Tribunal.¹⁴⁶ The NGT has used these principles, and other principles recognised in Indian environmental law such as the principle of intergenerational equity, as core concepts in a rapidly expanding body of jurisprudence,¹⁴⁷ again often requiring executive action in relation to serious environmental problems,¹⁴⁸ or preventing

¹⁴² *Vellore Citizens' Welfare Forum v Union of India* AIR 1996 SC 2715 (principle of sustainable development, precautionary principle, polluter pays principle); *State of Himachal Pradesh v Ganesh Wood Products* AIR 1996 SC 149 (principle of intergenerational equity); *Indian Council for Environmental Action v Union of India* (1996) 3 SCC 212 (polluter pays principle).

¹⁴³ eg *S Jagannath v Union of India and ors* 1997 (2) SCC 87 (requiring extensive public regulatory action and private compensation in relation to environmental damage caused by intensive shrimp farming).

¹⁴⁴ *Vellore Citizens' Welfare Forum* (n 142) is a good example, where the Court's remedy required the establishment of a public authority to deal with extensive pollution problems from tanneries, prescribing the tasks of this authority in some detail, whilst also imposing direct fines on tanneries for past pollution.

¹⁴⁵ Geetanjoy Sahu, 'Implications of Indian Supreme Court's Innovations for Environmental Jurisprudence' (2008) 4(1) *Law, Environment and Development Journal* 375.

¹⁴⁶ The National Green Tribunal Act 2010 (India), s 20. The NGT has jurisdiction, inter alia, to resolve all civil disputes involving a 'substantial question relating to the environment' and relating to key Indian environmental statutes (ibid, s 14).

¹⁴⁷ *Jan Chetna v Ministry of Environment and Forests Judgment* (NGT, 9 February 2012) [19]. See Gitanjali Nain Gill, 'The National Green Tribunal of India: A Sustainable Future through the Principles of International Environmental Law' (2014) 16(3) *Env LR* 183.

¹⁴⁸ *Vardhaman Kaushik vs Union of India & Ors and anor* (NGT Applications 21 and 95 of 2014, Order of 7 April 2015) (relying on the principle of intergenerational equity to require far reaching action to tackle air pollution in Dehli, including banning all diesel vehicles over 10 years old and appointing local commissioners to check sources of air pollution).

proposed development from being carried out altogether.¹⁴⁹ However, the NGT's prominent role in developing jurisprudence based on environmental principles is (at the time of writing) in question, since new legislative measures passed in 2017 give the government greater control over the Tribunal,¹⁵⁰ arguably to limit the NGT's intrusion into executive policymaking.

These developments – whilst representing a considerable level of environmental ambition by the Supreme Court and NGT – have not gone without criticism by commentators (and the government) who argue that the Court's reasoning is constitutionally inappropriate, whether because it uses principles as a legitimising cover for reasoning that is not well developed,¹⁵¹ or because it usurps the proper role of the Indian executive.¹⁵² Further, the weak enforcement practices that have 'resulted' in this ambitious jurisprudence¹⁵³ can in turn undermine the application of the courts' judgments.¹⁵⁴ Fundamentally, these legal roles for environmental principles reflect the legal culture of India, which is shaped by the Country's politics, its political system, its administrative processes, the confidence of its Supreme Court and NGT to develop laws that dictate administrative procedure and policy outcomes, and the urgency of environmental problems that appear as severe social problems in the arena of the courtroom.

4. Brazil

In Brazil,¹⁵⁵ there is also energetic application of environmental principles – the precautionary principle in particular – against a more explicitly supportive legislative and constitutional backdrop. The precautionary principle is included in a number of domestic statutes and it is also implicitly referred to in Article 225 of the Constitution, which gives each citizen the right to an ecologically balanced environment and requires public authorities to control techniques or substances that pose a risk to life, quality of life, and the environment. This constitutional reference to risk-based regulation suggests an implicit endorsement of the precautionary principle.¹⁵⁶ Moreover,

¹⁴⁹ Eg *M/S Riverside Resorts Ltd v Pimpri Chinchwad Municipal Corporation* (NGT, 29 January 2014) (preventing the construction of a crematorium on a river bank that infringed the principle of sustainable development).

¹⁵⁰ Finance Act 2017 (India) ss 182, 184. See further Ritwick Dutta, 'How the Finance Act 2017 Cripples National Green Tribunal', available at <http://www.livelaw.in/finance-act-2017-cripples-national-green-tribunalngt/> (accessed 25 January 2018). At the time of writing, several panels of the court were in abeyance due to lack of new appointments: <https://www.thenewsminute.com/article/national-green-tribunal-s-lone-member-southern-bench-retires-500-cases-hit-74113> (accessed 26 January 2018).

¹⁵¹ Dhvani Mehta, 'The Environmental Rule of Law in India' (DPhil thesis, 2017) 52-55; Shibani Ghosh (ed), *Analytical Lexicon of Principles and Rules of Indian Environmental Law* (forthcoming).

¹⁵² Sahu (n 145) 387-391.

¹⁵³ Gill (n 147) 202.

¹⁵⁴ eg Sahu (n 145) 385 on the ineffective judgment in *Jagannath v Union of India* (n 143).

¹⁵⁵ On the case of Brazil, see the contribution by A Benjamin and N Bryner in this volume.

¹⁵⁶ Carina de Oliveira and Igor da Silva Barbosa, 'Le Principe de Précaution en Droit de la Responsabilité Civile Brésilien: Les Limites de sa Mise en Œuvre par les Tribunaux Brésiliens' in Mathilde Hautereau-Boutonnet and Jean-Christophe Saint-Pau (eds), 'L'Influence du Principe de Précaution en Droit de la Responsabilité Civile et Penale Comparé' (Mission de Recherche Droit & Justice 2016) 746.

domestic statutes require administrators to take the principle into account in a range of decision-making, whether in regulating the use of genetically modified organisms¹⁵⁷ or in applying measures for administrative and criminal offences.¹⁵⁸

Against this backdrop, federal courts have relied on the precautionary principle in deciding many cases, ranging from disputes concerning the approval of industrial plants and GMOs to civil liability claims relating to environmental damage. Rather than these developments being spearheaded by a progressive ultimate court, as in India, courts throughout the federal hierarchy have been active in applying the precautionary principle in a way that catalyses new legal developments. Thus, for example, the Superior Tribunal de Justiça (STJ)¹⁵⁹ has adapted the established civil liability test for causation in cases of environmental damage caused by activities posing serious risks, by reversing the burden of proof to require the proponent of the allegedly harmful activity to show that its actions did not cause the relevant damage.¹⁶⁰ In another set of cases, concerning authorisation of potentially polluting or harmful activities, various federal courts have found that environmental impact studies must be carried out before activities or developments can go ahead, basing this requirement on the precautionary principle. In some of these cases, courts have approved the suspension of existing authorisations when environmental risks became apparent,¹⁶¹ or required environmental impact analysis even where there was no explicit legal requirement for such analysis.¹⁶²

This infiltration of reasoning involving the precautionary principle across the court system is perhaps not surprising given that the Brazilian court system operates in a civil law context with a limited doctrine of binding precedent by senior courts.¹⁶³ At the same time, the application of the precautionary principle to spur legal developments is not a predictable development in Brazilian law. The use of the principle in judicial reasoning has been critiqued as being affected by ‘une perception imprécise des bases conceptuelles du principe par les juges’,¹⁶⁴ whether due to a failure to spell out the

¹⁵⁷ Article 1 of Brazilian Federal Law 11.105 of 24 March 2005, which establishes safety and control standards for activities related to genetically modified organisms.

¹⁵⁸ Article 54(3) of Law 9.605 of 12 February 1998 on administrative offenses and penal sanctions for the environment.

¹⁵⁹ The STJ is the highest Brazilian appellate court for non-constitutional questions of federal law.

¹⁶⁰ eg STJ, Resp n 1330027/SP, 3a turma, decision of 11 June 2012 (civil liability case relating to impacts on aquatic fauna caused by dam construction).

¹⁶¹ eg TRF 1a região, *Apelação cível* n 2001.34.00.010329-1/DF, decision of 12 February 2004 (suspending the authorization of bioinsecticide plants pending further studies concerning their uncertain impacts on the environment and the health of non-pest insects in particular); TRF 2, *Agravo de instrumento* 0004075-70.2012.4.02.0000, 5a turma, decision of 31 July 2012 (suspending oil exploration activity pending further environmental studies); cf STJ, 1863/PR, decision of 18 February 2009 (finding that it was not proportionate to suspend the construction of a dam on the basis of the precautionary principle).

¹⁶² STJ, Resp 1172553/PR, 1a Turma, decision of 27 May 2014 (in relation to the construction of a dam).

¹⁶³ In 2006, the Federal Constitution was amended to allow the supreme court to issue binding precedents in certain cases.

¹⁶⁴ de Oliveira and da Silva Barbosa argue that the precautionary principle suffers from inappropriate implementation in Brazil ‘due to an imprecise perception of the conceptual basis of the principle by judges’: de Oliveira and da Silva Barbosa (n 156) 761.

precise criteria that engage the application of the precautionary principle,¹⁶⁵ a failure to differentiate between the precautionary principle and the principle of prevention,¹⁶⁶ or an unorthodox application of Brazilian procedural law (in cases concerning the reversal of the burden of proof).¹⁶⁷ Again, the legal connections to the precautionary principle in other legal spheres internationally appears to embolden ambitious applications of the principle,¹⁶⁸ without necessarily careful analysis of how this reasoning fits within the existing domestic legal order.¹⁶⁹

5. New South Wales (Australia)

A final example of legal innovation based on environmental principles can be seen within the law of New South Wales, Australia ('NSW'). Along with other states and the federal government in Australia, NSW has incorporated a set of principles of 'ecologically sustainable development' ('ESD') into its environmental protection and planning legislation, as discussed above.¹⁷⁰

The New South Wales Land and Environment Court ('NSWLEC') has been particularly active in developing public law doctrine based on these ESD principles, developing a complex and intricate body of reasoning prescribing good decision-making in relation to environmental and planning matters and environmental sentencing.¹⁷¹ Whilst the Court is constrained by more senior Australian courts in its application of legal doctrine, it has worked within and beyond existing doctrinal frameworks to find progressively that ESD principles are legally relevant in all aspects of its jurisdiction.¹⁷² This is possible due to the multifaceted nature of the NSWLEC's jurisdiction – engaging in both judicial review and merits appeals relating to public decision-making on a range of environmental and planning matters, as well as hearing sentencing appeals – and due to the specialised mandate of the Court to develop consistent and coherent principles for NSW environmental law, along with the ESD agenda that the Court has embraced in performing this role.¹⁷³ Whilst the Court has been innovative in standalone judgments – as in the *Telstra* decision outlined above¹⁷⁴ – it is the total body of its ESD doctrine that is innovative, infusing a body of law with ESD principles through incremental but extensive reasoning, building on the doctrinal foundations of this particular legal culture, and redefining it in the process.

¹⁶⁵ *ibid* 769-773.

¹⁶⁶ *ibid* 765-768.

¹⁶⁷ eg STJ, Resp no 972.902 - RS(2007/0175882-0), decision of 25 August 2009.

¹⁶⁸ eg STF, *Recurso Extraordinário* n 737.977/SP, decision of 4 September 2014 (appealing to the 'international law principle of precaution' in requiring pre-emptive mechanisms to counter actions that threaten sustainable use of ecosystems).

¹⁶⁹ 'Le principe est parfois vu comme une règle qui doit être a tout prix appliquée'... 'en faveur de l'environnement, indépendamment des analyses préalables sur la manière dont le principe doit être interprété': de Oliveira and da Silva Barbosa (n 156) 748, 763.

¹⁷⁰ Above nn 44-45 and accompanying text.

¹⁷¹ See Scotford (n 29) ch 5.

¹⁷² *ibid* 217-223, 224-256.

¹⁷³ *ibid* 208-217.

¹⁷⁴ Above nn 81-86 and accompanying text.

The four jurisdictional examples considered above are deliberately chosen to cover different types of legal systems – from supranational to subnational legal systems, including those with civil law and common law traditions, and with varying constitutional backdrops – and to showcase legal systems in which environmental principles have been catalysing innovative legal developments. Each of these legal settings shows how environmental principles can transform from empty legal vessels into legally relevant and important ideas. They also show that, whilst environmental principles have rhetorical force and present a strong vision of sustainability to inform judicial reasoning, there is no one legal model for environmental principles. Their legal roles are contingent on the different legal cultures in which environmental principles take on legal roles, including the jurisdictional mandates of the relevant courts, the varying style of legal reasoning, and the distinctive legislative and doctrinal frameworks that apply. These examples also show that judicial reasoning involving environmental principles also comes with risks of poor legal reasoning, in cases where their precise legal relevance and mode of application in a particular legal culture is not fully examined and explained.

IV) CONCLUDING REMARKS

Environmental principles are a prominent, emerging, and inspiring legal force in environmental law globally. Despite their inconsistent groupings and ambiguous meanings, they are increasingly taking on legal identities in a range of legal cultures, mediating transnational legal connections and catalysing new legal developments. The contingent nature of environmental principles as legal ideas – even as they are bolstered by nominal connections to environmental principles in international soft law instruments and other legal fora – is central to understanding their legal identities and significance as ‘global’ norms. Environmental principles are not predefined or predetermined legal phenomena. They must operate through contingent and localized legal architectures in order to have legal roles, and even then their wider policy impacts depend on a wide range of socio-political and scientific factors. This recognition highlights the limits of environmental principles as legal ideas. They do not (yet) represent a radical new form of law globally; they are not equivalent to other ‘legal principles’ that have strong traditions in certain legal systems; and they do not provide easy instrumental routes to environmental protection outcomes. Rather, environmental principles are ideas that provoke and inspire legal developments, whether in negotiated soft law form at the international level, or in the detail of legal reasoning within discrete jurisdictions. They represent, and often mask, a range of political and legal agendas, and their global proliferation has provided a landscape of opportunity for legal development. This landscape is not uniform but it is fertile ground and interesting legal developments involving environmental principles will no doubt continue to appear across legal systems. As is often the case in environmental law, there can be a tension

between legal inspiration for new ideas and the stability of legal orders.¹⁷⁵ Environmental principles pose a particular challenge in this respect, in light of their heavy promotion by policymakers and key actors in environmental law, and their capacity for multiple meanings and fluid application. Environmental principles cannot be self-determining and self-legitimising in legal terms, but they are nonetheless ideas with significant legal importance and potential globally.

V) SELECT BIBLIOGRAPHY

Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (OUP 2002)

Ulrich Beyerlin, 'Different Types of Norms in International Environmental Law: Policies, Principles and Rules' in Dan Bodansky, Jutta Brunnée and Ellen Hey (eds), *The Oxford Handbook of International Environmental Law* (OUP 2007)

Klaus Bosselmann, *The Principle of Sustainability: Transforming Law and Governance* (Ashgate 2008)

Rajendra Ramlogan, *Sustainable Development: Towards a Judicial Interpretation* (Martinus Nijhoff Publishers 2011)

Jorge E Viñuales (ed), *The Rio Declaration on Environment and Development: A Commentary* (OUP 2015)

Brian J Preston, 'The Judicial Development of Ecologically Sustainable Development' in Douglas Fisher (ed), *Research Handbook on Fundamental Concepts in Environmental Law* (Edward Elgar 2016)

Eloise Scotford, *Environmental Principles and the Evolution of Environmental Law* (Hart Publishing 2017)

Ludwig Krämer & Emanuela Orlando, *Principles of Environmental Law* (Edward Elgar 2018, forthcoming)

¹⁷⁵ Scotford (n 29) 266 and generally; Elizabeth Fisher, *Environmental Law: A Very Short Introduction* (OUP 2017) 24-26.