Conclusions

Critical Reflections on the Epistemic Adequacy of the Western Legal Approach to Square the Circle and Grant a Common Future for All

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> We are in a giant car
> heading toward a brick wall
> and everyone's arguing
> where they are going to sit
> <small>(DAVID SUZUKI)</small>

1 Introduction

In the face of the planetary socio-ecological crises,[1] sustainability and participation have become prominent concepts guiding decision-making and regulatory reforms,[2] constantly invoked by scholars and policymakers as the environmental panacea.[3] Yet, the hope often associated with their effectiveness has been slipping away, indicating what appears to be a general insufficiency of their problem-solving power.

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1 Here the term 'socio-ecological' is used in the way suggested by Elinor Ostrom, Marco A Janssen, John M Anderies 'Going beyond panaceas. *Proceedings of the National Academy of Sciences'* (2007) *104*(39), 15176–15178 to describe systems of human-environment interactions. For an updated report of the current multiple crises, see IPC, Summary for Policymakers (2022) <https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Summary ForPolicymakers.pdf> last accessed 31 October 2022, in 'Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change', Cambridge University Press.

2 James N Rosenau, 'Globalization and governance: sustainability between fragmentation and integration', (2017) in Governance and Sustainability, 20–38.

3 For a critical account of the prevalence of perceptions that panaceas can solve ecological disasters see fn 2 at 1. Critically, on participation as the panacea for environmental crisis, see also Stephen Morse, 'Post-sustainable Development' (2008) Sustainable Development 16, no. 5, 341: "[W]hile participation may provide the community with some control over the form of the process and its pace, it is still being 'acted upon' by an external body [...], and post-developmentalists argue that with this form of relationship the Western hegemony is entrenched, not weakened. [...] Unfortunately, participation is often assumed to be another word for 'panacea' [...].

In the opinion of critical legal scholars, this inadequacy is rooted in their inherently anthropocentric matrix and features,[4] which continue to aggravate the disconnect between the ecosystems and the human attempt to regulate them.[5] In other words, as the rhetoric bedrocks of Western environmental law, sustainability and participation are concepts deeply embedded in the human centrality regarding questions of environmental significance,[6] where humans are immediate if not the exclusive ambit of concern.[7] In this framework, human interests take precedence and human responsibilities to non-human subjects are assessed based on the benefits that humans can derive from environmental protection.[8] This human supremacy encoded in the Western ethics and legal orders is vividly expressed in the words of Louis Kotze and Duncan French: 'In the Anthropocene, the anthropocentrism of law is considered to justify and promote ecological ravaging; aggravate the enclosure of the commons; justify and increase the dispossession of Indigenous peoples and other marginalised groups; perpetuate corporate neo-colonialism; and intensify the

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4   Basil Bornemann, 'Environmental Governance in the Anthropocene: Challenges, Approaches and Critical Perspectives' in David Chandler, Franziska Müller, Delf Rothe (eds), *International Relations in the Anthropocene* (Palgrave Macmillan, 2021). The term 'Anthropocene' was coined by Paul J. Crutzen in 2002: Paul J. Crutzen 'The "anthropocene"', *Journal de Physique IV (Proceedings), 12*(10), 1–5. EDP sciences; Id, (2010); 'Anthropocene man' Nature, 467(7317), S10-S10; Id., (2006); 'The Anthropocene' in Eckart Ehlers, Thomas Krafft (eds), *Earth system science in the Anthropocene* (Springer,2006). Critically, on the need to rethink anthropocentrism as the cause of the environmental crisis Layna Droz 'Anthropocentrism as the scapegoat of the environmental crisis: a review' (2022) *Ethics in Science and Environmental Politics*, 22, 25.

5   Oran R Young, 'Institutional dynamics: resilience, vulnerability and adaptation in environmental and resource regimes' (2010) Global Environmental Change 20(3), 378; Oran R Young, *The institutional dimensions of environmental change: fit, interplay, and scale.* (MIT press, 2002); Carl Folke, Lowell Pritchard Jr., Fikret Berkes, Johan Colding, Uno Svedin, 'The problem of fit between ecosystems and institutions: ten years later' (2007) Ecology and society 12 (1).

6   Vito de Lucia, 'Competing narratives and complex genealogies: The ecosystem approach in international environmental law' (2015) Journal of Environmental Law, 27(1), 91–117; Helena Kopnina, Haydn Washington, Bron Taylor, John J Piccolo 'Anthropocentrism: More than just a misunderstood problem' (2018) Journal of Agricultural and Environmental Ethics 31(1), 109–127; Daniel Bodansky, Jutta Brunnee, Ellen Hey, 'International environmental law: Mapping the field' in Daniel Bodansky (ed) *The Oxford handbook of international environmental law* (Oxford University Press. 1080, 2012).

7   Vito de Lucia, 'Rethinking the Encounter Between Law and Nature in the Anthropocene: From Biopolitical Sovereignty to Wonder'(2020) Law and Critique 31(3), 329–349.

8   Satish C Shastri, 'Environmental ethics anthropocentric to eco-centric approach: a paradigm shift' (2013) Journal of the Indian Law Institute 55(4), 522.

asymmetrically distributed patterns of advantage and disadvantage that prevail in society, while deepening inter- and intra-species hierarchies'.[9]

Consequently, in perpetuating the paradigm of domination and sovereignty of humans over nature,[10] the attempts to achieve sustainability through participation within Western parameters are inadequate to address sustainability's main dimensions (economic, social, and environmental).[11] Human supremacy over nature informs the regulatory framework of environmental law and is drawn by modern science.[12] This reflects what Boaventura de Sousa Santos defines as 'the conversion of modern law into scientific statist law', which is a conversion that mimics 'the hegemonic rationality' of science and its 'central productive force'.[13] As Western science is based on the dogma of mastery of nature, acquired through the objectification of knowledge and manipulation of natural laws,[14] laws, similarly, manipulate social and ecological relations through categorisation of reality and the imposition of the sovereignty and dominion paradigms.[15]

Through a comprehensive mapping of the contributions in the book, I argue that sustainability and participation are over-exploited Western concepts that need to be rethought and re-cast in a hybridised scenario. To become effective factors of change in the socio-environmental crises of our time, Western legal

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9   Louis J Kotze, Duncan French, 'The Anthropocentric Ontology of International Environmental Law and the Sustainable Development Goals: Towards an Ecocentric Rule of Law in the Anthropocene' (2018) Global Journal of Comparative Law 7, no. 1, 5.

10   On domination, sovereignty and governmentality see Michel Foucault, 'Power and strategies' in Colin Gordon (ed), *Power/Knowledge* (Pantheon Books, 1980); Michel Foucalt, 'The subject and power' in Hubert L Dreyfus, Paul Rabinow (eds)*: Beyond Structuralism and Hermeneutics* (University of Chicago Press; Id. (1991); Michel Foucault 'Governmentality' in Graham Burchell,, Colin Gordon, Peter Miller (eds) *The Foucault Effect: Studies in Governmentality* (Harvester Wheatsheaf, 1991).

11   For an analysis of the contradictions of, and therefore the challenges posed by sustainable development see Christiano Nogueira, 'Contradictions in the concept of sustainable development: An analysis in social, economic, and political contexts'(2019) Environmental Development, 30: 129.

12   In similar terms, Leslie Somonian, 'The critical intersection of environmental and social justice: a commentary' (2021) Global Health 17,30, talk about "dominance of the Eurocentric technoscientific epistemology". See also Dave Kendal, Christopher M Raymond, 'Understanding pathways to shifting people's values over time in the context of social–ecological systems' (2018) Sustain Sci.

13   Boaventura de Sousa Santos, 'Law: a map of misreading. Toward a postmodern conception of law' (1987) Journal of Law and Society, 279.

14   Luigi Pellizzoni, 'Towards a critical humanism. Ontological Politics in a Disposable World' in Luigi Pellizzoni (ed) *Ontological Politics in a Disposable World* (Routledge, 2015).

15   M. Foucault (1982). Michel Foucault, 'The subject and power' (1982) Critical inquiry, 8(4), 777.

paradigms must open up to pluralism, knowledge co-creation, and generally participatory approaches.[16]

Following a brief summary of the theme and scope of the book (section 2), the two interlaced concepts of sustainability through participation are analysed as a part of the multilevel or polycentric system of governance in which they are embedded (section 3). Three main features of polycentric governance (a plurality of actors, patterns of interaction, and overarching sets of rules) are regarded as the common threads in the chapters of this book. The analysis of the characteristics of polycentric governance provided in this chapter will show gaps and offer key insights for future research with the aim to improve the problem-solving power of the relationship between sustainability and participation (section 4)

2   Sustainability and Participation as Western Conceptualisations

Through the exploration and analysis of the different approaches to this book's main foundational question of whether sustainability can be achieved through participation, an internal contradiction in the relational dimension of the two concepts may be revealed. This revelation would demonstrate the difficulty of reconciling such a relationship and translating it into implementable policies.[17]

Sustainable development and sustainability stem from and are deeply embedded in Western legal constructions. As observed by Carmen G. Gonzales: 'Although its meaning is highly contested, sustainable development is widely recognized as one of the guiding principles of contemporary international law […]'.[18] The Western origins of sustainable development appear problematic whereas 'the definition [provided by the Brundtland Commission] appeared to reconcile economic development and environmental protection without fundamentally challenging the growth-oriented development paradigm'.[19] As correctly pointed out by the author, the focus of the Brundtland Commission was to promote economic growth, in the first place, following the global North-Western model,

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16   Andrea Cornwall, Deborah Eade, *Deconstructing development discourse: Buzzwords and fuzzwords* (Oxfam GB, 2010).

17   For this reason, sustainability and participation in the context of environmental governance have been defined as a 'wicked problem' by extensive sustainability science literature. For a reconstruction of this expression and the implication of the wickedness of sustainability through participation see Lael Parrott, 'The modelling spiral for solving 'wicked' environmental problems: Guidance for stakeholder involvement and collaborative model development' (2017) Methods in Ecology and Evolution 8.8: 1005.

18   Carmen G Gonzales, 'Bridging the North-South divide: International environmental law in the Anthropocene' (2015) Pace Envtl. L. Rev. 32, 407.

19   Ibid.

as the solution to poverty and inequality, rather than effectively being concerned with ecological sustenance that came into consideration in its merely instrumental function of supporting economic growth: 'Instead of encouraging the global North to reduce its ecological footprint in order to increase the living standards of the poor without exceeding biophysical limits, the Brundtland Commission extolled the benefits of international trade as the engine of economic growth and the solution to poverty and inequality'.[20]

As Gilbert Rist observes, '[t]he main contradiction, then, in the Report of the Brundtland Commission is that the growth policy supposed to reduce poverty and stabilize the ecosystem hardly differs at all from the policy which historically opened the gulf between rich and poor and placed the environment in danger'.[21] Instead of questioning the dominant development model that caused the major divide between the global north and the global south and provoked irreversible changes in the ecological system, sustainable development suggested upscaling the economic growth. Thus, sustainability and sustainable development served to promote the growth model that Heloise Weber defines as the 'market episteme',[22] which gives priority to highly contested neoliberal policies, promoting free-market capitalism,[23] 'implementing contentious policies which critics have shown to be highly exclusionary, unjust and therefore also not sustainable'[24] and ultimately causing those power asymmetries (exclusion, higher environmental risk, and disproportionate environmental exposures)[25] in environmental decision-making that participation tries to address.[26]

Therefore, the relationship between sustainability and participation is controversial[27] and, as pointed out by legal scholars advocating for critical

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20   Ibid.

21   Gilbert Rist, 'Development as a buzzword' (2007) Development in practice, 17(4–5), 485.

22   Heloise Weber, 'Politics of 'Leaving No One Behind': Contesting the 2030 Sustainable Development Goals Agenda' (2017) Globalizations, 14:3, 399, in particular at page 410: "At its core, the 2030 SDG agenda is premised on the consolidation of the conditions of the 'market episteme' while attempting to mitigate against any challenges to this political project."

23   Ibid; Elena Danilova, 'Neoliberal Hegemony and Narratives of "Losers" and "Winners" in Post-Socialist Transformations' (2014) Journal of Narrative Theory, 44, no. 3, 442. For a thorough critical analysis of sustainable development see Juhani Koponen, 'Development: History and power of the concept' Forum for Development Studies Vol. 47, No. 1, 1..

24   Heloise Weber, n 22 at 4.

25   Vera Schattan P Coelho, Arilson Favareto, 'Questioning the relationship between participation and development: a case study of the Vale do Ribeira, Brazil' (2008) World Development, 36.12, 293

26   Nicholas Freudenberg, Manuel Pastor, Barbara Israel, 'Strengthening community capacity to participate in making decisions to reduce disproportionate environmental exposures' (2011) American Journal of Public Health, 101, 123.

27   Stephen R Dovers, John W Handmer, 'Contradictions in sustainability' (1993) vol 20 no 3 Environ Conserv 217.

approaches to sustainability[28] and by the contributors to this book, difficult to conciliate. Sustaining human development and guaranteeing that everybody participates in this endeavor is an undertaking dense with epistemological and material contradictions and oxymorons.[29] For this reason, how to effectively interlink sustainability and participation in ways that improve the environmental outcomes of public decision-making (by achieving social equality while protecting the environment simultaneously) is still an open question. However, the drastic shortcut could be boiled down to the conclusion that, within Western knowledge, the essence of a highly exclusionary human sustainability based on market epistemological premises and hegemonic rationality, inevitably hijacks participation.

Starting from the premise that sustainability and participation form a dichotomy that cannot be solved within a purely Western-centric context, it already dispenses from demonstrating that their relationship is successful at any cost. Acknowledging such difficulty helps to gather the threads of the discourse on the multiple applications of sustainability through participation, and their points of convergence and divergence, as showcased by the rich pool of contributions that compose this book.

Therefore, drawing insights from the previous chapters, this contribution first attempts to reconstruct the scenario in which the sustainability-participation relationship seems to be taking place, in what hereinafter is interchangeably referred to as the multilevel or polycentric governance system.[30] This is accomplished by focusing on three main features in the sustainability-participation relationship, then formulating a way forward for the Western neoliberal hegemony, and suggesting conceptual and methodological corrections to the framework.

By applying polycentric approaches to environmental governance[31] and suggesting improvements to the current relationship between sustainability

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28   For an overview see Jeff Rose, Adrienne Cachelin, 'Critical sustainability: incorporating critical theories into contested sustainabilities' (2018) 8 J Environ Stud Sci 518.

29   Mary Menton, Carlos Larrea, Sara Latorre, Joan Martinez-Alier, Mika Peck, Leah Temper, Mariana Walter, 'Environmental justice and the SDGs: from synergies to gaps and contradictions' (2020) 15 Sustainability Science, 1621.

30   Elinor Ostrom, Michael Cox, 'Moving beyond panaceas: A multi-tiered diagnostic approach for social-ecological analysis' (2010) 37(4) Environmental Conservation 451.

31   Vincent Ostrom, Elinor Ostrom, 'Public Goods and Public Choices' in Michael, D McGinnis (ed) *Polycentricity and Local Public Economies: Readings from the Workshop in Political Theory and Policy Analysis* (The University of Michigan Press); Elinor Ostrom 'Coping with Tragedies of the Commons'(1999) 2 Annual Review of Political Science 493; Vincent Ostrom, 'Polycentricity (Part 1)' in Michael D McGinnis (ed) *Polycentricity and Local Public Economies: Readings from the Workshop. Political Theory and Policy Analysis* (The University of Michigan Press, 1999, 52–74). For a critical overview on multi-level governance see Pier D Tortola, 'Clarifying multilevel governance' (2017) 56(2) European Journal of Political Research 234.

and participation through decolonial and non-human centric approaches to law[32] this chapter explores how a multilevel polycentric governance system could be enhanced through deliberate processes of integration and co-creation of diverse epistemologies and non-human centric approaches to law.

3   Sustainability through Participation in Multilevel or Polycentric Governance

This book spans studies of sustainability through participation, looking at the historical and epistemological backgrounds of the two concepts (respectively, in Birgit Peters, and Paola Villavicencio-Calzadilla and Louis Kotze's analyses), through the national perspective level (Eva Julia Lohse, Daniele Brombal and Cristina Fraenkel-Haeberle), the EU thematic level (Matthias Valta, Julius Buckler, Giacomo Gattinara and Magnus Noll Ehlers) and the international thematic level (Federica Cittadino and Emma Mitrotta, Omondi R. Owino, Violeta Radovich, Michael Riegner, Angela Schwerdtfeger, Paolo Turrini, Matthias Uffer).

The result is a kaleidoscopic conceptual picture of the sustainability-participation relationship that in this section will be demonstrated via the filigree of the multilevel or polycentric[33] systems of governance[34] to identify common features, gaps, and possible solutions for strengthening the substrate in which sustainability and participation interact, thus, improving the relationship between the two.

As a premise to the analysis, the terms multilevel and polycentric encompass the complexity of layers and plurality of actors involved in environmental decision-making. In particular, the word 'multilevel' makes an explicit reference to the vertical or horizontal interactions between actors, while the adjective 'polycentric' emphasises the multiple centres of decision-making, each of them operating with some degree of autonomy, but hereinafter used interchangeably.[35]

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32   Alice Benessia and others 'Hybridizing sustainability: towards a new praxis for the present human predicament' (2012) 7(1) Sustainability Science 75.

33   See Stephen R Dovers, John W Handmer, n 27 at 5.

34   Daniel H Cole, 'Advantages of a polycentric approach to climate change policy' (2015) 5(2) Nature Climate Change 114; Jens Newig, Oliver Fritsch, 'Environmental governance: participatory, multi-level – and effective?' (2009) 19(3) Environmental Policy and Governance 197.

35   Besides the studies already cited on polycentricity, on the definition of multi-level and polycentric see also Michael Roe, 'Multi-level and polycentric governance: effective policymaking for shipping' (2009) 36(1) Maritime Policy & Management 39.

The scholars invited to provide an analysis of sustainability through participation in their fields of expertise touched upon some of the basic conceptual elements of the polycentric governance system in which the sustainability-participation relationship is embedded. They approached their research using diverse methods, tools, substantive environmental issues, and geographic locations.

The collective result is that the chapters offer reflections on nature and the functioning of sustainability through participation in multilevel governance. Therefore, rather than summarising each chapter independently, I will focus on some key elements of the multilevel governance that emerge from the synoptic analysis of the different contributions.

The *leitmotif* that emerges is that, despite the promising environmental outcomes that a highly polycentric governance system is likely to yield when compared to monocentric governance,[36] it still requires a sustained commitment to overcome the limitations of a Western and anthropocentric knowledge system. For example, the analysis of Cristina Fraenkel-Haeberle reveals how the different levels, actors, networks, and agendas follow a structure informed by the EU subsidiarity principle, and therefore the multilevel governance the author refers to is deeply embedded in the Western paradigm. Highlighting the critical challenges of the multilevel framework, and following the historical pathway of sustainability through participation, Birgit Peters reflects on the limited role played by the eco-centric episteme in molding environmental governance. Along the same lines, Paola VillavicencioCalzadilla and Louis Kotze' develop their argumentation on the need to recenter the sustainability-participation narrative around nature, nature rights, and duties of guardianship. Also, Eva Julia Lohse emphasises the role that Indigenous peoples' cosmovisions play in strengthening Earth law and ecocentric perspectives.

Nested in this Western anthropocentric context, the three characteristics of polycentric governance systems (a plurality of actors, patterns of interactions, and an overarching set of rules)[37] reveal the gaps in the system but also the

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36   Massimo Cattino, Diana Reckien, 'Does public participation lead to more ambitious and
      transformative local climate change planning?' (2021) 52 Current opinion in environmen-
      tal sustainability 100

37   Mark Stephan, Graham Marshall,Michael McGinnis, 'An Introduction to Polycentricity
      and Governance' in Andreas Thiel, William A Blomquist and Dustin E Garrick (eds), *Gov-
      erning Complexity* (New York: Cambridge University Press, 2019) identify eight charac-
      teristics in multilevel governance systems. In this chapter, I will focus on a few of them,
      and namely on the relevance of the characteristics n. 1 (Multiple decision centers); n. 4,
      7, and 8 (Multiple processes of mutual adjustments among decision centers; Emergent

large future potential of polycentric systems to enable a relationship sustainability-participation more functional to address socio-ecological challenges.

The present analysis will focus on characteristics, gaps, and possible solutions. In the analysis of characteristics and gaps, I will observe how challenging it is for certain actors to be included, how a network or web-shaped structure[38] still subsides and hegemonic actors prevail, and how the overarching systems of rules need to be strengthened with knowledge pluralism and tackled with knowledge co-production approaches. These insights into the gaps will help identify possible ways forward and suggest developing hybridised solutions and the standardisation of participatory mechanisms that can secure a sustainable future for all.

4   The Good and the Bad in the Three Characteristics of Polycentric Governance

The first characteristic of polycentric environmental governance, where sustainability intersects participation, is the existence of multiple centres of decision-making, following what the doctrine calls the approach of a multiple and shared agency.[39]

A multiple and shared agency approach enhances the interaction in decision-making and, consequently, is expected to contribute to the development of complex adaptive social systems.[40] In this sense, a shared agency addresses the socio-ecological dimension of sustainability by improving the quality of the interactions and enriching the pool of environmental solutions that support social inclusion. In their study on social sustainability, Merlina Missimer *et al* point out how fostering complex adaptive social systems by broadening the spectrum of parties involved in decision-making, constitutes a strategic

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patterns of behaviours; Combination of means of coordination); n. 6 (Overarching systems of rules).

38 Chenghui Tang, Jianmin Dou, 'Exploring the Polycentric Structure and Driving Mechanism of Urban Regions From the Perspective of Innovation Network' (2022) Frontiers in Physics 10: 855380.

39 Naim Kapucu, Brittany Haupt, Thomas Quint, Mostafizur Rahman, Murat Yuksel, 'Polycentric Governance and Decentralized Decision-Making for Pervasive Spectrum Sharing'(2021) International Journal of Public Administration, 1–10; Michael E Bratman, *Shared agency: A planning theory of acting together* (Oxford University Press 2013).

40 Fernando Tormos-Aponte, Gustavo A Garcia Lopez, 'Polycentric struggles: The experience of the global climate justice movement' (2018) 28(4) Environmental policy and governance 284.

approach to sustainability by enhancing trust, common meaning, diversity, capacity for learning and capacity for self-organisation, and ultimately by leading to adaptive and resilient environmental outcomes.[41] The participation of multiple actors in the design and implementation of environmental governance allows for greater complexity of understanding of socio-environmental issues, as well as for creating social cohesion and inclusion. As observed in the cited work of Kotze' and French,[42] often, because of social norms or lack of opportunities, the groups most affected by environmental impacts, such as women, Indigenous peoples, people with disabilities, and economically disadvantaged groups, possess limited agency in decision-making.[43] Thus, collective actions for sustainability have the potential to enhance the ability of these groups to act in concerted ways by engaging with inequities, dynamics of exclusion, and power asymmetries.

The first example of potential benefits for the environment deriving from a broadened spectrum of actors in the environmental decision-making process is offered in Cittadino and Mitrotta's chapter on the involvement of present and future generations in environmental justice (intergenerational justice). Supporting the need of broadening the spectrum of actors in polycentric governance, Radovich prospects the possibility of an expansion of actors in favour of Indigenous communities involved in a multi-actor environmental guardianship. In the same vein, Eva Julia Lohse underscores the need to decolonise sustainability through Indigenous participation; Villavicencio-Calzadilla and Kotzé consider that the system of nature rights and guardianship is the most meaningful way to facilitate effective environmental participation, Omondi R. Owino points out how the opening toward non-state actors in environmental decision-making had been encouraged also through Western-legal instruments, such as the Paris Agreement.

Moreover, Peters, Lohse, Schwerdtfeger, Gattinara and Nolls cite the 1998 Århus Convention (ÅC)[44] and 2018 Escazú Agreement (EA) for Latin America

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41   Merlina Missimer, Karl-Henrik Robert, Göran I Broman, 'A strategic approach to social sustainability–Part 2: a principle-based definition' (2017) 140 Journal of Cleaner Production 42.

42   Louis J Kotze, Duncan French, 'Sustainable Development Goals' in Louis J Kotze, Duncan French (eds), Edward Elgar Publishing, (2018).

43   Dayna N Scott, Garance Malivel, 'Intergenerational Environmental Justice and the Climate Crisis: Thinking with and beyond the Charter' (2021) 17 Osgoode Legal Studies Research Paper Forthcoming, Journal of Law & Equality.

44   United Nations Economic Commission for Europe (UNECE), The Århus Convention: An Implementation Guide (2nd ed. 2014) available at <http://www.unece.org/fileadmin/DAM/env/pp/Publications/Aarhus_Implementation_Guide_interactive_eng.pdf> last accessed

and the Caribbean,[45] as two legal milestones that contributed to the development of environmental participatory rights. Both conventions bring forward the discourse of a plurality of actors in environmental decision-making. For instance, the ÅC captures all the parties potentially affected by environmental decisions (and especially e-NGOS), while the EA promotes the environmental defenders, carriers of nature-centred views. Passing the baton of environmental decision-making to the carriers of nature-centred views (and especially Indigenous peoples and vulnerable groups), the EA has catalysed the gradual recognition of non-human-centred epistemologies at the global level.[46]

The multi-actor feature of polycentric governance is not exempt from challenges. Already from the analysis of the different contributions, it is clear that, regardless of the new set of non-state actors, nation-states are still the key actors in climate governance.[47] Top-down approaches are still considered the most suitable forum for environmental and climate governance, based on the

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31 October 2022. The literature on the ÅC is immense, see bibliography in Peters, 'The Historical Perspective', in this book, chapter b.(1), Lohse, 'Comparative Administrative Law Perspectives – Europe, Latin-America, Africa', in this book, chapter c.(1), and Schwerdtfeger, 'The Human Rights Dimension', in this book, chapter e.(1).

45   Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, 4 March 2020, available at <https://treaties.un.org/doc/Treaties/2018/03/20180312%2003-04%20PM/CTC-XXVII-18.pdf> last accessed 31 October 2022. For updates on signature and ratification status see: <https://observatoriop10.cepal.org/en/treaties/regional-agreement-access-information-public-participation-and-justice-environmental> last accessed 31 October 2022. The EA is the first agreement of its kind because representatives of Indigenous groups and civil society organisations were engaged in the negotiations and included as beneficiaries of the Agreement provisions. One example among many was that of the participation of the organisation DAR (Derecho, Ambiente y Recursos Naturales) committed to building and strengthening environmental governance and promoting the exercise of human rights in the Amazon Basin. DAR focuses on issues of environmental policy and legislation, Indigenous peoples' rights, climate change and investment and good governance in the areas of infrastructure and extractive industries, see <https://civicus.org/index.php/media-resources/news/interviews/3728-escazu-the-work-of-civil-society-made-a-huge-difference> last accessed 31 October 2022.

46   Sofia Lopez-Cubillos and others, 'The landmark Escazú Agreement: An opportunity to integrate democracy, human rights, and transboundary conservation' (2021) Conservation Letters, e12838; Atilla Panovics, 'The Escazu Agreement and the Protection of Environmental Human Rights Defenders' (2021) Pecs Journal of International & Europe Law 23; Giada Ferucci, 'A Pioneering Platform: Strengthening Environmental Democracy and Justice in Latin America and the Caribbean' (2019) 20(5) Journal of Management Policy and Practice 10.

47   And usually, nation states from the Global North. See, for example, the studies in Shawkat Alam and others (eds) *International environmental law and the global south* (Cambridge University Press, 2015).

idea that only a cooperative effort between nation-states is the most appropriate way to tackle the global character of the socio-ecological crises.[48]

Even though bottom-up approaches to environmental governance are attempting to go beyond the idea of centralisation, following the logic and principle of subsidiarity (as highlighted in the analysis of Fraenkel-Haeberle),[49] the focus is still on nation-states in the international arena. Subsequently, this means that while the diversity of actors and subsidiary policy levels are increasingly being recognised in global politics, top-down and bottom-up approaches ruled by state law are still dominant in informing policy and research in environmental governance.

Among the critics of the actors' lack of diversity in environmental governance, Carmen G. Gonzalez points out how the expansion of actors, stemming from Western categories and institutions, is embedded in power relations and enables 'northern states and transnational corporations to evade responsibility for their abuse of nature and of vulnerable states and peoples'.[50] The solution, in the eyes of the scholar, is to:

> develop a non-Euro-centric […] project, amplify the voices of grassroots environmental justice activists to influence the interpretation of environmental human rights law, and develop legal theories that challenge the systemic […] violations of the global economic order rather than merely ameliorating its most egregious manifestations. […] The local, not the global, it needs to be emphasized, remains the crucial site of struggle for the enunciation, implementation, and enjoyment and exercise of human rights.[51]

The second characteristic of polycentric governance relates to the types of interactions and behaviours that can happen among actors which help clarify some of the fundamental mechanisms that produce outcomes in polycentric systems. From the contributions, it emerges how the structure of complex polycentric approaches varies across legal orders and macro-level political

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48   Marcel J Dorsch, Christian Flachsland, 'A Polycentric Approach to Global Climate Governance' Global Environmental Politics (2017) 17(2), 45.

49   Lena Bendlin, 'Local Governments in European Multi-Level Climate Governance' in Bendlin (ed) *Orchestrating Local Climate Policy in the European Union* (Springer VS, 2020).

50   Carmen G Gonzales, 'Environmental justice, human rights, and the global south' (2015) 13(1) Santa Clara Journal of International Law 151.

51   Ibid. See also Peter H Sand, 'Origin and History' (2021) 93(2) The Oxford Handbook of International Environmental Law 50.

institutions.[52] For example, the multi-actor interactions can range from conflict to cooperation, as respectively analysed in the studies of Buckler and Brombal, and might reveal a preference for anthropocentric approaches over eco-centric perspectives, as highlighted in Villavicencio-Calzadilla and Kotzé, Radovich, and Fraenkel-Haeberle's chapters.

The studies in this book align with the argumentation that in global environmental governance, power flows are not neatly structured, and are simultaneously subject to forces of fragmentation and aggregation. James N. Rosenau defines this process as 'governance of fragmentation'.[53] Martin Witte *et al* translate this concept into the vivid image of 'patchwork-quilt arrangements'[54] to describe the way authority is exerted in polycentric settings, partly following vertical hierarchical directions, partly horizontal and partly oblique links among overlapping vertical and horizontal interactions.[55] In addition to the unidirectional decision-making processes, be they vertical, horizontal, and intersectional between the two, in global environmental governance, the patchwork of arrangements develops along multidirectional paths (networked cooperation, side by side and Möbius strip or web).[56] This complicated matrix involves transnational corporations, international non-governmental organisations, e-NGOS, states, epistemic and Indigenous communities (represented, in Lohse and Radovich's works by the example of Indigenous peoples and local communities (IPLC)), transnational advocacy coalitions (as in the case of intergenerational justice movement analysed by Cittadino and Mitrotta).[57]

On the positive side, this complex system has the potential to prevent conflicts and foster cooperation, eventually helping to overcome the challenge of the perduring hegemony of state actors in power dynamics, enhance collaboration and offer alternatives to the hierarchical scales of global environmental

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52   Ramiro Berardo, Mark Lubell, 'Understanding what shapes a polycentric governance system' (2016) 76.5 Public Administration Review, 738.

53   James N Rosenau, 'The governance of fragmegration: Neither a world republic nor a global interstate system'(2000) Studia Diplomatica 15.

54   Jan M Witte and others, 'Partnerships and networks in global environmental governance: Moving to the Next Stage'in Ulrich Petschow and others (eds) *Governance and Sustainability* (Routledge, 2017, 141–152).

55   Ibid.

56   Ibid. The Möbius strip, also called the twisted cylinder is a one-sided surface obtained by cutting a closed band into a single strip, giving one of the two ends thus produced a half twist, and then reattaching the two ends. See among others, E W Weisstein, Möbius strip (2001) <*https://mathworld.wolfram.com*> last accessed 31 October 2022.

57   For a complete overview of the interactions in global governance see James N Rosenau n 54, at 11.

governance.[58] It has been widely argued that interdisciplinary and multilevel cooperation among actors constitutes the breeding ground for exchanging experiences and mutual learning, ultimately leading to environmentally beneficial decisions, thanks to the knowledge exchange and brokerage towards solution-oriented approaches.[59]

Nevertheless, as in the case of the first characteristic, this complex matrix of power remains anchored in conventional political arenas and in the logic of nation-states' sovereignty.[60] In this regard, Michael Riegner prospects how the participation of Indigenous peoples—outside the hierarchical system where only state actors and local public entities participate—offers the possibility of legal alternative visions to sustainability.[61]

From this analysis, it is clear that the first two characteristics of polycentric governance call for new approaches and perspectives. For instance, drawn from Indigenous epistemologies, Kyle Whyte proposes the 'kincentric perspective'.[62] According to this reconstruction, human and non-human actors, following values of mutual responsibility, consent, and reciprocity, have the ability to effectively contribute to a system of environmental governance infused with qualities that replicate the patterns of kin relationships.[63] Through kin-centric

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58   As defined by Harriet Bulkeley et al: "An epistemic community can be defined as a network of experts who share a common understanding of the scientific and political nature of a problem", Harriet Bulkeley and others, 'Environmental governance and transnational municipal networks in Europe' (2003) 5(3) Journal of Environmental Policy & Planning 235.

59   Laura Herzog, Karin Ingold und Edella Schlager,'Prescribed by law and therefore realized? Analyzing rules and their implied actor interactions as networks' (2021) 50 Policy studies journal 366; John S Dryzek, *The Politics of the Earth: Environmental Discourses* (OUP 2017); Margherita Paola Poto, Endalew Lifalem Enyew,'Nature Protection, Indigenous Rights and Climate Action', in Hans Christian Bugge (ed), *Klimarettsbok* (Universitetsforlaget 2021).

60   Margherita Paola Poto, *Environmental Law and Governance: The Helicoidal Pathway of Participation a study of a nature-based model inspired by the Arctic, the Ocean, and Indigenous Views* (Giappichelli 2022).

61   Bulkeley *et al,* n 59, at 12; Michele Betsill and Harriet Bulkeley, 'Transnational Networks and Global Environmental Governance: the Cities for Climate Protection program' (2004) 48 International Studies Quarterly 471.

62   Kyle Whyte, 'Too late for indigenous climate justice: Ecological and relational tipping points' (2019) 11 WIRES Climate Change 603.

63   And, especially in an Indigenous context, also past generations. See for example the Māori law (Part II of Te Awa Tupua (Whanganui River Claims Settlement) Act 2017, www.legislation.govt.nz/act/public/2017/0007/latest/whole.html last accessed 31 October 2022) on the Whanganui River, the living being that is also a living ancestor: the law defines the Te Awa Tupua as a living, actual ancestor that includes the various elements of nature and goes beyond the territorial delimitation of waters and land. Te Awa Tupua includes

perspectives, the Western anthropocentric scaffoldings can give way to more receptive conceptions of alterity, nature-centred views, and epistemic plurality. As Simone Bignall, Steve Hemming and Daryle Rigney put it:

> [T]hanks to the corresponding shift in ontology, posthuman justice is less concerned with securing rights for human subjects with full moral worth and more interested in advancing and protecting environmental diversity in communal life, as a constitutive source of human and nonhuman resilience and creativity.[64]

Furthermore, the need to overcome Western predominance emerges from the analysis of the third characteristic of polycentric governance, relating to the overarching set of rules and formal legal frameworks–legal principles, laws, and regulatory mechanisms that support the interaction among the diverse actors.

As repeatedly pointed out in this chapter and confirmed by the other contributions, the common umbrella of rules where sustainability crosses participation in environmental governance is predominantly infused with Western environmental law concepts.[65]

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the main Whanganui River and its tributaries, from which two principal ancestors, the Paerangi and the Ruatipua, draw their life-force. It includes all the elements of nature, in their physical and metaphysical interconnections, from Mount Tongariro, where the Whanganui River has its source, to the Tasman Sea, where it has its estuary: Margherita Paola Poto 'Thinking about Ocean Governance: By Whom, for Whom?', in Vito De Lucia, Alex Oude Elferink and Lan Ngoc Nguyen (eds), *International Law and Marine Areas Beyond National Jurisdiction: Reflections on Justice, Space, Knowledge and Power* (Brill 2022); Matthias Kramm,'When a River Becomes a Person' (2020) 21 *Journal of Human Development and Capabilities*307.

64   Simone Bignall, Steve Hemming and Daryle Rigney, 'Three ecosophies for the Anthropocene: environmental governance, continental posthumanism and indigenous expressivism' (2016) 10 Deleuze Studies 455.

65   Ramiro Berardo and Mark Lubell, 'Understanding What Shapes a Polycentric Governance System' (2016) 76 PAR 738; Elinor Ostrom, 'Beyond Markets and States: Polycentric Governance of Complex Economic Systems' (2010) 100 American Economic Review 641; Krister Andersson and Elinor Ostrom, 'Analyzing decentralized resource regimes from a polycentric perspective' 41 Policy Sciences 71; Rolf Lidskog and Ingemar Elander, 'Addressing climate change democratically. Multi-level governance, transnational networks and governmental structures' (2010) 18 Sustainable Development 32; Katarina Eckerberg and Marko Joas, 'Multi-level Environmental Governance: a concept under stress?' (2004) 9 Local Environment 405.

The Western constructs[66] inform sets of rules where examples and applications of sustainability through participation unfold under fragmented and often uncoordinated regulatory systems, representing self-contained regimes and thematic fields of law (climate change, biodiversity, environmental crises, air, and land pollution, state aid, finances, and competition),[67] thus, evoking the image of the governance of fragmentation.[68]

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66   As a specialized branch of law, Western environmental law has developed in two phases. The first phase, known as the 'classic phase', hinging on the Westphalian origins of international law characterised by the paradigm of state sovereignty, spans from the 1850s to the 1960s and is characterised by a utilitarian, anthropocentric rationale. The second phase, starting in the early 1970s, has seen the scope of environmental law broadening to the protection of the environment for future generations. As highlighted in many of the contributions to this book and especially in Birgit Peters' chapter, after the Stockholm Conference (1972), the first conference to comprehensively deal with environmental problems of broad international significance, environmental protection became firmly established as falling within the competence of the UN system. This institutional development was fostered by the creation, still in 1972, of UNEP through UNGA Res 2997 (XXVII) of 15 December 1972, following a recommendation for the creation of a permanent institutional arrangement for environmental protection and improvement within the UN system ([15 June 1972] A/CONF.48/14/REV.1, 29). Other milestones after of the Stockholm Conference were the United Nations (1972). *Action Plan for the Human Environment.* UN. (UN Doc A/CONF.48/14) and the Stockholm Declaration of the United Nations Conference on the Human Environment: United Nations. (1972). *Stockholm Declaration.* UN; and United nations. (2021). *Rio Declaration.* UN. See Marc Pallemaerts, 'International Environmental Law from Stockholm to Rio: Back to the Future?' (1992) 1 Review on European Community and International Environmental Law 254. Further steps were the World Summit on Sustainable Development 2002, 10 years after the first Earth Summit in Rio de Janeiro (<www.earthsummit2002.org/> last accessed 15 July 2022); the Agenda 2030 for Sustainable Development, adopted by all United Nations Member States in 2015 (<https://sdgs.un.org/2030agenda> last accessed 31 October 2022). In the same year, the Paris Agreement was adopted (<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> last accessed 31 October 2022). For further references see Poto, n 61, at 12.

67   Harro van Asselt, *The Fragmentation of Global Climate Governance: Consequences and Management of Regime Interactions* (Edward Elgar Publishing 2014); Fariborz Zelli and Harro van Asselt, 'The Institutional Fragmentation of Global Environmental Governance: Causes, Consequences, and Responses: Introduction' (2013) 13 Global Environmental Politics 1; Fariborz Zelli, Frank Biermann, Philipp Pattberg and Harro van Asselt, 'The Consequences of a Fragmented Climate Governance Architecture: a Policy Appraisal', in Frank Biermann, Philipp Pattberg and Fariborz Zelli (eds), *Global Climate Governance Beyond 2012: Architecture, Agency and Adaptation* (CUP 2010); Harro van Asselt, 'Dealing with the fragmentation of global climate governance: legal and political approaches in interplay management' (2007) Global Governance Working Paper No. 30.

68   Rosenau, n 53, at 11.

A trend in research and policy-making to overcome such an impasse caused by the opposing forces of fragmentation and aggregation of Western rules suggests moving from conventional participatory rights and knowledge brokerage to environmental knowledge co-creation.[69]

In the academic literature, knowledge co-creation is defined as an emerging process. For example, in the field of Western law, a plurality of actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different knowledge sets, values, expertise and competencies.[70]

Knowledge co-creation presents several advantages and ways forward to all the highlighted stalemates and open venues to consolidate sustainability and participation.

First, it captures the plurality of public and private actors aiming to solve public problems, challenges, and tasks. An innovative process emerges when a plurality of actors is collectively committed to solving shared problems by engaging in mutual, transformative learning, reciprocity and creativity, following kinship rather than market-oriented rules. Plural co-creation triggers a trust-building process where 'interactions enable co-creators to engage with and support other co-creators processes, creating a continuous feedback loop of knowledge integration, and drive knowledge integration into a never-ending spiral'.[71]

Second, knowledge co-creation allows a crucial shift in the critical register, as it comprises both poles of the binary (state sovereignty over nature and human-nature interconnected views), with no predominance of one over the other, showing a critique that is richer and more capable of capturing the competing narratives of environmental governance.[72]

Additionally, it provides an analytical framework that theorises how participation can effectively work in the decision-making processes of environmental

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69   New modes of knowledge co-production are being negotiated and institutionalised by "Future Earth for Global Sustainability", a research programme launched at the United Nations Conference on Sustainable Development that took place in Rio de Janeiro, Brazil in June 2012. See more on this Sandra van der Hel, 'New science for global sustainability? The institutionalisation of knowledge co-production in Future Earth' (2016) 61 Environmental Science & Policy 165; Mark E Nissen, Nada Magdi and Kishore Sengupta, 'Integrated Analysis and Design of Knowledge Systems and Processes' (2000) 13 IRMJ 24.

70   Jacob Torfing, Asbjørn Røiseland and Eva Sørensen, 'Transforming the public sector into an arena for co-creation: Barriers, drivers, benefits, and ways forward' (2019) 51 Administration & Society 795.

71   Margherita Paola Poto, Environmental Law and Governance: The Helicoidal Pathway of Participation a study of a nature-based model inspired by the Arctic, the Ocean, and Indigenous Views (Giappichelli 2022).

72   Laura Kreiling and Carlonie Paunov, 'Knowledge co-creation in the 21st century: A cross-country experience-based policy report' (OECD Publishing 2021) OECD Science, Technology and Industry Policy Papers, No. 115.

governance, facilitating the exploration of how the law should allow the integration and co-evolution of Western and non-Western (e.g. Indigenous, local, traditional) views.[73]

Lastly, an institutional opening towards multiple knowledge systems enables the reading of environmental governance through the lens of the pluralism of environmental governance, and the diversity of approaches to sustainability. As observed by Ronald Ralf Becerra:

> legal pluralism favors the possibility to relax the concept of state sovereignty. [...] enshrined into the mechanisms of transnational legal systems and organizations that curtail and transform current powers and the constitutional sovereignty.[74]

In a dimension of legal pluralism, state sovereignty evolves according to the situation and social context, confirming how law and society are inseparable. The concept of evolving and dynamic sovereignty is crucial for environmental issues as it fosters the idea of adaptability to changes.[75] In this scenario, state sovereignty evolves into other concepts, such as stewardship and duty to protect, and is, thus, passed on to relevant actors to apply, create or orientate regulations, frameworks, and decision-making processes. These actors may include environmental organisations and Indigenous, traditional, and local communities.

The hybridisation of the polycentric governance scenario, in which the different applications of sustainability through participation are projected, shows the relevance of the commitment to developing integrated decision-making approaches. For instance, integrated decision-making enables integrated processes of co-designing policy and co-producing knowledge for addressing challenges for global sustainability and developing possible solutions.[76]

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73   Dawn Martin-Hill,Colin M Gibson and Charles-François de Lannoy *et al,* 'Striving toward reconciliation through the co-creation of water research', in Miquel Sioui (ed), *Indigenous Water and Drought Management in a Changing World* (Elsevier 2022, vol 4).

74   Ronald Ralf Becerra, 'Legal Pluralism as a Theory for the Challenges on Environmental Health' (2019) 18 Opinión Jurídica 233. Pioneering on the role of legal pluralism to overcome state sovereignty is the work of Brian Z Tamanaha, 'Understanding Legal Pluralism: Past to Present, Local to Global' (2008) 30 Sydney Law Review 375. See also Nico Kirsch, 'The Pluralism of Global Administrative Law' (2008) 17 European Journal of International Law 247.

75   Becerra, n 74, at 15.

76   Wolfram Mauser and others 'Transdisciplinary global change research: the co-creation of knowledge for sustainability. 5 Current opinion in environmental sustainability' (2013) 420.

In this renewed sense, polycentric governance can play a key role in address-ing socio-ecological development challenges. Thus, it can not only strengthen the processes of participation (and therefore contribute to inclusion, trans-parency, and good administration) but can encourage knowledge integration, co-design and co-creation, subsequently, providing a better understanding of the multiple drivers, interdependencies, and complexities of global sustain-ability challenges. Through the polycentric governance scenario, it is possi-ble to reflect on ways of knowledge co-creation that better contributes to the development of robust policy solutions and their effective, equitable imple-mentation. Consequently, within this understanding, the process of knowledge co-creation involves stakeholders, decision-makers, and the researcher com-munity in a problem-oriented approach, driven by contexts of application, and starting with the joint framing of socio-ecological challenges, policy topics, and research questions. Co-creation upholds scientific integrity in reflexive learn-ing processes that bring together different actors and knowledge practices. It builds on and supplements, traditional processes of disciplinary research by encouraging decision-making platforms where plurality-level dynamics are involved. This includes vertical, horizontal, networked, all-encompassing polycentric actors from central and local policymakers and decision-makers, e-NGOs, epistemic communities of researchers, and knowledge-keepers.

Consequently, hinging on the main teachings of polycentric governance and critically looking into the most advanced achievements in the environmen-tal regulatory framework, this contribution suggests developing co-created approaches that go beyond the Western approaches by suggesting enhance-ments of Indigenous epistemologies, kinship perspectives applied to participa-tory dynamics as well as nature-based approaches. Such a perspective is expected to institutionalise effective counter-balances to the expansive dominion of some societal systems over others, especially of Western approaches over Indigenous and local communities.

A co-created approach to law based on integration, participation, and inclu-siveness provides a platform to explore the integration of legal approaches and methods in the field of environmental decision-making and environmental protection.

Most importantly, a co-created approach to environmental law allows human and non-human-related challenges to be understood via a lens of an integral concept of ecology and health, of rights of the planet and its inhabitants, and of collective duties to respect both.[77]

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[77] Pope Francis, *Laudato Si: Encyclical letter on care of our common house* (Libreria Editrice Vaticana, 2015); Eoin O'Neill, 'The Pope and the environment: Towards an integral

5   Conclusions

The variety of styles, epistemologies, experiences and legal systems explored in this collective work reflects the plurality of possibilities where sustainability and participation can interact. However, as repeatedly pointed out in this chapter, the interaction is fraught with challenges. Therefore, it is crucial to identify mechanisms that craft specific institutional arrangements for a polycentric governance scenario where sustainability through participation is enhanced. These mechanisms include but are not limited to, approaches of knowledge co-creation via the establishment of more inclusive networks that improve participation and, ultimately environmental governance.

Drawing on the conclusions from the cited work of Benessia et al.,[78] a hybridised scenario for sustainability rooted in participatory research tools could represent the way forward to the complex sustainability challenges. Essentially, participatory research prioritises local perspectives, values, needs, and knowledge through collaboration with community members throughout the entirety of the research process.[79] In this approach, research is not conducted *on* community members, but rather *with* them.[80]

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ecology?'(2016) Environmental Politics 749; Ryszard Feliks Sadowski, 'The Concept of Integral Ecology in the Encyclical Laudato Si'(2016) Divyadaan Journal of Philosophy and Education 21; Fritjof Capra, Ugo Mattei, *The ecology of law: Toward a legal system in tune with nature and communit* (Berrett-Koehler Publishers, 2015); Giulia Sajeva, *When Rights Embrace Responsibilities: Biocultural Rights and the Conservation of Environment* (Oxford University Press, 2018); Michael E Zimmermann, 'Integral ecology: A perspectival, developmental, and coordinating approach to environmental problems' World Futures 50; Sean Esbjorn-Hargens, Michael E Zimmermann, *Integral ecology: Uniting multiple perspectives on the natural world* (Shambhala Publications, 2011).

78   Alice Benessia and others, n 32, at 6.

79   Laura Smith, Lisa Rosenzweig, Marjorie Schmidt, 'Best practices in the reporting of participatory action research: embracing both the forest and the trees' (2010) The Counseling Psychologist 1115. For the application of participatory research to the legal realm see: Jennifer Keahey 'Sustainable development and participatory action research: a systematic review' (2021) Systemic Practice and Action Research 291; Emily Houh, Kristin Kalsen, 'It's critical: Legal participatory action research' (2013) 19 Michigan Journal Race & Law 287; Davydd J Greenwood. William Foote Whyte, Ira Harkavy, 'Participatory action research as a process and as a goal' (1993) 46,2 Human Relations 175.

80   Sara Kindon, Rachel Pain, Mike Kesby, 'Participatory action research: Origins, approaches and methods' in Sara Kindon, Rachel Pain, Mike Kesby (eds), *Participatory action research approaches and methods* (Routledge, 2007); Mary Brydon-Miller, 'Education, research, and action theory and methods of participatory' in Tolman, D.L., & Brydon-Miller, M. (eds), *From subjects to subjectivities: A handbook of interpretive and participatory methods*, (New York University Press, 2001); Mary Brydon-Miller 'Participatory action research: Psychology and social change' (1997) 53(4) Journal of Social Issues, 657.

Moreover, it is worth highlighting that the borders of such a community extend to include students and learners in general, researchers, and representatives of local and Indigenous communities.[81]

Hence, cooperation becomes a driver of change with methodological, relational, and environmental implications since academic and community co-researchers 'implement the results in a way that will raise critical consciousness and promote change in the lives of those involved – changes that are in the direction and control of the participating group or community'.[82]

The analysis of participatory research opens venues to discuss the use of such a framework in the field of environmental law, including its relevance to decolonising approaches and overcoming the marginalisation of voices relevant to the environmental discourse. As observed by Lopez and recalled by Denzin and Lincoln, 'we are in the midst of a large-scale social movement of anticolonialism discourse' that calls for decolonization of research and engagement with Indigenous legal research to find solutions to the challenges of our time'.[83]

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81   Community-based participatory research (CBPR) is mainly applied in health studies, where the major corpus of literature comes from and where it is possible to learn the constituent elements of this approach. In particular, when it comes to the identification of the community of interest, Karen Hacker observes that: "When embarking on a CBPR project, one of the first challenges is to define the community of interest. Who is the population of interest? What are the boundaries of their "community"? Is this a community that is geographically bounded (city, neighborhood, county) or one that is non geographically defined by a common culture (Latinos, African Americans) or condition (parents of children with special needs) or other shared concern? Are you planning to work with those directly impacted by the issue or with the organizations that represent or serve them? The CBPR approach is often used to examine issues for underserved populations, to give voice to their concerns and help identify their perspective on the problem. However one chooses to define "community," it remains the conceptual underpinning of CBPR, influencing who collaborates and participates, how sampling is conducted, where dissemination takes place, and, most importantly, how relevant the work is to the community of interest." See Karen A Hacker, *Community-based participatory research*, (Sage Publications, 2013).

82   Sean A Kidd, Michael J Kral, 'Practicing participatory action research' (2005) 52(2) Journal of Counseling Psychology 187; On the community of researchers and learners intended in a broad sense see also Michelle Pidgeon, 'More than a checklist: Meaningful Indigenous inclusion in higher education' (2016) 4(1) Social Inclusion 77.

83   Gerardo R Lopez, 'Reflections on epistemology and standpoint theories: A response to "A Māori approach to creating knowledge."' (1998) 11 International Journal of Qualitative Studies in Education 225; Norman K Denzin, Yvonna S Lincoln, 'Introduction: Critical Methodologies and Indigenous Inquiry' in Norman K Denzin and others (eds), *Handbook of critical and indigenous methodologies* (Sage Publications,2008).

Consequently, research with (human) participants develops as a system of interactions where researchers become parts of interconnected circles and relations that are connected and accountable to the researchers.[84] Continuing along this path, Fulvio Mazzocchi observes how:

> […] it makes a big difference thinking of the world as made of 'relatives or 'peers' rather than 'resources' or mere 'experimental units'; and so, does the appreciation of nature as deserving respect, assuming that humans are (one of) their caretakers rather than the only owners or masters of the natural environment. By feeling that they belong to the earth and are part of it, people, subsequently, would treat it and behave accordingly. For instance, it would not make sense anymore to conceive nature as existing only to provide utility to humankind. Thus, rather than trying to dominate it or experiencing alienation, people would attempt to live in consonance with nature and the overall surrounding. Finally, it would be more easily recognized that nature plays an important role even in human well-being: environmental and social health are closely interlinked, that is, if one changes, the other does as well. Overall, the Indigenous view may lead us to recognize that a prerequisite for a more sustainable world is rebuilding an ecosophic awareness.[85]

Participated spaces for sustainability in a hybridised scenario could be one possible answer to the quest for a common future for all.

In revisiting David Suzuki's metaphor, cited in the *incipit* of this work, the hybridised scenario could help us realise how striking the resemblance is between sustainability and the trajectory of the car we are in, heading towards the brick wall, as well as between participation and the vain fight for the best place to sit:

> I used to say it's as if we're in a car heading toward a brick wall at 100 kilometres per hour, and everyone is arguing about where they want to sit rather than looking ahead, putting on the brakes and turning the wheel. I don't say that anymore because we're more like a Road Runner cartoon. Road Runner approaches the edge of a cliff, then stops suddenly

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84 Bagele, Chilisa, *Indigenous Research Methodologies* (Sage Publications, 2019).

85 Fulvio Mazzocchi, 'A deeper meaning of sustainability: Insights from indigenous knowledge' (2020) 7(1) The Anthropocene Review 81; In the same vein see Diane Ruwhiu and others, 'Enhancing the sustainability science agenda through Indigenous methodology' (2021) Sustainability Science 1.

or turns to avoid it. But Wile E. Coyote keeps charging straight ahead and goes over the edge. Wile E. has that moment of realization when he's suspended in air, looks down and sees he's gone too far, then plunges to the canyon bottom.[86]

Or, more cynically, the metaphor helps us realise that any scholarly attempt to square the circle and grant a common future for all comes down to one image: a considerable amount of chatter nicely put together to distract us from the iconic Wile E. Coyote's moment of realisation.

References

Alam S, Atapattu S, Gonzalez C, Razzaque J (eds.) *International environmental law and the global south* (Cambridge University Press 2015).

Andersson KP, Ostrom E, 'Analyzing decentralized resource regimes from a polycentric perspective'(2008) 41 Policy Sciences 71.

Becerra RR, 'Legal Pluralism as a Theory for the Challenges on Environmental Health' (2019) 18 Opinión Jurídica, 233.

Bendlin L, 'Local Governments in European Multi-Level Climate Governance' in Bendlin (ed.) *Orchestrating Local Climate Policy in the European Union* (Springer vs 2020).

Benessia A *et al*, 'Hybridizing sustainability: towards a new praxis for the present human predicament' (2012) 7 Sustainability Science75.

Berardo R and Lubell M, 'Understanding what shapes a polycentric governance system' (2016) 76 Public Administration Review 738.

Betsill MM and Harriet Bulkeley H, 'Transnational Networks and Global Environmental Governance: the Cities for Climate Protection program' (2004) 48 International Studies Quarterly 471.

Bignall S, Hemming S, Rigney D, 'Three ecosophies for the Anthropocene: environmental governance, continental posthumanism and Indigenous expressivism' (2016) 10 Deleuze Studies 455.

Bodansky D, Brunnee J and Hey E, 'International environmental law: Mapping the field' in Daniel Bodansky (ed), *The Oxford handbook of international environmental law* (Oxford University Press 2012).

Bornemann B, 'Environmental Governance in the Anthropocene: Challenges, Approaches and Critical Perspectives' in David Chandler, Franziska Müller and Delf Rothe (eds), *International Relations in the Anthropocene* (Palgrave Macmillan 2021).

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86   David Suzuki, 'Stop fiddling when the planet burns' <https://davidsuzuki.org/story/stop-fiddling-while-the-planet-burns/> last accessed 31 October 2022.

Bratman ME, *Shared agency: A planning theory of acting together* (Oxford University Press 2013).

Bulkeley H, Davies A, Evans B and Gibbs D, 'Environmental governance and transnational municipal networks in Europe' (2003) 5 Journal of Environmental Policy & Planning 235.

Capra F and Mattei U, *The ecology of law: Toward a legal system in tune with nature and community* (Berrett-Koehler Publishers 2015).

Cattino M and Reckien D, 'Does public participation lead to more ambitious and transformative local climate change planning?' (2021) 52 Current opinion in environmental sustainability 100.

Chen T, Yang SO and Leo WWC, 'The beginning of value co-creation: understanding dynamics, efforts and betterment' (2017) 27 Journal of Service Theory and Practice 1145.

Chilisa B, *Indigenous Research Methodologies* (Sage Publications 2019).

Schattan V, Coelho P and Favareto A, 'Questioning the relationship between participation and development: a case study of the Vale do Ribeira, Brazil' (2008) 36 World Development 2937.

Cole DH, 'Advantages of a polycentric approach to climate change policy' (2015) 5 Nature Climate Change 114.

Cornwall A and Eade D, *Deconstructing development discourse: Buzzwords and fuzzwords* (Oxfam GB 2010).

Crutzen PJ, 'The "Anthropocene"'(2002) 12 Journal de Physique IV (Proceedings) 1.

Crutzen PJ, Crutzen, 'Anthropocene man' (2010) 467 Nature7317.

Danilova E, 'Neoliberal Hegemony and Narratives of "Losers" and "Winners" in Post-Socialist Transformations' (2014) 44 Journal of Narrative Theory 442.

De Lucia V, 'Competing narratives and complex genealogies: The ecosystem approach in international environmental law' (2015) 27 Journal of Environmental Law 91.

De Lucia V, 'Rethinking the Encounter Between Law and Nature in the Anthropocene: From Biopolitical Sovereignty to Wonder' (2020) 31 Law and Critique 329.

Denzin NK and Lincoln YS, 'Introduction: Critical Methodologies and Indigenous Inquiry' in Norman K Denzin, Yvonna S Lincoln and Linda Tuhiwai Smith (eds), *Handbook of critical and Indigenous methodologies* (Sage Publications 2008).

De Sousa Santos B, 'Law: a map of misreading. Toward a postmodern conception of law' (1987) 14 Journal of Law and Society 279.

Dorsch MJ and Flachsland C, 'A Polycentric Approach to Global Climate Governance' (2017) 17 Global Environmental Politics 45.

Dovers SR and Handmer JW, 'Contradictions in sustainability' (1993) 20 Environ Conserv 217.

Droz L, 'Anthropocentrism as the scapegoat of the environmental crisis: a review' (2022) 22 Ethics in Science and Environmental Politics 25.

Dryzek JS, *The Politics of the Earth. Environmental Discourses* (2nd edn, Oxford University Press 2005).

Eckerberg K and Joas M, 'Multi-level Environmental Governance: a concept under stress?' (2004) 9 Local Environment 405.

Esbjorn-Hargens S and Zimmermann ME, *Integral ecology: Uniting multiple perspectives on the natural world* (Shambhala Publications 2011).

Ferrucci G, 'A Pioneering Platform: Strengthening Environmental Democracy and Justice in Latin America and the Caribbean' (2019) 20 Journal of Management Policy and Practice 10.

Folke C *et al*, 'The problem of fit between ecosystems and institutions: ten years later' (2007) 12 Ecology and society 30.

Foucault M, 'Power and strategies' in Colin Gordon (ed), *Power/Knowledge* (Pantheon Books 1980).

Foucault M, 'The subject and power' in Hubert L Dreyfus, Paul Rabinow (eds), *Michel Foucault: Beyond Structuralism and Hermeneutics* (University of Chicago Press 1982).

Foucault M, 'The subject and power' (1982) 8 Critical inquiry 777.

Foucault M, 'Governmentality' in Graham Burchell, Colin Gordon and Peter Miller (eds), *The Foucault Effect: Studies in Governmentality* (Harvester Wheatsheaf 1991).

Freudenberg N, Pastor M and Israel B, 'Strengthening community capacity to participate in making decisions to reduce disproportionate environmental exposures' (2011) 101 American Journal of Public Health 123.

Gonzalez CG, 'Bridging the North-South divide: International environmental law in the Anthropocene' (2015) 32 Pace Environmental Law Review 407.

Gonzalez CG, 'Environmental justice, human rights, and the global south' (2015) 13 Santa Clara Journal of International Law 151.

Greenwood DJ, Whyte WF and Harkavy I, 'Participatory action research as a process and as a goal' (1993) 46 Human Relations175.

Hacker K 'Defining the community and power relationships' in Karen Hacker (ed), *Community-based participatory research* (Sage Publications 2013).

Herzog L, Ingold K and Schlager E, 'Prescribed by law and therefore realized? Analyzing rules and their implied actor interactions as networks' (2022) 50 Policy studies journal 366.

Houh E and Kalsen K, 'It's critical: Legal participatory action research' (2013) 19 Michigan Journal Race & Law 287.

IPCC, Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds)], in *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2022).

Kapucu N *et al*, 'Polycentric Governance and Decentralized Decision-Making for Pervasive Spectrum Sharing' (2021) International Journal of Public Administration 1.

Kidd SA and Kral, 'Practicing participatory action research' (2005) 52 Journal of Counseling Psychology187.

Keahey J, 'Sustainable development and participatory action research: a systematic review' (2021) 34 Systemic Practice and Action Research, 291.

Kendal D and Raymond CM, 'Understanding pathways to shifting people's values over time in the context of social–ecological systems.' (2019) 14 Sustainability Science 1333.

Kindon S, Pain R, and Kesby M, 'Participatory action research approaches and methods.' (2007) in *Connecting people, participation and place.* Abingdon: Routledge, 260.

Kopnina H, et al., 'Anthropocentrism: More than just a misunderstood problem.' (2018) 31Journal of Agricultural and Environmental Ethics 109.

Koponen J, 'Development: History and power of the concept.' *Forum for Development Studies.* Vol. 47. No. 1 (Routledge, 2020).

Kotzé LJ, and French D, 'The anthropocentric ontology of international environmental law and the Sustainable Development Goals: Towards an ecocentric rule of law in the Anthropocene.' (2018) 7 *Global Journal of Comparative Law*, 5.

Kreiling L, and Paunov C, Knowledge co-creation in the 21st century: A cross-country experience-based policy report. (OECD Publishing Paris 2021).

Krisch N, 'The pluralism of global administrative law.' (2006) 17 European Journal of International Law 247.

Lidskog R, and Elander I, 'Addressing climate change democratically. Multi-level governance, transnational networks and governmental structures.' (2010) 18 Sustainable Development 32.

Lopez GR, 'Reflections on epistemology and standpoint theories: A response to a Māori approach to creating knowledge' (1998) 11 International Journal of Qualitative Studies in Education 225.

López-Cubillos S, et al., 'The landmark Escazú Agreement: An opportunity to integrate democracy, human rights, and transboundary conservation.' (2022) 15 Conservation Letters e12838.

Martin-HillD, et al. 'Striving toward reconciliation through the co-creation of water research.' In *Current Directions in Water Scarcity Research*. Vol. 4. (Elsevier, 2022), 13.

Mauser W, et al. 'Transdisciplinary global change research: the co-creation of knowledge for sustainability.' (2013) 5 Current opinion in environmental sustainability, 420.

Mazzocchi F, 'A deeper meaning of sustainability: Insights from indigenous knowledge.' (2020) 7 The Anthropocene Review 77.

Menton M, et al. 'Environmental justice and the SDGs: from synergies to gaps and contradictions' (2020) 15 Sustainability Science 1621.

Missimer M, Robèrt KH, and Broman G, 'A strategic approach to social sustainability–Part 1: exploring the social system.' (2017) 140 Journal of cleaner production 32.

Morse S, 'Post-sustainable development.' (2008) 16 Sustainable development 341.

Newig J, and Fritsch, O 'Environmental governance: participatory, multi-level–and effective?' (2009) 19 Environmental policy and governance 197.

Nissen M, Kamel M, and Sengupta K, 'Integrated analysis and design of knowledge systems and processes' (2000) 13 Information Resources Management Journal (IRMJ) 24.

Nogueira C, 'Contradictions in the concept of sustainable development: An analysis in social, economic, and political contexts.' (2019) 30 Environmental Development 129.

O'Neill E, 'The Pope and the environment: Towards an integral ecology?' (2016) 25 Environmental Politics 749.

Ostrom E, 'Beyond markets and states: polycentric governance of complex economic systems' (2010) 100 American Economic Review 641.

Ostrom E, 'Coping with Tragedies of the Commons' (1999) 2 Annual Review of Political Science 493.

Ostrom E, Cox M, 'Moving beyond panaceas: A multi-tiered diagnostic approach for social-ecological analysis' (2010) 37 Environmental Conservation 451.

Ostrom E, Janssen Marco A, and Anderies, JM 'Going beyond panaceas' (2017) 104 Proceedings of the National Academy of Sciences 15176.

Ostrom V, Ostrom E, Public Goods and Public Choices. In Michael, D., & McGinnis, A.A. (Eds). *Polycentricity and Local Public Economies: Readings from the Workshop in Political Theory and Policy Analysis* (The University of Michigan Press, 2019) 75.

Ostrom V, Polycentricity (Part 1). In McGinnis MD, M.D, and Arbor A, M.I. *Polycentricity and Local Public Economies: Readings from the Workshop. Political Theory and Policy Analysis,* (The University of Michigan Press, 2019) 52.

Pallemaerts M, 'International Environmental Law from Stockholm to Rio: Back to the Future?'(1992). 1 Review of European Community and International Environmental Law 254.

Pánovics A, 'The Escazú Agreement and the Protection of Environmental Human Rights Defenders' (2021) *Pecs J. Int'l & Eur. L.*, 23.

Parrott L, 'The modelling spiral for solving 'wicked' environmental problems: Guidance for stakeholder involvement and collaborative model development.' (2017) 8 Methods in Ecology and Evolution 1005.

Pellizzoni L, Ontological politics in a disposable world: the new mastery of nature (Routledge 2016).

Pope Francis Laudato Si': Encyclical letter on care of our common house (Libreria Editrice Vaticana 2015).

Poto MP, Environmental Law and Governance: The Helicoidal Pathway of Participation a study of a nature-based model inspired by the Arctic, the Ocean, and Indigenous Views (Giappichelli Torino, 2022), 1.

Poto MP, Thinking about Ocean Governance: by Whom and for Whom?, in Elferink, De Lucia, Nguyen (ed. by), *International Law and Marine Areas Beyond National Jurisdiction. Reflections on Justice, Space, Knowledge and Power* (Brill, 2022).

Poto MP, Enyew EL, Nature Protection, Indigenous Rights, and Climate Action. In Bugge, H.C. (Ed.). Klimarettsbok (Universitetsforlaget, Oslo, 2021), 155.

Rist G, 'Development as a buzzword' (2007) 17 Development in practice 485.

Roe M, 'Multi-level and polycentric governance: effective policymaking for shipping' (2009) 36 Maritime Policy & Management, 39.

Rose J, Cachelin A, 'Critical sustainability: incorporating critical theories into contested sustainabilities. (2018) 8 J Environ Stud Sci 518.

Rosenau JN, 'Globalisation and governance: sustainability between fragmentation and integration' (2017), Governance and Sustainability 20.

Rosenau JN, 'The governance of fragmegration: Neither a world republic nor a global interstate system' (2000), Studia Diplomatica, 15.

Ruwhiu D, et al, 'Enhancing the sustainability science agenda through Indigenous methodology' (2022) Sustainability Science, 1.

Sadowski RS, 'The Concept of Integral Ecology in the Encyclical Laudato Si (2016) 27 Divyadaan Journal of Philosophy and Education 21.

Sajeva G, When Rights Embrace Responsibilities: Biocultural Rights and the Conservation of Environment (Oxford University Press, 2018).

Sand PH, Origin and History *The Oxford Handbook of International Environmental Law* 93 (Oxford 2021), 50.

Scott DN, and Malivel G, 'Intergenerational Environmental Justice and the Climate Crisis: Thinking with and beyond the Charter.' (2021) 17 *Osgoode Legal Studies Research Paper, Journal of Law & Equality.*

Shastri SC, 'Environmental ethics anthropocentric to eco-centric approach: A paradigm shift.' (2013) Journal of the Indian Law Institute, 522.

Smith L, Rosenzweig L, and Schmidt M, Best practices in the reporting of participatory action research: embracing both the forest and the trees 1Ψ7, (2010) 38 The Counseling Psychologist 1115.

Solomonian L, and Ruggiero E, 'The critical intersection of environmental and social justice: a commentary' (2021) 17 Globalization and Health 1.

Stephan M, Marshall G, and McGinnis M, An introduction to polycentricity and governance' (2019) *Governing Complexity: Analyzing and Applying Polycentricity*, 21.

Suzuki D, Stop fiddling when the planet burns, (May 1st 2019), blogpost in https://davidsuzuki.org/story/stop-fiddling-while-the-planet-burns/, visited 19.07.2022.

Tamanaha BZ, 'Understanding legal pluralism: past to present, local to global' (2017), Legal Theory and the Social Sciences, 447.

Tang C, and Dou J, 'Exploring the Polycentric Structure and Driving Mechanism of Urban Regions From the Perspective of Innovation Network' (2022) 10 Frontiers in Physics 855380.

Torfing J, Sørensen E, and Røiseland A, 'Transforming the public sector into an arena for co-creation: Barriers, drivers, benefits, and ways forward.' (2019) 51 Administration & Society 795.

Tormos-Aponte F, and García-López GA, 'Polycentric struggles: The experience of the global climate justice movement' (2018) 28 Environmental Policy and Governance 284.

Tortola PD, 'Clarifying multilevel governance.' (2017) 56 European Journal of Political Research, 234.

Ven der Hel S, 'New science for global sustainability? The institutionalisation of knowledge co-production in Future Earth' (2016) 61 Environmental science & policy 165.

Van Asselt H, 'Dealing with the fragmentation of global climate governance: legal and political approaches in interplay management' (2007) 30 Global Governance Working Paper.

Van Asselt H, The fragmentation of global climate governance: Consequences and management of regime interactions. (Edward Elgar Publishing 2014).

Weber H, 'Politics of 'leaving no one behind': contesting the 2030 Sustainable Development Goals agenda' (2017) 14 Globalizations 399.

Weisstein EW, Möbius strip. *https://mathworld. wolfram. com/* (2021) accessed 15.07.2022.

White K, Too late for Indigenous climate justice: Ecological and relational tipping points' (2020) 11 Wiley Interdisciplinary Reviews: Climate Change e603.

Witte JM, Benner T, and Streck C, 'Partnerships and networks in global environmental governance: Moving to the next stage.' *Governance and Sustainability*. (Routledge, 2017) 141.

Young OR, 'Institutional dynamics: resilience, vulnerability and adaptation in environmental and resource regimes' (2010) 20 Global Environmental Change 378.

Young OR, Les Gasser, The institutional dimensions of environmental change: fit, interplay, and scale (MIT press 2002).

Zelli F, and Van Asselt H, 'Introduction: The institutional fragmentation of global environmental governance: Causes, consequences, and responses.' (2013) 13 Global environmental politics 1.

Zelli F, et al., The consequences of a fragmented climate governance architecture: a policy appraisal. In Biermann F., *Global Climate Governance Beyond 2012: Architecture, Agency and Adaptation*, 25 (Cambridge University Press 2010).

Zimmerman ME, 'Integral ecology: A perspectival, developmental, and coordinating approach to environmental problems' (2005), 61 World Future 1–2, 50–62.